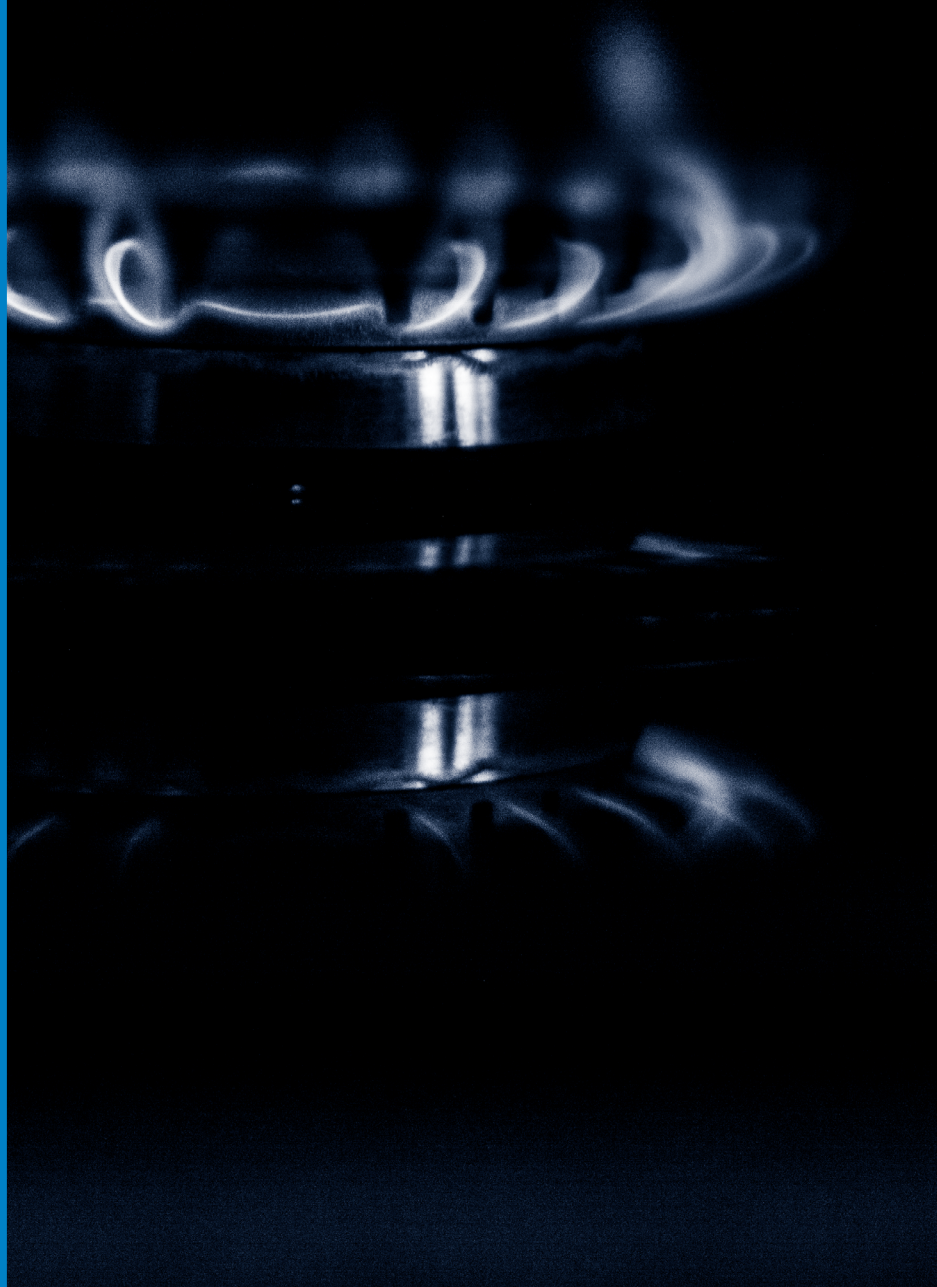
NATIONAL RATING AGENCY

Table of contents

Russia's Oil and Gas Sector in 2015 (survey as of May 8, 2016)



Summary

- Whilst in 2014, one of the main themes for the Russian oil and gas industry was the sanctions impact, in 2015, the focus moved towards the uncertainty and volatility of world oil prices. Brent crude benchmark sunk to US$ 37.89 a barrel from US$ 56.42. The world oil market was still characterized by supply exceeding demand (96.4 million b/d vs 94.7 million b/d). One important signal for the industry in 2015 was a 24% decrease in global investment inflows in oil production that might have caused shortages of production capacities and propped up oil prices.
- Russia continues to contribute significantly to global energy safety, accounting for 13% of global oil and 17% of global gas production. The weakening of the oil market has caused Russia's fuel export to decrease by 7.5% in value terms, and its oil export revenues to fall 26.3% (according to Federal Law # 93-FZ).
- In addition, the fall in oil prices affected the financial performance of Russian oil and gas companies. The decrease in their export revenues was partly offset by the ruble depreciation and lowering of crude and products export duties.
- The introduction of the so-called tax maneuver, which included a reduction of export duty for crude and oil products and an increase in mineral extraction tax (MET) had an adverse impact on the refining sector that had to spend more on crude (which appreciated due to the rising MET rate) amidst unstable crude markets, falling global oil prices, and financial access constraints, resulting partly from the sanctions. As a result, the country's largest oil refineries experience a drop in production, stemming from lower profit margins. Steps to improve operational efficiency included an increase in the oil conversion rate, and production of more value-added products.
- In 2015, oil and gas companies were valued higher by the stock market than other types of business. The market capitalization performance of oil & gas companies included in the MICEX O&G (+38.7%) was better than that of the MICEXBMI (the broad market index) companies (+24,4%).
- The commodity market is still narrow compared with the oil & gas over-the-counter market. But market participants appeared to be interested in natural gas, as became clear after the resumption of trading in this commodity on St. Petersburg International Mercantile Exchange (SPIMEX). A new pricing mechanism for Russian crude, now under development, may spur exchange trading in crude oil.

Oil Sector

- Proven oil reserves in Russia totaled 103.2 billion barrels (6.1% of global reserves) as of the beginning of 2015, making Russia number six by this measure after Venezuela (17.5%), Saudi Arabia (15.7%), Canada (10.2%), Iran (9.3%), and Iraq (8.8%)[1]. The country's reserves life at current production rates (R/ P ratio) is 26.1 years compared to the global average P/ R of 52.5 years.
- In 2015, the reserves of crude oil and condensate (ABC[1,2]) in Russia increased by 730 Mt (~5,4 billion barrels), exceeding the production volume.
- The number of entities licensed to carry out mineral drilling and produce crude oil and condensate in Russia increased by five to 299 in 2015. This includes 117 members of 11 vertically integrated oil companies (VIOCs), 179 independent producers and three companies operating under production sharing contracts (PSCs).
- The production of oil, including condensate, in Russia increased 1.4% in 2015 and reached a 7-year peak of 534.1 million metric tonnes, MMt (Chart 1). This made Russia the world's top oil producer at year-end 2015, according to the Russian Ministry of Energy, while in the beginning of 2015, the country was the world's second-largest producer after Saudi Arabia (with 12.7% of total global production vs. 12.0% respectively)[3].

It should be noted that 5.8 MMt came from hard-to-recover reserves (85 fields of the Bazhenov, Abalak, Khadum and Domanik reservoirs)[4].

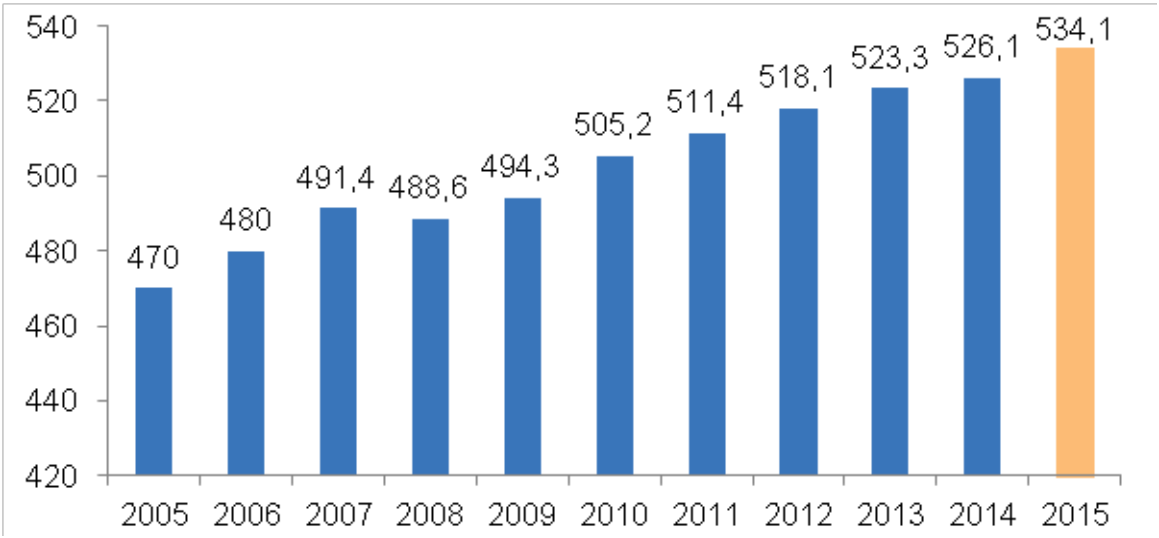


Chart 1. Production of oil (incl. natural gas condensate), MMt Source: Russia's Ministry of Energy. 2015.

[1] BP Statistical Review of World Energy 2015, http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html

[2] Russia's Natural Resources Ministry divides oil & gas reserves into several classes according to the amount of reliable geologic and engineering data available and the interpretation of that data. The reserve classes are: A (proved developed producing), B1 (proved undeveloped) and B2 (estimated undeveloped). Projects to develop such reserves are supposed to be already in place. Proved reserves are divided into C1 (explored) and C2 (estimated).

[3] BP Statistical Review of World Energy (2015), data as of the beginning of 2015; http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html

[4] Russia's Natural Resources Ministry; http://www.mnr.gov.ru/mnr/minister/statement/detail.php?ID=143454

Oil output increase was driven by:

- Development of oil brownfields and new fields with upside production potential in Northern European Russia, Eastern Siberia and Russian Far East;
- Growth of the operating well stock, driven by greater exploration efforts and an increasing number of new wells;
- Intense development of new technologies and techniques enhancing oil recovery in both greenfield and brownfield environments (e.g., in Urals-Volga Oil & Gas Region);
- Tax benefits to low-profit oil production facilities, hard-to-recover oil reserves and new fields with upside production potential in Eastern Siberia and Russian Far East[5].

Industry 2015 production structure, by producer category, remain practically unchanged, with VIOCs share down by 1 p.p. to 87%, independent producers' share up by 1.1 p.p. to 10.2%, and the share of companies operating under PSCs at 2.8% (Chart 2).

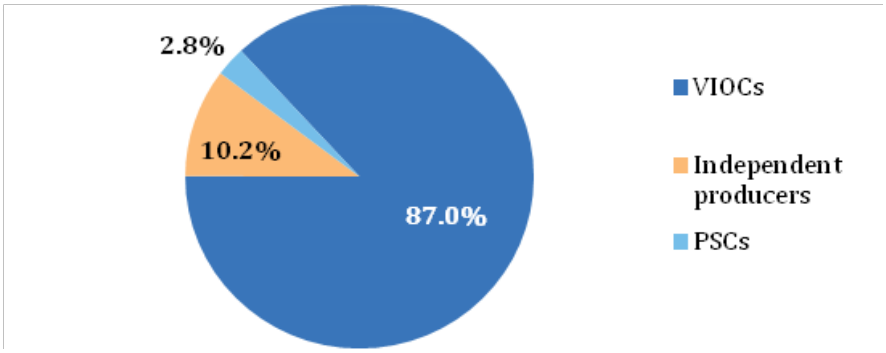


Chart 2. Oil industry 2015 production structure. Source: Russia's Ministry of Energy

Transneft JSC, the oil pipeline monopoly, transports 87% of oil and 24% of light oil products produced in Russia[6].

In 2015, more of Russian crude oil production came from European Russia (up 2.5%), Eastern Siberia and Far East (up 8.2%). These regions contributed 29.8% (158.9 MM) и 11.9% (63.5 MMt) respectively to total oil production in Russia. Oil output in Russia's main oil-producing region dropped slightly (by 0.4% to 311.7 MMt, or 58.4% of total oil production in the country).

Oil exports increased 9.3% to 241.8 MMt, equivalent to 45.3% of the 2015 production of oil and natural gas condensate. The oil export increase was driven by:

- Oil production growth combined with a decline in Russia's primary refinery production, followed by crude feedstock release;
- Introduction of lower oil export customs duties from Jan. 1, 2015.

Russia's domestic oil consumption is around 3,196,000 bpd (148.1 MMtpy), or 3.5% of

[5] Russia's Ministry of Energy, http://minenergo.gov.ru/node/910
[6] Transneft 's 4Q 2015 financial statement; http://www.e-disclosure.ru/portal/files.aspx?id=636&type=5

global oil consumption and 3.6x less than the amount of oil production in the country.[7]

In the beginning of 2015, Russia's oil refining capacities totaled 6,338 Mbpd (a 5.2% decrease year-on-year), or 6.6% of global oil refining capacities, making Russia number three by this measure after the U.S.A. (18.4%) and China (14.6%). The country's primary refining capacity utilization remains high at approximately 92%[8].

In 2015, oil primary refining output dropped by 2.1% to 282.7 MMt, or 52.9% of total production. At the same time, the oil conversion rate rose by 1.9 p.p. to 74.2%. Motor gasoline output in 2015 totaled 39.2 MMt, representing 13.9% of total primary refining throughput, the production of diesel and heavy fuel oil (mazut) was 76.1 MMt (26.9% of total primary refining throughput) and 71.0 MMt (25.1%) respectively[9]. The refining decline resulted from:

- Average oil conversion rate decrease as a result of efforts to upgrade the Russian refineries' technological base under four-party agreements;
- Streamlining of the primary refining process, combined with efforts to maintain the production level and improve the quality of fuel oils (primarily motor gasoline) to stabilize supplies and to avoid shortages in the domestic market.[10]

Global oil and gas prices were on a downward trend. Brent crude benchmark sunk to US$ 37.89 a barrel from US$ 56.42[11]. The world oil market was still characterized by supply exceeding demand in 2015 (while global oil demand decreased to 94.7 mbd in 2015, global oil supply declined by just 0.8% to 96.4 mbd[12]). One important signal for the industry in 2015 was a considerable (24%) decrease in global investment in oil production that might have caused shortages of production capacities and propped up oil prices in the medium term.

Gas Sector

Proven natural gas reserves in Russia totaled 32,644 billion cubic meters (bcm), or around 17.4% of global gas reserves in the beginning of 2015. The ratio of proven reserves-to-production (R/ P ratio) was 56.4 years. Russia ranks second by the amount of natural gas proven reserves after Iran (18.2% of global reserves)[13]. In 2015, Russia's reserves of free natural gas (ABC1 reserves) increased by 1,095 bcm, which is more than the production amount.[14]

---

[7] BP Statistical Review of World Energy (2015), data as of the beginning of 2015; http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html
[8] Russian Federal State Statistics Service (Russian: ФСГС), latest available data for 2014; Russian Annual Statistical Bulletin, http://www.gks.ru/free_doc/doc_2015/year/ejegod-15.pdf (page 362)
[9] Russia's Ministry of Energy, http://minenergo.gov.ru/node/910
[10] Russia's Ministry of Energy, http://minenergo.gov.ru/node/910
[11] Bloomberg news agency, http://www.bloomberg.com/quote/CO1:COM
[12] Bloomberg news agency, http://www.bloomberg.com/quote/CO1:COM
[13] BP Statistical Review of World Energy 2015, http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html
[14] Russia's Ministry of Energy, http://www.mnr.gov.ru/mnr/minister/statement/detail.php?ID=143454

In 2015, 257 companies produced natural gas and natural-gas condensate (NGC) in Russia, of which 16 were member companies of Gazprom Group, 81 were members of VIOCs, four were Novatek subsidiaries, 153 were independent produces and three were companies operating under PSCs.[15]

In 2015, gas production in Russia (including the Crimea) declined by 1% to 635.5 bcm, with natural gas output decreasing by 2.2 p.p. to 556.9 bcm, and NGC rising 8.4% to 78.6 bcm (as a result, the share of NGC in total gas production rose by 1.1 p.p. to 12.4%). Since 2009, Russia has been the world's second largest natural gas producer after the U.S.A. (20.2% of global production)[16].

The natural gas production decline was due to:

- Lower domestic gas demand for heating uses due both to climatic (the relatively warm weather in 2014-2015) and economic pressures;
- Lower gas demand from the CIS countries.

Industry 2015 production structure, by producer, shows lower shares of Gazprom (down 3.4 p.p. to 63.9%), Novatek (down 0.2 p.p. to 8.2%) and companies operating under PDCs (down 0.1 p.p. to 4.2%). The contribution of VIOCs and independent producers rose by 1.1 and 2.6 p.p. respectively to 13.8% and 9.9% respectively (Chart 3)[17]. The NGC use ratio for Russia has risen by 2.7 p.p. to 88.2%, but remains below the target (95%).[18]

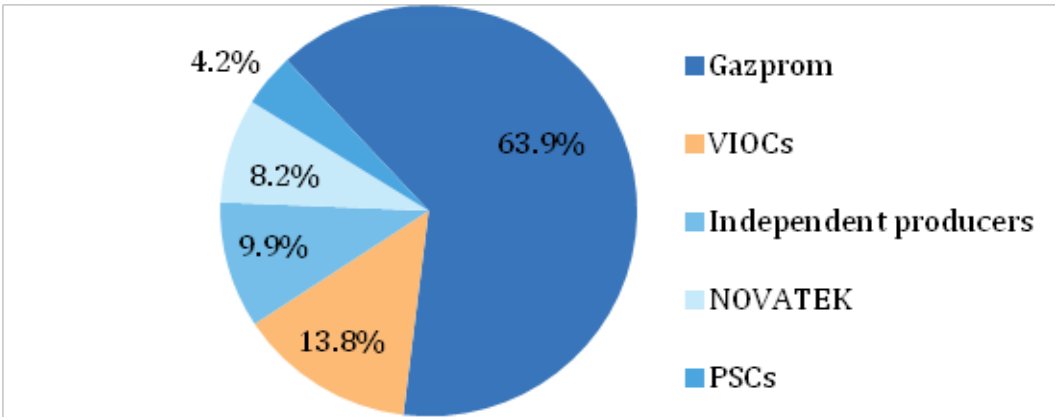


Chart 3. Gas industry 2015 production structure. Source: Russia's Ministry of Energy

In 2015, the exports of gas (including liquefied natural gas, LNG) increased 6.3% to 192.5 bcu due to a stronger demand from countries other than the CIS[19].

In 2015, domestic natural gas consumption in Russia decreased by 3.1% to 444.3 bcu[20],

[15] Russia's Ministry of Energy, http://minenergo.gov.ru/node/1215
[16] BP Statistical Review of World Energy (2015); data as of beginning of 2015, http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-enellrgy.html
[17] Russia's Ministry of Energy, http://minenergo.gov.ru/node/1215
[18] Russia's Ministry of Energy, http://minenergo.gov.ru/node/1215
[19] Russia's Ministry of Energy, http://minenergo.gov.ru/node/1156
[20] BP Statistical Review of World Energy (2015), data as of beginning of 2015, http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html

or 69.9% of total gas production, making Russia the world's second largest gas consumer after the U.S.A. (12% and 22,7% respectively)[21]. The investment in the Russian regions connection to gas distribution networks fell 4.2% to RUB 27.6 bn. As a result, the penetration of natural gas in Russia remains almost unchanged in 2015 (an increase of just 0.3 p.p. to 65.7%).

One important fact to note was the commenced construction of the Power of Siberia (Russian Cyrillic: Сила Сибири) natural gas pipeline under designed to transport Russian natural gas to China (a 45-kilometer "Chayanda- Lensk" section of the project was implemented by year-end 2015.[22]

Stock Market, Commodity Market and Derivatives Market Development

Leading companies of the oil and gas sector are included in the Moscow Exchange's MICEX O&G index (RTSog). There were no material changes in the MICEX O&G in 2015. The number of the MICEX O&G index constituent stocks decreased to 12 from 13. The index remains concentrated by issuer, with LUKoil, Novatek, Gazprom, Rosneft and Transneft accounting for 70% of its total capitalization.

At the same time, the index performed well in 2015. It continued to rise and reached 4,608.9 points in ruble terms, a 30.4% increase on the beginning of the year[23]. Its capitalization climbed 38.7% to RUB 2,224.1 bn. In dollar terms, the index remained practically unchanged at 122.1 points (-1% on the beginning of the year), and its capitalization gained 12.4%, reaching US$ 30.3 bn.

On the whole, the sector was attractive to investors in 2015. The market capitalization performance of the MICEX O&G sector index (+38.7%) was better than that of the MICEXBMI the broad market index (+24,4%), as shown in Chart 4. The stocks of all oil and gas companies, included in the MICEX O&G (excluding the preferred stocks of Slavneft-Megionneftegaz) come back to show positive numbers in capitalization, from 1.6% for Gazprom to 83.4% for Bashneft's preferred stocks.

[21] BP Statistical Review of World Energy (2015), data as of beginning of 2015, http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html
[22] Over 1 trillion cubic meters must be delivered to China during a 30-year period under the Gazprom-Chinese CNPC contract, signed in 2014
[23] Over the period from 05.01.2015 to 30.12.2015; the Moscow Exchange's data

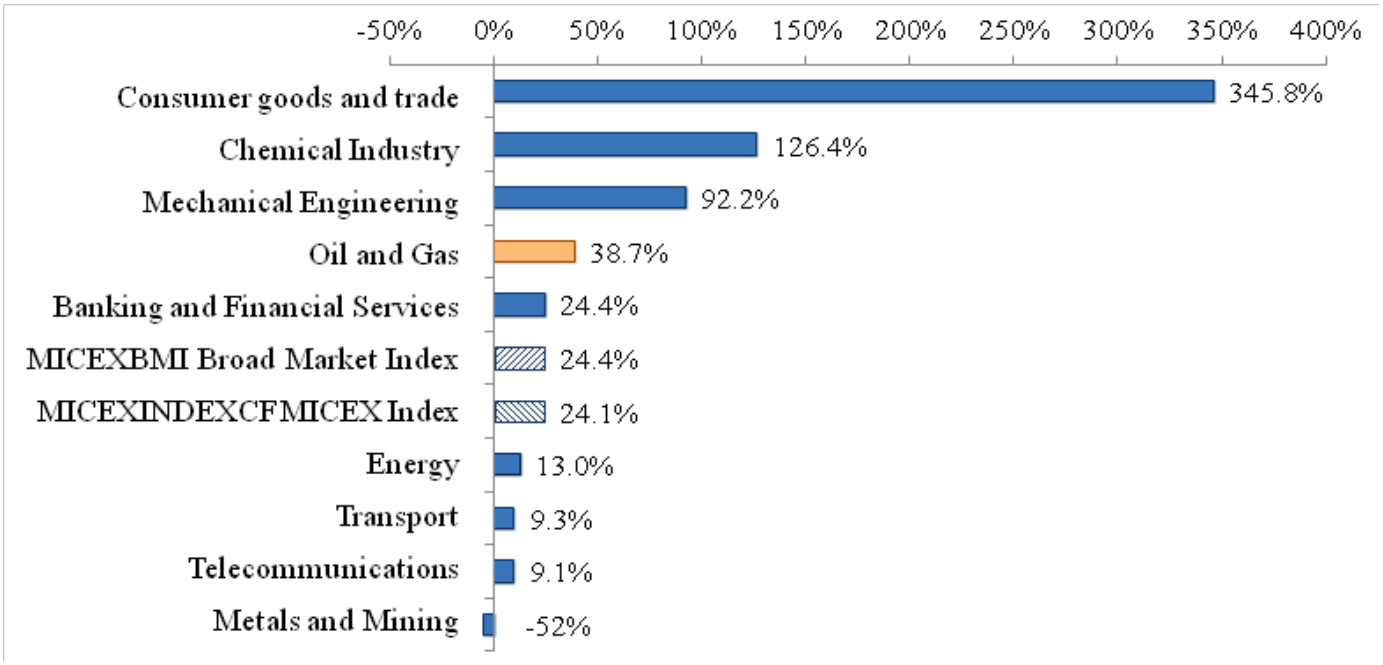


Chart 4. Changes in sectoral indices' capitalization in 2015 (in ruble terms), %. Source: the Moscow Exchange.

Commodity market, unlike the stock market, had a more mixed character. In 2015, the total volume of oil product trading on St. Petersburg International Mercantile Exchange (SPIMEX) fell 10% to 15.5 MMt. This was true for all key oil products, excluding motor gasolines (the Regular-92 and Premium-95 exchange-traded commodities). As a result, the share of motor gasolines in the exchange-traded oil product mix climbed to 42% (+7 p.p.).

Rosneft accounts for 1/3 of total oil product sales that are concentrated in the hands of largest VIOCs, with Rosneft, Gazprom Neft, LUKoil, Gazprom, Surgutneftegaz and Bashneft accounting for 92.6% of the total. It should be noted that part of the VIOCs' exchange sales of oil products are based on regulatory requirements (e.g., VIOCs are obliged by the government to sell 10% percent of their domestic transport fuel supplies there. to sell 10% of their gasoline and jet fuel, 5% of diesel fuel and 2% of fuel oil supplies at SPIMEX[24].

In 2015, commodity exchange prices followed a cyclical pattern, with an upward move in 1H 2015 and downward revision in 2H 2015. In general, prices tended to reach the year-beginning levels. However, the December 2015 average prices followed a mixed pattern, with summer diesel experiencing the greatest increase (+5.8% - to RUB 30,934 per tonne), and fuel oil seeing the greatest decrease (-28.8% to RUB 5716 per tonne). Speaking of the prices for consumer-sensitive commodities, it is noteworthy that Regular-92 gasoline

[24] Order #3/15 of Russia's AMS and #3 of Russia's Ministry of Energy, dated Jan. 12, 2015

price changed little throughout the year (RUB 32,916 per tonne at year-end 2015), while Premium-95 experienced a small (+1.9%) increase to RUB 44,000 per tonne).

The amount of over-the-counter (OTC) trading in oil products decreased 3.7% to 163.5 MMt (registered trades only)[25], but was 10x greater than exchange trading, suggesting that exchange trading has limited value as an indicator of demand and expected price for the hydrocarbons.

Total volume of natural gas trading on SPIMEX was 7,650 bcm, and the number of sales contracts climbed to 1,181, suggesting that market participants are interested in this commodity after it resumed trading in 2014 (Gazprom, Rosneft and Novatek account for 99,2% of natural gas sales on SPIMEX[26]. In this context, it should be noted that natural gas sold using the exchange trading process is 5-10% cheaper than gas sold at state-regulated wholesale price[27].

The amount of oil trading on SPIMEX increased 2.8x to 2.1 MMt, but remains small compared with OTC trading amounts (130.7 MMt including registered sales only, a 26.5% decrease year-on-year, according to SPIMEX). However, SPIMEX, together with Russia's Ministry of Energy, AMS and Central Bank, is working on a new Russian oil pricing mechanism in the form of an exchange-traded oil futures, designed to provide a direct quote price for Russian oil, without pegging to global crude benchmarks[28]. In 2014, SPIMEX arranged first export oil sales of using Torg I electronic trading platform on behalf of Zarubezhneft OJSC. November 2015 saw the launch of pilot futures for Russian oil on SPIMEX. initial futures contract is expected to be made in 2H 2016.

The first trading in liquefied petroleum gas (LPG) was held at the SPIMEX on June 15, 2015[29]. In 2015, 23.700 MMt of LPG was sold for household and automobile transportation purposes[30].

[25] SPIMEX data
[26] SPIMEX, http://spimex.com/upload/iblock/91d/91d9401393b3902cd04bac8b700cbcc0.pdf
[27] Russia's Ministry of Energy
[28] SPIMEX, http://spimex.com/markets/derivatives/futures-for-export-oil/#about
[29] Ministry of Energy and AMS's Order dated Dec. 31, 2014, according to which a minimum amount of exchange traded LPG should be 5% of the monthly average LPG production in dominant Russian regions
[30] Ministry of Energy, meeting of the Oil Product Production and Consumption Monitoring Headquarters, http://minenergo.gov.ru/node/3921

Current Issues in Government Regulation

Russia continues to contribute significantly to global energy safety, accounting for 13% of global oil and 17% of global gas production.

The contribution of oil and gas to the country's primary energy supply remained at 80% in 2015[31]. The share of energy commodities in Russia's exports decreased in 2015 by 7.5% to 58.8%, but remains high. Therefore, Russia remains reliant on commodity exports[32].

The oil and gas sector remains an important pillar of Russia's budgetary system, providing 51.3% of the federal government's revenues[33]. The fall in global oil prices makes the budget stabilization issue particularly acute. In 2015, the average price of Urals crude, used as a baseline for federal budget projections, dropped to US$ 50 a barrel (Federal Budget Law 93-FZ) from US$ 100 a barrel (Federal Budget Law 384-FZ)[34]; federal government's oil revenues fell 26.3% to RUB 5,686.7 bn, and its total revenues decreased by 16.9% to RUB 12,539.7 bn. The oil price situation as of year-end 2015 was described by Russia's Ministry of finance as uncertain[35]. Further oil price decline below forecast levels will give rise to risks, such as the ruble depreciation, inflation acceleration, capital flight, weakening of investment activity, and decrease in household income and consumer demand.

Under the so-called tax maneuver (export duty reduction and MET increase), designed to offset budgetary revenues, short of planned receipts due to export duty reduction among the Customs Union and European Economic Area member countries, the MET rate calculation formula, to be used from Jan. 1, 2015, was adjusted. The baseline MET rate for crude oil, extracted in 2015, was raised by 55.4% compared to 2014 (to RUB 766 a metric ton). The rates for 2016 and 2017 were to be further raised to RUB 857 and 919 per tonne respectively. All this is bound to increase the pressure on the oil and gas sector.

In addition, the oil refining sector is pressured by tougher environment rules, namely the switch to Euro 5 standard diesel from Jan. 1 2016 and Euro 5 standard gasoline from June 1, 2016[36]. Refining capacity utilization in 2005 was around 90% in the United States and the Asia-Pacific region and around 82% in Russia in high at 92%. The access to external finance is limited due to the sanctions. Financing from domestic sources is limited due to revenue decline on the back of falling oil prices, rising crude costs (the result of the tax maneuver) and higher debt service expenses resulting from the ruble depreciation.

---

[31] Russian Annual Statistical Bulletin (2015), Production of Primary Energy Resources, by type

[32] According to Russia's Federal Customs Service's 2015 data about the exports of the country's key goods and commodities designated by TV VED codes 2709, 2710, 2711110000, 2711210000, http://www.customs.ru/index.php?option=com_content&view=article&id=22570:-------2015-&catid=53:2011-01-24-16-29-43

[33] Data for 2014

[34] Federal Law #384-FZ dated Dec. , 2014 'On the Federal Budget for 2015 and the 2016-2017 Planning Period' and Federal Law #93-FZ dated Apr. 20, 2015 "On the Amendments to Federal Law 'On the Federal Budget for 2015 and the 2016-2017 Planning Period"

[35] Key Principles of the Russian Federation's Fiscal Policy for 2016; http://budget.gov.ru/

[36] Special Technical Regulations #609 "On Requirements for Auto Vehicle Harmful (Polluting) Emissions n the Territory of the Russian Federation".

At the same time, the sector benefits from the export customs duty adjustments under the "tax maneuver", namely, the reduction of crude-pegged export duty rate to 42% in 2015 from 59% in 2014. Oil product export duty rates (tied to crude oil) were also reduced, except for heavy oil, e.g., the rate for naphtha dropped to 85% in 20111115 (from 90% in 2014), for kerosene, to 48% (66%), and for gasoil, to 48% (65%).

In the global low oil price environment, the Russian government maintained the crude oil export duty rate at 42% for 2016, instead of reducing it to 36% for 2016 and 30% for 2017, as was initially planned, to offset the shortfall from oil revenue.

One should also note the oil transportation tariff increases by trunk pipelines in Russia by an average 6.75% starting from Jan. 1 2015 (regulated by Russia's Federal Tariff Service, FTS, until July 2015, when FTS ceased to exist, and by Russia's Anti-Monopoly Service, AMS, afterwards). This added to Russian oil companies' logistics costs. L.

Other factors underpinning the oil and gas sector include the increase of domestic natural gas retail prices for all consumer categories, excepting households, by 7.5% on average (by 2.0% starting from July 2016, 2.0 from 2017 and by 3% from 2018), bound to positively impact the oil and gas sector's revenues.

32A, Khoroshevskoe shosse, Moscow, 123007
Tel/Fax: +7 (495) 775-59-02, 775-59-01
www.ra-national.ru

Individual Ratings
Customer Service: +7 (495) 775-59-02 #113, 117, 120
info@ra-national.ru

Rankings and non-interactive ratings
Analytical Department: +7 (495) 775-59-02 #110
info@ra-national.ru

Information sharing, participation in conferences
Public Relations Department: +7 (495) 775-59-02 #104,115
pr@ra-national.ru