

# MACROECONOMIC DEVELOPMENT

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**In 2016, the global economic growth rate was equal to 3.1 percent**, with advanced economies showing a decline, standing at 1.6 percent compared to 2.1 percent in 2015, and emerging markets and developing economies performing slightly better than the year before, standing at 4.2 percent compared to 4.0 percent in 2015. Among the main economic developments made in 2016, the following deserve most attention:

- Prices for oil, metals and other commodities demonstrated growth by the end of the year. The price of Brent oil recovered from US\$ 31 per barrel in January 2016 to US\$ 53 per barrel in December, following OPEC's agreement to limit crude oil production;
- The growth of the Chinese economy remained above 6 percent, which was supported by a targeted government stimulus of consumption and real estate market recovery;
- The US economic growth rate slowed down to 1.6 percent; bolstered by low inflation, the Federal Reserve decided to raise the interest rate to 0.75 percent in December 2016;
- The European economy started to slowly recover in 2016, with its GDP growth rate increasing from 1.2 percent in 2015 to 1.5 percent, with Germany contributing 1.7 percent of the GDP growth rate in 2016.



**Supported by recovering oil prices, Russia's economic decline began to slow down**, with its decline in the GDP decreasing **from -2.8 percent in 2015** (reviewed) to **-0.2 percent in 2016**. Under continuing international sanctions, additional support for the economy came from the localisation of production, which resulted in a 0.4 percent growth index for the output products and services, with industrial production (+1.1%) and agriculture (+4.8%) being the main contributing factors.

**By the end of the year, the Russian Ruble had strengthened by 17 percent against the US dollar, and by 20 percent against the Euro** (RUB/USD: from 72.92 to 60.66; RUB/EUR: from 79.63 to 63.81), and as such, its volatility became significantly lower than the year before.

**The current account of national balance of payments showed a decline** from US\$ 69.0 billion (revised) in 2015 **to US\$ 22.2 billion in 2016**, mainly due to a decrease in exports (from US\$ 342 billion in 2015 to US\$ 280 billion in 2016), although, balanced by a decrease in capital outflow (from US\$ 57.5 billion to US\$ 15.4 billion). Foreign bank liabilities lowered by 54 percent to the level of US\$ 27.4 billion in 2016.

As in the first half of the year, when the pressure on Russian Ruble was easing and inflation (the consumer price index) was declining, **the Bank of Russia decreased the interest rate from 11.00 percent** to 10.50 percent in June and **to 10.00 percent** in September, which should encourage the corporate and private financing. This is now much lower than 17.25 percent interest rate observed at the end of 2014, but still has a potential to decrease even further.

**The total sum of outstanding credits issued to the non-finance sector decreased by 6.9 percent** (from Rub 44.0 trillion at the end of 2015 to Rub 40.9 trillion at the end of 2016), and **outstanding credits to corporate borrowers decreased by 9.5 percent** (from Rub 33.3 trillion to Rub 30.1 trillion respectively). The volume of the corporate overdue debt was lower by 8.9 percent in 2016 compared to 2015.

**In accordance with improvements in the real economy, the Russian stock market started to recover:**

RTS index (based on market capitalisation in USD) grew from 755 points in January to 1,152 points in December (+53 percent with a total capitalisation of US\$ 171.5 billion), the MICEX index grew from 1,761 points to 2,233 points (+27 percent with a total capitalisation of Rub 10.5 trillion).

**Real domestic consumption** in Russia **decreased by 3.8 percent** in 2016 (compared to an 8.1 percent reduction of the previous year). **Investment in fixed assets lowered by 0.9 percent** in 2016.

**The industrial production index increased by 1.1 percent**, supported by growth in the raw materials extraction sector by 2.5 percent, and in the energy, gas and water production sectors by 1.5 percent. Manufacturing showed minor positive dynamics with a 0.1 percent increase. The main growth in manufacturing came from chemical production (+5.3%), wood processing (+2.8%), paper production (+0.8%), the textile industry (+5.3%), leather goods production (+5.1%) and food production (+2.4%). **The machinery and equipment production index amounted to 3.8 percent yoy**; in 2015, it showed double-digit decline of 11.1 percent. Other manufacturing sectors continued to decline with the manufacture of other non-metallic mineral products decreasing by 6.6 percent.

**Inflation (the Consumer Price Index) in Russia reached 5.4 percent** in 2016, in comparison to 12.9 percent the year before. The main cause of the slowdown in inflation was a significant drop in consumer demand, with trade turnover decreasing by 5.2 percent in 2016.

**The Industrial Producers Price Index was 7.4 percent** in 2016, versus 10.7 percent in the previous year, following overall economic stabilisation.

**The average unemployment rate in 2016 stood at 5.5 percent**, which is 0.1 percent lower than in 2015. **Real wages grew by 0.6 percent**, yet real disposable income fell by 5.9 percent – the most significant decrease since the year 1999.



**The Russian Federal Budget showed a deficit** of Rub 2.97 trillion, which comprised 3.5 percent of the GDP – budget revenues decreased by 1.5 percent, while spending grew by 5.2 percent. The decrease of oil and gas earnings amounted to 17.6 percent when compared to 2015, thus the government succeeded to increase its non-oil and gas revenues by 10.7 percent compared to 2015. The main contributing factors of which came from public property, including the sale of Rosneft's oil company shares in the amount of Rub 710.8 billion.

In 2016, **the Russian Federation increased its external debt** by 2.6 percent to the level of US\$51.2 billion. Russia's total debt grew by 1.6 percent to Rub 11.1 trillion (or 12.9 percent of the GDP).

# MARKET TRENDS

## OIL INDUSTRY

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### Upstream

Russia has the largest oil & gas reserves in the world, in addition to being the world's second largest oil producer, with a 13 percent share of the world's total oil output. In December 2016, Russia ranked first place in the world for oil production. The upstream oil industry is still the backbone of the economy and one of its main sources of investment resources, which affects Russia's international payments and exchange rate.

In 2016, oil output in Russia reached 547.5 million tonnes (+2.5% yoy), according to Russia's Ministry of Energy. This increase was maintained by the development of new oil production centres in Eastern Siberia and the growth of crude oil exports to Asia, primarily to China, where demand for Russian oil is increasing.

#### RUSSIA'S SHARE OF THE WORLD'S TOTAL OIL OUTPUT

**13%**

### Midstream

Russia has the largest oil pipeline system in the world – more than 72 thousand kilometres of oil pipeline and around 500 installed pump stations. The existing trunk pipeline system transports over 90 percent of the crude oil produced in Russia.

Transneft, the only oil pipeline operator in Russia, increased its oil exports by 2.7 percent yoy to 235.8 million tonnes in 2016.

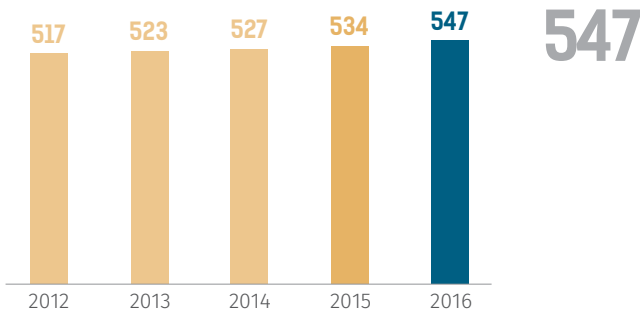
The existing pipeline system is currently being expanded through the following projects:

1. The Kuyumba-Taishet main pipeline
2. Expansion of the ESPO (East Siberia-Pacific Ocean) pipeline system
3. The North pipeline
4. The South pipeline

Transneft's total capital expenditure for 2016 is estimated at Rub 337.5 billion rubles.

Oil Production in Russia,  
millions of tonnes

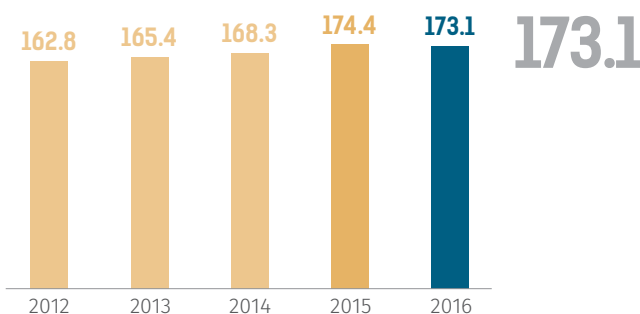
▲ 2.5% yoy



The Zapolyarye-Purpe main pipeline

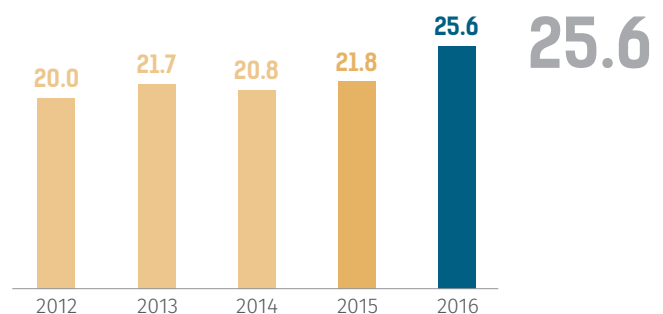
Russian Well Stock,  
units

▼ 0.8% yoy



Production Drilling Rate,  
thousands of km

▲ 17.4% yoy



## Downstream

There are 40 oil refineries in Russia with a total crude oil distillation capacity of 5.5 million barrels per day. Rosneft, the leading Russian oil company, is the largest refinery operator and owns 9 major refineries in Russia. LUKOIL, with 4 major refineries, is the second-largest refinery operator in Russia.

In Russia, a lot of refineries are out-dated and are not able manufacture their main products – light oil products with a high level of refining depth, i.e. petrol and diesel – at a high quality level. Previous changes in taxes have encouraged companies with modest success to invest in the modernisation of refineries to produce more high quality products, such as diesel and petrol. Tax changes introduced in 2015 and the low global crude oil price will continue to stimulate refineries to modernise their production facilities more intensively. Growth in the oil refinery industry is likely to be driven by several new projects:

### Isomerisation process units:

- Kuybyshevsky Refinery (Rosneft)
- Ryazan Oil Refinery Company (Rosneft)
- Gazpromneftekhim Salavat (Gazprom)

### Alkylation process units:

- NizhegorodNOS (LUKOIL)
- Angarsk Petrochemical company (Rosneft)

### Diesel hydro-treating process units:

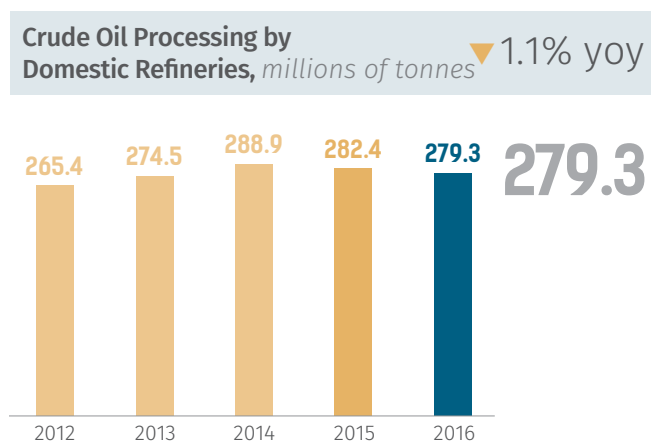
- PermNOS (LUKOIL)
- Antipinsk Refinery (Rosneft)

### Reforming process units:

- Kuybyshevsky Refinery (Rosneft)
- Novokuybyshevsky Refinery (Rosneft)
- Syzran Refinery (Rosneft)

### Cat-cracked petrol hydro-treating process units:

- NizhegorodNOS (LUKOIL)



## Gas Pipeline Projects

Gazprom is virtually the sole owner of all natural gas pipelines in Russia.

In 2016, the Russian natural gas transportation system included more than 170 thousand kilometres of high-pressure pipelines with 250 compressor stations (3,825 gas-pumping units) and 26 underground natural gas storage facilities. The majority of Russia’s natural gas pipelines were constructed during the Soviet era and around 75 percent of the system is more than 20 years old.

Since the late 2000s, Gazprom has built major new pipelines for the transportation of natural gas from new gas fields, including fields in Yamal and Eastern Siberia, as well as for new export routes, including exports to China and pipelines to Europe in order to avoid Ukraine.

The Unified Gas Supply (UGS) system includes domestic pipelines and the domestic part of export pipelines in Western Russia; however, it does not include pipelines in Eastern Russia. In 2007, the Russian government delegated Gazprom with the task of establish the Eastern Gas Programme (EGP) to expand gas infrastructure in Eastern Siberia and the Russian Far East. The backbone of the EGP is the “Power of Siberia” pipeline, which is currently under construction.

The “Power of Siberia” pipeline will run nearly 4,000 kilometres through 5 Russian regions: the Irkutsk region, the Republic of Sakha (Yakutia), the Amur region, the Jewish Autonomous region and the Khabarovsk territory, and will have an annual capacity of 38 billion cubic metres of gas.

Gazprom approved a Rub 911 billion investment programme for 2017.

Pipeline	Volume bcm	Length km	Compressors MW	Construction
Ukhta-Torzhok, first and second lines	90.0	2,343	1,430	2014-2019
Power of Siberia	61.0	3,056	1,330	2015-2020



# MARKET TRENDS

## POWER GENERATION

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**Russia still remains one of the largest electricity producers in the world, behind China, the USA, Japan and India. The relatively low energy efficiency of its national industries drives strong electricity demand. As a result, this strong demand is linked to challenges affecting the limited and ageing energy production capacity, and explains the need for the massive investment programmes of power generating companies and the ever-increasing growth of tariffs.**

In 2016, electricity output in Russia increased by 1.2 percent yoy, reaching 1,071 billion kW/h.

Russia's power complex consists of approximately 600 power plants, each with an individual capacity of over 5 MW. In 2016, the total capacity of Russia's power plants amounted to 257.1 GW, exceeding the 2015 level by 3.8 GW. This growth was driven by the construction of new power facilities and modernisation of the existing infrastructure.

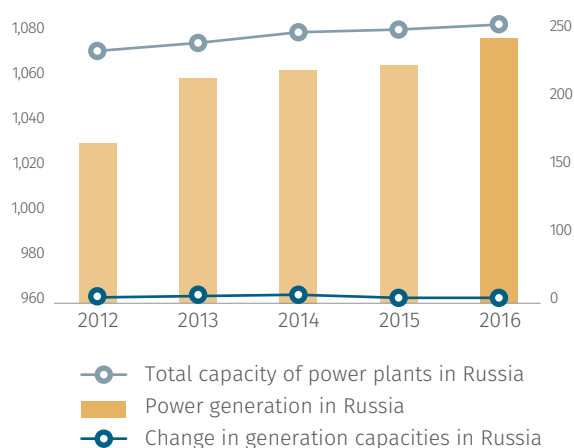
The power industry is composed of the following capacity components: thermal (68%), hydraulic (21%) and nuclear (11%) plants. The long-term outlook of the Russian power industry has been determined in the plan entitled "The General Scheme of Energy Development for the Period up to 2020".

### ELECTRICITY OUTPUT IN 2016

# 196.4 BN KW/H

▲ 0.6% yoy

**Power generation in Russia,**  
*bn kW/h, GW*



## Thermal Power Plants

In 2016, Russia's overall installed thermal power plant capacity amounted to 175GW, an increase of 1.5 percent yoy. The infrastructure in the thermal power sector is quite outdated, with almost 55 percent of the installed capacities being more than 30 years old. Russia's main thermal power stations use organic fuels such as gas or coal.

Russian power plants have an efficiency ratio of 37 percent, compared to 41 percent for developed economies. This difference dictates the need for equipment upgrades at all major-power generating companies in Russia. This is also the reason why the technical modernisation and reconstruction of existing power stations is the primary goal for the Russian thermal power sector, in addition to the start-up of additional modern generating capacities.

In total, investments grew by 3 percent yoy and reached Rub 390 billion.

## Nuclear Power Plants

Russia possesses full-cycle technology for the nuclear power industry, from the extraction of uranium ore to electric power generation. Currently, Rosenergoatom operates 34 nuclear power units with an overall installed capacity of 27.1 GW. They account for 18.3 percent of domestic electricity generation. The share of nuclear power generation of total energy in the European part of Russia is 30 percent, and 37 percent in the Northwest respectively.

Currently, a number of large-scale nuclear power plants are being constructed in Russia. The following construction projects are currently underway: Novovoronezhskaya NPP Phase II, Leningradskaya NPP Phase II, Baltic NPP, and the world's first floating nuclear co-generation plant named "Akademik Lomonosov." In addition to Russia, Rosenergoatom is constructing nuclear power plants abroad, namely Kudankulam in India, Bushehr in Iran, Ostrovets in Belarus, Ninh Thuan NPP -1 in Vietnam, as well as a nuclear power station in Jordan, a nuclear power station in Armenia, Tianwan Second Stage in China, and Hanhikivi-1 NPP in Finland.

The majority of the 34 nuclear operating reactors in Russia are in the ageing process: 80 percent of their capacity has a 20-40 year maturity. This has led to the development of a large-scale investment programme by the state operator Rosatom.

In 2016, electricity output grew by 0.6 percent yoy and reached 196.4 billion kW/h.

The estimated investments in nuclear power increased by 9 percent yoy and reached Rub 350 billion.

# WATER

**Water consumption in Russia is showing stable and positive dynamics, along with the steady growth of tariffs and an inflow of private investments into the sector.**

Development of the water management complex programme of the Russian Federation in 2012-2020, which aims to increase the coverage of water and wastewater services in Russia's regions, with the goal of reaching 95 percent safe water supply coverage and 87 percent wastewater collection and treatment by 2020.

According to the Programme, 48 reservoirs and hydroelectric facilities are to be constructed and reconstructed at existing multi-purpose water reservoirs. The construction and rehabilitation of infrastructure will contribute to creating new opportunities for equipment suppliers, engineering firms and construction companies. Emerging interest in advanced solutions, such as membrane systems, ultraviolet and ozone treatment, has created good development prospects for the market's participants.

A large number of water supply systems are in need of modernisation due to the low capacity of centralised water supply systems, which impedes the development of localities. The share of out-dated pipes exceeds 60 percent in some cities.

Capital expenditure on water and wastewater infrastructure is forecasted to grow from US\$ 2.5 billion in 2016 to US\$ 2.7 billion in 2020.

Today, the problems of water supply and wastewater treatment are addressed within the framework of the Special Purpose Federal Housing Programme, a series of special purpose federal programmes for territorial development, and programmes for the development of the republics in the south of Russia, the Far East, the Trans-Baikal and Kaliningrad regions. The programmes consist of activities for the construction and reconstruction of water supply facilities, sanitation systems, and wastewater treatment plants.

## 48 RESERVOIRS

AND HYDROELECTRIC FACILITIES ARE TO BE CONSTRUCTED AND RECONSTRUCTED



CAPITAL EXPENDITURE ON WATER AND WASTEWATER INFRASTRUCTURE IN 2016

**2.5 US\$ BN**

