Oil and gas sector and Russia's economic growth problems

Evgeniy Gavrilenko

Page 59
ШАБЛОНЫ
БОЛЬШЕ НЕ В МОДЕ.
НОВЫЙ GENESIS G70

Полноприводные седаны
GENESIS.COM

Дженесис Джи70. Реклама.
Year of independence of Europe

Alexey Grivach

In First Person

5 Mario Mehren: Gazprom has confirmed its status as one of the guarantors of European energy security

14 EU’s fourth energy package
Andrey Konoplyanik

24 New records ahead
Gazprom Export

Horizontally

30 Sergey Donskoy: There are grounds to talk about growing investors’ interest in geological exploration
Era of tight reserves
Daria Surova

LNG, two liberalizations and one record
Maria Belova
Alexander Bylkin
Yekaterina Kolbikova

DEVELOPMENT VECTOR
Kirill Molodtsov: Future arctic projects to unite Russian energy industry

Oil and gas sector and Russia's economic growth problems
Evgeniy Gavrilenkova

DIAGONALLY
Kirill Dmitriev: Russian companies can gain access to the promising market of Saudi Arabia and the entire Middle East region

Syrian knot
Sergey Tikhonov
The Russian oil and gas sector came under the Western sanctions in the summer of 2014. The United States and the European Union imposed sanctions, banning the supplies of equipment, services, oil production in the Arctic, deep-sea shelf and at the fields with hard-to-recover resources. The sanctions became an impetus for the Russian government and the companies: the dependence of the fuel and energy sector on imports of equipment was significantly reduced. For example, according to the Ministry of Energy, if in 2015 the share of imported catalysts in refining accounted for 62.5%, then in 2016 it reduced to 39%, and to 38% in 2017. In the long term, according to McKinsey, the digital transformation of the Russian economy could, in addition, bring about $100 billion by 2025, becoming the source of about a third of the total economic growth.

In addition to the ban on the supply of equipment, the US authorities imposed a ban on financing the largest oil companies in Russia, which should have affected the investment opportunities of Russian biggest oil and gas companies, so called VINK (vertically integrated oil companies). But today, many experts note that technological sanctions caused more damage. But Russia, however, managed to cope with them, rather than with the financial constraints. Because of the latter, the Russian oil and gas companies constantly face the need to adjust their business plans in one way or another. But this need is due to the fact that projects are being hampered or adjusted due to an unfavorable geopolitical background too.

Moreover, the previous long-term investment plans for oil companies had to be adjusted due to high volatility of the oil prices and lack of an established reliable forecast of its dynamics (for example, it is not very clear how the oil market behaves after the agreement between OPEC and a number of other countries on oil production reduction act). Projects that looked cost-effective at an oil price of $100 per barrel, are unlikely to be as relevant at a price, say $40. All this affects the financing of projects in the oil and gas sector. Nevertheless, it seems that there are no insurmountable financial obstacles to the implementation of major domestic projects - in part, this is facilitated by the increased price of oil recently.

Also, the relations with partners from the countries of Asia, the Middle East and Africa are being strengthened. First, they are potential importers of our technologies and equipment, and secondly, they have alternative sources of financing.
IN FIRST PERSON
The demand for gas imports in Europe continues to grow not only because of the abnormal weather, but also because of the decline in own production. Gazprom is setting delivery records for the second year in a row, and its top managers say the company is ready to supply the Old World with as much gas as needed. At the same time, they have no doubts about the necessity to implement both the Nord Stream 2 project and, if necessary, Nord Stream 3. Already for a quarter of a century, Gazprom’s most important partner in Europe is the German company Wintershall, whose CEO Mario Mehren told in an interview with Neftegazovaya Vertikal about the most important developments in the European gas market, the partnership with the Russian gas giant and new promising joint projects.
Mr. Mehren, how do you assess the prospects for the development of the gas market in Europe as a whole and especially in Germany? Is there likely to be an increase in gas consumption, or is a decline forecast?

How do you think Gazprom’s share of these markets will change?

M. Mehren: The European natural gas market will continue to be very attractive in the future. We believe that the natural gas consumption will increase slightly, while domestic production in north-western Europe will continue to decline. This will create a supply gap of 170 billion cubic meters of natural gas per year and a corresponding import requirement.

In addition, natural gas will gradually displace coal as an energy carrier. In view of the Paris climate targets, there is consensus in the European Union that coal has no future in the energy mix of most Member States. And Paris did not mean “Au Revoir” natural gas. Natural gas is part of the greener energy solution because it produces up to 60% less CO2 when generating electricity than coal.

And of course all market participants want to increase their sales. Here I see Gazprom in a very comfortable position, because Russian natural gas is one of the most competitive sources of energy.

As German experts have recently stated, Germany will not reach its self-imposed environmental goals by 2020. This is due to the still high share of coal in the energy mix and the lack of momentum in the expansion of renewable energies. Could this problem be solved by increasing the share of gas in the energy mix of Germany and other European countries?

M. Mehren: This failure has long been on the cards, and I can only say that this wouldn’t have happened with natural gas!

Despite a massive expansion of renewable energies, CO2 emissions in Germany have remained virtually unchanged since 2009, reaching a staggeringly constant 750 million tons per year.

We should return to the original idea of the energy transition, which envisaged the replacement of nuclear power and coal with renewables and natural gas. Natural gas offers immense potential in terms of electricity as well as heating and transport.

There is a lot of talk about Europe’s energy dependence on Russia at the moment. Do you think such a problem actually exists? Is the EU’s course towards diversifying the energy import sources an economic or purely political task?

M. Mehren: No, this dependency is effectively non-existent. In the EU we clearly have a buyer’s market and sufficient alternatives to Russian natural gas. We only use a quarter of the capacity of the LNG terminals, which can receive over 220 billion cubic meters of natural gas per year for the European market. And why? Because European customers choose the cheapest natural gas. And that comes mainly from Russia via pipelines.

The EU Commission should take care to build the missing infrastructure in Europe so that there are as many sources of gas as possible. It should not prevent privately funded projects. I cannot understand its current position. Nor do I see how preventing projects strengthens the gas market and consumers in Europe.

In 2017, Gazprom set a record for gas exports to Europe. What do you think is the reason for this success: increased demand in Europe, limited supply possibilities from other sources, or Gazprom’s flexible pricing and marketing policies?

M. Mehren: The record sales are due to the competitiveness of Russian “blue fuel” in the European market.

We generally have sufficient supply options in Europe. But at the beginning of March, for example, only Gazprom was able to react quickly to the sudden cold snap. During these days Gazprom proved to be one of the guarantors of Europe’s energy security. Had we had to rely on LNG, it would have been cold and expensive for us in Europe.

How do you rate the competitiveness of Gazprom gas in the European market compared with other sources of supply – both pipeline gas and LNG?

M. Mehren: The accessibility of natural gas sources, the existing volumes, the geographic proximity and the existing and planned transport infrastructure leave no room for doubt as to the competitiveness of Russian natural gas, both compared with other suppliers of pipeline gas and LNG. Furthermore, I’m convinced that pipeline gas will continue to provide the backbone of the European natural gas supply in future. Much of the worldwide reserves in pipeline distance are situated in Russia and Norway. We have to play this geological trump card.

The US has ambitious plans to increase supplies of its own LNG to the European market. How realistic do you think these plans are? Is Europe interested in increasing the supply of American LNG? Isn’t there a risk that the EU could become energy dependent on the US?

M. Mehren: The US has developed into a natural gas exporter and will offer its natural gas to the global LNG market. As Europe also imports LNG, US LNG will also – as in the past two years – be supplied to Europe in future. On the whole, however, LNG supply volumes to Europe have not increased significantly in recent years. EU consumers ultimately don’t care where the natural gas comes from for their heating – they’re interested in buying the cheapest natural
gas. Incidentally this also applies to European industry, which of course is looking to compete with American and Asian companies. I don't see there being an energy dependency on the US, but I also see no reason why Europe should let the US dictate its energy policy.

In recent years, the EU's energy policy has changed considerably. For example, among other things it has adopted the Third Gas Directive. Do you think that this has made the working conditions for Gazprom in the European market more difficult? Could further liberalization of the European gas market lead to a decline in gas imports from Russia?

M. Mehren: The Third Energy Package has changed the natural gas market in Europe. The resulting temporary restriction of OPAL capacity has clearly had a negative impact on us and Gazprom. For the future, however, the main question is what "liberalization" means in this context. If the EU Commission now wants to specifically extend the Third Energy Package because of Nord Stream 2, this is not liberalization but politicization of the natural gas market. This development is worrying for us as investors. We must not risk the achievements of the EU-wide liberalized natural gas market because of the political interests of individual states in the EU. And we should ensure that free market access is also implemented in those EU Member States where it does not exist today, such as in Poland.

The USA, the EU and a number of other countries have imposed sectoral sanctions on Russia. How are these impacting on Wintershall's cooperation with its Russian partners? Do you think that the sanctions are harming not only Russian companies but also their European partners?

M. Mehren: So far our business in Russia has not been directly affected by the sanctions. Overall, however, sanctions have created an atmosphere of uncertainty that could make it difficult to finance individual projects. This, of course, affects all European companies.
How do you assess the prospects for the Nord Stream 2 project? Will its implementation contribute to strengthening Europe’s energy security?

M. Mehren: Nord Stream 2 is pursuing an ambitious schedule and there is currently no reason to doubt that the first natural gas will flow through the new pipeline at the end of 2019. And it’s absurd to claim that the additional quantities of natural gas threaten our energy security. In view of the future supply gap, we should welcome every additional amount of natural gas in Europe. With an annual capacity of 55 billion cubic meters of natural gas, Nord Stream 2 will make a significant contribution to ensuring Europe’s energy security through its efficient, environmentally friendly and safe route from Russia to Europe.

Chancellor Angela Merkel has acknowledged that the construction of Nord Stream 2 also needs to take account of political factors. Do you think this kind of political interference in the economy is justified?

M. Mehren: I think that statement is not a new position for the Chancellor. This is principally about the transit through Ukraine and Gazprom does not want to stop this to my knowledge.

The EU Commission has asked to be granted a mandate to negotiate with Russia with the aim of creating a specific legal basis for operating Nord Stream 2. Do you think that the EU Commission’s involvement in solving this question will contribute to the successful delivery of the project?

M. Mehren: There is already an existing legal framework in which the project is being implemented. The often mentioned “legal gap” does not exist. I therefore don’t see any need at all for a corresponding mandate and I consider such a scenario to be very unlikely. This is also because it would create significant doubts about the legal certainty for investing in the EU.

The pending merger of Wintershall and DEA was announced just recently. What are the objectives of this agreement and how can it influence the delivery of the Nord Stream 2 project and Wintershall’s other Russia projects?

M. Mehren: With the merger of the two companies we want to become a European champion, expand our market position and handle even larger projects. For our long-standing partners in Russia this means, first and foremost, that they will have an even stronger partner at their side in future. Russia itself remains the most important core region in our joint portfolio and the region with the largest planned production increase. This development will also have no influence on the delivery of Nord Stream 2. Our position remains unchanged: the project is making an important contribution to increasing liquidity in the European gas market. And it is economically interesting for us, which is why we will continue to support the project.

Wintershall is involved in the project for producing turonian gas from the Yuzhno Russkoye reservoir. How successful is this project, and does Wintershall plan to continue the development of difficult-to-recover reserves in Russia?

M. Mehren: Wintershall has demonstrated in Russia, be it at Yuzhno Russkoye or the Achimov Formation, that it can produce natural gas from hard-to-reach reservoirs with Gazprom. The turonian reserves feature low reservoir temperatures, which is why measures to prevent hydrate formation need to be taken. These reserves are also characterised by the high reservoir pressure and the low permeability of the productive horizons. So far everything is going according to plan: in 2020 we want to start with the large-scale development of the turonian horizons. This will enable our Severneftegazprom joint venture to maintain production at a level of 25 billion cubic meters of gas per year.

We will continue our course in Russia. Our Achimgaz joint venture is writing record figures. Within 15 years, the pilot project on the Yamal Peninsula has developed into one of the most efficient companies in the industry.

In December of last year, the Volgodeominoil joint venture, in which RITEK and Wintershall currently have interests, celebrated its 25th anniversary. How do you assess the success of this company and what are its prospects for development?

M. Mehren: Volgodeominoil is our main pioneering project and the longest-standing joint venture between a Russian and a Western European partner in the E&P sector. Last year we produced more than 4.8 million barrels of oil equivalent. Volgodeominoil is successfully pursuing a sustained growth course, and we will continue along this path thanks to the discovery of more fields in recent years.

Not only NOVATEK but also Gazprom are currently developing large-scale plans to develop the international LNG market. Does Wintershall intend to participate in any way in the implementation of these plans or in the marketing and distribution of Russian LNG?

M. Mehren: Nothing like that is currently being envisaged. Our next major projects in Russia are the development of the 4A and 5A blocks in the Achimov Formation and the development of the Turonian Formation at Yuzhno Russkoye. But our Russian partners know, of course, that they will always find a receptive ear with us. We categorically do not exclude anything.
2014. The European gas market is in deep depression. In just four years, the consumption of the cleanest fossil fuel in the European Union collapsed by 125 billion cubic meters (bcm) - almost by a quarter. Coal was actively displacing gas from the power generation sector. CO₂ emissions began to rise in some EU countries, despite the expensive system of subsidizing renewable sources. There was an energy-climatic apocalypse in the Old World, especially considering the place that the green agenda occupies in the energy policy of Brussels, Berlin or Paris. Everyone began to speak about the imminent decline of the era of natural gas in Europe, which really did not have time to start. And Russia was blamed: why is it investing into the new large-scale projects to transport gas to the European market? However, three years have passed. The gas market in the EU has been recovering all this time and has played off, according to preliminary data, two thirds of the drop that occurred at the beginning of this decade. As this process was in parallel with the decline in domestic gas production in European countries, the EU needs for imports exceeded 360 bcm.
Gas supplies from Russia to Europe and Turkey in 2017 jumped to an unprecedented height - almost 194 bcm. And, according to the calculations of FNEB, the physical flow exceeded 200 bcm in 2017, taking into account the growth of gas injection by Gazprom into the underground gas storages (UGS) in the EU territory. The increase in Gazprom’s supplies to non-CIS countries by 2014 was 47 bcm. This is more than the annual gas consumption in France or the three gas markets of Poland. In comparison, last year, about 56 bcm of gas came from all LNG terminals to the European networks (see graph "Gas supplies from Gazprom to Europe and Turkey").

GAS IN GREAT DEMAND

Satisfying the record European demand for imports would be very difficult without the Nord Stream (see graph "Transportation of gas to Europe through Nord Stream"), whose opponents earlier crossed swords, claiming that this is a political project and that it would harm the environment. They also said that the pipe will generate losses for Gazprom. In 2017, 51 bcm of Russian natural gas were delivered to Europe via the Baltic Sea at a capacity of 55 bcm. The average level of use of the gas pipeline exceeded 92pc, which is a very good indicator in the industry.

At the same time, since the beginning of the heating season (October 2017), Nord Stream has been loaded at the technical capacity limit of 167 million cubic meters per day, which, in terms of annual pumping volumes, yields about 60 bcm per year.

Receiving the grandmaster level of pumping gas to Europe at the bottom of the Baltic in a shorter time by Gazprom was hampered by the position of the European Commission that limited the use of one of the gas pipelines through which gas from the Nord Stream is delivered to customers in the EU. During the five years since the first line of the Trans-Baltic pipe was launched, about 50pc of the OPAL gas pipeline, through which gas is transported from the coast to the border of the Czech Republic, was reserved for «third parties». Even in Brussels they could not explain, where the «third parties» could come from, when only Gazprom supplied gas through it.

Perhaps, the Commission expected that the Russian leadership, yielding to pressure from outside and from within, would give up the monopoly on gas exports. But these hopes did not come true. And at the end of 2016, the European Commission approved an agreement between the German network regulator, OPAL gas pipeline operator and Gazprom on using most of the previously banned capacities through the auction mechanism.

Last winter, the agreement worked only a month, in January 2017, when extreme frosts in Europe and the European part of Russia tested the gas industry of the Old World out. Next, Poland filed suits against the European Commission in the courts of the EU and Germany with a demand to cancel the agreement. The auctions
The transit dependence on Ukraine below the level of 50pc of course is good. But it does not guarantee anything to the supplier or consumers, if you keep in mind two factors. First, on January 1, 2020, the gas transit contract between Gazprom and Naftogaz will end. The Ukrainian side does not intend to extend it. And this is the direct path to a new transit war, which neither Russia nor the countries of South-Eastern Europe want, because now they depend heavily on the Ukrainian gas transportation system. Austria, Hungary, Slovakia, Croatia, Slovenia and Bulgaria are almost 100pc satisfied by gas transit through Ukraine, Italy 40pc and Greece 55pc, according to FNEB estimates for 2017.

Now, of course, the situation is better than in 2009. Interconnectors are being constructed in order to deliver gas to the systems of a particular country in emergency cases. Reserves are being created in the UGS, the market has become more flexible and, most importantly, there is Nord Stream and the distribution infrastructure built for it. But this, obviously, is not enough to calmly go through a long crisis situation if it occurs so. And it may occur so not only because of the non-renewal of the contract and the political position of Kiev.

Even more serious threat is the technical condition of the Ukrainian gas transportation system (GTS). The three main gas pipelines that connect Russia with the EU countries - the Soyuz gas pipeline, the Ukrainian section of the Urengoy-Pomary-Uzhgorod (UPU) pipeline and the Progress gas pipeline - will be two years older. Soyuz will be 44 in 2020. It has not been used for several years to transport Russian gas to Europe. UPU will be 36 years old, and Progress - 33 years.

The transit of gas through Ukraine to Europe, bcm

Source: author

The transit of gas through Ukraine to Europe, bcm graph shows the transit dependence on Ukraine. The transit dependence on Ukraine below the level of 50pc of course is good. But it does not guarantee anything to the supplier or consumers, if you keep in mind two factors. First, on January 1, 2020, the gas transit contract between Gazprom and Naftogaz will end. The Ukrainian side does not intend to extend it. And this is the direct path to a new transit war, which neither Russia nor the countries of South-Eastern Europe want, because now they depend heavily on the Ukrainian gas transportation system. Austria, Hungary, Slovakia, Croatia, Slovenia and Bulgaria are almost 100pc satisfied by gas transit through Ukraine, Italy 40pc and Greece 55pc, according to FNEB estimates for 2017.

Now, of course, the situation is better than in 2009. Interconnectors are being constructed in order to deliver gas to the systems of a particular country in emergency cases. Reserves are being created in the UGS, the market has become more flexible and, most importantly, there is Nord Stream and the distribution infrastructure built for it. But this, obviously, is not enough to calmly go through a long crisis situation if it occurs so. And it may occur so not only because of the non-renewal of the contract and the political position of Kiev.

Even more serious threat is the technical condition of the Ukrainian gas transportation system (GTS). The three main gas pipelines that connect Russia with the EU countries - the Soyuz gas pipeline, the Ukrainian section of the Urengoy-Pomary-Uzhgorod (UPU) pipeline and the Progress gas pipeline - will be two years older. Soyuz will be 44 in 2020. It has not been used for several years to transport Russian gas to Europe. UPU will be 36 years old, and Progress - 33 years.

TRANSPORT DEPENDENCE

The avalanche-like growth in demand for Russian gas in Europe in recent years has led to a somewhat unexpected result. It is no secret that Nord Stream was built also in order to reduce the overwhelming dependence of Russian gas supplies to Europe from transit through the territory of Ukraine (see graph "Transit of gas through Ukraine to Europe"). In 2010, a year before the launch of Nord Stream, it was 69pc. Already by the end of 2013 - reduced to 51pc, and since 2014 is at a level of less than 50pc. Turks at the end of the last decade received 55pc of Russian gas through Ukrainian pipes, now this share has fallen to 45pc.

However, in 2017, Gazprom pumped through Ukraine to the countries of Europe and Turkey almost as much as seven years ago: 91.4 bcm against 94 bcm in 2010. The growth of Gazprom’s export to foreign markets over the same period amounted to 56 bcm, of which about 11 bcm was accounted for Turkey (mainly due to the output of the first offshore gas pipeline in the history of Russian exports - the Blue Stream) and 45 bcm - for the European market.

So we can conclude that Nord Stream (51 bcm last year) satisfied almost all additional demand for Russian gas in the European market and only a small amount was actually redirected from Ukraine.

Receiving the grandmaster level of pumping gas to Europe at the bottom of the Baltic in a shorter time by Gazprom was hampered by the position of the European Commission

Naftogaz of Ukraine did not invest anything in the maintenance of these pipelines. A couple of years ago, a project for the reconstruction of six sections of the UPU gas pipeline with a total length of 130 km (11pc of the entire route) was announced. The project cost was to be 466mn euros, of which 300mn - loans from European institutional banks. However, according to data in 2015 and 2016, only 30 km have been reconstructed. Data for 2017 has not yet been announced, but Ukrtransgaz was going to put into operation another 30 km of pipe. It is not difficult to calculate that over 4bn euros of capital investments will be required for the whole pipeline, and as for the pace of work taken by the Ukrainian operator (60 km in three years) - 57 years.
The capacity of UPU is only 28 bcm per year, as one line of Nord Stream.

POSSIBLE ALTERNATIVES

Under these conditions, the construction of new gas pipelines – Nord Stream-2 and Turkish Stream with a total capacity of about 90 bcm - is not only a question of commerce and technological efficiency, but also of the energy security of Russia, Europe and Turkey.

In 2017, Gazprom pumped through Ukraine to the countries of Europe and Turkey almost as much as seven years ago

It is no wonder that Ankara has made its choice long ago. The resuscitation and rapid implementation of the Turkish Stream, after the Syrian crisis in Russian-Turkish relations, became a great illustration of the interest of the Turkish leaders in solving the problem of transit risks once and for all. Since the signing of the intergovernmental agreement on the implementation of Turkish Stream, the country’s parliament ratified it less than in two months. A year later, 40pc of the gas pipeline was already built and all the necessary permits for both lines were obtained. The first of them is intended for the Turkish market (15.75 bcm), and the second (the same amount) for transit to Europe. The receiving terminal is being built on the Turkish coast. It means for Turkey, Bulgaria and Greece, that in 2020 they will exactly get the volumes of Russian gas, needed for their residents and economies. It means for Russia, that long-term contracts with companies from these countries that annually bring $3.5-4bn of revenues, will be completed.

The situation with Nord Stream-2 is more complicated. Although from the point of view of common sense and current legislation, there should not be any problems with the construction of two new lines from Russia to Germany along the bottom of the Baltic. The first two lines were built at the set times and within the budget, there was no serious harm to the environment and the pipeline actually strengthened the EU energy security and improved the flexibility and liquidity of the gas market being built there. The Nord Stream-2 is also a pan-European project, like Nord Stream and involves the largest energy companies in Europe: Shell, ENGI, Uniper, Wintershall and OMV (there was no Shell and OMV in the consortium of Nord Stream AG, but Dutch Gasunie is involved). After the Finnish state company Fortum became the main shareholder of the German Uniper, the European participation in the Nord Stream-2 is even more diversified.

On January 1, 2020, the gas transit contract between Gazprom and Naftogaz will end. The Ukrainian side does not intend to extend it

THE CHOICE OF EUROPE

But the main challenge for the project is in the field of geopolitics, which is closely linked to global competition. The US are against the project. And they are not embarrassed by the means and not hiding. For a long time already, since the USSR, the USA do not like the close cooperation of Russia and Europe in the gas sphere. About 35 years ago, the United States were against the construction of the Urengoy-

<table>
<thead>
<tr>
<th>The length of the route, km</th>
<th>Transit rate, $ per 1000 m³ / 100 km</th>
<th>Cost for the whole route, $/000 m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ukraine * 2017</td>
<td>1 140</td>
<td>2.6</td>
</tr>
<tr>
<td>Nord Stream ** 2017</td>
<td>1 220</td>
<td>1.6</td>
</tr>
<tr>
<td>Nord Stream at full load ***</td>
<td>1 220</td>
<td>1.4</td>
</tr>
</tbody>
</table>

* the border of Russia - the border of Slovakia (Uzhgorod), according to Naftogaz of Ukraine, the first half of 2017
** the border of Russia - the border of Germany (Greifswald)
*** 60 bcm a year

Source: author
Pomary-Uzhgorod gas pipeline. Now, they are countering the Nord Stream-2, which will create new opportunities for the growth of Russian gas supplies to European markets and minimizes the risks of accidental or man-made actions to disrupt the transit of Russian gas to Europe through the territory of Ukraine. Washington is categorically not satisfied with this. Americans need a system of loyal satellites in Europe to uphold global leadership and to drive a policy of sanctions against those, who advocate a more balanced, diverse and non-discriminatory system of international relations.

**Even more serious threat is the technical condition of the Ukrainian gas transportation system**

The US are sure, that a strong gas partnership and mutual dependence of Russia and the EU countries interfere their policy and, moreover, this partnership brings Moscow money from the sale of gas. Therefore, they use any tools that can reduce the reliability of Russian gas supplies to Europe, still having the highest value for buyers. Among them is the diplomatic pressure on Denmark with the aim of retroactively complicating the procedure for issuing construction permits in the territorial waters of the country. And it is in spite of the fact that it was Copenhagen that asked to transfer the route of the first two lines to the territorial waters. There are also threats to impose sanctions against all the partners of Nord Stream-2, including European companies. The extension of domestic European legislation to offshore gas pipelines outside the jurisdiction of the EU is also lobbied with only one goal - to stop or slow down Nord Stream-2.

At the same time, it is clear to everyone that the competitiveness of Russia in the European market does not need any proof. Several records in a row and an increase in supplies to the EU of 45 bcm speak for themselves. While the supplies of the liquefied natural gas, including the American one, which Washington is forcing Europeans to buy, are 25 bcm less than in 2010.

**The construction of new gas pipelines – Nord Stream-2 and Turkish Stream with a total capacity of about 90 bcm - is not only a question of commerce, technological efficiency, but also of the energy security of Russia, Europe and Turkey**

The new gas pipeline, in addition to guarantees of Russian gas supplies, will increase the opportunities for free competition in the market. So, it serves precisely the values for which the European Commission must fight, and not confront them, erecting far-fetched barriers.

The outcome of this game depends on Europe, on the national governments. The answer to the question whether they will defend the right to an independent energy policy or are ready to submit to the will from overseas, in spite of their own economic and strategic interests, we will find out very soon.  

Estimates, forecasts and recommendations of top managers of oil and gas companies

[www.ngv.ru](http://www.ngv.ru)
Modern architecture of the EU gas market has been formed for over 50 years. It dates back to 1951, when the Treaty of Paris was concluded, which initiated the creation of the first integration association in Western Europe – the European Coal and Steel Community (ECSC). France, Germany, Italy and the Benelux countries put their signatures under it. This laid the foundation for the restoration of machine-building industries in Europe – the main driving force of postwar industrial development. But, most importantly, this integration union accelerated the reconciliation of two recent adversaries in the Second World War – France and Germany – for nothing can reconcile conflicting parties better than joint creative work.

What were the “steps of a long way” in building a single EU gas market and what are the prospects for its further transformation in the face of a changing paradigm of the development of global energy markets and increasing global competition? And, finally, how can all these processes affect the competitive positions of Gazprom in the European market?
The next step on the road to European integration was the Treaty of Rome, signed by the same countries in 1957. It provided for the creation of the European Economic Community (EEC), covering a large number of goods and services. It was also planned to eliminate all barriers to the free movement of people, goods, services and capital.

Liberalization took place in accordance with economic logic, on a “simple-to-complex” basis, starting from less capital-intensive industries. Therefore, the last thing involved was the energy industry – a capital-intensive and, what’s more, based on a permanent infrastructure, branch. Only in the late 1990s was the First Energy Package of the EU adopted (in 1996 – for the electric power industry, in 1998 – for gas).

Further development of the gas market regulation system of the expanding European Union took place against the background of several interdependent processes (see graph “Formation of modern architecture”).

**SINGLE MARKET INGREDIENTS**

The EU countries have always been highly dependent on the import of energy resources in general and gas in particular. Apparently, this dependence will grow even further. This understanding is unequivocally stated as the position of the Directorate-General for Energy of the European Commission (DG Ener) in its internal documents.

But this also means that the dependence of the EU countries on the sovereign decisions of the gas exporting countries will also be growing. They supply gas to the EU from fields which are developed by them and are mostly vast – for realization of “economies of scale” – and have, therefore, a sovereign right to maximize their monetized resource rent. And this causes concern to the EU institutions.

**Liberalization took place in accordance with economic logic, on a "simple-to-complex" basis, starting from less capital-intensive industries**

Objective economic logic requires that mechanisms for the EU gas market regulation be formed taking into account justified, investment-related requirements of exporting states, especially, those connected with the EU by a capital-intensive fixed cross-border infrastructure (Russia is the main such exporter). Moreover, the fact that the EU depends on import makes it impossible to build its gas market according to the American model, since in the US the gas market has been evolving on the basis of the country’s own – mostly small and
medium-sized – fields, developed by private businesses. And the role of the state has mainly boiled down to fiscal management.

However, the EU seeks to impose its own model on exporting states, the model which is aimed at creating a competitive market. And they are doing it by fostering greater competition of suppliers, in the first place, and, as a result, by taking a course for reducing prices in Europe. This creates a deep conflict of interests between exporters and importers. It can be satisfactorily resolved only by finding a balance of interests of the parties.

In 1968, the USSR / Russia started to supply gas to the EU, later the gas supplies continued to increase. They were based on long-term export contracts (LT-GEC) according to the Groningen model. It should be taken into consideration that if before the enlargement of the European Union (in 2004) the delivery points of Soviet / Russian gas were located on its external border, afterwards they turned out to be located deep inside the EU.

Therefore, if earlier only the change in contract prices influenced the Russian deliveries within the framework of LTEGCs, now part of the Russian gas supply chain was located on the territory of the EU. That is to say that the rules of the European gas market regulation concerning, in particular, the unbundling of the functions of production, purchase and sale and transportation of gas, were now applied to it. In accordance with these rules, the gas supplier could no longer be the operator of the gas transportation system (GTS), through which the supply is carried out.

Also, after 2003, in the EU a general rule was established that required the so-called mandatory third parties access (TPA) to the gas transportation infrastructure. This created the risks of contract non-compliance. Therefore, after the adoption of the Second Energy Package in 2003 and the enlargement of the European Union in 2004, risks for gas exporters to the EU, especially Russian companies, increased substantially.

The EU countries have always been highly dependent on the import of energy resources in general and gas in particular. Apparently, this dependence will grow even further

The EU seeks to impose its own model on exporting states, the model which is aimed at creating a competitive market. By fostering greater competition of suppliers, in the first place

Evolutionary processes in international gas markets have had their impact on Europe. Thus, in 2009 the excess demand was replaced by an excess supply. This was the result of changes on both the demand side (the consequences of the economic crisis of 2007-2008, the effect of long-term policies aimed at improving energy efficiency), and on the supply side (the domino effect of the US shale revolution). Excess supply (both physical and contractual) dramatically increased the effectiveness of liberalization activities in the EU gas market. They were implemented on the basis of the provisions of the Third Energy Package, which entered into force in the same 2009.

Liberalization trends in the EU gas market were largely accelerated by the Russian-Ukrainian transit crises of 2006 and 2009, which led to temporary interruptions in gas supply from Russia to the EU via Ukraine due to unauthorized withdrawals from the transit pipeline. This was reflected in the more radical – and, in part, discriminatory – nature of the EU gas regulatory system in relation to external suppliers, notably, from Russia.

All these intertwining processes led to the formation of today’s system of regulation of the EU gas market. Its effectiveness was to be assessed within the framework of the Quo Vadis project (see One-Sided, Oil and Gas Vertical #15-16/2017).

THIRD ENERGY PACKAGE

In September 2009, the Third Energy Package was adopted. It came into force in March 2011. In accord-
ance with it, a new architecture of the single internal EU gas market was formed, built on the principle of a set of market zones (see graph "Organization of a single internal gas market"). These market zones are created in the form of "pools", communicating with each other through pipelines-interconnectors. Transportation tariffs are calculated on the basis of the entry-exit system. Access to gas transportation system (GTS) capacities at the zone borders should be offered to shippers in the form of "related products", that is, as an entry-exit package at each point of the zone boundary crossing. Inside the zones, the gas transportation system operator is responsible for the transportation of gas. This is a radical departure from the previously used methodology of distance tariffs for transportation within interrelated markets.

Gas sales under all new contracts should be carried out on virtual trading floors (hubs) within each zone. And it is not necessary that zones coincide with the geographical boundaries of individual EU countries. This is no less radical departure from the principle that had been in effect since the 1960s. Previously, gas sales were carried out at custody transfer points at the border of a country. At the same time, prices were set within the framework of fixed-term contracts on the basis of various modifications of the so-called Groningen formula and depended on the cost of substituting energy resources of the end user.

The Third Energy Package created new risks and uncertainties for the traditional investment model for the development of gas resources and its long-term supply. But it also opened up new opportunities for exporters. For example – the possibility of deliveries directly to end users, bypassing wholesale dealers.

Thus, there were risks of a transition period from one model of the functioning of the gas market to another. The EU countries, of course, have the sovereign right to choose such a model. But it is important that this choice is carried out taking into account the interests of states that are interdependent with the EU within the technological infrastructure of gas supply.

**INSTRUMENTS FOR INTERNAL LIBERALIZATION AND INTERNATIONAL EXPANSION OF THE EU IN THE ENERGY SECTOR**

- **Paris Treaty (1951) => ECSC**
- **Rome Treaty (1957) => EEC**
- **Increasing liberalization level within the EU acquis application zone**
- **Expansion of the EU acquis application zone**
- **Hard Legislation Tools**
  - EU’s First Energy Package (1996/98)
  - EU’s Third Energy Package (2009)
- **Soft Legislation Tools**
  - Eastern Partnership (EaP) (2006)
- **EU is part of Energy Charter Treaty (ECT)**
  - Expansion of the EU (6 => 9 => 12 => 15 => 25 => 27 => 28)
- **Energy Community Treaty is part of EU acquis application zone**

One of the real goals of international expansion of EU legislation is to establish the standards of work and protection of European investments abroad, similar to their working conditions and protection within the EU => lower transaction costs, a higher degree of competitiveness.

*Source: author*
CODES AND TARGET MODEL

In 2010, the process of preparing by-laws to the Third Energy Package – Network Codes (NC) began. This process lasted until early 2017 (see "Third Energy Package"). It was a complex, lengthy, multi-stage bureaucratic procedure involving all major players in the European gas market, both from regulators and from the gas business.

That is why the process of working on the NCS continued for a long seven-odd years. Over this time, six legally binding codes were prepared and adopted (at first it had been planned that there would be 12 of them). They concern the following areas:

- congestion management;
- access to the existing and new facilities of the GTS;
- balancing the GTS;
- the possibility of joint operation of the GTS and the interaction of their operators (rules for the exchange of information)
- tariffs;
- integrity and transparency of wholesale markets.

The preparation of new NCs is not envisaged by the current plans of the European Commission. That is to say that the Third Energy Package is now finalized.

The formulation of NCs was conducted within the framework of the discussion on the parameters of the Gas Target Model (GTM). Two editions were adopted, in 2011 and 2014 respectively. Although the GTM is not a legally binding document, it provides the vision of what a single liberalised EU gas market should be, as seen by participants of this discussion. The GTM paper says that the following conditions need to be met for such a market to be present: a certain level of trade in terms of total volume of gas traded compared to the volume of gas consumed (i.e. a churn rate of 8), at least three sources of gas supply for each market zone, etc.

There is a correlation between the processes of formation of the EU internal legislation and international legal acts

INTERNATIONAL EXPANSION

At all stages of the formation of the EU energy legislation, its purposeful expansion took place internationally. The attempts to impose it on the legislation of the neighboring states never stopped.

Until the late 1980s and the early 1990s, the USSR and the EU were separated by the Iron Curtain. Therefore, gas supplies were made to the "watershed line", where the ownership rights changed. Each counterparty could only ensure proper promotion of the goods within their jurisdiction, i.e. on their side of the Curtain. When this curtain collapsed, first, the prerequisites for interpenetration of commodity and capital flows beyond the countries’ jurisdictions were created. Second-

ORGANIZATION OF THE EU’S INTERNAL GAS MARKET IN ACCORDANCE WITH THE THIRD ENERGY PACKAGE

Source: 17th Madrid Forum (January 2010) – energy regulators of EU member states

Source: ACER Gas Target Model, 30th Madrid Forum (October 2017)
ly, the number of sovereign participants in foreign trade on the territory of Eurasia sharply increased. Thus, an opportunity for the formation of multilateral – in addition to existing bilateral – mechanisms of protection and promotion of trade and investment, primarily in the energy sector, opened up.

Western countries were interested in protecting their foreign investments, in the first place. In other words, they were keen to create normal operating conditions for their own investors working in the countries of the former socialist camp, whereas former socialist countries were eager to adopt the new Western legislation. There were two ways for that. The first one was to borrow and incorporate the legislation into the national legal system. The second was to form general rules of the game for the countries of the West and the East by developing multilateral international legal instruments.

It is clear that the views of importing consumers and exporting producers differed significantly. For the former, uninterrupted supplies at the lowest price were important. For the latter, return on investment in long-term capital-intensive production and supply projects, and hence predictability of effective demand for energy resources, was the necessary requirement. That meant that the minimum long-term price had to be at a level not lower than the price of self-financing. And taking into account the depletion of non-renewable energy resources, the exporting state has the right (protected by international legal documents) to receive maximum monetized resource rent.

To ensure plentiful and uninterrupted supplies, diversify their sources and routes, the EU seeks to create more comfortable and competitive conditions for European business operations outside the European Union. Therefore, one of the actual goals of international expansion of EU legislation is to introduce standards of work and protection of European investments abroad. This leads to lower transaction costs and increased competitiveness of European companies.

As the domestic gas markets of the EU member countries are liberalized, the EU is trying to extend its rules of the game to an even wider area outside the European Union. This is happening both through the increase in the level of liberalization in the zone of application of EU legislation, and through the expansion of this zone. In the latter case it is happening through the tools of so-called soft and hard legislation. In particular, more liberal principles and mechanisms are being included in international legal treaties involving the EU (see graph “Instruments of internal liberalization”).

### THE THIRD ENERGY PACKAGE OF THE EU (GAS) AND ITS FURTHER DEVELOPMENT

Three legally binding documents which entered into force on 03.09.2009 were to be incorporated in the national legislation of the EU countries 03/03/2011

- **Third Directive 2009/73/EC** (common rules for the internal market in natural gas)
- **Regulation (EC) No 713/2009** (Agency for the Cooperation of Energy Regulators was established)
- **Regulation (EC) No 715/2009** (conditions for access to the natural gas transmission networks)
- **Framework Guideline Regulations (FGR)** 12
- **Network Codes (NC)** 12
- **Gas Target Model (GTM: 2011, 2014)** 6

At the end of 2014, the previous European Commission reported that the preparation of documents for the Third Energy Package was basically completed, but de facto it was completed only in early 2017: the last two NCs (for new GTS capacities and tariffs) were published on March 17, 2017, in force as of 06.04.2017 => Study “Quo Vadis EU gas regulatory framework” (2017) = efficiency assessment of the current regulatory framework of the EU gas market ("stop, look back").

*Source: author*
At the initial stage of building the general rules of the game for the East and West (in the 1990s), being confident in the competitive advantages of their companies in the markets of the receiving states, the Western states professed the liberal principles of the Washington Consensus. Relations with the countries of the East were built according to the principle: "natural resources in exchange for investment in the development of those resources."

Liberalization trends in the EU gas market were largely accelerated by the Russian-Ukrainian transit crises of 2006 and 2009

Now the companies of the receiving countries of the East have developed and become stronger. And now we are talking, first of all, about their access to the markets of Western countries. Therefore, clear signs of a departure from the liberal models of the Washington Consensus are beginning to appear. The focus now is not on building open, non-discriminatory markets, but on a protectionist model of regulation based on individual preferences and / or discrimination of individual players, protecting their own domestic markets and closing them off from undesirable participants.

It is this metamorphosis that, in my opinion, is taking place in the EU gas sector in relation to external suppliers, notably, to Russia. Europe is standing at a crossroads: will the course to consistent liberalization of energy legislation be pursued or will there be a sharp turn towards protectionism and unilateral preferences?

An additional factor stimulating such a "reverse realignment" may be the relative reduction in demand for fossil fuels due to a change in the paradigm of the development of the world energy industry from the expectation of a "peak supply" to a "peak demand."

FLOW TEST

For each phenomenon you can find its "litmus test". In my opinion, the evolution of the intentions of the European Commission in relation to the Nord Stream-2 project (NS-2) provides such a test for Europe. The struggle for its regulation is a new stage in the policy of exporting European legislation. This time it is based on the desire to liberalize the Russian gas market according to the European model in order to obtain lower import prices.

The latest EC’s actions concerning NS-2 are closely connected with modernization of the Third Gas Directive. In particular, in the document the notion "pipeline-interconnector" and related articles were edited. The purpose of these manipulations is understandable: they aim at complicating — if not impeding — the construction of the gas pipeline and at the same time seek to introduce in Russia the statutory provisions of European legislation that are beneficial to importers, but not beneficial to the state which is the owner of resources, because they lead to a reduction in its monetized resource rent. The mechanism for achieving the last goal is as follows: to bring two Russian state companies — Gazprom and Rosneft into confrontation. They are already known to be acting as adversaries on a number of key issues.

Gazprom is a monopoly exporter of pipeline gas, which serves the purposes of maximizing resource rent of the Russian Federation. Rosneft also possesses gas resources and aspires to become its exporter — in the foreign markets payment discipline and prices are higher. Therefore, Rosneft is dreaming to split Gazprom in order to gain access to the export pipe and form the Russian gas market according to the American or European model (by isolating transportation from other types of gas business). Plus, the company has an agreement with BP on gas marketing, whereas their agency agreement with Gazprom Export didn’t work.

The decision to extend the principle of mandatory TPA (Third Party Access) to Nord Stream-2, bringing the pipeline, along its entire length, under the EU legislation, should serve the hidden agenda of the European Commission to liberalize the Russian gas market, since such a measure creates competition between different Russian gas suppliers. In addition, it is forcing two Russian state companies to fight, which solves the political task of the Western authorities to weaken "Putin’s regime" by inflicting damage on "Putin’s friends". The conflict between the two state-owned companies should weaken them, and price reduction as a result of competition can lead to a decrease in the incomes of "Putin’s regime" (in Western terminology). Plus, the BP business will expand (although, due to Brexit, the UK is already outside the EU).

The Third Energy Package created new risks and uncertainties for the traditional investment model for the development of gas resources and its long-term supply.

The logic of the export of European legislation is reflected in other strategic documents of the EU too. Thus, the abovementioned project Quo Vadis offers a set of model scenarios that lead to direct economic and administrative discrimination of the Russian gas supplies and to creation of artificial competitive advantages for LNG (primarily American) in Europe.

In the EU’s understanding, "cooperation" is adoption of the statutory provisions of the importing country (aimed at minimizing the price of the supplied energy
WHAT WESTERN COUNTRIES SUFFERED MOST FROM ANTI-RUSSIAN SANCTIONS

<table>
<thead>
<tr>
<th>Country</th>
<th>Export to Russia, $ billion</th>
<th>Import from Russia, $ billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.5 0.8</td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>1.8 3.8</td>
<td>0.07 0.06</td>
</tr>
<tr>
<td>Albania</td>
<td>0.01 0.01</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>1.8 4.0</td>
<td>1.1 0.05</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0.5 0.7</td>
<td>7.7 1.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.4 8.1</td>
<td>22.2 2.3</td>
</tr>
<tr>
<td>Germany</td>
<td>19.4 38.0</td>
<td>16.4 6.9</td>
</tr>
<tr>
<td>Greece</td>
<td>0.2 0.6</td>
<td>6.2 2.7</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.8 2.2</td>
<td>1.4 1.4</td>
</tr>
<tr>
<td>Ireland</td>
<td>0.9 1.4</td>
<td>0.3 0.3</td>
</tr>
<tr>
<td>Iceland</td>
<td>0.02 0.2</td>
<td>0.03 0.03</td>
</tr>
<tr>
<td>Spain</td>
<td>1.9 3.3</td>
<td>9.7 3.7</td>
</tr>
<tr>
<td>Italy</td>
<td>7.8 14.6</td>
<td>39.3 12.0</td>
</tr>
<tr>
<td>Canada</td>
<td>0.7 1.8</td>
<td>0.5 0.4</td>
</tr>
<tr>
<td>Cyprus</td>
<td>0.05 0.04</td>
<td>1.9 0.3</td>
</tr>
<tr>
<td>Latvia</td>
<td>0.3 0.8</td>
<td>10.3 4.9</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.4 1.1</td>
<td>6.1 2.5</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>0.009 0.03</td>
<td>0.00004 0.00002</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>0.1 0.2</td>
<td>0.01 0.04</td>
</tr>
<tr>
<td>Malta</td>
<td>0.03 0.05</td>
<td>4.0 2.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3.0 6.0</td>
<td>70.0 29.2</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.2 0.2</td>
<td>0.3 0.08</td>
</tr>
<tr>
<td>Norway</td>
<td>0.7 1.7</td>
<td>0.8 0.7</td>
</tr>
<tr>
<td>Poland</td>
<td>3.9 8.3</td>
<td>19.6 9.1</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.4 0.7</td>
<td>0.7 0.7</td>
</tr>
<tr>
<td>Romania</td>
<td>1.2 2.0</td>
<td>1.6 1.8</td>
</tr>
<tr>
<td>Slovakia</td>
<td>1.6 3.5</td>
<td>5.9 2.5</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0.8 1.4</td>
<td>0.2 0.2</td>
</tr>
<tr>
<td>USA</td>
<td>10.9 16.5</td>
<td>11.2 9.3</td>
</tr>
<tr>
<td>Finland</td>
<td>2.5 5.4</td>
<td>13.3 6.5</td>
</tr>
<tr>
<td>France</td>
<td>8.5 13.0</td>
<td>9.2 4.8</td>
</tr>
<tr>
<td>Croatia</td>
<td>0.2 0.4</td>
<td>1.3 0.6</td>
</tr>
<tr>
<td>Montenegro</td>
<td>0.005 0.009</td>
<td>0.02 0.02</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>2.7 5.3</td>
<td>6.0 2.7</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1.9 3.0</td>
<td>8.8 3.1</td>
</tr>
<tr>
<td>Sweden</td>
<td>1.7 4.0</td>
<td>4.4 2.2</td>
</tr>
<tr>
<td>Estonia</td>
<td>0.6 0.8</td>
<td>4.0 2.0</td>
</tr>
<tr>
<td>Japan</td>
<td>6.6 13.6</td>
<td>19.6 9.4</td>
</tr>
</tbody>
</table>

Source: https://ria.ru/
resource) by the exporting state (which has the right to receive maximum monetized resource rent). Elaboration of interaction standards between the parties on the basis of the balance of their interests is out of the question in this situation. This approach de facto means refusal to cooperate.

**The process of working on the NCs continued for a long seven-odd years. Over this time, six legally binding codes were prepared and adopted**

**TWO EUROPEAN CAMPS**

The successive waves of liberalization and protectionism reflect the changing alignment of forces in the global competitive struggle. As the evidence from practice shows: the stronger the competition, the more pronounced is the tendency towards protectionism as an instrument for defending national interests. If, for some reason, competition weakens, the trend towards liberalism starts to grow, because national economic agents need less protection.

The EU turned out to be, in my opinion, a hostage and a possible victim of such changes. This is reflected in the upcoming – planned, but not necessarily predetermined – changes in the gas market in Europe. They are orchestrated, in my opinion, by the United States, while the actual doers are the new EU member states, or the former members of the CMEA. The main victim is the old EU members and the EU itself as a single consolidated structure. Its split deprives Europe of a number of competitive advantages.

Internal contradictions in the EU have grown over time. The point of no return, in my opinion, was passed after the expansion in 2004-2007. Then, the Union adopted 12 new members, but could not effectively “digest” the acquisition, provide painless assimilation and incorporation into the EU with the preservation of homogeneity of the community. This was reflected in the energy sector, notably, in the gas industry, since in the “new” EU countries, due to objective historical reasons, the level of gas transportation infrastructure saturation is much lower than in the “old” ones. Hence – a lesser predisposition to the formation of competitive national markets.

Thus, according to the estimates of Ekaterina Orlova from the Institute of Energy and Finance, in 2012 the GTS infrastructure saturation level of the countries of Central and South-Eastern Europe corresponded to the figure that North-West Europe’s states had in the 1970s and the beginning of the 1980s. But it is the degree of branching of this infrastructure that provides technical and economic prerequisites for formation of competitive and liquid markets, because suppliers and customers have the opportunity to choose their counterparties.

Therefore, for all the rhetoric about the “single internal gas market of the EU”, there are two levels of its development. And the “two-speed Europe” policy proposed by some European leaders is based on understanding of this harsh reality. In fact, the European Union has already split up into two economic camps, different in terms of global competitiveness. More precisely, it has never been able to become a single whole.

**POISON PILL**

In my opinion, Ukraine became the “poison pill” which exacerbated the objectively predetermined split between the “new” and “old” EU countries. The doctor who prescribed this “pill” was the United States. The “refugee crisis” that delivered an extra blow on Europe was also actually provoked by America, for it arose as a result of numerous color revolutions in the Middle East and North Africa – where from, among other things, energy supplies go to Europe.

The US sanctions against Russia in connection with Ukraine were aimed, first, at driving a wedge between Kiev and Moscow, and then, at involving the European Union in this matter. By doing this, America managed to make Russia and the EU – its main trading partner – fall out. At the same time, the internal contradictions of the EU itself – between “old” and “new” members – were extensively utilized.

The “old” European Union is trying to pursue an independent policy: least of all is it interested in confrontation with Russia. Countries that have been the backbone of European integration since the 1950s are suffering the greatest losses from the sanctions they imposed (see “Western countries most affected by the introduction of anti-Russian sanctions”).

**At all stages of the formation of the EU energy legislation, its purposeful expansion took place internationally**

And the “new” members of the European Union quickly became disappointed with the “secondary” role assigned to them in fact. They did not reap the windfall of financial assistance from Brussels. Their GTS infrastructure did not experience a boom. On the contrary, there was a slowdown in its development. Therefore, in Central and South-Eastern Europe, unlike the North-West, there was no decline in gas prices.

In the conditions of high oil prices (until 2014) and due to the lack of alternative supplies, the Eastern European countries had to pay a higher contract price for imported gas than the spot price for gas paid by the “old” EU members. This only aggravated the differences between the “two Europes”.

24 OIL AND GAS VERTICAL
As a result, not having received the expected financial flows from Brussels, the "new" EU countries began to contact Washington directly to obtain the money. For this, a serious reason had to be presented. And it was easily found, because there was a breeding ground for it on both sides of the Atlantic. "The genetic memory" of the military confrontation with the USSR had not yet disappeared in the United States. At the same time, the world elites, after the well-known Munich speech of V.Putin, realized that the USA was gradually losing the role of the leader of the unipolar world they were carefully building and the return to the multi-polar world was inevitable. Therefore, Washington is interested in deterring Moscow, by methods of military confrontation, in particular, including strengthening its military presence along the fringe of the Russian Federation.

NATO’s expansion to the East was in full accord with the unmet expectations of the former CMEA member countries where anti-Russian sentiments still run high and there are social strata that appeal to the dramatic events of our common history and give them a subjective anti-Russian interpretation. It has become financially profitable to play the political game of the "threat from the East" in the energy sector, in particular, representing Gazprom as the "Kremlin’s energy weapon", which sets high "political" prices for the former CMEA members.

As the domestic gas markets of the EU member countries are liberalized, the EU is trying to extend its rules of the game to an even wider area outside the European Union.

Therefore, when the "new" EU countries began to seek protection "from the threat from the East" in Washington, the energy industry fitted well in the spectrum of these "threats". The argument was the prices for Russian gas which were understandably higher than in Western Europe. And it did not matter that in reality responsibility for this rested not with Moscow and Gazprom, but with the EU itself, which had underfunded the development of alternative gas infrastructure.

At the same time, the transit crises of 2006 and 2009 were regularly mentioned. Everywhere in the West it was alleged that those incidents purportedly provide evidence against Russia as an unreliable supplier. At the same time, the negative role played by Ukraine which was engaged in unauthorized gas withdrawals from the transit pipeline was ignored.

The effect of all these events that lead to a split (or rather prevent from further consolidation) within the EU has been recently exacerbated by such "black swans" as Brexit, the Catalan referendum, etc. This clearly does not contribute to strengthening global competitiveness of the European Union.

THE EU SPLIT AND GLOBAL COMPETITION

Protectionism is a policy designed to support domestic businesses and restrain the "aliens". It hampers creation of non-discriminatory conditions and open markets, where the most effective, but not necessarily the insider, wins in competition.

In my opinion, it is the erosion of EU competitiveness that is the true goal of US actions aimed at supporting the current political regime in Ukraine, which is hostile to Russia. I think that is exactly why the United States of America is trying to involve the EU in the joint anti-Russian policy, sometimes even without coordinating the new "joint" sanction initiatives with Brussels.

The motto of any American administration has always been America First. The current administration has added Global Energy Dominance to the list of goals. In particular, the aim is to squeeze the Russian pipeline gas out of the zone of its historical dominance in the east of the EU. To do this, they utilize the European energy regulators and create additional economic and administrative barriers on the way to Europe (see the Quo Vadis project).

Meanwhile, global competition has now become tougher than 10-15 years ago. Apart from the once-dominant triad: the US – Western Europe – Japan, other states – countries of Southeast Asia, BRICS members (primarily China and India) and others – have now firmly established themselves on the world stage in the sphere of advanced technologies. In the conditions of toughened competition, there are two ways (which are not mutually exclusive and can coexist) to hold onto advanced positions. The first is to run faster than competitors. The second is to put some broken glass in the competitor’s sneakers. In other words, eliminate the “weak link” in order to occupy its competitive niche.

In my opinion, it is precisely what is happening now – the EU has become this “weak link” as a result of all the metamorphoses described above, intrinsic and extrinsic. Entangling the EU in the US policy aimed at retaining Ukraine’s transit to Europe after 2019 and hindering the construction of gas pipelines bypassing Ukraine reflect the desire of the United States to make Russian gas supplies to the EU more expensive. This clears the way for American coal and LNG, which are more expensive for deliveries to the EU than Russian gas. In other words, Europe is becoming a market for more expensive and impure American energy resources. The increase in the energy component will make the products of the manufacturing industries of the EU member countries more expensive, and therefore less competitive in the global market. “Nothing personal, it’s just business”. R1
In 2017, the situation at the European gas market - a key one for Gazprom - developed absolutely favorably. A whole combination of factors led to the fact that the volume of natural gas consumption in the European far abroad (European countries, excluding the Baltic States and Turkey included) exceeded the level of 2016 by 26.5 bcm or 4.9pc to 568.2 billion cubic meters (bcm). This is the highest rate since 2011.

Among the drivers of growth there were: an increase in gas consumption in the European power industry with the reduction of coal’s share and a weak dynamics of its own gas production in Europe, which is not keeping up with the growth in demand. The situation at the world gas market was also favorable for Russia - most LNG exporters were aimed at the premium Asian market, which contributed to the growth of Gazprom’s pipeline supplies.

In 2018, perhaps, these factors will no longer play such a significant role. But there may be new drivers for the growth of Russian gas exports. In particular - the abnormally cold end of winter in Europe and the need to fill underground gas storage facilities. This allows us to hope for the new records of Gazprom.
**CONTRARY TO WEATHER**

The most important factor affecting gas consumption is the weather. In 2017, the weather conditions were close to the climatic norm in average. So, the weather index of Europe, calculated on the basis of degree-days, was 98.2pc to its average historical level. A similar situation was in 2016, when the index deviated from the norm by 1.2pc.

If we talk about the actual figures and not the average ones, then it can be stated that weather conditions in the European countries had significant and multidirectional deviations from the climatic norm. The anomalously cold January of 2017 contributed to the growth of gas demand. However, in March, on the contrary, the weather index dropped to the lowest level in recent years. In the second and third quarters, temperatures above the multi-year averages were observed in a number of countries in Central and Southern Europe, especially in Italy, Croatia, Austria, and the Czech Republic. This had a positive effect on the gas consumption. In warm October, the weather index was again close to the lowest level in recent years.

The fact that actual consumption, despite this, increased in 2017, due to the positive impact of factors not related to the weather.

Model calculations show that if the weather were within the climatic norm, the estimated consumption could be higher than the actual by 7.0 bcm. In 2016, the negative impact of the weather factor led to a relatively smaller conditional loss - 3.0 bcm. The fact that actual consumption, despite this, increased in 2017, due to the positive impact of factors not related to the weather.

**PRESSING UP COAL**

Power generation played an important role in increasing gas consumption in 2017. Gas consumption in this sector in the European far abroad increased by 7.6pc, while consumption in other sectors grew only by 3.7pc. The share of electricity production in the gas consumption structure expanded from 30.2pc in 2016 to 31pc in 2017.

In early 2017, there was a sharp reduction in electricity generation from renewable sources in Germany due to snow and windless weather. The reduction of electricity generation at nuclear power plants in Germany and in France also was important. In the first case, because of planned decommissioning of nuclear reactors, in the second – because of closure of a number of reactors for testing. In addition, the production at the hydroelectric power stations in a number of southern European countries (Spain, Italy, Portugal, Turkey) decreased in summer due to less than usual rainfall.

Market conditions for gas power generation have improved significantly due to the increase in world prices for coal in 2016-2017. In Germany, the range of estimat-
Power generation played an important role in increasing gas consumption in 2017. Gas consumption in this sector in the European far abroad increased by 7.6pc, while consumption in other sectors grew only by 3.7pc.

In the UK, where an additional fee for greenhouse gas emissions is applied, gas continued to displace coal. At the same time, the share of wind and solar generation in the structure of electricity production in the country remains small - about 7pc (against 43.2pc for gas generation). This additional fee provides UK gas power stations with a higher margin than coal stations. It achieves maximum levels in summer periods with a seasonal decline in gas prices on the NBP hub (see graph "Switching prices of power plants from coal to gas in the UK").

However, the seasonal increase of the gas prices and the expected decline in coal prices, as forward prices indicate for 2018-2019, could lead to a worsening of the situation and a reduction in gas use in the electric power industry of Germany and the United Kingdom.

OWN PRODUCTION

The index of industrial production in 2017 was significantly higher than the level of the previous year (the average value was +2.9pc compared to +1.6pc a year earlier). This was a consequence of the rise of the Eurozone economies. The confidence index in the industrial sector of the economy, which is an indicator of the subjective attitude to growth prospects, reached 8.6pc in December 2017 - a record value over the last ten years. In the power generation sector, growth also continued: in January-October, electricity generated 2.4pc more than a year ago.

Own gas production in the European far abroad in 2017 showed a slight increase compared to the level of the previous year - up to 264.1 bcm or 1.4pc. At the same time, it increased significantly in Norway, which delivered to this market 134.7 bcm (+10.6 bcm or +8.6pc), including a result of a decrease in exports to other regions.

The increase in production is observed in Romania (+0.8 bcm or +7.7pc), as well as Denmark (+0.4 bcm or +7.4pc). But shipments from the Netherlands decreased (by 6.0 bcm or 13.2pc), where there are gas production limits at the largest Groningen field.

SWITCHING PRICES OF POWER PLANTS FROM COAL TO GAS IN THE UK

<table>
<thead>
<tr>
<th>Forward prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price range at NBP, which provide the switch from coal to gas</td>
</tr>
<tr>
<td>Coal price (cif ARA), swaps and forwards</td>
</tr>
<tr>
<td>Gas price at NBP, month ahead and forwards</td>
</tr>
</tbody>
</table>

Source: Gazprom Export
In the UK, production slightly increased (+0.1 bcm or +0.2pc), which allowed the country to retain the role of second-largest domestic supplier. Despite the fact that North Sea gas production is at a stable level and even shows growth in certain periods of time, sources in the industry note a reduction in investment and a reduction in the volume of geological exploration to the level of the 1970s. This creates a threat of instability of supply in the medium term. In addition, the Norwegian authorities plan to prohibit drilling of wells and geological prospecting for hydrocarbons in the most vulnerable regions of the Arctic for four years. This means that the oil and gas industry in Europe in the coming years will not have access to new promising deposits.

**EUROPEAN IMPORTS**

In 2017, net injection into underground gas storage facilities (UGS) in European countries amounted to only 0.3 bcm compared to net extraction of 5.5 bcm a year earlier. This indicator is important because it serves as a kind of add-on to the actual consumption and, as a result, affects the overall demand for imported gas. Thus, we can say that in 2017 the demand for gas from the storage facilities was 5.8 bcm more than in the previous year. In other words, the demand for imported gas increased by 5.8 bcm due to European storage facilities. The volume of gas in the UGS at the end of the fourth quarter of 2017 was slightly higher than the level of the previous year - 70.2 bcm, which is 59.6pc of the total storage capacity.

Due to the above factors, there is a significant increase in demand for imported gas. Thus, the sale of Gazprom's gas to the European countries outside the CIS in 2017 increased by 15.1 bcm (+8.4pc), to 194.4 bcm (including supplies under direct contracts of Gazprom Schweiz, and also trading and volumes sold at Gazprom Export auctions). Gas offtake showed significant growth in Germany, where it updated historical highs and reached 53.4 bcm (+3.6 bcm). Positive dynamics was observed in Turkey, where shipments increased by 4.3 bcm, to 29 bcm. At the same time, the level of gas offtake in Italy decreased by 0.9 bcm, to 23.8 bcm.

The dynamics of the gas offtake also determined the relative share of pipeline supplies of natural gas from Russia to the European market. In 2017, its share reached 34.2pc, up by 1.1 percentage points than in the previous year. At the same time, the share of Gazprom

![Dynamics of LNG Supplies to the European Market, bcm](image)

**Source:** Gazprom Export
in gas consumption in the EU increased to 32.8pc (+1.0 percentage points).

Gross gas imports to Europe in 2017 increased by 23.5 bcm, or by 8.1pc, for the first time in history, exceeding the level of 300 bcm. The import dependence of the Old World was steadily consolidated at a level above 50pc, and by the results of the last year it was 53pc. Back in 2013, it did not exceed 48pc.

At the same time, imports from Algeria to Europe in 2017 decreased by 1.7 bcm (by 3.4pc). There has been a decline in supplies from this North African state, both pipeline gas and LNG. Meanwhile, the supply of liquefied gas from Algeria to non-European countries (Egypt, Jordan, China, Kuwait, the United Arab Emirates, Singapore, Thailand) more than doubled.

WHAT ARE THE PROSPECTS?

As for the medium-term prospects of the European market, industry experts during 2017, observing the positive development of the situation, increased the expectations of the dynamics of demand in comparison with their previous forecasts. In the medium term, stagnation or even a slight decrease in gas consumption in the municipal sector is expected due to the increase in energy efficiency. However, its use will be expanded for power generation and transport. Consultants of IHS expect the demand to remain at the level not lower than the last years. And more optimistic forecasts of PIRA suggest a smooth growth in the medium term.

Talking about medium-term import prospects, it should be noted that if the parity of prices in Europe and Asia is restored, there may be possible a return to the European market of LNG volumes, previously redirected to the premium Asian markets. At the global level, it is also expected that supplies from new liquefaction projects will increase (USA, Australia, Mozambique). And some of them can be sent to the Old World. However, we should not forget about the problems with the launches of new plants and the transfer of their terms. Thus, the main wave of access to the market for the new capacities is expected not in 2018, but in 2019. However, the decisive factor on which the availability of free LNG volumes depends, the level of demand for gas in Asia will be. Including the new importers in Asia. Corrections to medium-term trends may be initiated by the restart of nuclear power plants in Japan and the prospects for own gas production in China.

Expatriates of LNG from Qatar to Europe decreased slightly (by 0.1 bcm or by 0.3pc), also due to increased supplies to the premium markets in Asia and Latin America. On the contrary, LNG imports from Nigeria increased by 2.8 bcm, to 12.6 bcm.

Deliveries of pipeline gas to Turkey from Iran, according to preliminary data, increased by 1.6 bcm, or by 20.1pc, to 9.6 bcm. LNG imports from Peru (+2 bcm) and Norway (+1.1 bcm) also increased. In addition, there were deliveries of liquefied gas from the US in the volume of 2.6 bcm. Thus, the share of this source in European gas consumption has not yet reached even 0.5pc. Also, small deliveries were made from a number of countries in Africa and South America. And it is also worth mentioning the beginning of shipments of Russian LNG from the Yamal LNG project.

In general, LNG imports to Europe increased by 9.2 bcm (+16.5pc), to 65 bcm. Almost 40pc of this increase occurred in the fourth quarter of 2017, due to the seasonal expectation of cold weather (see graph “Dynamics of LNG supplies to the European market”).

Reverse volumes to Ukraine increased by 3 bcm. More than 70pc of these supplies were from Slovakia. This had some influence on the level of net imports to Europe, which, however, was partly offset by a decrease in the volume of LNG redirection (up to 1.7 bcm). Net imports soared by 23.0 bcm (by 8.4pc) and amounted to 295.5 bcm.
HORizontally
Sergey Donskoy:
There are grounds to talk about growing investors’ interest in geological exploration

Prospecting and exploration for hydrocarbons are the foundation for the oil and gas industry. It is the reliable resource potential that is the key to production growth and the inflow of investments and, as a matter of fact, determines the future of the industry. At the same time, geological exploration is also the most vulnerable segment of oil and gas industry. During the period of falling prices for hydrocarbons, there is a great temptation to "economize on the future", that is, on investments in the development of the mineral resources base. Therefore, today many experts express concern that underfunding of geological exploration will result in a shortage of new oil production assets in a few years.
And what about the situation in Russia? Despite the drop in oil prices and Western sanctions, the hydrocarbon reserves growth in our country exceeds production volumes, and investments in geological exploration are rising. In the interview with "Oil and Gas Vertical", Sergey DONSKOY, the Ex-Minister of Natural Resources and the Environment of Russia
Sergei Efimovich, what progress was made in geological exploration for oil and gas in 2017? How many new fields were discovered, what growth in reserves was achieved? Does it meet targets and expectations?

S. Donskoy: Yes, it does. In 2017, 75 fields of hydrocarbons were discovered, the estimated reserves growth as a result of geological exploration for liquid hydrocarbons was 550 million tons, gas – 890 billion cubic meters (bcm). This meets both the targets and our expectations. If we talk about the largest fields, they include Central Olgiyskoye with estimated oil reserves of 80 million tons (category C1 + C2), South Lunskoye with gas reserves of about 50 bcm, Gorodinsky and Viatsinsky with oil reserves of 26 and 19 million tons respectively.

In the 1990s and the early 2000s, the production of hydrocarbons significantly exceeded the reserves growth, which gave rise to speculations about excessive consumption of resource potential. In recent years, the situation in this area has changed. What has helped to achieve such results?

S. Donskoy: Indeed, the production of liquid hydrocarbons exceeded the reserves growth from 1992 to 2005, and for free gas and free gas caps – up to 2007. Today the situation is gradually changing. First of all, thanks to the improvement of legislation. The amendments are aimed at stimulating subsoil use and removing administrative barriers.

Over the past few years a lot has been done in this area. Cancellation of payment for providing geological information has made it readily accessible. A single geological information database is being formed. The time allowed for geological exploration of subsoil resources has been increased from five to seven years in hard-to-reach and insufficiently explored regions. The procedure for provision of land plots owned by the state and municipalities for the needs of subsoil use has been simplified.

In 2017, 75 fields of hydrocarbons were discovered, the estimated reserves growth as a result of geological exploration for liquid hydrocarbons was 550 million tons, gas - 890 billion cubic meters

In addition, the procedure for expropriation of forest tracts for subsoil resource use purposes, or mountain easement, has been improved.

Also, the possibility of changing the boundaries of the made available for use subsoil plot has been legislated to ensure completeness of geological exploration, sustainable use and subsoil protection.

MAIN DISCOVERIES

The largest hydrocarbons reserves discovered in 2012-2016 are as follows:

- Ilbokichskoe (Krasnoyarsk region) with recoverable gas reserves of categories C1 + C2 - 59 bcm;
- Named after V.B. Mazur (Irkutsk region) – 39.6 million tons of oil;
- Ouriya (Khanty-Mansi Autonomous Area) – 33.7 million tons of oil;
- Harbey (Yamalo-Nenets Autonomous District) - 26.7 bcm, 6.6 million tons of oil;
- Pobeda (Victory) (Kara Sea shelf) - 130 million tons of oil, 395 bcm of gas;
- Koshinskoe (Orenburg region) – 24.2 million tons of oil;
- Demyanskoye (Tyumen region) – 24.1 million tons;
- D-33 (Baltic Sea) – 21.1 million tons.

Nor should we fail to mention that town planning expertise of drilling projects has been cancelled.

The strategy aimed at improving legislation is based on reduction of administrative, technical and financial costs incurred by subsoil users (oil and gas companies), while implementing costly geological exploration projects in new territories and in the regions of active mineral development. In this way, we stimulate access to new unexplored zones and continuation of development of producing regions at the same time.

As a result of the decline in oil prices around the world, investment in geological exploration has decreased. How is Russian geology tackling this global crisis? Is there a drop in investments or do they remain stable?

S. Donskoy: The exact figures will be known in March. According to preliminary data, the expenditure of oil and gas companies on geological exploration for oil and gas is estimated at 302 billion roubles in 2017. In 2016, the costs were lower and totalled 252 billion rubles. So there are grounds to speak about growing interest of investors. And our efforts to improve the regulatory regime play a significant role in this.

What are the most up-to-date and promising directions of geological exploration today? In which regions will their main volume be concentrated in the near future?

S. Donskoy: Speaking of geological exploration financed by the state, in the next few years it will be...
concentrated within five priority oil and gas promising zones. Among them, there are Ozinsko-Altatinskaya, Yugansko-Koltogorskaya, Karabashskaya, Gydano-Khatangskaya, Argish-Chunskaya zones. Based on the results of this exploration, we can obtain the increase in prepared and localized hydrocarbon resources in the amount of 2.7 billion tons of fuel equivalent.

The area of the unlicensed part of the five above-mentioned zones is about 800 thousand km². Based on the results of geological exploration, it is planned to increase the recoverable category C1 reserves in the amount of about 700 million tons, with funds provided by oil and gas companies.

The amendments to the legislation are aimed at stimulating subsoil use and removing administrative barriers

The fall in prices for hydrocarbons brings into question profitability of developing resources on the Arctic shelf. How have these price changes affected the dynamics of geological exploration in the Arctic? How much work is planned for the coming years?

S. Donskoy: Of course, the drop in the oil price has had an impact on the amount of geological exploration to some extent. In addition, the government has established a moratorium on the provision of subsoil blocks for use on the continental shelf.

Currently, companies are carrying out geophysical surveys within the framework of license obligations. With the funds of the federal budget, the study of the transit zone and inland seas is being conducted.

I would also like to note that, despite a certain reduction in the amount of exploration work, companies are employing non-standard approaches to its implementation. For example, the company Rosneft discovered the Central Olginskoye oil field in the Hatangsky Bay of the Laptev Sea by drilling from the shore.

Today, depletion of conventional oil reserves in Western Siberia raises the question of developing non-conventional reserves, including the Bazhenov formation and other shale-like formations. Is domestic geological exploration ready for prospecting and exploration for such resources?

S. Donskoy: It is a well-known fact that non-conventional hydrocarbon resources exceed conventional resources by an order of magnitude. Their potential is very large, so forward-looking study of unconventional hydrocarbons is an urgent task for the formation of a Russian resources reserve, but the real pace of their development will depend on economic conditions and technical capabilities.

Speaking specifically of the Bazhenov formation, its development is of strategic importance for the domestic oil industry development and ensuring its global competitiveness and sustainable development for the long term. However, the fact that the collector-capacitive characteristics of the Bazhenov formation are very complicated and the formation is not explored sufficiently explains the necessity to use unique technologies and equipment.

Today, almost all companies are conducting research and experimental work with a view of searching for and testing new technologies. This is not an easy task, but it can be accomplished, so creating a bank of domestic technologies for effective development of hard-to-recover oil reserves of Bazhenov deposits is quite realistic.

In 2016, the state contract “A Differentiated Assessment of Oil-bearing Prospects for the Bazhenov Formation of the West-Siberian Oil and Gas Industry (Unconventional Sources of Shale Oil)” was fulfilled. As a result of this work, new data on the prospects of the deposits of the Bazhenov formation were obtained. An estimation of the initial geological resources of oil was made taking into account their localization according to the properties of oil. The total estimate was 9.6 billion tons of recoverable resources, including 5.4 billion tons of light crude oil.

On the basis of the new data obtained, an updated program for licensing the sediments of the Bazhenov formation has been developed.

According to preliminary data, the expenditure of oil and gas companies on geological exploration for oil and gas is estimated at 302 billion roubles in 2017

How should the roles between the state and business be distributed in the process of ensuring the growth of the mineral resources base of the oil and gas industry? Has the balance been achieved already, or are you expecting business to be more active in terms of geological prospecting?

S. Donskoy: To date, a set of measures for geological study of mineral resources and reproduction of mineral resources base has been provided with the funds of all sources of financing.

The federal budget funds are used to finance the early stages of geological exploration involving the regional study of the country’s territory, the search for and evaluation of mineral deposits. The need to allocate budgetary funds is caused by low investment attractiveness of geological exploration objects and a high level of geological and financial risks.

Oil industry traditionally organizes prospecting and appraisal work by attracting private funds, through licensing promising fields.
The activity of oil companies is largely dependent on the cost of oil. Given the stabilization of oil prices, in 2017-2018 it is expected to increase funding for geological exploration with the funds of subsoil users.

At one point, the ministry headed by you was criticized for the fact that the process of subsoil licensing was not going quickly enough, and, as a result, some companies might experience the shortage of raw materials going forward. What is the current status of the licensing issue? What new promising oil and gas facilities and areas are expected to be put up for sale in the near future?

S. Donskoy: At this point, you need to understand that the measures aimed at accelerating the pace of the licensing process cannot solve the problem of the raw materials shortage. By increasing the number of unprepared sites offered for licensing, we will only increase the number of failed auctions. It is necessary to take measures for economic stimulation, simplification of procedures, creation of search reserve, and in terms of infrastructure – to produce comprehensive solutions.

We are trying to carry out the licensing policy in accordance with these principles. Thus, in 2018, we are planning to put up 114 plots on auction. Most of them are subsoil plots with inferred mineral resources.

Also this year, it is planned to auction the right to use the subsoil of the Oktyabrsky section of the Azov Sea. This plot is classified as a subsoil plot of federal significance.

In addition, Rosnedra is now drawing up a tender for the right to use the subsoil in the Khara-Tumus section of the Krasnoyarsk Territory for the purpose of geological prospecting, exploration and production of hydrocarbons. The tender is to be held in the first quarter of 2018.

Today, many production projects in the oil and gas industry enjoy various benefits and preferences. And do we need an additional system of government support measures, including fiscal support, for geological exploration projects?

S. Donskoy: Such preferences are needed, first of all, to activate geological exploration, especially while implementing high-risk projects on the shelf and hard-to-reach land areas.

Economic measures to stimulate geological exploration have already been employed through the mechanism of a multiplying ratio of 1.5, which is applied to the company’s expenditure on geological exploration on the shelf, while calculating the profit tax. The ratio was developed jointly with the Ministry of Finance of Russia.

It is also possible to assign either the entire amount of development expenses or any part thereof to expenditures on activities carried out in other subsoil areas.

Work in this direction is not completed. It is advisable to apply multiplying ratios up to 3.5 to expenditures in respect of the most risky and complicated regions, in particular in the Arctic zone.

The practice of so-called junior companies opening new fields and selling them to large mining companies has become widespread in the world. Do you think that such experience can be applicable in Russia? Is it necessary to create a field market in order to stimulate geological exploration?

S. Donskoy: We support this practice. An encouraging start to establishing the junior movement on the territory of our country has already been made.

Last year, the Ministry of Economic Development with the participation of the Ministry of Natural Resources and the Environment, the Ministry of Energy, the Bank of Russia and the expert community developed a Concept for the Development of Junior Geological Exploration Companies. The document outlines the ways of development of the junior movement in the country and the criteria for identifying junior exploration companies.

Speaking of geological exploration financed by the state, in the next few years it will be concentrated within five priority oil and gas promising zones

In addition, the Ministry of Natural Resources and the Environment introduced a so-called declarative principle that allows concerned parties to ob-
tain insufficiently explored subsoil plots within the boundaries that are independently determined by the applicant.

The introduction of the declarative principle has encouraged small and medium-size businesses to get involved in exploration and attracted significant investments into the industry. The planned volume of financing according to project documentation is about 55 billion roubles.

And the investors are getting more and more interested in the declarative principle: in 2014, Rosnedra received 286 applications, in 2015 – 746, in 2016 – 1175, and in 2017 – 1259 applications.

**Despite a certain reduction in the amount of exploration work on the Arctic shelf, companies are employing non-standard approaches to its implementation.**

The majority of Russian companies are showing an interest in a wider application of the declarative principle to higher categories of inferred resources of solid minerals.

Speaking of the junior movement in relation to the oil industry, one must bear in mind that the cost of oil and gas exploration projects is an order of magnitude greater than the cost of exploration for solid mineral resources. Such funds are not easy to raise on venture exchanges – the main donors of the classical junior movement. This also explains why, for the time being, the use of the declarative principle for hydrocarbons is limited. But we will definitely share and popularize the successful experience of attracting private funds in the area of hydrocarbon exploration too.

**Forward-looking study of unconventional hydrocarbons is an urgent task for the formation of a Russian resources reserve**

Further development of the junior movement in Russia can be ensured through the formation of stock markets and the creation of co-financing mechanisms, public-private partnerships, among other things with the aim to developing the necessary infrastructure and attracting venture capital.

**There is an opinion that in the field of geological exploration, dependence on foreign technologies and equipment is even higher than in other sectors of the oil and gas industry. What steps are being taken to overcome this dependence and ensure import substitution?**

S. Donskoy: Unfortunately, we have to admit that in certain sectors in the field of geological exploration, we are still significantly dependent on foreign technologies and equipment. First of all, this concerns seismic survey – the main method of studying the structure of geological strata – as well as deep exploratory drilling. The situation is especially difficult with carrying out prospecting works in offshore areas.

At the same time, I cannot fail to mention that in recent years in Russia, both technical means of seismic observations and domestic software have been created and are being successfully applied.

In most cases, domestic machinery – seismic stations produced by the Saratov SDB (Special Design Bureau), seismic vibrators produced by the Geosvip plant, which is part of Rosgeo – and the software developed by a number of Russian small enterprises and institutions may well replace Western products.

**The activity of oil companies is largely dependent on the cost of oil. Given the stabilization of oil prices, in 2017-2018 it is expected to increase funding for geological exploration with the funds of subsoil users**

The main directions for import substitution of oil and gas equipment are laid down in the Plan of Reducing Dependence of Russia’s Fuel and Energy Industry on Imported Equipment and Foreign Software. According to the guidelines established in the Plan and taking into account the proposals of the Ministry of Natural Resources of Russia, the Ministry of Industry and Trade of Russia has created a List of equipment, technical devices, components (including element base), software, and services (works) for the fuel and energy industry, subject to import substitution in the short-, medium- and long-term period.

The expert Technologies and Equipment for Geological Prospecting group (moderated by Rosgeo) has prepared specific proposals for the development and creation of domestic hardware and technical equipment and technical devices for oil and gas geophysics.
Era of tight reserves
How to resist the tendency of the deterioration of the mineral resource base?

DARIA SUROVA
Rystad Energy

The depletion of the traditional reserves of large deposits and the deterioration of the mineral resource base is one of the most urgent and debated problems in the global oil and gas industry. It is no accident. According to Rystad Energy, the share of so-called tight reserves or hard-to-recover is constantly increasing both among the reserves being discovered and in production. The costs of the search of the reserves and their development are increasing too. At the same time, the demand for hydrocarbons is constantly expanding, necessitating the putting new fields into operation.

When making investment decisions, an oil and gas company, like any other rational economic agent, proceeds from the return on investment and the profitability of the project. As US experience shows, the development of hard-to-recover hydrocarbons can be not only a break-even, but also a quite profitable activity. But not everything is so simple. A lot of conditions are necessary for intensive involvement in the development of the tight reserves. At the same time, success largely depends on the institutional environment in the country.

To date, the Russian oil and gas sector operates in an unfavorable institutional environment. It is characterized by weak competition in production and oilfield services, and a large number of administrative barriers that impede the development of small businesses. And they are the ones that are most interested in developing of small deposits and residual stocks of large fields where it is impossible to achieve economies of scale.
In 2017, about 60pc of hydrocarbons were produced in late-stage fields

STOCKS GROW OLD

According to Rystad Energy, in 2017, about 60pc of hydrocarbons (excluding shale oil and gas, as well as raw materials from tight reservoirs) were produced at the brownfields. In some regions, this figure is even higher. Thus, in North America, which ranks third in the world in terms of production, mature fields account for about 70pc of the hydrocarbon resources. South America is at an average level, while Western Europe and North Africa noticeably exceed it (78 and 81pc, respectively).

The maturity of the developed resource base in Russia is still below the world average. However, by 2025, this indicator is projected to grow to 70pc.

The exception to the general rule is the Middle East. Thanks to new projects in Iraq (expansion of production at the Rumaila and Zubair fields, the first and second phases of development of the West Qurna field) and relatively young deposits of Qatar, the share of production in fields with depletion above 50pc does not exceed 40pc in this region. And the depleted assets (exhaustion of more than 75pc) in 2017 provided only 6pc of production (see graph “Structure of hydrocarbon production in 2017”).

Among the major producing countries, the United States (excluding shale), Algeria, Mexico and Norway have the highest depletion rate of the resource base being developed – about 70pc.

EFFICIENCY OF GEOLOGICAL PROSPECTING FALLS

The problem of depletion of the resource base would not have been so acute, had it not been for the confident growth in demand, mainly from the developing economies. Forecasts of industry experts regarding the period at which the peak level of world hydrocarbon consumption will be, differ greatly. This depends on the policies of developed and developing countries aimed at increasing energy efficiency and energy saving, on the speed of spread of renewable resources and the development of the market of electric vehicles, as well as on a number of other equally significant factors. The peak demand for liquid hydrocarbons can be traversed by the end of the next decade (the EIA forecasts maintaining consumption at the peak level until the 2040s) and in the more distant period (Rystad Energy estimate – in mid-2030).

Consumption of gas as a more environmentally friendly fuel, according to the most forecasts, will move along an ascending trajectory and in the next couple of decades it will not reach its peak. In any case, the
discrepancies in the estimates mainly relate to the long-term period. But almost no one doubts that in the foreseeable future, the demand for hydrocarbons will continue to grow.

In connection with the depletion of existing fields, the satisfaction of growing consumption will be possible only through the commissioning of new oil and gas assets. In turn, historical data indicate that the era of giant deposits with readily available traditional hydrocarbons is already behind. In the most successful years for geological prospecting (1960-1970s), the average annual volume of explored commercially recoverable reserves was about 76 billion barrels of oil equivalent (boe). A record level of 235 billion barrels was reached in 1971, when the supergiant gas field Severnoye was discovered in Qatar. Most of these reserves were in large and giant deposits. In total, 288 fields were discovered for this period with the volume of initial recoverable reserves at each more than 1 billion boe.

**The peak demand for liquid hydrocarbons can be passed both by the end of the next decade, and in the more distant period**

Since then, despite the increased investment in geological exploration, the efficiency of geological exploration has declined. Thus, in the 1980s, the average volume of explored new recoverable reserves decreased to about 40 billion boe a year. And in the 1990s, it fell to 27 billion boe. In the 2000s, amid active investment in geological exploration, the situation improved slightly. However, the rate of increase in investments was not comparable with the growth of open stocks, and the overall efficiency of geological exploration continued to decline.

In 2017, a historical minimum was recorded for the volume of new open reserves – only 6.4 billion boe. (excluding oil and gas shales and dense reservoirs). Taking into account additional exploration of reserves in already discovered deposits, this figure is 10.4 billion boe, which is also a historical anti-record.

**TWO TRENDS**

The deterioration of the resource base has been reflected in two main trends. The first of them is the reduction of the size of new deposits. According to Rystad Energy, large assets are opened less often. A share of the average (from 30 to 300 million boe of recoverable reserves) and small (up to 30 million boe) deposits and deposits in the total volume of explored reserves is growing. And if in the 1960s the share of the latter accounted for an average of 15pc, then during the last decade this figure ranged from 35 to 70pc (see graph “Structure of reserves explored from 1960 to 2017”).

The decreasing size of the fields negates the economies of scale effect that occurs when major projects are implemented. And this, in turn, increases the cost price and reduces the profitability of production.

The second trend is the growth of the share of tight reserves – both unconventional (oil and gas shale deposits and dense rocks, methane coal seams), and traditional. The development of the latter can be complicated by a number of factors:

---

**STRUCTURE OF RESERVES EXPLORED FROM 1960 TO 2017**

*Excluding hydrocarbons from shale deposits and dense reservoirs*

*Source: Rystad Energy UCube*
Consumption of gas as a more environmentally friendly fuel will move along an ascending trajectory and in the next couple of decades it will not reach a peak

In other words, the categories of stocks that require an individualized (and sometimes unique) approach to their development are classified as tight or complex, or hard-to-recover. This means a higher level of capital or operating costs. But, based on this, shale hydrocarbons are hardly classified as complex. Significant reduction in the cost and widespread distribution of technologies for their development in the US significantly reduced the costs of shale operators. But at first, it was extremely expensive to exploit shale reserves. And only two years ago, the shale companies reached a positive free cash flow and began to receive a return on their investments.

At the same time, the geological structure of the shale formations in different regions, countries, provinces and basins may radically differ from the well-studied US plays. So, the technology and experience of developing them will be difficult, and sometimes even impossible, to apply in other areas. And their adaptation requires additional investment.

For example, in Russia there is a so called Bazhenov formation – the largest known shale formation in the world. It covers an area of about 1 million square km, its resource potential by some experts is estimated at several billion tons of liquid hydrocarbons. Successful attempts to develop the bazhen are undertaken by large domestic vertically integrated oil companies (VINK): LUKOIL, Surgutneftegaz, Rosneft, Gazprom Neft. The state is also interested in implementing this project. In particular, for these purposes, the Bazhenov polygon is being formed. Nevertheless, so far the production volumes from the bazhen deposits are extremely small, their structure is still poorly understood, and development technologies are inaccessible, which pushes the industrial development of the suite for years to come.

Currently, only 8.5pc of non-traditional hydrocarbons account for the total volume of residual explored recoverable reserves. However, their contribution to production by 2017 reached 11.5pc. Of course, the main role is played by oil shale and US gas. But just 10 years ago, this figure did not exceed 1pc. According to the forecasts of Rystad Energy, by 2025 it will amount to 20pc.

**STRUCTURE OF THE RESERVES, EXPLORED FROM 1960 TO 2017, BY DEPTH OF THE BOTTOM OF OFFSHORE FIELDS**

*Excluding hydrocarbons from shale deposits and dense reservoirs*

Source: Rystad Energy UCube
FOCUS SHIFT

Although traditional hydrocarbons will continue to dominate both in residual recoverable reserves and in production, the share of difficult reserves will grow in their structure. In particular, at the early 2000s, there was a growing trend in the contribution of offshore deposits lying at extreme depths (more than 1500 meters). In 2017, their share in the structure of the open recoverable reserves reached a record level of 53 percent (see graph “Structure of the reserves, explored from 1960 to 2017, by depth of the bottom of offshore fields”). The main regions for the detection of superdeep reserves are the continental waters of Brazil, the waters off the coast of West Africa (Mauritania, Senegal, Nigeria, Angola), and East Africa (Mozambique, Tanzania), and the Gulf of Mexico (US sector).

In search of tidbits, companies penetrate into previously unexplored and undeveloped regions, study the geology of poorly studied basins where the infrastructure of transportation, storage and processing of hydrocarbons is practically or completely lacking. In Russia, such regions are Eastern Siberia and the Far East, as well as the Arctic, the development of which, in addition to the infrastructure problem, is complicated by harsh climatic conditions.

A vivid example of increasing attention to less studied, undeveloped regions by subsoil users is the project of BP and Kosmos Energy, which plans large-scale exploratory drilling in the waters of Senegal and Mauritania. It all began with the discovery of the Tortue offshore field (Mauritania) in mid-2015 and the deep-water field Teranga (Senegal) in the spring of 2016. BP and Kosmos Energy have decided to implement a joint project, in which four exploration wells are expected to drill off the coasts of Mauritania and Senegal. The first well in the deep-water part of the water area of Senegal, Yakaar-1, was successful. It revealed powerful sandy productive layers with high porosity and permeability. However, to the disappointment of the project participants, the remaining three wells drilled in late 2017 – early 2018 were dry.

**Large assets are opened less often. And the share of medium and small deposits and deposits in the total volume of explored reserves is growing**

The shift in focus to the poorly developed regions and poorly explored basins is associated not only with increased geological risks and, as a result, significant costs for geological exploration, but also with increased investment in the development of new open fields located far from the infrastructure.

---

**THE ECONOMICS OF PRODUCTION**

The data of Rystad Energy confirm the conclusion that the depletion of the traditional resource base and the deterioration of the structure of new discoverable reserves leads to a rise in the cost of their development (see graph “Economics of developed explored reserves”).

According to company estimates, the average level of specific operating costs for production (in real terms) in small deposits in 2010-2020 is more than 40 percent higher than for large assets (with reserves of more than 1 billion boe). And the average size of the specific capital costs for the commissioning of a small deposit into the development is several times higher than the corresponding index for large objects. In general, the smaller the deposit, the higher the cost of its operation is.

In the context of production segments, there is also a certain correlation between the complexity of the field and the specific costs for its development. So, among the offshore projects, relatively cheap is the development of offshore deposits located at shallow depths. But the deeper and farther from the coast the deposit is, the more expensive drilling rigs are used by operators (platforms such as malleable towers, TLP, Spar platforms).

Hydrocarbons of shale formations and low-permeability reservoirs, in addition to the United States, are also mined in Argentina, Canada, China. Despite a sig-
nificant reduction in the costs of oil shale developments in the United States, the world average level of specific operating costs is higher than in traditional uncomplicated and offshore fields. And the world average level of capex for greenfields remains one of the highest. Although oil sands development projects do not require high capital costs in the initial stages, these are the most expensive projects in terms of operating costs. In 2017, in order to extract and sell 1 barrel of oil from bituminous sands, the developer of the field needed to spend about $21. The average for 2010-2020 level of specific operating costs is $26 per barrel. The cost price of production fell significantly after the collapse of oil quotes in 2014 and, according to the forecast of Rystad Energy, will continue to decline.

The share of complex reserves is growing - both unconventional (oil and gas of shale deposits and dense rocks, methane of coal seams) and traditional

The average specific operating costs for operating assets and capital expenditures for greenfields, whose development is not complicated by the properties of the hydrocarbons themselves, are the lowest – $7.9 per barrel and $3.1 per barrel, respectively. However, these assets include deposits in remote areas, severe climatic or complex geological conditions, as well as residual stocks of mined deposits, whose economy may differ from the values given. Thus, in practically all production segments (except for oil sands), specific operating costs in the late stages of field development are higher than in earlier stages. This is especially noticeable in the framework of offshore projects – the cost of production at the developed fields is up to 80% higher than the similar figure for facilities that have just been put into operation.

FOREIGN EXPERIENCE

The maturity of the resource base being developed, the deterioration of the structure of new reserves and the rise in the cost of their extraction pose new challenges for all the subjects of the oil and gas production sector. The main task – transfer of these stocks to the profitable category – is solved by developing advanced technologies, as well as creating a favorable institutional environment. In the second paragraph, the main actor is the state. His policy directly affects the investment climate in the country, the level of competition in the industry and the ways of interaction between the state and companies.

Perhaps the most obvious example of a solution to this problem remains the US shale industry. The breakeven cost of shale mining (WTI prices, in which the NPV project to develop the asset is 0) for 2014-2017 fell from $77.3 to $50.7 per barrel. A certain role in this was played by the cyclical factors generated by the dynamics of oil prices. In this case, the cost of drilling, completion and further servicing of wells is falling due to a decrease in the cost of the oilfield service, which is forced to fight for the customer in conditions of a contraction in demand. As prices rise, the effect of this factor will be reduced to zero.

However, there are also structural factors. In particular, the increase in well productivity (from 570 barrels per day in the first month of production in 2014 to 800 barrels per day in 2017) and the increase in drilling efficiency (from 16 wells to a drilling rig in 2014 to 19 in 2017). Together they led to a significant drop in the
break-even prices of shale wells and will not allow them to grow to pre-crisis levels as oil prices rise.

Thanks to this economy, shale will remain the main source of production growth in the foreseeable future. However, the shale revolution would hardly have been possible had it not been for the institutional environment that had been formed by then in the industry. The US oil and gas sector is characterized by a high degree of competition – both among mining companies and service providers. And access to subsoil, which is mostly in private ownership, as much as possible simplified.

Although traditional hydrocarbons will continue to dominate both in the residual recoverable reserves and in production, the share of difficult reserves will grow in their structure

According to Rystad Energy statistics, the share of independent production companies (except for giants – BP, Eni, ConocoPhillips, Total, Chevron, ExxonMobil, Shell) accounted for 74pc of production in 2017. The contribution of small enterprises (with a production of less than 50,000 boe in a day), tracked by Rystad Energy, was about 11pc. Another 22pc is the share of companies whose activities are almost impossible to analyze because of their size (see graph “Structure of hydrocarbon production in 2017 in the US and Russia by type of company”).

In the oilfield service, as in production, there is competition – service providers are more than 1,000 companies.

No less interesting, but the older example of successful involvement in the development of complex reserves is Norway. The oil and gas industry of the country was born relatively recently, in the mid-1970s, but over the years it has become one of the largest in the world, providing Norway with the 10th place in terms of production in 2017. In the structure of raw materials production, national companies (Statoil and Petoro) play a much more prominent role here than in the USA. The development of the industry was promoted by the competent policy of the state in the person of the Norwegian Petroleum Directorate.

The state provided competitive access to the subsoil, formed a favorable tax regime, while maintaining the effectiveness of the tax administration system. Due to this, the production grew, despite the fact that the fields being commissioned into the development are located at an ever-increasing depth.

True, at the present stage, the rise in the cost of production in Norway is still observed. Over the past decade, the specific capital expenditures for the development of new deposits, without taking into account inflation, have shown growth. Specific transaction costs,
also in real terms, began to fall only after the collapse of oil quotations due to a decrease in the cost of the service.

**The shift in focus to low-developed regions is associated with increased geological risks, significant costs and increased investment in the development of new deposits**

**HOW ARE THINGS IN RUSSIA?**

With the US example, we understand that the problem of depletion of traditional hydrocarbon sources and the deterioration of the explored resource base is completely solved. However, if in some countries the necessary conditions have already been created or are being actively formed, then the other states facing this problem have a long way to solve it. Russia also belongs to the latter (see graph "Brief description of the current maturity of production").

In the medium term, it is likely that the main focus of Russian companies will be on commissioning the development of open fields and additional exploration of the existing assets of Western and Eastern Siberia located near the East Siberia-Pacific Ocean pipeline route (since the bulk of explored recoverable reserves and infrastructure are concentrated in these areas). In the long term, the development of the Russian oil and gas complex may be the development of the Arctic shelf, the search for and development of hydrocarbons in the poorly developed regions of Eastern Siberia and the Far East, and the exploitation of unconventional reserves of shale formations in Western Siberia. In any case, complex, less profitable reserves will be involved in the development.

So far, in Russia – one of the lowest levels of production costs. However, break-even prices for development of open, but not yet commissioned deposits, are often higher than for shale formations.

Unlike the United States, the Russian oil and gas sector is represented mainly by large VCs, in whose hands about 90pc of the production is concentrated. The share of small independent producers does not exceed 4pc. But after all, it is the small companies that, due to their organizational structure, are most interested in the development of small deposits, in large numbers located in the unallocated subsoil fund. They are also ready to work on finalizing the residual reserves of large deposits. For large corporations such assets are not interesting, because they do not provide economies of scale.

There is no competition in the oilfield service, which is the reason and at the same time the consequence of the prevalence of imported technologies and equipment for the development of complex reserves.

A lot of complaints from companies are also available to the state policy aimed at regulating the industry. In particular, the tax system, the complicated and long procedure of obtaining licenses for development, regulation of pricing in the gas industry, etc., cause discontent, etc.

According to Rystad Energy’s forecasts, gas production in Russia has good growth prospects, while oil production will begin to decline in the early 2020s unless new, more complex and more expensive reserves are actively involved in development. However, the institutional environment that has developed in the country, the dominance of large national companies, and the underdeveloped market of oilfield services contribute little to this. In the long term, given the growing demand for hydrocarbons, this threatens to lose a leading position in the global oil market. For the state, this also means the loss of oil revenues, which constitute a significant share of the budget. The first steps to changing the situation – a pilot project for introducing a tax on additional income, creating polygons for testing technologies for developing complex reserves, incentive measures for geological exploration – have already been undertaken. However, in order to develop competition in the domestic oil and gas industry, many problems still lie ahead.
LNG, two liberalizations and one record
Results of gas markets development in 2017

MARIA BELOVA
ALEXANDER BYLGIN
YEKATERINA KOLBIKOVA
VYGNON Consulting

As the world gas industry is still characterized by a high degree of regionalization, it is advisable to evaluate the results of 2017 according to the main markets. First, we will look at the United States, which is only in their second year of being an exporter of liquefied natural gas. Then we will move on to Europe, which, against the backdrop of growing imports of Russian gas, is desperately striving to worsen its competitiveness as much as possible at the legislative level. Then we will stop in Asia, which is actively reforming their gas market in order to create their own price index, while the price of gas is going up. And, last but not least, the Russian gas industry which established a new record in production in 2017.
USA: EXPORTS GROW

For the United States, the second year as an exporter of LNG can definitely be called successful. According to the results of 11 months of 2017, 185 tankers with liquefied gas totaling 12.8m tons came out of the Gulf of Mexico (in 2016 those supplies amounted to 3.8m tons). According to preliminary data, in December 24 more LNG carriers were shipped, which is equivalent to approximately 1.7m tons of LNG. Thus, all operating LNG production assets in the United States were being used at full throttle: with a design capacity of 13.5m tons, about 14.5m tons of liquefied gas was exported from the country (see graph “USA LNG deliveries by consumer regions”).

The growth of American gas exports was facilitated not only by the launch of the third line of the Sabine Pass plant, but also by the increase in the Asian premium at the end of the year. Thus, in the fourth quarter of 2017, the maximum volumes of LNG shipped in the Gulf of Mexico went to the Asia-Pacific region, mainly to China and South Korea, where the price of gas reached $9.7 per 1m British thermal units (BTU). For the purposes of comparison: even in the second quarter it was only $5.5. At the same time, the differential between the price for LNG imports in China and the UK increased from $0.6 in the second quarter to $2 in the fourth.

Of all European countries, the highest prices for LNG were in Spain and Turkey – in two key markets for American gas. They absorbed half the supplies to Europe within the 11 months of 2017.

Contrary to the aggressive plans of American companies, only one technological line for liquefying gas with a capacity of 4.5m tons was launched over the past year in the US – the third line of the Sabine Pass plant. In the fourth quarter of 2017, Cheniere’s export monopoly was going to be destroyed by the launch of a new Cove Point plant belonging to Dominion Energy, being constructed on the site of a receiving LNG terminal in Maryland. However, the launch of its first line will be delayed for one quarter.

The growth of American gas exports was facilitated not only by the launch of the third line of the Sabine Pass plant, but also by the increase in the Asian premium at the end of the year

And this is not the only project where the commencement of work has been rescheduled. The launch of the fourth line of Sabine Pass was originally planned for last August, but the main construction works were completed only in October, and the first commercial LNG shipments are expected to begin only in March this year. Besides, the company Sempra Energy has announced the delay in launching the first three technological lines of the Cameron LNG plant. It is assumed that their launch will be postponed for one year, which is officially explained by unfavorable
weather conditions, in particular, by floods at the contractor’s project site.

We see more modest expectations for 2018-2020 about launching LNG plants in the US than a year ago

As a result, we see more modest expectations for 2018-2020 about launching LNG plants in the US than a year ago. Thus, in 2017 it was planned that the production capacity by the end of 2020 would reach 78m tons. However, the latest estimates are just 67m tons. That is to say that if other companies do not make a decision to delay the launch of their facilities, the new LNG assets with a total 53m tons throughput capacity will be put in operation in the New World in the next two years (see graph “Forecast of Launching LNG Plants in the US”).

Despite the rather low gas prices, the contract base of US export LNG projects, which amounted to 40 million tons at the end of 2016, continued to grow in 2017. The reasons for this lie not only in the economic, but also in the political area. Among the buyers who concluded long-term contracts for the supply of gas from the US last year, there are Asian companies, in particular VGS Group and Krishna Godavari from India, which prevail.

A few months after US President Donald Trump visited Poland in the summer of 2017, the local company PGNiG signed a five-year contract with Cheniere to deliver nine LNG shipments. This volume is equivalent to 0.6m tons of liquefied gas. In other words, over a five-year period, purchases from the US will not exceed 3pc of the capacity of the Polish LNG reception terminal Swinoujscie (with their even distribution over time).

Meanwhile, in 2017 supplies of American LNG to Europe and Asia-Pacific countries were as unprofitable as a year ago (including transportation costs). For example, exports to Belgium cost the supplier $0.9/m BTU more than the average price of LNG in the country, in Japan – by $1.1 (see graph "The cost of American gas supplies and the price of LNG in Japan and Belgium").

Taking into account that the risk of economic losses is run by the portfolio buyer (due to the FOB delivery terms in the contract), it is in their interest to sell LNG with the maximum profit in times of volatility in the spot markets.

In current contractual terms and conditions, a fixed cost of gas liquefying is stipulated, which must be paid irrespective of the use of the corresponding capacity. Of course, this does not suit the buyers of American LNG. The point is that while concluding those agreements in 2011-2013, they expected to receive a substantial premium. After all, at that time, high regional price differentials were established between the markets of the US, Europe and the APR. If discontent and the number of complaints increase, plant owners might be forced to reduce payment for liquefaction or change other terms of contracts.

For example, that is what the American company Tellurian, which is expecting the final investment deci-
In an unfavorable situation for the American LNG, with a small increase in prices for "blue fuel" in 2018, the production companies will continue to be forced to make concessions on prices.

So far, the number of companies that have publicly expressed their dissatisfaction with the terms of US contracts is not so big. In particular, in mid-2017 the Indian Gail – the counterparty to Cheniere – raised the issue of reviewing the contract concluded in 2011 to supply 3.5m tons per year. They offered a fixed for 20 years price of $580m for liquefied gas.

In an unfavorable situation for the American LNG, with a small increase in prices for "blue fuel" in 2018, the production companies will continue to be forced to make concessions on prices. And future projects for commissioning new capacities may not be fully implemented.

**EUROPE: BUSINESS VERSUS POLITICS**

As for the European gas market, the competitive positions of Russian fuel on it have only been improving in recent years. As a result, in 2017, gas exports from Russia to Europe broke another record, reaching 193 billion cubic meters (BCM). And its share in demand rose to 34pc.

The current price advantage that Russian pipeline gas has is accounted for by the fact that, thanks to the mechanism of price formula, it has not yet reacted to a significant increase in oil prices, which began at the end of 2017 (in contrast to the spot gas prices for European hubs). Until 2016, spot prices in Europe had constantly been lower than the cost of Russian gas tied to oil prices. But as a result of the revision of the terms in a number of Gazprom contracts, price correlation became stronger and the differential with the spot price narrowed (see graph "Gas prices dynamics in Europe").

Despite the 30pc export duty, the cost of supplying Russian gas from key fields to Europe is competitive with a number of LNG projects. So, in 2017 it was in the range of $154-164 per ‘000 cubic meters compared to $182 from Algeria and $240 from the US. If in the fu-

---

**THE COST OF AMERICAN GAS SUPPLIES AND THE PRICE OF LNG IN JAPAN AND BELGIUM IN 2017, $/mn BTU**

![Chart showing the cost of American gas supplies and the price of LNG in Japan and Belgium in 2017, $/mn BTU](source: VYGON Consulting)
In the future there is a need to reduce the prices for Russian gas without dramatic losses for the industry, the state may adjust the duty rate. Moreover, if previously the strategy of Gazprom was based on keeping export prices high as its main direction, today the company is actively adopting the rules of the EU gas market. It is making concessions in relation to tying price formulas to spot indexes of the European Union.

Prospects for gas exports from the Russian Federation are characterized by high uncertainty. This can be accounted for by a number of market and regulatory drivers in Europe, based on which the demand for gas in the region is formed and the competitiveness of gas from external sources is affected.

The historical dynamics of gas consumption in Europe can be divided into three stages. Until 2008, demand had been growing against the backdrop of active construction and modernization of gas generating facilities to replace coal, oil and petroleum products in the power industry. An increase in the number of households also played a role. In 2010, Europe reached a peak value of gas consumption — 597bcm, to which it has never rebounded to date, since its fall during the crisis. Due to the high cost of imported gas and the aggravation of economic and structural problems in the next four years, the demand for gas was steadily declining. And in 2014 it was only 477bcm. The almost twofold fall in hydrocarbon prices in 2015 and the fact that they are likely to stay at the current level in the foreseeable future are pivotal to restoring demand for gas.

Gas consumption in Europe in 2016 and 2017 showed unprecedented growth due to strengthening its position in the inter-fuel competition in the power generation sector. In addition, the cold winter and relatively high GDP growth rates played their role (see graph “Gas Consumption in Europe by Sources”).

Despite the 30pc export duty, the cost of supplying Russian gas from key fields to Europe is competitive with a number of LNG projects

Electricity and households are the two key sectors that shape the dynamics of gas consumption in Europe. In 2014-2016, they provided 73pc of its growth. The decline in demand for gas in industry, observed since the 2000s, is associated with a constant decline in activity in this sector, which occurs regardless of the overall increase or decrease in demand.

In the electric power industry, the consumption of gas is determined basically by the cost of switching from coal to gas. In the current decade, gas has been losing in the inter-fuel competition to coal, but in early 2017, due to a fall in gas prices, parity was achieved with a switching price. Therefore, in the future, its competitiveness in the electric power industry will be growing, among other things due to

**GAS PRICES DYNAMICS IN EUROPE, $/mn BTU**

![GAS PRICES DYNAMICS IN EUROPE, $/mn BTU](image_url)

*Source: VYGON Consulting*
increasing taxes for CO2 emissions and increasing the cost of coal.

The first factor is connected with concluding the Paris agreement on the climate and establishing new goals by the participating countries. The second factor is dictated by a gradual depletion of the traditional resource base, an increase in the cost of coal mining and an increase in the transport leg to key markets. As a result, according to our estimates, in 2017 the cost of switching from coal to gas was $5.5/ BTU. It should be taken into consideration that the spot price on the British NBP site was $5.8 (differential $0.3 compared to $0.6 in 2016). This will contribute to the further growth of gas electricity generation.

**Electricity and households are the two key sectors that shape the dynamics of gas consumption in Europe. In 2014-2016, they provided 73pc of its growth**

At the same time, the EU’s policy of diversifying the sources of gas supplies (read: the refusal to import Russian gas) remains fruitless. Its consequences are manifested in the active development of the gas transportation infrastructure and attempts to create competition artificially – by introducing legislative barriers and targets for the EU member states.

First, Europe is increasing the capacity of receiving LNG terminals to replace Russian gas. Although, due to the high price, they are only loaded by a quarter (27pc from January to November 2017). Free regasification capacities are estimated at 170.3bcm.

Secondly, over the past eight years, more than 70 cases of revision of Gazprom’s export contracts with 30 European counterparts have been recorded. As a result, since 2012 the Russian company has paid about $300bn in the form of retroactive payments.

At the same time Gazprom’s contracts became more in line with the current market conditions (lifting the ban on re-export, reducing the level of “take-or-pay”, increasing the share of spot indexes in the price formula). For example, after a number of contract adjustments between Gazprom and Engie, the correlation between Gazprom’s price and the price at the French hub became stronger. In the past two years, the Russian concern, following Norway and Qatar, has begun to increase gas sales volumes tied to hubs.

Thirdly, the European Commission is making attempts to bring the functioning of Russian export-oriented projects under the EU rules. So, on June 26, 2017, it presented a draft mandate for the Council of the EU,

---

**GAS CONSUMPTION IN EUROPE BY SOURCES, bcm**

- The replacement of the volumes of LNG that flew to the Asia-Pacific region
- The fall in demand for gas in Europe
- Growth of gas competitiveness in oil indexation, cold winter

**Source:** European Commission, VYGON Consulting
At the same time, the EU’s policy of diversifying the sources of gas supplies (read: the refusal to import Russian gas) remains fruitless

At the same time, during the year 2017, commissioned by the Directorate-General for Energy of the European Commission, a study was carried out of the architecture of the European gas market in order to evaluate the results of the Third Energy Package measures, as well as to develop new energy policies. However, instead of carrying out such an assessment, the EC has established a set of scenarios for a radical reorganization of the existing system for regulating the EU gas market. The most unfavorable of them is the scenario of the tariff reform, aimed at enlarging market zones between European operators of the gas transportation system (GTS), cancelling entry-exit tariffs within them and compensating losses for GTS operators by shifting costs to exporters in the form of increased entry tariffs (for more details, see article A. Konoplyanik “EU’s Fourth Energy Package?”, OGV #3/2018). As a result, all options for further reforming the European gas market are not in Russia’s interests.

A number of price indices have already been created in the APR. However, they are not yet recognized market benchmarks due to the low liquidity of the respective trading floors

According to the data of the International LNG Importers Group, as of the end of 2016, almost all receiving LNG terminals in the Land of the Rising Sun had offered access to third parties. However, in practice, it remained extremely limited. The reason was legislation that seemed unworkable. The owner and the current infrastructure user were not required to enter into negotiations if the third party requested access to the terminal, which in fact left the right to access at the discretion of the operators.

Since such barriers could negate the effectiveness of measures to liberalize the retail gas market, limiting the opportunities for new players to enter it, the Gas Business Act was amended. Since April 2017, operators of large regasification terminals are prohibited from denying access to capacity to third parties without justified reasons.

Apart from that, a number of price indices have already been created in the APR. However, they are not yet recognized market benchmarks due to the low liquidity of the respective trading floors. The only current instrument for trading in gas in the APR, which carries out futures operations, is the JKMTM index. Overall, during the third quarter of 2017, 9bcm worth of futures contracts were concluded.

In the past year in Japan, they started to provide reports of portfolio LNG buyers on the consumer price index for this energy carrier. In the future, these data will

2017 can be called the year when the liberalization process of the gas markets of the APR developed countries started, aimed at reducing import prices

APR: LIBERALIZATION AND RISING PRICES

After the decrease in oil prices, the costs of LNG in Europe, Asia and Latin America have become closely aligned. Nevertheless, in the second half of 2017, the Asian premium began to grow. This gave a boost to projects aimed at this market, despite the fact that a steady trend towards a drop in imports in developed countries of Asia has emerged. Last year, plans to build gas pipelines from Russia to Japan and South Korea were discussed more actively than before. Apart from that, LNG contracts were concluded with the USA, Mozambique, Qatar, and other exporters.

At the same time, 2017 can be called the year when the liberalization process of the gas markets of the APR developed countries started, aimed at reducing import prices. In April, in Japan, the reform of the retail electricity market began, as a result of which consumers have the opportunity to freely choose suppliers offering different tariffs. Moreover, former electric power monsters are interested in entering the global gas market to compensate for the losses they incurred as a result of this process. So, in May 2016, the Japanese company TEPCO landed the contract, formerly owned by Tokyo Gas, for the import of 240 thousand tons of LNG, to deliver Nippon Gas gas to Tokyo.

One of the key elements of the reform of Japanese market is liberalization of conditions for access to the transport infrastructure. The requirement to provide third-party access to domestic pipelines was first applied in 1999. Five years later, it was first applied to regasification terminals, but only on the basis of bilateral negotiations.

In the past year in Japan, they started to provide reports of portfolio LNG buyers on the consumer price index for this energy carrier. In the future, these data will...
be able to set a new benchmark of prices in the market and keep the further growth of the Asian premium.

THE SECRET OF GAZPROM’S RECORD

According to preliminary data, in 2017, gas production in Russia reached 690bcm, which is an all-time record for the whole history of the industry. The growth was promoted by Gazprom, the only company with a significant production potential. What was it driven by and why did it not happen earlier?

Quite unexpectedly, Gazprom began to demonstrate a rapid increase in gas production, which by the end of 2017 had amounted to an incredible 52bcm. But what caused such a boost? Despite the absence of complete official statistics, it is sufficient to look at its fragments and analyze the historical data to explain this production dynamics.

The only available figure is an 14bcm’ increase in exports, the reasons for which have already been given above. However, this does not explain the record increase in production. The next reference point is the substitution of independent producers’ production. With a total increase of 50bcm, Gazprom’s production grew by 52bcm. Accordingly, as a result, the independent producers reduced it by 2bcm. This happened, first of all, due to a decrease in production at the Yur’kharovskoye field of NOVATEK.

But only by getting the share of independent producers, monopolists could hardly have increased supplies by more than a couple of billion cubic meters. After all, according to all estimates, gas consumption in the country is not growing. In the current conditions, there are no prerequisites for this because there are no real changes in the economy. Electricity consumption is increasing minimally, which, with an increase in efficiency, has virtually no effect on the use of gas in the power industry. In the smaller segments of consumption, similar processes are developing and keep demand down.

If it is not accounted for by domestic consumption, or taking the share of independent producers away, or export, how did Gazprom manage to achieve such impressive results? The answer lies in the statistics for 2016. Then, reserves in underground gas storage facilities (UGS) fell by 20bcm. Consequently, in 2017, they got replenished. Normally, the change in inventory (injection minus withdrawal) varies within a few billion cubic meters. But if for some reason the level of stocks noticeably decreases or increases, then the next year the balance is restored.

One example is 2008, when gas reserves in the UGS grew by 15bcm due to the fact that the beginning of a decline in demand during the economic crisis was not taken into consideration while making production plans. The entire surplus generated in the UGS was pumped out of storage facilities and sent to the market the following year, replacing the potential production.

In 2016, there was a reverse situation – low expectations for demand were not realized, which forced Gazprom to use reserves. Negative estimates of domestic consumption were quite justified, because 2015 was the lowest, if we do not take into account the crisis of 2009. However, it turned out that the decline was short-term, and the growth in 2016 was 13bcm. Simultaneously (and also unexpectedly), exports (+5 bcm) and consumption in the GTS system (+2 bcm) increased too. As a result, Gazprom underestimated the demand and made a 20bcm’ mistake, the amount which had to be taken from the storage facilities. Replenishing reserves in 2017, the company had to not only compensate for the "losses", but also put on the market the 20bcm that they could not provide in 2016. The result of 2017: 36 out of 52bcm of production growth are associated with the compensation of reserves in the UGS (see graph "Assessment of the growth factors in Gazprom production in 2017").

It turned out that Gazprom did set a new record, but it is largely due to a confluence of circumstances not foreseen by Gazprom. The weather in Europe and a mistake in forecasting the demand of the domestic market for the year ahead accounted for the record. In 2018, short-term factors will not be at play, and production is likely to decline to 660-670 bcm, which is in the range of values for the last decade.
DEVELOPMENT VECTOR
At present, according to various expert estimates, a fifth of undiscovered, technically recoverable oil and gas resources is in the Arctic zone. At the same time, Russia possesses the largest among the Arctic countries hydrocarbon reserves - about 70pc of gas and 40pc of oil. Considering the fact that, on depleting conventional deposits, the world oil and gas industry will inevitably face a production deficit and the need to actively develop hard-to-recover reserves, Russia keeps production in the Arctic region at the forefront, even despite volatility of oil prices. In the interview with "Oil and Gas Vertical", Kirill Molodtsov, Deputy Minister of Energy of Russia, speaks about all this, and also about the prospects for gas infrastructure development in the Arctic zone and the country as a whole, about the human resources of the industry, and about the future of the Production Sharing Agreement (PSA) in Russia.

Kirill Molodtsov: Future arctic projects to unite russian energy industry

K. Molodtsov: I would not say so. While preparing forecasts about production volumes on the Arctic shelf, the Ministry of Energy of Russia takes account of subsoil users’ (oil and gas companies’) license obligations and plans. I suppose you know that these documents were amended in 2014, and the amendments were primarily guided by the long-term development priorities set by the state. Considering external political realities and technological challenges, the state took into ac-
count the arguments put forward by oil and gas companies and agreed to change the schedules of the work required for exploration, exploratory drilling and commissioning of oil fields into commercial operation. For example, after geological exploration works on some sites the structural position of oil fields and deposits was defined more accurately, which led to a change in the approaches to designing technical plans of the field development, which usually significantly complicates project implementation.

**What are the estimates for the volumes of recoverable oil and gas reserves in the Arctic?**

**K. Molodtsov:** For the time being, the main technique used in exploration on the Arctic shelf is 2D and 3D seismic tomography. Therefore, speaking about the share of recoverable reserves in the structure of all-Russian oil reserves is not entirely possible. At the same time, the share of the total initial resources (ABC123 + D reserve category) in oil and gas in the Arctic seas makes up almost 12% for oil, and more than 33% for gas.

**Are there at least any approximate estimates of total investments that are necessary?**

**K. Molodtsov:** Each offshore project is unique, and the closer we approach the process of hydrocarbon production, the greater variability in the cost of work might be. If we talk about the main types of works on the shelf carried out by oil and gas companies, their cost in 2017 seems to be as follows: one meter of exploratory drilling along the continental shelf cost about 5 million roubles on average, in 2015 this figure was almost half as high, whereas 1 km² of 3D seismic survey cost an average of 1.1 million roubles, which is slightly higher than in 2017.

**Do we really need Arctic projects now? Isn’t the oil and gas production on the continent sufficient? What**

For the time being, the main technique used in exploration on the Arctic shelf is 2D and 3D seismic tomography. Therefore, speaking about the share of recoverable reserves in the structure of all-Russian oil reserves is not entirely possible. At the same time, the share of the total initial resources (ABC123 + D reserve category) in oil and gas in the Arctic seas makes up almost 12% for oil, and more than 33% for gas.

**are the operational costs of Arctic projects compared to continental ones?**

**K. Molodtsov:** The high cost of offshore hydrocarbon production is accounted for by capital expenditures. As for the operational costs, the difference between sea and land production is small. Take for example, transportation of products from Prirazlomnoye and Novoportovskoye fields. The logistics schemes for these projects are almost identical. For the New Port the transportation leg is even longer. The oil from both deposits is discharged into one storage tanker in Murmansk. As for other operating costs, the difference is even smaller.

**Does the government place a high priority on oil or gas projects? And which is more important on the Arctic shelf for Russia now - oil or gas?**

**K. Molodtsov:** Licenses are issued for both oil and gas promising fields. But the general nature of license obligations shows that for gas projects, the deadlines are set for later than for oil.

**What Arctic projects are planned to be launched in the next three to five years and what production projects are there in the long term?**

**K. Molodtsov:** According to the plans of the oil and gas companies, the next field on the Arctic shelf put into operation will be Gazprom gas field of Kamennomysskoye-
According to the plans of the oil and gas companies, the next field on the Arctic shelf put into operation will be Gazprom gas field of Kamennomysskoye-Sea in Ob Bay (Obskaya Guba) in the Yamalo-Nenets Autonomous District. The recoverable ABC1 categories gas reserves constitute almost 555 bcm. In accordance with the priority development plan, the Kamennomysskoye-Sea field is to be equipped with one ice-resistant stationary platform and three ice-resistant conductor supported platforms. The projected level of gas production is 15.1 bcm a year.

Sea in Ob Bay (Obskaya Guba) in the Yamalo-Nenets Autonomous District. The recoverable ABC1 categories gas reserves constitute almost 555 billion cubic meters (bcm). In accordance with the priority development plan, the Kamennomysskoye-Sea field is to be equipped with one ice-resistant stationary platform and three ice-resistant conductor supported platforms. The projected level of gas production is 15.1 bcm a year.

Are there any new benefits from the state for companies working in the Arctic? If so, which ones?

K. Molodtsov: From the recent ones, it is worth mentioning the Federal Law "On Amendments to Part Two of the Tax Code of the Russian Federation" that came into force on January 1, 2017. According to this law, in order to calculate the profit tax, the expenditures of oil and gas companies on geological exploration, including prospecting and evaluation of new marine deposits of hydrocarbon raw materials, are taken into account in the amount of actual costs with a multiplying ratio of 1.5. At present, we are considering applying a multiplying ratio of 3.5, instead of 1.5, in order to calculate the profit tax.

What are the main complications in relation to Arctic projects implementation - both for companies and for the state?

K. Molodtsov: While carrying out work on the Arctic shelf, the company always faces significant financial risks. Judging by the most promising structures, the success of exploratory drilling is estimated at 70%, but nobody can guarantee that a well worth more than $20m will not prove to be dry. It is also worth noting that not many contractors can work in the climatic conditions of the Arctic. The market for such services is limited. And it is important to consolidate competences. It is highly significant to comply with ecological safety standards at any stage of implementation of any Arctic project, and of course, a cohesive project team of people who have the competence and skills to work in severe Arctic conditions is particularly vital.

In terms of priorities set by the state, I want to note the importance of measures to protect our interests in respect of fields that are far from the coast. Besides, it is important to fully conform to state norms related to crossing the border by ships and cargoes, including technological, phytosanitary and other control standards.

Does Russia have the necessary technology and equipment to work in the Arctic? If some facilities are not entirely adequate, what exactly is lacking, and how is this problem being solved? What has already been done in terms of developing Arctic technologies? And most importantly, does Russia have qualified personnel to implement projects in the Arctic Ocean?

K. Molodtsov: I will start with people. Judging by my first-hand experience of working on the Shtokman project and also by my colleagues’ opinions, I can say with absolute certainty that both graduates of our universities and specialists from companies are in great demand in the international market of marine projects. I often tell my colleagues how in 2007 the office of Statoil in Russia tested 800 graduates of five technical universities of St. Petersburg, chose 80 and invited them to work on oil rigs in the North Sea. Later, in 2012, some of these highly professional specialists joined the Shtokman project and then started to work in offshore divisions of our vertically integrated companies (VINK). So, these guys and such people as the recent finalist of the contest ‘Leaders of Russia’ Oleg Zh-daneev are our potential for future success in the Arctic.

As for technologies, they are being developed within the framework of the state program of the Russian Federation "Development of Shipbuilding and Machinery to Develop Shelf Fields for 2015-2030". To finance priority projects on the shelf, there have been allocated funds for laying seismic cables, constructing bottom stations, a seismograph system, an electrical exploration system, a modular gearless bi-fuel gas turbine power plant, a marine well test system and parts of underwater production units. Based on the results of the above-mentioned research and development work on seismic survey, electrical exploration and underwater production and their synergies, it is planned to develop a set of equipment, which is currently on the sanctions list, in order to use on the continental shelf, including the Arctic.

It should be noted that this work is carried out in close cooperation of producers and consumers of the products mentioned above, which will ensure effective demand for such equipment from subsoil users.
How did the sanctions affect domestic companies’ projects on the Arctic shelf? Was the impact stronger on financing of domestic projects or their access to the latest technologies?

K. Molodtsov: I have said before, and can repeat again: since 2014 the deciding factor that necessitates adjusting the schedules of Arctic projects to new conditions has always been the change in energy prices, which has led to an outflow of investment from the industry all around the world. This has had a greater impact than financial or technological constraints imposed by the US and EU.

In 2017, compared to the previous two years, the amount of exploration work on the Arctic shelf significantly increased, whereas offshore over-150-meters drilling practically was not carried out. What caused this imbalance? What is more relevant on the shelf now - exploration or follow-up exploration of reserves?

K. Molodtsov: As you justly noted, the volumes of seismic exploration on the shelf have almost doubled. In 2016, there was no deep drilling on the Arctic shelf. According to the plans of oil and gas companies, the active drilling phase will begin after 2019, while the 3D seismic exploration in the most promising areas is planned to be carried out before 2020.

In October 2017, Alexander Novak said that the plans to produce 80 million tons of oil on the shelf by 2035, as stated in the Energy Strategy, are achievable. Which areas of the shelf will be developed in the first place?

K. Molodtsov: The 50-million-ton increase in offshore oil production can be achieved through putting into operation the fields discovered as a result of successful drilling in the Baltic Sea and the Sea of Okhotsk, and also due to the development of offshore fields in the Northern Caspian (in legal terms these do not fall into the shelf category, but from the technological point of view have similar characteristics to shelf production). We can also make optimistic forecasts based on estimates of exploratory drilling in the Barents Sea and the Kara Sea and the prospects of putting these oil fields into operation.

It is a well-known fact that not all companies, for example, LUKOIL, are satisfied with the results of distribution (priority is given to companies with state participation). Is it possible to review the procedure or change the terms for project operators on the Arctic shelf?

K. Molodtsov: Law is a stable category, and its norms are established on the basis of a number of factors. I would like to emphasize that the current rates and volumes of geological exploration are satisfactory to reach the oil production rate on the shelf in the amount of 80 million tons by 2035. Given that the optimal period between the discovery of the deposit and the commencement of production is about 8 years, at present it might be interesting for the license holders to cooperate on the terms of a quasi-division of production (quasi-PSA) with the involvement of competent Russian partners for offshore operations, which might increase the degree of geologic certainty and, as a result, lead to growth of hydrocarbon production volumes.

Are there any guarantees that Arctic oil and gas projects are safe for nature? What is being done in terms of nature protection and what is planned to be done?

K. Molodtsov: Ecological threats to the Arctic environment are posed by the operation of complex engineering structures for drilling wells and oil and gas production. Coastal infrastructure functioning also constitutes a threat. One of the measures to ensure environmental safety in the Arctic zone of the Russian Federation is the mandatory state environmental impact assessment of the project documentation (Federal Law of November 23, 1995 No. 174 "On Environmental Assessment").

Also, as of January 1, 2018, in accordance with Law No. 219, design documentation of capital construction facilities, including those located on the territory of the Arctic zone, is subject to the state ecological expertise. According to environmental legislation, such facilities qualify as objects that have a significant negative impact on the environment and also as areas of application of the best available technologies (Category I facilities).

In addition, one of the most important ways of ensuring environmental safety in the Arctic zone of the Russian Federation is measures to prevent and eliminate oil and oil products spills. At the legislative level, they are stipulated in the Federal Laws "On the Continental Shelf of the Russian Federation" and "On Internal Maritime Waters, Territorial Sea and the Contiguous Zone of the Russian Federation".

Last year the level of gas infrastructure development in the country reached 68.1pc. The maximum achievable level of effective gas infrastructure development in the Russian Federation was announced by experts at about 85pc. Is there an economic niche...
for domestic LNG supplies to the regions of the Far North, where gas infrastructure development is considered not effective?

K. Molodtsov: From the economic point of view, the supply of LNG to the regions of the Far North and the Arctic zone is feasible. The growth of cargo turnover along the Northern Sea Route will provide the potential for using LNG as marine fuel. The development of LNG bunkering also creates conditions for gas supply to the population and industrial projects of the Arctic zone.

Besides, transloading sea terminals for LNG can become a possible driver, which will allow us to use the supplied boil-off gas for energy and utility facilities. As an example, we can use the Agreement between PAO NOVATEK and the Government of the Kamchatka Territory, in which the parties pledged to create organizational and economic conditions for the construction of an LNG transshipment terminal from Arctic gas carriers to conventional gas carriers on the east coast of the Kamchatka Peninsula.

In the event of successful implementation of this project, a similar scenario can be considered for the Murmansk Region, where gas infrastructure development is economically inefficient at the moment.

If we talk about the problem of gas infrastructure development in the country in general, which regions need it most urgently?

K. Molodtsov: As I have already said, now it is quite difficult to implement the gas infrastructure development program in the Murmansk Region, since gas can only be supplied there from either the continental pipeline system, and this means construction of hundreds of kilometers of the pipeline and huge investments, or from the Shtokman gas condensate field, the development project of which has been put on hold.

The gas infrastructure development of the Baikal region, as well as the Amur region and the Jewish Autonomous Region has to be linked to the implementation of the largest large-scale project - the construction of a new gas pipeline system, the Power of Siberia, the development of new major gas fields - Kovytinsky and Chayandinskoye, and other gas fields in Eastern Siberia and Yakutia. When amending the General Scheme (Plan) for Gas Industry Development until 2035 and the Eastern Gas Program incorporated in it, it is advisable to consider the possibility of involving Yakutia gas in the gas infrastructure development of the Far Eastern Federal District, among other things through LNG.
At present, Gazprom is implementing gas infrastructure development projects in the fast-track social and economic development territories (TOP): Mikhailovskaya and Nadezhninskaya (Primorsky Krai), Komsomolsk (Khabarovsky Territory) and Gorny Vozdukh (Mountain Air) (Sakhalin Region), TOP “Kamchatka” (Kamchatka Territory).

The concept of Gazprom’s participation in the gas infrastructure development of Russian regions implies a differentiated approach to gas infrastructure development, taking into account availability of natural gas reserves in the regions and development of existing fields, as well as possibility of using alternative energy sources, including liquefied and compressed natural gas (LNG and CNG), liquefied hydrocarbon gas (LPG).

In addition, the issue of gas infrastructure development of the Krasnoyarsk Territory is under consideration. Three options of providing gas supply to this constituent entity of the Russian Federation are being considered, and the potential volume of natural gas consumption in the region is being estimated.

In the future, it is planned to unite the Unified Gas Supply System with the gas pipeline systems of Eastern Siberia and the Far East, which will provide further impetus to the gas infrastructure development of the Siberian regions.

Are there any statistics concerning how many settlements now do not have access to gas from gas pipelines? What are the rates of gas infrastructure development: what was the situation three or five years ago, what is it now and what are the plans for gas infrastructure development? Who will be doing all this? If it is supposed to be Gazprom again, is it likely that the increased social obligations will adversely affect the company?

K. Molodtsov: At present, out of about 155,000 settlements, about 45,000 are provided with natural gas. About 56,000 settlements still receive liquefied petroleum gas (LPG), while overall LPG consumption by citizens has decreased by a factor of four over 15 years (from 2 million tons per year to about 500 thousand tons per year), and LNG is delivered to four settlements.

Investments in gas infrastructure development in 2017 from the federal subjects of the Russian Federation amounted to 13.8 billion roubles, from Gazprom - 29.45 billion roubles, from the federal budget - 1.2 billion rubles. This year work will be continued, the planned volume of investments is about 85 billion roubles, including the funds of Gazprom - 36.7 billion roubles.

It is planned to build 82 objects with a total length of about 1.3 thousand km in 22 regions of the Russian Federation. Conditions for gas infrastructure development will be created in about 200 settlements, about 30 thousand households and flats, and 170 boiler houses.

The forecast level of natural gas infrastructure development for 01.01.2019 is expected to reach 68.7pc nationwide, which includes 72.0pc in cities and rural towns and 59.2pc in the countryside. The Gas infrastructure development Program of Gazprom for 2018 includes 66 regions of the Russian Federation.

Are there any plans to involve independent gas producers, such as Novatek and Rosneft, in gas infrastructure development?

K. Molodtsov: Now independent suppliers are not ready to enter the regulated market and expect to receive income guarantees in exchange for their obligations.

But Novatek is supplying gas to consumers in Chelyabinsk, Moscow, Kostroma, Tyumen Regions, as well as in the Perm Region.

Besides, Rosneft is selling gas in Western Siberia and the Ural Federal District, while in the Sverdlovsk Region the company has satisfied about 87pc of the region’s demand for gas, supplying both industrial and social consumers.

I would like to note that, in order to develop gas distribution systems, the Ministry of Energy, in conjunction with the relevant federal executive bodies and organizations, is working on the concept of a special investment ratio (tariff), which is supposed to be introduced with the mutual agreement of the gas supplier, the gas distribution organization (GDO) and the gas consumer, in whose interests the construction is planned.

We believe that this mechanism will allow us to attract additional participants to gas infrastructure development and, as a result, to increase investments and rates of gas infrastructure development of the federal subjects of the Russian Federation.

The Ministry of Energy, in conjunction with the relevant federal executive bodies and organizations, is working on the concept of a special investment ratio (tariff), which is supposed to be introduced with the mutual agreement of the gas supplier, the gas distribution organization (GDO) and the gas consumer, in whose interests the construction is planned.

This mechanism will allow us to attract additional participants to gas infrastructure development and, as a result, to increase investments and rates of gas infrastructure development of the subjects of the Russian Federation.

Vertical: Will the gas infrastructure development companies receive any benefits from the state?

K. Molodtsov: At present, the federal subjects of Russia, as governmental authorities being responsible for gas infrastructure development, have the opportunity to grant the GDO tax incentives or apply reduced tax rates.

Vertical: How effective has the practice of implementing projects on PSA terms proved to be?

K. Molodtsov: The positive economic effect for the state from the implementation of PSA investment projects is as follows:

- Fixed payments by investors in the form of bonuses and royalties, as well as the state’s share of hydro-
Khvalynskoye field is located in the Russian sector of the Caspian Sea and is being developed in accordance with the legislation of the Russian Federation and in accordance with the Agreement between the Russian Federation and the Republic of Kazakhstan, dated 06.07.1998, on maritime delimitation of the seabed of the northern part of the Caspian Sea with a view of exercising sovereign rights to subsoil use, and the Protocols thereof dated 13.05.2002 and 25.01.2006.

The participants of the Agreement are JSC NC "KazMunayGas" (50pc) and LUKOIL (50pc).

To date, two wells have been drilled in the field:
1. Khvalynskaya No. 1 was drilled in 2000;
2. Khvalynskaya No. 4 was drilled in 2002.

JOO LUKOIL-Nizhnevolzhskneft is the holder of a license for prospecting, exploration and production of hydrocarbons in the subsoil in the Northern Caspian Sea ShKS No. 1138b HP, dated January 22, 2003, which includes the Khvalynskoye field.

**BACKGROUND:**

Since 2011, negotiations have been held with government agencies of the Russian Federation to conclude a PSA for the Khvalynskoye field. One of the main issues for the conclusion of the PSA is the issue of gas monetization.

If a PSA is concluded in 2018, the commencement of production at the field is planned for 2027.

Hydrocarbon reserves: gas - 322 349 million m³; condensate - 23 865 thousand tons (geol.) and 11,169 thousand tons (technically recoverable); oil - 241 897 thousand tons (geol.) and 36 285 thousand tons (technically recoverable).

**Are there any downsides for Russia in the work on PSA terms?**

**K. Molodtsov:** On the territory of the Russian Federation, there are three projects that are currently being implemented on Production Sharing Agreement terms: Sakhalin-1, which is the operator of the Exxon Neftegas Limited project, Sakhalin-2, which is the operator of the Sakhalin Energy Investment Ltd. And Kharyaga field, the operator of the project "Zarubezhneft-Kharyaga Production (hereinafter - PSA projects)."

In the Russian Federation, there is Federal Law No. 225-FZ of December 30, 1995 "On Production Sharing Agreements" (hereinafter referred to as FZ), which is in force now. However, all the above PSAs had been concluded before this Federal Law came into force.

As a result, the PSA projects are not actually subject to the Law, which is stipulated in Clause 7, Art. 2 that says, 'Agreements concluded prior to the entry into force of the present Federal Law shall be implemented in accordance with their terms and conditions. In so doing provisions of the present Federal Law will be applicable to the above Agreements in as far as its application is not at variance with terms and conditions of such Agreements and does not restrict the rights acquired and enjoyed by investors under such Agreements.' Thus, the legal status of the Agreements is determined almost exclusively by their internal norms.

**And how much have the PSA projects contributed to the state budget already?**

**K. Molodtsov:** In 2017, the state's revenues from the implementation of PSA projects amounted to more than $38 billion. And to date, the issue of discontinuing the use of PSAs projects has never been raised. In our opinion, the application of the PSA mechanism under the Federal Law No. 225-FZ of December 30, 1995 "On Production Sharing Agreements" will be a good direction for attracting investments from both foreign and Russian companies, and will also contribute to the creation of new jobs.
Oil and gas sector and Russia's economic growth problems

EVGENIY GAVRILENKOV
Partner of Matrix Capital; Professor, Head of Practical Macroeconomics subdepartment, National Research University Higher School of Economics

The fuel and energy sector is an integral part of the Russian economy, and in this context popular attempts to estimate the scale of the Russian economy without taking into account the fuel and energy sector not only do not make much sense, but are actually impossible (such exercises were very popular, for example, among analysts from international financial organizations). Such assessments were in demand due to the fact that the bulk of the Russian export revenues, as well as a significant share of tax revenues to the federal budget, came from the fuel and energy sector. Although in the last couple of years the share of fuel and energy products in the total volume of Russian exports has stabilized at about 55pc, while in 2012-2013 this share exceeded two-thirds of total exports, it still remains high.

The share of oil and gas revenues at the federal budget remains high, although it has also dropped in recent years. If in the periods of high oil prices (about $100 per barrel in average annual terms) the share of oil and gas revenues at the federal budget was sometimes more than 50pc, then, as oil prices fell in 2015, the share also decreased to 43pc, in 2016 – to 36pc, and in 2017 it rose again – to about 40pc. Given the strong dependence of the balance of payments and budget on the external economic situation in the fuel and energy markets, the analysts’ desire to “filter out” the energy sector seems to be understandable.
**VOLUMES’ RECALCULATION**

However, after the refusal of monetary authorities to directly interfere to the exchange rate, interest in this topic has significantly decreased. Since the exchange rate of the national currency is of key importance for international comparisons in order to reliably estimate the scale of the economy of a country, then because of ultra-high energy prices there were doubts about the true scale of the Russian economy. Conditional isolation of the energy sector from the Russian economy could also be viewed as one of the tools for assessing the true scale of the country’s economy. However, while the oil prices declined in 2015-2016 and rouble had a significant correction, the scale of the Russian economy was able to be estimated experimentally. In case of low oil prices, the current volume of Russian GDP, when estimated at the market rate of the rouble, is close to $1.5 trillion, and does not exceed $2.0 trillion, as it seemed with a stronger rouble. At the same time, however, it turned out that in 2015-2016 the economic recession turned out to be less significant than in past crises – the greater integration of the Russian economy to the world market and the more diversified structure of Russian exports have led to better adaptability of the country’s economy to external shocks.

**The current volume of Russian GDP, when estimated at the market rate of the rouble, is close to $1.5 trillion, and does not exceed $2.0 trillion, as it seemed with a stronger rouble**

According to the statistics, mining in general (not only oil and gas) is only slightly more than 10pc of the country’s gross value added (GDP net of taxes on goods and services). The cumulative production of coke and petroleum products (as determined by Federal State Statistics Service) will add a little more than 2pc of gross added value. Thus, the share of the oil and gas sector in the economy of the country looks immeasurably small in comparison with the importance of this sector for the financial system. Since the flow of oil and gas revenues is of decisive importance for the exchange rate of the national currency, which in turn significantly influences competitiveness in the non-primary sector of the Russian economy (and employs the vast majority of labor resources), it turns out that the energy sector is of great importance and from this point view.

Given the importance of the financial sector for the country’s economy, as well as the close relationship between the energy sector and the Russian financial system, these two sectors were identified by the developers of anti-Russian sanctions as targets – as the most important sectors for the country’s economy. To these two sectors should also be added the defense industry complex, since it is of paramount importance not only from the domestic economic point of view, but also from the geopolitical point of view.

**The share of the oil and gas sector in the economy of the country looks immeasurably small in comparison with the importance of this sector for the financial system**

**FUEL AND ENERGY COMPLEX AND THE BUDGET**

As one of the key events of 2017, we should name a very unexpected dynamics of the oil prices and a significantly more surplus balance of the current account, compared to what was expected at the beginning of the year. Although the increased price of oil helped to ensure that the budget deficit was significantly lower than the budget law suggested, the side effect was the newly increased dependence of the Russian budget on the external environment. Apparently, this dependence will only increase this year, as a combination of relatively low economic growth and low inflation will cause a very moderate growth dynamics of non-oil and gas revenues, while the already increased oil prices will significantly increase the share of oil and gas revenues at the budget. It is possible that the share of oil and gas revenues in the budget this year will rise to about 45pc, and this again will raise the budget risks in the future in case of another cycle of lowering prices.

Contrary to the sanctions, the fuel and energy sector of the country has continued to develop steadily in recent years and contribute to economic growth, although the growth of the Russian economy by 1.5pc in 2017 does not look particularly impressive – especially when world economy once again last year grew much faster than the Russian one. At the same time, it is alarming that after accelerating GDP growth to 2.5pc in the second quarter of 2017 (in comparison to the second quarter of 2016), in the next two quarters the annual growth slowed down – it was only 1.3pc in the fourth quarter.

Despite the sanctions and Russia’s commitments to reduce oil production, gross added value in the extractive industries in 2017, according to the Federal State Statistics Service, increased by 1.4pc, while the manufacturing industries showed a very sluggish trend – plus 0.4pc. Unlike many other sectors of the economy, the dynamics of production in the industries’ sector did not go into negative areas since 2010. The fuel and energy sector continued to develop steadily, mostly because of the existence of a stable flow of
export earnings and less dependence on the financial system.

The Russian energy sector began to be more diversified while there is harder competition in the world energy markets, which potentially makes the Russian sector more adaptive to changes in the external environment. In this regard, there were strong efforts to geographically diversify oil and gas supplies, including the eastern direction (China in particular), as well as the export of liquefied gas (LNG). In 2017, according to preliminary estimates of the Central Bank, revenues from natural gas exports amounted to $38.4bn, and revenues from export of liquefied natural gas – $3.3bn (against $2.9bn in 2016).

**The Russian energy sector began to be more diversified while there is harder competition in the world energy markets**

Although the decline in inflation to previously unheard 2.2pc in January 2018 should be recognized as a serious achievement, the side effect of this was the relatively sluggish dynamics of domestic demand. Of course, a rapid decline in inflation with the other things being equal (for example, with a stable growth of nominal incomes), should actively promote real consumption growth. However, the monetary policy of the Russian Central Bank after its extremely mild regime in 2013-2014, in recent years has become almost the toughest in the world. In addition, due to the fact that there is rapidly declining inflation, the Central Bank has very carefully lowered the key rate. So we can even talk about the relative tightening of monetary policy – in the case of a sluggish economy and low inflation (2-3pc), the real key rate (5-6pc) means a much more stringent regime than it would be at the same 5-6pc level of the real rate of the regulator, but with substantially higher inflation. The fact, that the monetary authorities reached the inflation target at 4pc much faster than planned (and not only achieved, but significantly exceeded), clearly demonstrates the excessive rigidity of the policy.

**It is possible that the share of oil and gas revenues in the budget this year will rise to about 45pc**

**GROWTH PROBLEMS**

Despite the fact that the preliminary statistics for January 2018 looks relatively good – in particular, due to the accelerated growth in industry – there is no confidence that the Russian economy this year will be able to show more impressive dynamics. At the same time, in January, extractive industries showed production growth of 1.1pc compared to January 2017, which is largely due to the growth in gas production (by 8.9pc), including the export supplies.Apparently, the fuel and energy sector will show steady growth this year, although, probably, without obvious acceleration.

The economic growth in the country is still limited to the relatively sluggish dynamics of domestic consumer demand, which was last year’s tendency to strengthen the ruble. Although in 2017 the consumption increased by more than 3pc, this happened after a deep total compression of 12pc in 2015-2016. However, there is some doubt that this compression was really so deep, as the statistics showed, and accordingly, the growth in 2017 could be more moderate (last year there was a sharp discrepancy between the dynamics of final consumption of households as a category of the system of national accounts and turnover of retail trade in combination with public consumption of paid services, but this is an another question). One way or another, but the consequence of the increase in domestic consumer demand has traditionally been the outstripping growth of imports and, to a lesser extent, the growth of domestic production – as noted above, the growth in manufacturing industries in 2017 was very moderate. At the same time, imports in dollar terms increased by almost a quarter compared to 2016, and the negative dynamics of net exports (as a category of the system of national accounts) had a restrictive impact on GDP growth.

**Apparently, the fuel and energy sector will show steady growth this year, although, probably, without obvious acceleration**

Another evidence of the rigidity of the Central Bank’s policy was the extremely low sensitivity of the exchange rate to changes in the oil prices. At the same time, although low inflation practically ceased to be a factor that contributed to the strengthening of the real rouble exchange rate in past years, a strong nominal appreciation of the Russian currency led to a real strengthening of the rouble in 2017 in comparison to dollar and euro and also the basket of currencies. On average, this increase exceeded 15pc in 2017, which explains the rapid growth of imports. In this sense, Russian anti-sanctions, which at some point may have helped import substitution in the food sector, could not significantly limit the growth of imports in 2017, as the gradual recovery of consumer demand is not limited to food, but moves mainly to the segment of durable goods.
Evidence of the rigidity of the Central Bank’s policy was the extremely low sensitivity of the exchange rate to changes in the oil prices.

DEPENDENCE ON ENERGY

Thus, it turns out that the situation is typical for Russia: if the external environment proves to be relatively favorable for the oil and gas sector and energy prices rise, this inevitably leads to an increase in the real exchange rate of the national currency, and the domestic economy still can not compete successfully with imports on all fronts, which constrains economic growth. Although, the competitiveness of Russian goods has become higher in recent years, which explains a not too deep recession in 2015-2016.

As a compensating factor, we should note the investment activity in the oil and gas sector, which supported the growth of the economy in 2017. Investments in fixed assets increased by 3.6pc – and to a large extent due to investments in infrastructure. So, the model of economic growth in Russia has not yet undergone any significant changes: rising energy prices, on the one hand, creates the conditions for increasing investment in the energy sector, but the parallel strengthening of the rouble increases imports and limits the growth of domestic production.

We should note the investment activity in the oil and gas sector, which supported the growth of the economy in 2017.

In order to overcome the inertia of sluggish economic growth – and the average annual growth rate of Russia for the past ten years was at the level of 1pc, which is much lower than the growth rate of the world economy – monetary policy will need to be adjusted in order to revive domestic demand. In addition, an important role will be played by further geographical diversification of Russian exports (primarily non-energy). But to successfully solve this problem, the excessive appreciation of the rouble should be avoided. Despite the expanding sanctions, the Russian economy has every opportunity to grow at a faster pace. ❯
DIAGONALLY
The Russian Direct Investment Fund (RDIF) – Russia’s sovereign wealth fund - was created by the Russian government to invest in leading companies in the fastest growing sectors of economy. It has been operating for seven years. Over this time, significant changes have taken place both in the country and in the world: from the Ukrainian Euromaidan, the drop in oil prices to the change in the US leadership and the statements of Saudi princes about diversification of the country’s economy. “Oil and Gas Vertical” met with Kirill DMITRIEV, the Head of RDIF, who told the journalists how the strategy of the fund has been changing over time, what the share of infrastructure projects is and which markets are currently considered promising for RDIF.

Kirill Dmitriev: Russian companies can gain access to the promising market of Saudi Arabia and the entire Middle East region
Kirill Alexandrovich, as it is well known, RDIF was established in 2011. Has the development strategy of the foundation changed? What were the initial objectives, how have they transformed?

K. Dmitriev: Since the very first days of the foundation, its main aim has always been to attract co-investors to projects. From this perspective, the objectives of the fund have not changed: RDIF is still working within the framework of this model. But what really has evolved is the geography of partnership relations. At present, they include large Western direct investment funds, as well as sovereign wealth funds of the Middle East and Asia. Together with Russian partners, RDIF has invested in flagship projects of the domestic economy, such as Zapsibneftekhim of Sibur company, the largest Russian petrochemical complex, Helicopters of Russia - the leading helicopter manufacturer, or Mother and Child - the largest network of private medical clinics in the country. Despite the fact that geopolitical realities, including current relations with Western countries, are changing, the fund successfully continues to attract foreign investment.

Last year was a record year - together with partners, RDIF invested and approved investments of 245 billion roubles in 20 projects. In recognition of its effectiveness, RDIF was granted the status of a sovereign wealth fund of the Russian Federation.

What is the structure of the RDIF portfolio? Which projects could you name as the key ones?

K. Dmitriev: One of the priorities for us is investment in infrastructure. At the moment, infrastructure projects, such as the construction of the Central Ring Road, the first railway bridge between China and Russia and the development of Vladivostok International Airport, account for more than 40% of the RDIF portfolio.

Investments in infrastructure will continue to be a priority area of the fund’s activities. There is a great potential for projects using the public-private partnership mechanism, as well as cross-border projects.

Notably, RDIF actively cooperates with such partners as the Chinese Silk Road Fund, as well as with the Asian Infrastructure Investment Bank to implement the One Belt One Road Initiative via projects on the territory of the Russian Federation.

Another priority area is development of technologies and related competencies. RDIF has launched RDIF Technologies, a platform for investment in technology projects, and has already announced the first investments in this field, for example, investments in Doksis, a telemedical start-up, which is developing a universal telemedicine platform based on artificial intelligence. Together with the Ministry of Energy of the Russian Federation, RDIF is actively engaged in investing in high-tech companies in the energy sector. Gradually, we are planning to increase the share of investments in technological projects in the RDIF portfolio up to 25%.

How profitable is it now to invest in high-tech projects?

K. Dmitriev: We are on the verge of a technological revolution that is bound to completely change the global economy within next 10 years. This means that it is imperative to invest in new technologies today. According to McKinsey research, the digital transformation of the Russian economy could bring in an extra $100 bn by 2025, becoming the source of about a third of the total economic growth. And this is about 10 mn new jobs, a significant increase in the efficiency and competitiveness of Russian business. I would like to point out that Russia already has a head start in this direction: we have more than 80 million Internet users, who constitute 70% of the population over the age of 18 - the highest percentage among the CIS and BRICS countries. We are the sixth top economy of the world according to the number of users. In addition, there are many talented specialists in Russia, and there is no shortage of ambitious projects. We are already planning to an-
RDIF is a sovereign investment fund of the Russian Federation with a reserved capital of $10 billion under management. Working alongside the world’s foremost investors, RFPI makes direct investments in leading, as well as promising, Russian companies.

The fund was established in 2011 on the initiative of the President and the Chairman of the Government of the Russian Federation. In all transactions, RFPI acts as a co-investor together with the largest international investors, playing the role of a catalyst in attracting direct investment to Russia.

For this purpose, the Russian Direct Investment Fund has also attracted more than $30 billion of foreign capital into the Russian economy, having built a number of long-term strategic partnerships.

However, the RDIF technological projects are not the only instrument for increasing the efficiency of certain sectors of the economy. Significant results in this direction can be achieved through more rational use of non-core assets of a number of state-owned monopolies, for example, by selling them to private operators or joint management. For example, RDIF is currently working on a project to modernize the heat generating capacities of Russian Railways (RZD). It involves replacing obsolete boiler equipment with modern high-efficiency heat and power generation units. The investor will produce and install the necessary equipment at their own expense, while RZD will be purchasing heat and electricity at pre-agreed tariffs. As a result, RZD will receive new reliable equipment, plus at least 5% savings on current costs, and the investor - a guaranteed stable income.

You once said that in economy there is a possibility to create the effect of a “perpetual motion machine” via multiplier effect investments. Over the course of the fund’s 7-year existence, have there been any surges of investors’ interest in investing in Russia? Have there been any record lows observed? How could all those be accounted for?

K. Dmitriev: When making decisions about investments, the determining factor for our partners is the profitability of projects and the predictability of the situation in the economy. At present, the portfolio of RDIF demonstrates attractive profitability, among other things in dollar terms, and the situation in the economy is stabilizing due to effective action of the government and the Central Bank. Russia is enjoying economic growth, the agreement on the reduction of oil production between Russia and other producers allows us to maintain stable oil prices, the rouble exchange rate shows record low volatility.

The resumption of economic growth and the revision of forecasts by international rating agencies have confirmed that our partners’ decision to stay with Russia was correct. The successes of the Russian economy do not remain unnoticed even by experts on the other side of the Atlantic. Thus, for the first time ever, the Bank of America experts put Russia above China in the rating of the most attractive developing economies. In many respects, it is the stability and predictability of macroeconomic indicators that has become the basis for such assessments.

How are the sanctions affecting the implementation of joint projects of Russian companies and foreign investors?

K. Dmitriev: Sanctions against Russia contradict the common sense and the global character of the world economy. In fact, they have become a way of conducting a non-competitive struggle for the market. We can see growing discontent with such unilateral actions of individual states from amongst the leading financial and industrial players. The sanctions are counterproductive and disadvantageous for everyone, including our Western counterparts.

In recent years, RDIF has proved its ability to successfully carry out the mission to attract investment to the Russian economy, even under conditions of a sanctions regime. To date, we have attracted more than $30 bn in long-term investments from a number of leading funds.
and companies. We intend to continue our work by co-investing with partners from the US and the EU. For example, last year we announced the launch of a promising project with the Italian company Enel. Together, we will be developing environmentally friendly transport, including a short-term electric vehicles rental scheme (carsharing), as well as creating an associated infrastructure in Russia (a network of EV charging stations). This shows that common sense and commitment to economically sound action are top of the agenda for our partners.

**How difficult was it to start cooperation with Chinese partners? There is an opinion that you need a special talent to negotiate with the Chinese side. Are you satisfied with the interim results of the work of the Russian-Chinese Investment Fund (RCIF)?**

K. Dmitriev: The Russian-Chinese strategic cooperation is one of the top priorities for us. Established jointly with China Investment Corporation, the Russian-Chinese Investment Fund (RCIF) has implemented more than 20 investments, investing about $5bn together with its partners. We are carrying out joint investments in such sectors as infrastructure, timber industry, consumer goods production and financial services.

I would like to note that part of the RCIF infrastructure projects, for example, the first railway bridge between Russia and China, can be integrated into the large-scale initiative of the Chinese leadership ‘One Belt One Road’.

Equally important are projects in the energy sector. For example, the construction of two small hydroelectric power plants in the Republic of Karelia became the first project for the BRICS Development Bank in Russia.

RCIF has extensive expertise in a range of areas - the joint fund team includes the highest-level professionals from both the Chinese and the Russian side.

RCIF is also creating an infrastructure for international investment cooperation. Owing to efforts of RDIF and China Investment Corporation (CIC), there has been established the Entrepreneurship Committee, which unites the largest companies of Russia and China under the Intergovernmental Russian-Chinese Commission for Investment Cooperation under the chairmanship of the vice prime ministers of our countries. RDIF and CIC manage and coordinate the Committee from the Russian and Chinese sides, respectively. Within the scope of the Committee, 73 projects worth about $100bn are being currently carried out. 21 joint investment projects of Russian and Chinese companies worth over $14bn have been successfully completed and are being implemented. These figures clearly show not only the tangible progress that we have managed to achieve, but also a huge potential for the development of bilateral investment relations.

**How long did it take to sign the agreement on establishing the Russian-Saudi investment fund? What exactly interests Saudi investors in Russia?**
FOR 6 YEARS OF INVESTMENTS IN RUSSIA

- **1 trillion rubles** invested and approved for investing in new projects together with the world’s leading investors, banks and partners; of which more than 900 billion rubles are the funds of the partners of the Fund.

- **1:9** proportion of own funds and attracted investments from partners for each ruble invested by RDIF.

- **More than 45** transactions with partners in a wide range of industries.

- **$30 billion** The RDIF has created a number of joint investment platforms with the world’s leading investors.

- **More than 20** partnerships with sovereign wealth and investment funds of the world and leading companies.

In Saudi Arabia, they have initiated very ambitious reforms, the goal of which is to diversify the economy of the kingdom. These reforms involve large-scale investments in projects around the world. The key role in the implementation of reforms is played by the Public Investment Fund, the sovereign wealth fund of Saudi Arabia and our main partner in this country. Together, we have already invested over $1.5bn in such areas as petrochemicals, energy, logistics and transport infrastructure, retail, industrial production and real estate. We are also trying to get off the ground 23 more projects in the energy, mining, petrochemical, logistics, transport, agricultural and technological sectors of the economy. We have something to offer to each other - both in terms of attractive investment opportunities, and in terms of cooperation in the field of technology.

At the moment, we are negotiating with Saudi partners some deals on investments in Russian companies that provide services in the oil and gas sector or produce specialized equipment. These are the companies Eurasia Drilling and Novomet. Thanks to our cooperation with Saudi Aramco, the world’s largest oil producer, they can soon gain access to the promising market of Saudi Arabia and the entire Middle East region.

Cooperation between Russia and Saudi Arabia made it possible to conclude a historic deal aimed at stabilizing the oil market between the oil-producing countries, which provided the RF budget with 2.5 trillion rubles in revenues and added 1% of economic growth in 2017. Apart from the leaders of our countries, a big contribution to the conclusion of this agreement was also made by the relevant members of the governments - the Minister of Energy of the Russian Federation Alexander Novak and his Saudi counterpart Khalid Al Falikh.

We are closely monitoring the reforms in Saudi Arabia and believe that mutual investments in a number of sectors, including technology, agriculture and infrastructure, will greatly benefit the economies of both countries.

K. Dmitrien: In recent years, Russia and Saudi Arabia have made a huge leap in the development of relations, which largely became possible due to the personal participation of Russian President Vladimir Putin and King of Saudi Arabia Salman bin Abdul Aziz Al Saud, as well as the efforts of the Crown Prince of the Kingdom Mohammed Ben Salman Al Saud.
The completion of the Russian military operation in Syria was, perhaps, the most important success of Russia’s foreign policy in the past year. On December 11, President Vladimir Putin gave an order to Defense Minister Sergei Shoigu to withdraw a large part of the Russian troops from Syria. And, despite the fact that the situation in this country is still far from stable and peace is unlikely to get restored in the coming years, disputes concerning what Russia stands to gain from the victory over terrorists have already started. This concerns not only a hypothetical growth of political clout of our country in the Middle East, but also the restoration of the Syrian industry, infrastructure, transport and energy destroyed by the war. Naturally, one cannot sidestep the topic of the oil and gas sector of the Syrian economy: there are hydrocarbon deposits in the country, besides, many experts point out the strategically important geographic location of Syria for the transit of oil and gas.

In order to understand how much domestic oil and gas companies might be interested in the restoration of the Syrian economy and, most importantly, how beneficial their participation in that process might be, one must turn to the beginning of the conflict, or rather, to its causes. Syria has long been considered Russia’s ally, who has close economic ties with our country, but in the past the participation of Russian oil and gas companies in projects on the Syrian territory was minimal. It is now common to refer to the fact that the roots of the war in Syria lie in the area of hydrocarbon production and transportation and now domestic oil and gas companies can take advantage of the victory by taking part in the restoration of the Syrian industry.
**OIL AND GAS**

The history of mankind knows a lot of examples of wars, which were sparked by genocide against certain nations, struggle for the rights of succession to the throne, or even just a terrorist attack, like the assassination of Archduke Franz Ferdinand of Austria and the beginning of the First World War, but the true causes of international conflicts have always been hidden in the sphere of economics, politics and ideology. Now everyone knows the official version of the causes of the Syrian conflict voiced by the UN, the diplomatic services and the top political leadership of the countries involved in the conflict: "Syria has had social and religious contradictions between the country’s leadership and part of the population that led to mass opposition protests and an uprising against President Bashar Assad’s regime. The escalation of the conflict into a full-fledged civil war, in turn, led to intervention of international forces in the conflict". However, the problem is that very few people believe this.

It is clear that the development of events in Syria had its own nuances – the unrest in the country began as a continuation of the artificially created "Arab spring" and was of a primarily secular nature but later acquired an increasingly religious tint. But the main difference was the fact that in 2015 a third party – Russia – entered the conflict and started fighting on the side of President Bashar Assad, who opposed himself to the international coalition led by the US, which advocated the overthrow of the country’s legitimate government. As a result, many raised a reasonable question about the motives of Russia, which led to a detailed analysis of all possible sources of this Middle East conflict, as well as the geopolitical and economic interests of the countries participating in it. And the topic of production and transit of hydrocarbons in the territories ravaged by the civil war was, perhaps, addressed most often.

---

**EVGENY GAVRILENKO**
Partner of Matrix Capital, professor of the Higher School of Economics

As it usually happens, it is very difficult to name an only reason for the military conflict - especially when the available information about the events is not complete, and the information that is available is not free from internal contradictions. The economic component of the causes of the Syrian conflict is significant – you may just have a look at the geographical map of the region. If you draw a straight line from the gas-containing areas of the Middle East to the southeastern part of Europe, it will pass through Syria. Gas deliveries to the consumers through the pipeline are obviously cheaper than the entire process of liquefying, transporting by sea and receiving liquefied gas by the consumer. It is significant that after the current president of Syria came to power in 2000, Bashar Assad was viewed in the West as a reformer. During this period, energy prices were at a low level. The first problems for the incumbent Syrian president began in 2005, when the Western press accused the Syrian authorities of involvement in the assassination of former Lebanese Prime Minister Hariri. At the same time, there was a steady rise in the prices of oil and gas. In addition, the Syrian authorities in the early 2000s began to actively cooperate with the Shiite movements and Iran on regional security issues, which clearly did not inspire enthusiasm in the Sunni world, as well as in Western countries. In 2008-2009, during the global economic crisis, the fall in energy prices and the slow recovery from the crisis in 2010, the Syrian issue has come to the fore. The aggravation of the conflict began in 2011 with rising energy prices. Thus, there are too many coincidences to exclude the economic component of the conflict. Traditionally, armed conflicts, in addition to economic reasons, have an ideological justification. Especially when there is every reason to talk about a kind of ideological fundamentalism and the clash of different ideological platforms - no matter what color they have. And we can talk not only about ideological fundamentalism of a religious nature.

It seems that the Syrian conflict is far from the end. Although the January meeting in Sochi under the auspices of the UN was a notable milestone, there was a hope that some political solution could be found over time. We must admit that a sufficiently motley but still incomplete list of participants in the meeting, together with the presence of external forces with disparate interests in the region, hardly allow one to hope for an early solution of the problem. In this sense, the economic recovery of the country will be rather uneven, especially from the point of view of regional development. And the involvement of Russian oil and gas companies in the country’s economic recovery can only be very gradual.
First of all, it should be pointed out that Syria does not possess any special oil or gas reserves. According to proven reserves of hydrocarbons, the country definitely ranks number thirty-something, and over the last 10 years production in Syria has been falling steadily, which has been happening not only because of the civil war, but also as a result of depletion of deposits. Given that even according to the skeptics from BP, more than 80% of oil reserves and over 75% of gas reserves are concentrated in the top ten countries, then 33rd and 36th places of Syria could hardly serve as an incentive for unleashing a prolonged and full-scale war on its territory. The only reason for this version might be that Syria has access to the Levantine Sea, on the shelf of which in 2010 a giant oil and gas field Leviathan was discovered, and is near the coast of Israel with its large gas field Tamar. However, Syria has nothing to do with either.

Theoretical speculations that oil and gas can also be found on the shelf in the Syrian waters, have not been confirmed yet

Theoretical speculations that oil and gas can also be found on the shelf in the Syrian waters, have not been confirmed yet. And media reports alleging that huge oil reserves have already been discovered in the country have turned out to be journalists’ inventions. It should be noted that the Russian company Soyuzneftegaz was to carry out geological exploration in the coastal zone of Syria, of which an agreement was signed by the countries at the end of 2013, but due to the war, naturally, the work was not completed.
PIPEDINES

However, most often the origins of the Syrian civil war and the interference of international forces are associated with the failed gas transit from Qatar to Europe. This option is also often tied to the recently worsened relations between Russia and the United States, the European plan to diversify gas supplies and religious differences between the countries in the Middle East itself. In fact, before the internal conflict the Syrian government rejected the proposal of Qatar to build a gas pipeline from Qatar to Turkey through their territory, the pipeline, through which gas could go further to Europe, which could damage Russia’s positions in the gas market of the Old World. Moreover, Bashar al-Assad not only refused to accept this plan, preferring “to protect the interests of Russia, an ally of Syria, which is the key supplier of gas to Europe”, but also began negotiations with Iran on the construction of the so-called Islamic gas pipeline from Iran via Syria to the Lebanese ports on the Mediterranean Sea. This project, however, was not finally agreed upon by the parties, and after the discovery of the Leviathan and Tamar deposits it is highly unlikely that it will be ever implemented in the future.

The "gas pipeline" version has its drawbacks. According to it, the main responsibility for the conflict in Syria lies with the long-standing US ally – Qatar, the world’s third-largest gas reserves country. However, for this country the gas pipeline to Europe could not become a priority project in 2011. More than 15 years ago, Qatar made a point of focusing on sales of liquefied gas and is currently considered the world leader in this field. The main market for Qatar today is the Asia-Pacific Region (APR) countries. According to the volume of LNG supplies, the needs of the whole Europe in 2010 constituted 38.5 million tons, while in the countries of the APR they amounted to 191.6 million tons. Besides, the Asia-Pacific region is developing much faster, and the cost of LNG is traditionally higher than in Europe. LNG supplies from Qatar to Europe more than halved from 2011 to 2016, but gas production and LNG production in the country continued to increase. In 2016, the latter increased compared to 2015 by 1.3%. And if you compare the almost stagnant European market and the growing – as well as the more expensive – market

Mikhail Krutikhin
RusEnergy, the partner

Unfortunately, the official statements about the reasons of Russia’s participation in the war are far from reality. A year and a half ago two famous arabists appeared at the Primakov Readings in Moscow, who participate in the work of the Russian delegation at the talks on Syria. Both stated, repeating the well-known thesis of the country’s leadership, that the Syrian military operation was dictated by the desire to form a broad international coalition to combat terrorism. During the lunch break and personal conversation, however, the same orientalists agreed with my point of view that at the time the Russian military entered the war, a broad international coalition was already operating in Syria, to which 95 states and inter-national associations joined at that time. Russian ‘coalition’ looked more than modest: the ruling regime of Assad, several not banned in Russia terrorist groups, pro-Iranian Lebanese Hezbollah and Iran. And that’s all.

We then agreed with the aforementioned arabists in the opinion that Russia is bound by the unfulfilled desire of its leadership to look like a great power in the eyes of the world community and, not least in the eyes of the population of Russia itself, with the entry into the Syrian war. Previous actions of the Kremlin – such as the separation of Abkhazia and South Ossetia from Georgia, the annexation of the Crimea and the assistance of separatists in the southeast of Ukraine - have plunged our country into global isolation. The complete disregard for international law and its own treaty obligations made communication with the Russian authorities toxic for most civilized countries.

The way out of this situation in Moscow was seen in Syria. If you do not want to communicate and have thrown us from the G8, we will mix all the cards in Syria, and then you will be forced to sit with us at the same negotiating table. Unreasonable delusions of grandeur and wounded pride are the real reasons for Russia’s participation in the Syrian war. It is worth remembering that Russia in Syria has no interests, except for show-off. Support for the Damascus regime will not bring the political dividends even in bilateral relations with Tehran. Syrian oil is an insignificant part of the world energy balance. Moreover, the civil war in this country will not allow us to engage in normal business there for a long time. Maybe the presence of the Russian military bases there? Serious experts are unanimous: these bases do not play any role at all in the region, and a pair of American destroyers will take about twenty minutes to eliminate them.

Participation in the reconstruction of Syria seems to me a mockery of common sense and of the population of Russia, if we compare the financing of Russian hospitals and schools with the amounts that they plan to spend on Syrian territory. This adventure is costly for a Russian taxpayer. A protracted civil war and long-term instability are the bad basis for business activity in Syria. Projects with the participation of Russian oil and gas companies in such conditions look, to put it mildly, unpromising.
of the APR countries, you will definitely see the advantages of the second.

It is quite possible to assume that Qatar was ready to invest in the construction of a gas pipeline to Europe through Syria and Turkey – which, incidentally, has its own interests – but for that purpose Qatar needed a relatively calm, not a war-torn region. And in Europe, Qatar’s gas would have to compete with Gazprom’s gas, the transit of which goes through much more stable regions, even taking into account of Ukraine. To engage in such a controversial and dangerous enterprise when it is possible to sell LNG to Asia without any problems appears more than strange. At the same time, it should be noted that Qatar is going to continue to increase the capacity of its liquefying plants. The national oil corporation of the country Qatar Petroleum has already announced that by 2024 it is planning to increase LNG production up to 100 million tons per year. In 2016, the country produced 79.62 million tons.

However, most often the origins of the Syrian civil war and the interference of international forces are associated with the failed gas transit from Qatar to Europe

From the foregoing, we can conclude that the civil war in Syria could not be profitable to Qatar economically. The infusion of huge funds into fueling the conflict in another country for the sake of an almost non-expanding market, in which Qatar will have to go into fierce competition with Gazprom, with transportation through unstable territories, and Turkey wanting to sell Europe any gas that comes to its territory as its own, is unlikely to be called a successful development strategy.

What is more, it would be unwise to count on the rapid overthrow of Bashar Assad and the end of the civil war, so it is highly unlikely that Qatar’s government did not understand this. The country could, of course, have provided financial and technical support to terrorist groups in the Middle East, including Syria. That is exactly what it was accused of last year by Saudi Arabia, the United Arab Emirates, Bahrain and Egypt, who broke any diplomatic relations with Qatar. However, it is more about attempts to destabilize the situation in neighboring countries and use religious contradictions as a lever of political pressure, rather than a thought-out plan for achieving economic superiority in the region.

Here one can argue that the fact that negotiations on the construction of the gas pipeline to Europe have taken place shows that Qatar did want to build it. However, we need to take into account the time factor. Qatar suggested that this gas pipeline be laid in 2000, but the first LNG in the country had only been produced four years before that, at the end of 1996. Active development of LNG projects in the country only began in the new century. In other words, the idea of a gas pipeline to Europe was born when Qatar had not yet finally chosen the development vector of its gas industry, nor had it developed LNG production and transportation methods. Besides, at the very beginning of the century the European gas market was not yet completely split up by suppliers and looked much more attractive.

However, we must not forget that production and transportation of LNG has higher fixed costs than delivery of pipeline gas to the consumer. In times of low oil prices, LNG becomes less profitable. That is why negotiations with Syria on the construction of a gas pipeline to Europe resumed in 2008-2009, when the price of oil fell sharply from more than $130 to $40 per barrel. However, at this point in its history, Qatar was so actively and successfully developing its LNG projects already that Syria’s negative response was, of course, unpleasant, but not in the least fatal for the Qatari economy. In addition, at that time, the rapid expansion of the LNG market in the APR had already begun.

PARTICIPANTS OF THE COMBAT

Consequently, it seems that the aforementioned factors alone could not in any way have served as the reasons for stirring up the conflict from outside Syria. It is not only the economic reasons that are behind any civil war, but also the clash of different groups of the population on ideological, national or religious grounds. It is what was observed in Syria at the very beginning, but after the international coalition, and later Russia, stepped in the military action, those conflicts seemed to have receded into the background. What is more, after the declared victory of the government over the terrorists, the internal contradictions in Syria did not disappear and will certainly have an impact on the further development of events.

According to the volume of LNG supplies, the needs of the whole Europe in 2010 constituted 38.5 million tons, while in the countries of the APR they amounted to 191.6 million tons

Syria found itself at the center of world politics not because it possesses some significant natural resources – there are riches in the country, but it is not that there are a lot of them. It’s not Venezuela, nor is it Nigeria. And not because the country’s geographical location is so specific that, like in a fairy tale, it could not be bypassed or circumambulated. Even the routes of the proposed gas pipelines, if needed, could be designed so
that the country would be bypassed. The point is that for the first time in history, on the territory of this country, all the main active forces of modern world politics – the United States, Russia and international terrorism – met in a head-on collision. Europe, also involved in the conflict, was driven, rather than a driver. Only China remained on the sidelines.

In Europe, Qatar’s gas would have to compete with Gazprom’s gas, the transit of which goes through much more stable regions, even taking into account of Ukraine

However, certain European countries, especially those who are committed to the idea of diversifying gas supplies, undoubtedly had an illusory economic incentive to change the power in Syria, after the latter refused to give permission for the construction of a gas pipeline from Qatar to the EU. And it is quite possible that the idea of building a gas pipeline from Qatar or Iran through Syria to Europe is not even now completely buried, and under certain conditions these projects can be implemented. However, hardly any serious European politicians could have considered that Syria’s position is the main and only obstacle to bringing gas from the Middle East to Europe, and the Syrian government must be immediately eliminated by force of arms. Therefore, regarding the participation of the countries of the Old World in the Syrian conflict, it seems most likely that this was a forced concession to America, which was too carried away by the idea of a unipolar world and its role as a “world gendarme” rather than an economic necessity or the political will of European states. In addition, it is necessary to take into account the refugee problem facing European countries. They, after Syria itself, suffered most from this war.

If we talk about the interests of the US and Russia, then in the case of Syria they are more likely to lie in the field of geopolitics and the creation of strategic nodes of influence in the region. Our country over the past few years has significantly increased its presence in the Middle East, and the success of the military operation in Syria has greatly contributed to this. As for the United States, for a long time, the notorious Qatar was called their main ally, which, as already said, over the past year managed to spoil relations with all neighboring countries. In May last year, President of the United States Donald Trump, being a guest of the Arab-Islamic-American summit in Saudi Arabia’s capital Riyadh, called Qatar “the traditional sponsor of terrorism,” and the United States is likely to seek a new “reliable partner”. Syria in this scheme is only a territory that is interesting geographically and economically, but does not have any special meaning. It was more important to be among the winners in the Syrian conflict, and on this issue, Russia bypassed the United States. Although it is also not worth overestimating the significance of this victory. Iraq and Libya economically were much more important strategic regions, and there the United States achieved complete success. Therefore, it is not necessary to expect that the resolution of the conflict in Syria in our favor will significantly change the alignment of forces in the world. Undoubtedly, it will have an impact, but not more. In addition, despite the victory of the government forces, the country is still far from stability.

PROSPECTS FOR RECOVERY

Now Russia can get significant preferences in rebuilding the ruined economy of the country. According to the World Bank, the damage caused to Syria as a result of the civil war exceeds $200 billion. The Syrians themselves estimate their losses at $400 billion. It is clear that no country in the world is able to cope alone with such a large-scale task. But Russia can expect a special attitude from the Syrian authorities. At the end of December 2017, this was confirmed by Bashar Assad, stating that Russia will be the main participant in the reconstruction of Syria. According to him, Russia and Syria have great prospects for cooperation in energy, oil, gas, phosphate, petrochemical industry, transport, trade and production of goods.

In the oil and gas sector of Syria, first of all, it is necessary to restore production, which for years has fallen to a record low. If in 2010 the share of the oil and gas sector accounted for about 12pc of GDP, now this figure does not reach 5pc, and the GDP itself fell by more than 60pc. Many objects of oil and gas infrastructure were destroyed by bombing. Moreover, all the Syrian refineries and gas processing plants suffered from the war. And almost completely destroyed was the transport network necessary for the normal operation of industrial facilities. Theoretically, the restoration of all these objects can be of interest to Russian companies. However, so far it is only known that Russia signed with Syria contracts for at least $950 million, Prime Minister of Syria Vail Al-Khalki said in a conversation with the news agency RIA Novosti at the end of last year. To restore the ruined economy of the country this is a drop in the ocean.

The idea of a gas pipeline to Europe was born when Qatar had not yet finally chosen the development vector of its gas industry, nor had it developed LNG production and transportation methods
After the declared victory over the terrorists, the internal contradictions in Syria did not disappear and will certainly have an impact on the further development of events.

So far, no Russian oil and gas company has announced that it is ready to invest seriously in projects in Syria. The reason is that, despite the victory over the terrorists, Syria has not become a homogeneous country, and some of the oil and gas fields are still not completely controlled by Damascus. To finalize the country’s unification, the government needs to agree with all national and religious associations that were not included in the terrorists, but did not support the official authority. Kurds and the so-called opposition control significant territories and do not want to rush into the arms of Bashar Assad. In addition, the government needs to resolve the issue of the presence of foreign armed forces in the country. And until these problems are solved, investments in the restoration of the economy of Syria will be considered too risky.

Before the war, from all the Russian oil and gas companies only Tatneft was present in Syria. The company together with the Syrian General Petroleum Corporation (GPC) participated on a parity basis in the development of the South Kishma oil field. As a result, Tatneft was in a rather difficult situation, since the commissioning of the field in industrial operation coincided with the outbreak of the civil war. And since 2014, South Kishma in general has been under the control of anti-government forces. Back in 2016, the company confirmed that it remains interested in the resumption of work at the field. However, now, despite the victory, no official statements were made by Tatneft.

In addition to Tatneft, in the territory of Syria, Stroytransgaz built a gas processing plant and a gas pipeline before the war. And it was this company who already got last year the right to restore the largest phosphate deposit in Syria and prepare it for the start of industrial production. Some media also reported that Russia has already agreed with Syria to develop its oil and gas fields. However, so far no specific and official statements were made.

According to some foreign experts (Daniel DePetris of Wikistrat Inc, French Foreign Minister Jean-Yves Le Drian and American political scientist Ramis Yunus), the main problem of Syria’s economic recovery for Russia will not even be the risks associated with the consequences of the civil war, but the shortage of investments. And in a similar situation, in their opinion, there is also another winner country, which supported Bashar Assad, – Iran. In this regard, as an alternative, the possibility of investing in the Syrian economy from China and India is being considered. Indeed, these countries have interest in Syria. But so far, it were only gossips about the participation of Indian companies in the steel industry of Syria and China’s promises to invest $2 billion in the creation of industrial parks in Syria. And it is all about hundreds of billions of dollars. The reason for this is simple – investments in the economy of Syria are too risky. However, this is not the only obstacle. Before the outbreak of the civil war, several international oil and gas companies worked in Syria: Shell, Total and INA. Maybe they would be interested in investing again in Syrian projects, but since the sanctions have not been canceled against Syria, they would not be able to do this.

The result is a vicious circle – to restore the economy of Syria, it is necessary to achieve a stabilization of the situation in the country and vice versa. However, most likely, Russian oil and gas companies, although with caution, will still invest in Syria. The benefit from some projects – restoration of production at fields, setting in order the oil refineries and gas plants, repair and laying of gas pipelines – can significantly exceed possible risks. Do not forget about geological exploration. The shelf of Levant is not in vain under the scrutiny of almost all the world’s largest oil and gas corporations, and the Russian companies can get a serious advantage over the competitors on the Syrian coast. 

Estimates, forecasts and recommendations of top managers of oil and gas companies

www.ngv.ru
In 2018 there will be issued 24 magazines

**OIL AND GAS VERTICAL**

The cost of the annual printed version of the magazine is 33,699.60 roubles.
The cost of a semi-annual printed version of the magazine is 16,849.80 roubles.
The cost of the annual electronic version of the magazine is 32,568.00 roubles.
The cost of the semiannual electronic version of the magazine is 16,284.00 roubles.

You can get a subscription through the office
(495) 510-57-24, podpiska@ngv.ru

through the agency URAL-PRESS
(499)391-68-21,
(499)700-05-07 ext. 310
niskina@ural-press.ru

**MAKE A SUBSCRIPTION IN THE OFFICE – PROFITABLE AND CONVENIENT**
Volkswagen Multivan Business
Управляйте бизнесом с комфортом

Достигнув определенных высот, начинаешь по-настоящему ценить чувство комфорта и надежности. Именно это может подарить своим владельцам Volkswagen Multivan Business. Эксклюзивный салон с обивкой из кожи лучших выделки, ценными породами дерева и выверенной до мелочи эргономикой. Все это для одной цели - чтобы вы всегда оставались в выгодном положении. И неважно, какая задача стоит перед вами сейчас – простая поездка по городу, бизнес-встреча или деловая командировка.

Запишитесь на персональный тест-драйв/показ автомобиля по телефону 8-800-333-4441 или по ссылке vw-commercial.ru/business.
* Бизнес. Реклама.