

THE OIL AND GAS SECTOR'S DEVELOPMENT

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In 2014, Russia's crude oil output hit its record high since 1990. At the same time, the growth rates of oil production and oil exports are displaying an obvious slowdown. Besides, some additional negative factors have emerged that impose still more constraints of the oil sector's further development: the plummeting world prices for oil and the financial and technological sanctions introduced against Russia. Since 2015, the oil sector's taxation system has been undergoing structural transformations designed to significantly play down the economic role of export duties.

The oil production complex remains the core sector of Russia economy and plays a leading role in generating federal budget revenue and this country's balance of trade. In 2014, the volume of crude oil production in Russia rose to 526,7 million tons, which represents a record high for the entire period since 1990 (Table 1). The movement of the oil production index has been positively influenced by the development of several new oil fields in Eastern Siberia and in the north of European Russia, which have been put in operation in recent years, and also by the recent alteration to the tax system designed to stimulate the development of new oil fields in remote regions and a more intensive exploitation of the developed oil fields. At the same time, the growth rate of oil production has been demonstrating a noticeable decline in recent years (Table 2), which can be explained in the main by the deterioration, for objective reasons, of extraction conditions. A considerable number of the currently functioning oil fields are decreasing their

output, while the majority of the new oil fields are characterized by somewhat worse geographical and mining parameters, and so their development is associated with higher capital inputs and higher exploitation and transportation costs. At present, the Russian oil industry is approaching its maximum production capacity. In order to compensate for the decline in oil production at the currently exploited oil fields, it will be necessary to develop new oil fields in remote areas with insufficient or nonexistent infrastructure, as well as to develop the currently ignored deposits of poor quality oil situated in the areas where oil production infrastructure already exists.

At the same time, the growth rate displayed in 2014 by the oil refining industry was still above that of oil extraction due to the accelerated growth rate of exports of petroleum products, which was being pushed up by the relatively lower export duties imposed on petroleum products by comparison with the exports duties on crude oil. As a result of the higher growth rate of the

Table 1

OIL PRODUCTION AND OIL REFINING IN THE RUSSIAN FEDERATION IN 2000–2014

	2000	2005	2010	2011	2012	2013	2014
Oil, including natural gas condensate, m tons	323.2	470.0	505.1	511.4	518.0	523.3	526.7
Primary crude oil distillation, m tons	173.0	208.0	249.3	258.0	270.0	278.0	294.4
Share of oil refining in oil extraction, %	53.5	44.3	49.4	50.4	52.1	53.1	55.9
Oil refining efficiency, %	71.0	71.6	71.1	70.8	71.5	71.7	72.4

Source: RF Federal State Statistics Service; RF Ministry of Energy.

Table 2

PRODUCTION OF OIL AND PETROLEUM PRODUCTS IN 2000–2014, AS A PERCENTAGE OF THE CORRESPONDING PERIOD OF THE PREVIOUS YEAR

	2000	2005	2010	2011	2012	2013	2014
Oil, including natural gas condensate	106.0	102.2	102.1	100.8	101.3	100.9	100.7
Primary crude oil distillation	102.7	106.2	105.5	103.3	104.9	102.7	104.9
Motor gasoline	103.6	104.8	100.5	102.0	104.3	101.3	98.8
Diesel fuel	104.9	108.5	104.2	100.3	98.7	103.1	107.4
Furnace fuel oil	98.3	105.8	108.5	104.6	101.6	103.3	102.0

Source: RF Federal State Statistics Service; RF Ministry of Energy.

Table 3

THE STRUCTURE OF OIL PRODUCTION IN 2010–2014

	Oil extraction volume in 2010, m tons	Share in total extraction volume, %	Oil extraction volume in 2012, m tons	Share in total extraction volume, %	Oil extraction volume in 2013, m tons	Share in total extraction volume, %	Oil extraction volume in 2014, m tons	Share in total extraction volume, %
Russia, total	505.1	100.0	518.0	100.0	523.3	100.0	526.7	100.0
Rosneft	112.4	22.3	117.5	22.7	192.6	36.8	190.9	36.2
LUKOIL	90.1	17.8	84.6	16.3	86.7	16.6	86.6	16.4
TNK-BP	71.7	14.2	72.5	14.0	-	-	-	-
Surgutneftegas	59.5	11.8	61.4	11.9	61.5	11.8	61.4	11.7
Gazprom, including Gazprom-Neft	43.3	8.6	46.1	8.9	48.5	9.3	49.8	9.5
Tatneft	26.1	5.2	26.3	5.1	26.4	5.0	26.5	5.0
Bashneft	14.1	2.8	15.4	3.0	16.1	3.1	17.9	3.4
Slavneft	18.4	3.6	17.9	3.5	16.8	3.2	16.2	3.1
Rosneft	13.0	2.6	13.9	2.7	8.8	1.7	8.6	1.6
NOVATEK	3.8	0.8	4.2	0.8	4.3	0.8	4.3	0.8
Operators of PSA	14.4	2.9	14.1	2.7	14.0	2.7	14.4	2.7
Other oil producers	38.2	7.6	44.1	8.5	47.6	9.1	50.1	9.5

Source: RF Federal State Statistics Service; author's calculations.

Table 4

THE SHARE OF STATE-OWNED COMPANIES IN RUSSIA'S TOTAL OIL EXTRACTION VOLUME IN 2014

	Oil extraction volume, m tons	Share in total extraction volume, %
Rosneft, including its share in other companies' production	200.5	38.1
Gazprom, including Gazprom-Neft and their combined share in other companies' production	60.6	11.5
Tatneft	26.5	5.0
Bashneft	17.9	3.4
Zarubezhneft (extraction in RF territory)	3.2	0.6
State-owned companies, total	308.7	58.6

Source: RF Federal State Statistics Service; author's calculations.

primary crude oil distillation volume, its relative share in the volume of oil production increased from 42.5% in 2004 to 55.9% in 2014. At the same time, the depth of oil refining over that period actually stayed at the same level, amounting in 2014 to only 72.4%, which is far below the corresponding indices for the developed countries, where the depth of oil refining is 90–95%. The goal of upgrading the technologies applied in the oil refining industry remains one of the top priorities of Russia's oil sector.

The biggest oil producers, in terms of output, are *Rosneft*, *LUKOIL*, *Surgutneftegas* and *Gazprom*. In 2014, these four giants accounted for 73.8% of this country's total oil extraction volume. The share of medium-sized oil companies (*Tatneft*, *Bashneft*, *Slavneft*, and *Rosneft*) amounted to 13.1% of total oil extraction. Certain shares in the oil extraction volume belong to companies operating under product share agreements (PSA) (2.7%) and to *NOVATEK* (0.8%). The share of all the other oil

producers, which include more than 100 small-sized oil extraction entities, amounts to 9.5% (*Table 3*).

In recent years, the share of the public sector in Russia's oil industry has been significantly expanding. The year 2013 saw the takeover, by state oil company *Rosneft*, of *TNK-BP*, which (if we also add its stake in *Slavneft*) had accounted for 15.7% of Russia's total oil extraction volume. In 2014, by a court ruling, oil company *Bashneft* was transferred back to Russian Federation ownership; this one accounts for 3.4% of Russia's total oil extraction volume. We estimate that, as a result, in 2014 the share of state-owned companies in Russia's total oil extraction volume increased to 58.6% (*Table 4*). The share of *Rosneft*, if we take into account its combined share in the output of other oil companies, amounted to 38.1%.

A decline in oil extraction volume is observed against the backdrop of stabilization in the volume of oil exports (*Table 5*). In 2014, the aggregate exports of

Table 5

RELATIONSHIP BETWEEN THE PRODUCTION, CONSUMPTION AND EXPORTS OF OIL IN 2000–2014

	2000	2005	2010	2011	2012	2013	2014
Oil, m tons							
Output	323.2	470.0	505.1	511.4	518.0	523.3	526.7
Exports, total	144.5	252.5	250.4	244.6	239.9	236.6	223.4
Exports to non-CIS countries	127.6	214.4	223.9	214.4	211.6	208.0	199.3
Exports to CIS countries	16.9	38.0	26.5	30.2	28.4	28.7	24.1
Net exports	138.7	250.1	249.3	243.5	239.1	235.8	222.6
Domestic consumption	123.0	123.1	125.9	140.7	142.1	137.5	141.3
Net exports, as % of output	42.9	53.2	49.4	47.6	46.2	45.1	42.3
Petroleum products, m tons							
Exports, total	61.9	97.0	132.2	130.6	138.1	151.4	164.8
Exports to non-CIS countries	58.4	93.1	126.6	120.0	121.2	141.1	155.2
Exports to CIS countries	3.5	3.9	5.6	10.6	16.9	10.3	9.6
Net exports	61.5	96.8	129.9	127.2	136.8	150.0	162.8
Oil and petroleum products, m tons							
Net exports of oil and petroleum products	200.2	346.9	379.2	370.7	375.9	385.8	385.4
Net exports of oil and petroleum products, as % of oil output	61.9	73.8	75.1	72.5	72.6	73.7	73.2

Source: RF Federal State Statistics Service; RF Ministry of Energy; Federal Customs Service; author's calculations.

oil and petroleum products amounted to 388.2m tons, which is only 0.05% the previous year's index. At the same time, similarly to the situation observed over the past few years, the volume of oil exports was pushed up by the increasing volume of exported petroleum products, while that of crude oil exports was on the decline. As a result, the oil refining sector in recent years has become more export-oriented than the oil extraction sector: the share of exports in the former has increased to 56%, while in the latter it has shrunk to 42.4%. The share of exports in the total furnace fuel oil output is more than 90%, in the total diesel fuel output – 61.6%, and in the total motor gasoline output – 10.9%.

The system of export duties that existed until recently was designed to subsidize Russia's oil refining sector with its low performance level; besides, it conduced to 'conservation' of its low-tech standards and promoted exports of dark petroleum products. The upshot of this policy was the emergence of several stable trends, namely shrinkage of crude oil exports, output growth in the oil refining sector, and export of the bulk of the resulting surplus petroleum products. At the same time, the depth of oil refining remained at a low level, while the growth of Russia's exports of petroleum products was caused in the main by the increasing volume of exports of furnace fuel oil – the least valuable petroleum product, which is even cheaper than crude oil. In Europe, Russian fuel oil is used as raw material for further refining and conversion into white petroleum products.

An analysis of the changes in Russia's oil sector over a long period of time demonstrates its increasing ori-

entation towards exports. The share of net exports of oil and petroleum products in total oil output increased from 47.7% in 1990 to 73.2% in 2014. This trend, however, was caused not only by growth of exports in absolute terms, but also by the decline in the rate of domestic oil consumption as a result the market transformation of the Russian economy, more proficient use of oil, and replacement of furnace fuel oil by natural gas. In this connection, we may point to the increasing share of petroleum products in total oil exports, this index having risen from 18.2% in 1990 to 42.2% in 2014. However, it should at the same time be borne in mind that, due to the low oil refining efficiency, furnace fuel oil currently accounts for the bulk of Russia's exports of petroleum products (in 2014, the share of furnace fuel oil in total exports of petroleum products was 53%).

From 2015 onwards, structural reshuffling has been underway in the oil sector's taxation system. In 2014, by Federal Law of 24 November 2014, No 366-FZ 'On the Introduction of Alterations to the Second Part of the Tax Code of the Russian Federation and Some Legislative Acts of the Russian Federation', the so-called 'tax maneuver' was launched, whereby the export customs duties on oil and petroleum products were to be significantly reduced, to be compensated by the increased rate of the Mineral Resources Extraction Tax (MRET)¹. In accordance with these decisions, the

1 The basic concept and provisions of this reform were elaborated by the Gaidar Institute, RANEPa and the Russian Foreign Trade Academy (BABT) and then further adjusted in the course of development of Russia's socioeconomic strategy for the period until 2020. See Yuri N. Bobylev, Georgy I. Idrisov, Sergey G. Sinelnikov-Murylev. Export Duties on Oil and Oil Products: Cancel Expediency and Scenario Analysis. – M.: Gaidar Institute, 2012; Strategia-2020:

Table 6

RATES OF MRET AND EXPORT DUTIES APPLIED TO OIL AND PETROLEUM PRODUCTS IN 2014–2017

	2014	2015	2016	2017
Basic MRET rate on oil production, Rb/ton	493	766	857	919
Export duty on oil: factor applied in export duty rate formula	0.59	0.42	0.36	0.30
Export duties on petroleum products: factors applied to rate of export duty on oil				
Motor gasolines	0.90	0.78	0.61	0.30
Diesel fuel	0.65	0.48	0.40	0.30
Furnace fuel oil	0.66	0.76	0.82	1.00

Source: RF Tax Code; Federal Law of 24 November 2014, No 366-FZ.

basic MRET rate on oil production is to be gradually increased from 493 Rb/t in 2014 to 919 Rb/t in 2017. At the same time, the marginal rate of export customs duty on oil (the coefficient applied in the marginal tax rate formula) is to be reduced from 59% in 2014 to 30% in 2017 (Table 6). Simultaneously, the rate of the export duty on dark petroleum products is to be raised relative to that of the export customs duty on oil (up to 100% of the export customs duty on oil set in 2017), while the rate of the export duty on white petroleum products is to be reduced.

In our opinion, such alterations are necessary for Russia's economy, they are compatible with the principles of rent collection and the related international practices. The core role in the tax system applied to the oil sector must belong to MRET, while the importance of export customs duties should be significantly played down (up to their ultimate complete abolition). At present, export customs duty effectively represents the principal form of tax levied on the oil sector. In 2014, the share of export customs duty in the structure of export oil prices (at a standard tax rate) amounted to nearly 50%, or more than twice than the amount of MRET. Due to the high rate of export duty levied on oil, the effective rate of that 'tax' must necessarily be regulated (which means the introduction of reduced rates for certain oil fields for the duration of specifically determined periods) in order to coordinate the tax load with the actual oil extraction conditions in a given oil field; in other words, export duty thus assumes the functions that ideally should be performed by MRET. However, MRET cannot properly perform its regulatory function due to the existence of a high export duty rate.

The 'tax maneuver' is expected to result in a drastic redistribution of the current tax load: the share

Novaia model' rosta – novaia sotsial'naia politika. Itogovyi doklad o resul'tatakh ekspertnoi raboty po aktual'nym problemam sotsial'no-ekonomicheskoi strategii Rossii na period do 2020 goda [Strategy-2020: A New Growth Model – A New Social Policy. Final Report on the Results of Experts' Review of the Important Issues of Russia's Socioeconomic Strategy for the Period until 2020. Volume 1; Ed. V. A. Mau, Ya. I. Kuzminov. – M.: DELO Publishing House, RANEPa, 2013.

of MRET in the rent imposed on the oil sector will be significantly increased, while that of export customs duties will shrink accordingly. So, MRET will become the principal rent-related tax, to perform the main tax regulation function in that sector. For the part, the lower export duties will disrupt the current practice of subsidizing the oil refining sector, create some real incentives for its modernization and boost the oil refining efficiency, reduce the scale of subsidizing, by Russia, of the other member countries of the Customs Union in the form of duty-free supplies of Russian oil and petroleum products, and create incentives for market subjects to set correct price targets and promote energy efficient technologies.

The Russian oil sector's further course of development will strongly depend on the movement of world oil prices. While over the period from 2011 through the first half of 2014 the global oil market was characterized by the persistence of high oil prices (Table 7), later on, in H2 2014, the situation underwent some dramatic changes, and growth of the volume of world oil production coupled with a relatively weak demand for oil resulted in plummeting world prices for oil. Global oil output in 2014 rose by 2.1%, in the main due to the mounting oil production rate in the USA as a result of the development of shale oil fields, while the global demand for oil increase by only 0.7%. In such a situation, the OPEC chose to abstain from implementing any measures designed to bring down the oil production rate in order to achieve a proper balance of the world oil market; instead, the OPEC stuck to the previously established oil production quota, seeing the task of retaining its oil market share as its topmost priority. In response to the significant excess of world oil supply over the demand for oil, the price of Russia's Urals crude in the world market dropped from \$ 108.9 per barrel in June 2014 to \$ 46.9 per barrel in January 2015 – that is, to less than half of its initial level.

A new factor that can adversely influence the Russian oil sector's further development have become the economic sanctions introduced against Russia in 2014 by the USA, the European Union and some other countries in response to the events in the southeast of

INTERNATIONAL PRICES OF OIL AND NATURAL GAS IN 2010–2015, USD/BARREL

	2010	2011	2012	2013	2014	2015 January–February
Price of Brent (UK)	79.6	111.0	112.0	108.8	98.9	53.2
Price of Urals (Russia)	78.3	109.1	110.3	107.7	97.7	52.1

Source: IMF, OECD/IEA.

Ukraine. In addition to the financial sanctions whereby restrictions were imposed on the access of Russia's companies to external lending sources, some of the developed countries imposed restrictions on supplies to Russia of equipment and technologies relating to the development of three types of oil fields: Arctic oil fields; deep sea oil fields; and shale oil extraction. The success of all projects belonging to any of these three categories will critically depend on the availability of foreign technologies. At the same time, the investment cycle for Arctic and deep sea oil extraction projects is sufficiently protracted, and so the negative impact of these sanctions on oil output can become visible only in the long run. Moreover, if oil prices remain low, many of these projects will be suspended due to their low economic efficiency.

The situation with regard to technologies for shale oil extraction is more complicated. According to the estimates released by the US Energy Information Administration, Russia holds the largest known recoverable reserves of shale oil. If relevant state-of-the-art technologies are applied, the yield of shale oil fields turns out to be higher than that of shelf oil fields, while the production cycle is much shorter. If the sanctions are not lifted, Russia's shale oil reserves cannot be developed, and so they will not be able to compensate for the depletion of the currently exploited oil fields.

It should also be borne in mind that the technologies applied in the development of shale oil fields (directional drilling, hydrofracturing) are also applied in the 'conventional' oil fields, and primarily the reservoirs with a high degree of depletion, for more efficient oil extraction. Consequently, the ban on imports of directional drilling and hydrofracturing equipment

for may also result in early abandonment of the currently exploited oil fields, because their exploitation at any greater depth will become impossible.

At the same time it can be expected that, in 2015, the plummeted world prices for oil coupled with the financial and technologies-related sanctions introduced against Russia will continue to have a relatively low effect on the Russian oil sector's development prospects because it is strongly prone to inertia, and the oil companies focus their activities mainly on the currently exploited oil fields. So, the indices of physical oil output volumes and the aggregate volume of exports of oil and petroleum products can be expected to be close to their previous year's levels. This year, the combined negative effects of low oil prices and sanctions will manifest itself first of all in a shrinking volume of investment, and primarily investment in new projects. If the period of low investment activity in the oil sector happens to be sufficiently lengthy, it will inevitably result in a decline of the oil extraction volume over the next few years.

A significant role will also be played by the rate of technological progress in this industry as a whole. Under the conditions of sanctions on imports of technologies, whereby any prospects for further development of Arctic, deep-sea, and shale oil fields will be hopeless, the 'conventional' oil fields will become a priority target, and their development will be very important for sustaining the current volumes of oil output and oil exports. So, the technologies designed to boost oil extraction efficiency, including directional drilling and directional hydrofracturing equipment, should become a priority in the framework of development and implementation of import substitution programs. ●