DEAR SHAREHOLDERS AND INVESTORS,

In 2017, Gazprom Neft consolidated its dominant position in the Russian oil industry. We steadily improved our production and financial performance, and the Company’s net profit reached an all-time high. This success is largely due to the development of fields in the Arctic zone – Prirazlomnoye, Novoportovskoye, and East Messoyakha. These Arctic assets are already supporting growth in the Company’s output, placing Gazprom Neft among the top three leaders in terms of oil production in Russia as of the end of 2017.

Last year, the Company continued to focus on the active development and introduction of new technologies in all areas of business. As of today, more than 60% of the wells that the Company drills at its fields are high-tech. Drilling processes are remotely controlled from the GeoNavigator Drilling Management Centre in St. Petersburg, which is also home to the unique Logistics, Refining, and Sales Efficiency Control Centre that Gazprom Neft opened last year. More than half a million sensors and dozens of systems transmit information to this centre from the Company’s refinery assets, bitumen and lubricant production plants, transport systems, and sales enterprises.

Gazprom Neft’s digital solutions and tools are already enabling the Company to gain additional competitive advantages on the markets of the industry and radically improve business efficiency throughout the entire value chain. And with the successful implementation of such projects as the creation of technologies to develop the reserves of the Bazhenov formation and the manufacturing of catalysts for secondary oil refining processes, the Company is making a substantial contribution to ensuring the technological independence of the Russian oil industry as a whole.

The Company’s oil refineries continued construction on new production facilities as part of the second phase of a major asset modernization programme. One of the most important focuses of this programme is the introduction of eco-friendly technologies. As part of the Year of Ecology in 2017, Gazprom Neft implemented a federal project at the Moscow Oil Refinery involving the construction of the new Biosphera biological treatment facilities, which have increased the level of wastewater treatment to 99.9%.

In 2017, Gazprom Neft increased sales volumes through high-margin sales channels. Sales of petrol and diesel fuel to Gazpromneft filling stations are up, and the Company has strengthened its positions on the markets for aviation fuel, high-tech lubricants, and bituminous materials.

The growth rates in Gazprom Neft’s financial and production performance demonstrate the Company’s stable development regardless of external conditions. This proves that the Company was correct in its choice of a strategy centred around the desire to achieve maximum business efficiency. I am confident that Gazprom Neft will continue progressing towards meeting its stated goals and will set new production and financial records in 2018.

ALEXEY MILLER
Chairman of the Board of Directors
Gazprom Neft PJSC
MESSAGE FROM THE CHAIRMAN
OF THE MANAGEMENT BOARD
DEAR SHAREHOLDERS AND INVESTORS,

Gazprom Neft continued to actively develop all of its businesses in 2017.

Our production grew by 4.1% for the year. This was made possible due to the active development of the Company’s largest fields – Novoportovskoye, Prirazlomnoye, and East Messoyakha – and also as a result of increased production at our Iraqi projects. We have substantially expanded our resource base. In 2017, Gazprom Neft obtained the rights to develop the Tazovskoye, North Samburskoye, Novosaranskoye, and several other fields. We discovered a major new field – Neptune – at the Ayashsky section in the offshore area of the Sea of Okhotsk with reserves of 255 million tonnes of oil equivalent. The volume of hydrocarbons extracted in 2017 was offset by new reserves at a rate of 170% – one of the best indicators in the industry.

An optimal level of utilization at the Company’s oil refineries ensured the maximum profitability from refining in the current market conditions. We continued implementing a comprehensive programme to modernize our enterprises. The catalytic cracking unit was rebuilt at the Moscow Oil Refinery and the construction of a set of Euro+ oil refining units entered its final phase. Advanced oil refining projects are being implemented at the oil refineries in Omsk and Pancevo. Construction was completed on the Biosphera complex at the Moscow Oil Refinery, which increased the efficiency of wastewater treatment at the refinery to 99.9%. A similar project is now being implemented at the Omsk Oil Refinery.

We are also seeing growth in the sales segment. Average daily sales at our petrol stations in Russia were up by 4.2% in 2017. We launched a mobile app for the Gazpromneft petrol station chain last year, which is now used by more than 1 million customers. Lubricant sales expanded by 7%. The Company’s products are represented in 72 countries. We entered new markets last year, including Thailand, Iran, Peru, Senegal, and South Africa. Sales of bitumen grew by 22%. The Company continued to develop its commercial presence at airports, which resulted in an 8% increase in sales of aviation fuel.

Gazprom Neft has made significant progress in implementing its technological strategy. Priorities include projects to develop low-permeability reservoirs and drilling high-tech wells. We are already competing with global leaders in terms of the pace of innovations in this area.

Last year we opened the Bazhen Technological Centre whose job is to create technologies and equipment for the development of the Bazhenov formation. The success of this project is of great importance to the entire Russian oil industry.

We are pushing ahead with digital transformation, which ensures we will remain competitive in the new economy of the 21st century. Big data and artificial intelligence have become an important part of our production activities: we opened the Upstream Control Centre in Khanty-Mansiysk and set up the unparalleled Downstream Efficiency Control Centre in St. Petersburg. Agile tools are being introduced into the day-to-day operations of regional sales. The Company is implementing a total of more than 50 digital projects.

Gazprom Neft has been a leader in the Russian oil industry in terms of efficiency for many years. In 2017, we generated record financial results. Gazprom Neft had the highest profit in its history at the end of the year. In addition, the Company has made it through the peak of investment and started generating a positive cash flow.

As always, one of the Company’s top priorities is ensuring a high dividend yield. In 2017, we not only ensured growth in dividends in absolute terms, but also resumed the payment of interim dividends. Our actions received high praise from investors, and Gazprom Neft share prices rose considerably in 2017 while setting new records. Once again, this demonstrates the investment community’s high level of interest in the Company.

In 2018, Gazprom Neft will continue pursuing the goals set forth in the Company’s long-term development strategy and will strive to maximize the efficiency of all business processes.
GLOBAL TRENDS AND ESTABLISHING LONG-TERM ADVANTAGES

ONE DISTINCT FEATURE OF THE MODERN ECONOMIC LANDSCAPE IS THE ULTRAFAST RATE OF CHANGE, WHICH CREATES NEW CHALLENGES FOR ALL MARKET PLAYERS. THIS CAN MOST CLEARLY BE SEEN IN THE PRODUCTION AND REFINING OF OIL AND GAS. THE PAST FEW YEARS HAVE RESULTED IN SIGNIFICANT CHANGES TO THE STRATEGY OF LEADING PLAYERS IN THE INDUSTRY. PRICE VOLATILITY REQUIRES COMPANIES TO HAVE AN EXTREMELY HIGH LEVEL OF OPERATIONAL EFFICIENCY AND THE ABILITY TO COMPETE SUCCESSFULLY UNDER ANY MARKET CONDITIONS.

KEY GLOBAL TRENDS AND THE COMPANY’S RESPONSE

<table>
<thead>
<tr>
<th>Global trend</th>
<th>Description of the trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIL AND PETROLEUM PRODUCT PRICE VOLATILITY ON THE GLOBAL MARKET</td>
<td>The volatility of market conditions in various segments of the oil industry confirms the importance of an integrated business model and creates high demands for operational efficiency.</td>
</tr>
<tr>
<td>GROWING COMPETITION AMONG ENERGY PRODUCERS</td>
<td>In recent years, rivalries among producers of various energy resources have significantly intensified. Competition is not only growing among companies and producer nations, but also among different classes of production and energy resources – oil, gas, and renewable energy sources (RES).</td>
</tr>
<tr>
<td>INCREASED TECHNOLOGICAL COMPLEXITY OF PRODUCTION PROJECTS</td>
<td>The volume of conventional reserves is decreasing in the structure of oil and gas companies’ portfolios. The potential for future production is concentrated in unconventional and technologically complex segments such as offshore, shale, and other hard-to-recover reserves. Some of the world’s largest companies have acquired assets in shale oil production, and some companies have designated this segment as the focus of growth for the next few years.</td>
</tr>
<tr>
<td>RAPID TECHNOLOGICAL TRANSFORMATION OF ALL SPHERES OF BUSINESS</td>
<td>In the 21st century, technology is developing at a pace that has not been seen before in the history of mankind. This leads to rapid changes that are radically altering the landscape of the energy industry.</td>
</tr>
<tr>
<td>GROWING IMPORTANCE OF ENVIRONMENTAL FACTORS</td>
<td>Environmental issues are having an increasing impact on the activities of the global energy industry.</td>
</tr>
</tbody>
</table>
Simultaneously, radical technological transformations are taking place as well. The main technological breakthroughs of the 2010s were horizontal drilling, hydraulic fracturing as well as shale mining and offshore production methods. In 2016–2017, these capabilities were supplemented with digital modelling, big data analysis, and the use of artificial intelligence, remote production management, and blockchain in supply chains.

Gazprom Neft strives to introduce the most advanced methods of oil exploration, production, and refining in its operations. As a result, the Company has become a flagship of the Fourth Industrial Revolution (‘Industry 4.0’) by providing an impetus for the technological development of the entire Russian oil industry.

But new technologies require new management methods. Gazprom Neft’s responses to key global trends have not been haphazard, but have consisted of a systematic process of managing changes and a range of complex technical and organizational transformations. The use of high technologies, complete vertical integration that encompasses the entire value chain, and the efficiency of all business processes have enabled the Company to successfully implement its strategy and turn challenges into opportunities.

### What does this mean for Gazprom Neft?

| The financial and operational efficiency of the value chain remains a priority for the Company. | New technologies enable the Company to make optimal decisions and increase efficiency and profitability throughout the chain – from exploration and production to refining and sales. | Read more in the ‘Strategy in action’ section on p. 18 |
| The Company must maintain its leadership in terms of efficiency in the industry while successfully and rapidly implementing technological projects. | Gazprom Neft is the technological flagship of the Russian oil industry. The Company has experience implementing projects that have no analogues in Russia or the rest of the world. Such projects include the world’s only Arctic oil platform and the construction of complex infrastructure in permafrost conditions, among other things. | Read more about the Company’s large-scale projects in the ‘Establishing technological leadership’ section on p. 26 |
| The Company’s resource base has gradually deteriorated in terms of the remaining commercial reserves as conventional fields are in a late stage development. There is a growing need to incorporate hard-to-recover hydrocarbon reserves into development. | Gazprom Neft increases its share of high-tech projects each year, employing the best practices and technologies in geological exploration. 3D-modelling systems, cloud technologies, big data, and artificial intelligence have all made it possible to substantially enhance the efficiency of work. The Company is developing its own unique technologies, for example for the Bazhenov formation. | Read more in the ‘Raw materials base and production’ section on p. 52 |
| The company must effectively manage the process of technological changes in order to maintain a high level of competitiveness. | The winning companies are the ones that introduce innovations more quickly and better than the rest and manage to build an uninterrupted process for enhancing their performance in order to remain a leader. | Read more in the ‘Innovative infrastructure’ section on p. 82 |
| As a major company operating on several continents, Gazprom Neft should contribute to preserving the environment in the regions where it operates and be an example of responsibility in environmental matters. | As a socially responsible company, Gazprom Neft is building an environmental strategy using the world’s best practices. | Read more in the ‘Mitigating negative environmental impacts’ section on p. 101 |
STRATEGY IN ACTION

The company’s activities are based on the Gazprom Neft PJSC development strategy until 2025, which was approved by the Board of Directors in 2013 and updated in 2017. By implementing the plans outlined in the strategy until 2025, the company aims to create the greatest added value on the capital invested by shareholders in the Russian oil and gas industry.

STRATEGIC BENCHMARKS AND PRIORITIES

**EXPLORATION AND PRODUCTION**

- Effective development of a depleted resource base
- Maximizing the return on investment from new projects

**REFINING AND SALES**

- Modernization of refining facilities
- Sale of:
  - petroleum products manufactured through the Company’s sales channels
  - high-margin sale of petroleum products

**SUSTAINABLE DEVELOPMENT**

- Improving industrial safety
- Minimizing environmental risks

**INNOVATIONS**

- Incorporation of hard-to-recover reserves into development and enhanced oil recovery at mature fields
- Creation of new products, refining processes, and solutions for the future
Gazprom Neft PJSC intends to increase hydrocarbon production to 100 million TOE per year by 2020 and continue to increase production until 2025. The Company plans to maintain a 15-year ratio of proven reserves to production. In order to achieve these goals, Gazprom Neft will strive to employ the most cost-effective methods to recover the remaining reserves from the current resource base by utilizing the best practices for optimizing field development, reducing the cost of proven technologies as well as acquiring and introducing new technologies.

The strategy involves the establishment of a new production centre in the north of the Yamal-Nenets Autonomous District (YNAD). Gazprom Neft is considering unconventional reserves as a growth opportunity and will develop this class of assets as a key component of its portfolio.

**MILESTONES OF 2017**

- The Neptune field was discovered on the shelf of the Sea of Okhotsk
- The Company acquired a 25.02% stake (with the right to increase the stake to 50%) in Evrotek-Yugra, which owns seven licenses for the exploration and production of minerals in the Khanty-Mansi Autonomous District (KMAD)
- The Otdelnoye field in YNAD was put into commercial operation
- Pilot oil production was launched from the Achimov deposits of the Severo-Samburgskoye field
- The Alexander Zhagrin (KMAD), Novozarinskoye (Orenburg Region) as well as the Kumane and Begeytsi-X (Serbia) fields were discovered

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1 — TP (Total Proved).
2 — 2P (Proven and Probable).

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For more, see the ‘Raw materials base and production’ section, p. 52
Modernizing oil refining facilities as well as growth in operating efficiency remain strategic priorities for Gazprom Neft PJSC as it develops its oil refining business in Russia. The Company has completed the first stage of the extensive modernization of its oil refineries, which aims to improve the quality of the petroleum products it manufactures, and is now carrying out the second stage of the modernization programme with the aim of increasing oil refining depth and expanding the yield of light petroleum products. In addition to projects to increase refining depth at its oil refineries, Gazprom Neft is also implementing major environmental projects to mitigate its environmental impact.

MILESTONES OF 2017

- The Moscow Oil Refinery completed the construction of the Biosphera biological treatment facilities and the reconstruction of a catalytic cracking unit, increasing its capacity to 2.6 million tonnes per year as a result
- The Omsk Oil Refinery upgraded a bitumen unit and completed construction and installation work on a modular hydrogen generating unit
- Slavneft-Yaroslavnefteorgsintez launched a plant for the production of third quality group base oils
- The Omsk Oil Refinery and Pancevo Refinery in Serbia launched construction on deep refining complexes
- The Downstream Efficiency Control Centre was opened

“The refinery modernization programme is calculated until 2023–2025. The first stage has been completed and the second stage is in the active phase. We will see the effects of the second stage as early as 2019. The profitability of the refineries will expand as the next new refining facilities are introduced”.

Alexey Yankevich
Deputy CEO for Economics and Finance
Gazprom Neft PJSC
Gazprom Neft PJSC plans to increase the total volume of motor fuel sales in Russia and CIS countries by 2025 primarily due to growth in the retail sales channel. To this end, the Company plans to increase its filling station network in Russia and CIS countries.

Gazprom Neft PJSC has two main sales segments: the sale of motor fuels via the Gazpromneft filling station network and small-scale wholesale channels as well as the sale of petroleum products to industrial consumers. Specialized goals have been set for each segment. The target scale of Gazprom Neft’s sales business should ensure the ability to sell 100% of the petroleum products it manufactures on the market via its own sales channels for maximum coverage of the entire value chain in the oil business.

SALE OF MOTOR FUELS

**STRATEGIC OBJECTIVES**

- **KPI for 2025**
  - 100% VOLUME OF PRODUCTS MANUFACTURED AT THE COMPANY’S RUSSIAN OIL REFINERIES SOLD VIA ITS HIGH-MARGIN SALES CHANNELS

**DYNAMICS OF KEY INDICATORS**

- **NUMBER OF FILLING STATIONS IN RUSSIA AND CIS COUNTRIES**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,339</td>
</tr>
<tr>
<td>2014</td>
<td>1,389</td>
</tr>
<tr>
<td>2015</td>
<td>1,432</td>
</tr>
<tr>
<td>2016</td>
<td>1,444</td>
</tr>
<tr>
<td>2017</td>
<td>1,443</td>
</tr>
</tbody>
</table>

Plan for 2025 – 1,650

**MILESTONES OF 2017**

- As of the end of 2017, Gazprom Neft’s network in Russia and the CIS consisted of 1,443 filling stations (including franchises)\(^2\)
- The Company strengthened its positions on the motor fuel retail market in the Russian Federation. The Company’s share of the Russian retail markets for petrol and diesel fuel was 14.9% and 19.1%, respectively
- Average daily sales at 1 filling station in the Russian Federation exceeded 20 tonnes per day
- Retail motor fuel sales in Russia and the CIS increased by 6%
- New branded petrol is available on the market – G Drive 100, Opti 92 and Opti 95. The active promotion of Diesel Opti fuel has begun on regional markets

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1 — Including franchises.
2 — The decrease in the number of petrol stations by one station in 2017 was due to the optimization of the retail network in CIS countries.
In an effort to improve the efficiency of petroleum product sales, Gazprom Neft has spun off separate business units to sell aviation fuel, lubricants, bitumen materials, petrochemical products, and marine fuel. The Company plans to further increase sales in the business units and boost its market share. In addition, Gazprom Neft PJSC plans to introduce new products to the market and also develop its sales capacity.

### Milestones of 2017

- The total number of airports in the aviation fuel sales network has grown to 249.
- The high-profile International Aviation Fuel Forum was held in Russia for the first time in partnership with IATA.
- Gazprom Neft was the first Russian vertically integrated oil companies to launch production of the eco-friendly marine fuel TAS-80 with sulphur content of <0.1% and oils under the Gazpromneft Drilline brand, which is used as a synthetic basis for drilling fluids.
- A line of marine oils under the Gazpromneft Ocean brand was introduced on the Russian and international markets.
- The number of G-Energy Service branded service stations grew to 120.
- Total bitumen sales increased by 22.0%.
SUSTAINABLE DEVELOPMENT

STRATEGIC OBJECTIVES

As a socially responsible company, Gazprom Neft PJSC structures its business development strategy in a symbiotic relationship with the sustainable development objectives of the country and the regions where its enterprises operate, and also taking into account the Sustainable Development Goals of the United Nations [UN].

The Company’s priorities include organizing safe production as well as the occupational health and safety of its employees. As a major taxpayer and employer, the Company also plays a prominent role in developing the territories where it operates.

Gazprom Neft PJSC is committed to employing the best international and domestic practices and the latest technologies in the extraction and refining of oil. In doing so, the Company is able to minimize the negative environmental impact of its activities.

PRIORITIES OF CORPORATE AND SOCIAL RESPONSIBILITY

<table>
<thead>
<tr>
<th>SUSTAINABLE DEVELOPMENT</th>
<th>HUMAN RESOURCE DEVELOPMENT</th>
<th>REGIONAL POLICY AND DEVELOPMENT OF LOCAL COMMUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancing industrial safety</td>
<td>Healthcare for personnel</td>
<td>Improving the quality of life of the local population</td>
</tr>
<tr>
<td>Establishing a safety culture</td>
<td>Occupational safety</td>
<td>Support for the sustainable development of the regions of operation</td>
</tr>
<tr>
<td>Minimizing environmental risks</td>
<td>Improvement to the employee professional development system</td>
<td>Social projects</td>
</tr>
<tr>
<td>Careful use of natural resources</td>
<td>Social support for employees and their families</td>
<td></td>
</tr>
<tr>
<td>Preservation of biodiversity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more, see the 'Sustainable development' section, p. 98
For more, see the 'Human resource development' section, p. 109
For more, see the 'Regional policy and development of local communities' section, p. 113

MILESTONES OF 2017

- Construction was completed on the innovative complex of Biosphera biological treatment facilities at the Moscow Refinery. The complex marked the completion of a sewage treatment system at the refinery and made it possible to ensure a virtually closed water consumption cycle.
- Thanks to the modernization of oil refineries and APG utilization, the Company’s gross air emissions decreased by 26% compared with 2016.
- The Company implemented over 1,100 activities as part of the Year of Ecology, spending more than RUB 17.5 billion on these purposes.
- The construction and modernization of social infrastructure in the regions where the Company operates. The largest social facilities included an ice palace in Muravlenko with an Olympic-sized arena (opened in March 2018). It will serve as the headquarters for a branch of the Avangard children’s and youth hockey academy.
- Grant competitions as part of the Native Towns social investments programme were held in all key regions where the Company operates. A total of 530 applications were submitted, with 112 winners selected. The total amount of the grant fund was RUB 25.8 million.
INNOVATIVE INFRASTRUCTURE

MILESTONES OF 2017

- The project to study the Bazhenov formation was granted national status
- Gazpromneft-Khantos launched the Downstream Efficiency Control Centre (ECC), which was established as part of the Digital Field programme
- The Efficiency Control Centre was opened within Downstream Unit. The strategic goal is to build a unified digital platform to control the efficiency of the value chain from oil supplies to refineries to the sale of petroleum products to the end user
- The launch of Russia’s first integrated platform to process and interpret seismic data
- The Hydraulic Fracturing Scientific and Technical Support Centre was established in partnership with the Engineering Centre of the Moscow Institute of Physics and Technology
- General agreements on the construction of oil refining catalysts were concluded for the period until 2025 between Gazprom Neft, Gazprom Neft-Catalytic Systems, and strategic research partners – the Boreskov Institute of Catalysis (Novosibirsk) and the Institute of Hydrocarbon Processing Problems of the Siberian Branch of the Russian Academy of Sciences (Omsk)

STRATEGIC OBJECTIVES

Gazprom Neft’s approach to innovative development focuses on the technologies required to overcome the challenges that prevent the Company from achieving its strategic goals. The Company develops unique solutions that are not available on the market together with domestic and foreign partners.

Gazprom Neft continued to expand its intellectual property portfolio in 2017.

DYNAMICS OF KEY INDICATORS

INTELLECTUAL PROPERTY ASSETS (IPA)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tr>
<td>Total IPA</td>
<td>13</td>
<td>16</td>
<td>28</td>
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<td>Patent law assets</td>
<td>7</td>
<td>16</td>
<td>16</td>
<td>14</td>
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<tr>
<td>Computer programmes and databases</td>
<td>6</td>
<td>0</td>
<td>12</td>
<td>26</td>
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APPLICATIONS

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<tr>
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<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>Total applications</td>
<td>21</td>
<td>11</td>
<td>36</td>
<td>49</td>
<td>61</td>
</tr>
<tr>
<td>Upstream Unit</td>
<td>13</td>
<td>4</td>
<td>16</td>
<td>23</td>
<td>35</td>
</tr>
<tr>
<td>Downstream Unit</td>
<td>8</td>
<td>7</td>
<td>20</td>
<td>26</td>
<td>26</td>
</tr>
</tbody>
</table>

‘INDUSTRY 4.0’ TECHNOLOGY ENABLES GAZPROM NEFT TO MAINTAIN ITS LEADERSHIP ON THE RUSSIAN MARKET.
FOR MORE, VIEW THE FILM ‘Oil 4.0. Digital Transformation’
MODERN CHALLENGES

Changes in the global economy and politics as well as the state of the Russian economy pose the following challenges for the Company:
- possible deterioration of the price situation on the oil and petroleum products market;
- the growing tax burden on the oil and gas sector;
- the limited potential of domestic markets for petroleum products due to slower economic growth in Russia;
- increased energy efficiency and the gradual electrification of final consumption.

Demand for oil remains high under all industrial development scenarios, creating opportunities for the business development of leading companies that operate in regions with a relatively low cost of hydrocarbon development and production. The decisive factor for success in a hard-to-predict world is a focused strategy that ensures flexibility in decision-making and investment and relies on leadership in technology as well as continuous improvement in operational efficiency and safety.

In recent years, the Company has made significant progress in industrial safety and has become a leader in operating efficiency in Russia. Now the Company is committed to becoming one of the global leaders in terms of efficiency. To this end, the Company has introduced an operational management system (OMS) that facilitates the overall development of the organization and encompasses such important areas as enhancing occupational safety, improving asset reliability, boosting efficiency, and optimizing the Company’s operations as a whole. The OMS is designed to integrate these activities into a unified system and strengthen the links between different systems, standards, and regulations.

KEY TECHNOLOGIES OF GAZPROM NEFT

RAW MATERIALS BASE

A.1 Electronic asset development (EAD) ................................................. 53
A.2 Cognitive technologies ................................................................. 54

EXTRACTION

B.1 Fishbone ......................................................................................... 28
B.2 Multi-lateral wells ............................................................................ 30
B.3 Multi-stage hydraulic fracturing (MSHF) ....................................... 32
B.4 Production Control Centre .............................................................. 55
B.5 High-tech drilling ............................................................................. 56
B.6 Soda-surfactant polymer flooding (ASP) ....................................... 57

SALES OF CRUDE OIL AND PETROLEUM PRODUCTS

D.1 Filling station digital control platform .......................................... 72
D.2 Premium petrol ................................................................................ 75
D.3 Multi-agent technologies ............................................................... 81

OIL REFINING

C.1 Hydrocracking complex at the Omsk Oil Refinery ....................... 36
C.2 Increase in oil refining depth at the Moscow and Omsk Oil Refineries ............................................................. 37
C.3 Strategic cooperation for the development of catalysts ............... 38
C.4 Efficiency Control Centre ............................................................... 64
C.5 Digital twins ...................................................................................... 65
C.6 Eco-friendly marine fuel ................................................................. 77
C.7 Low viscosity base oils for drilling fluids ...................................... 79
C.8 Innovative bituminous materials ..................................................... 80

ENVIRONMENTAL PROTECTION

E.1 Membrane bioreactor ..................................................................... 34
E.2 'Green seismics' ............................................................................... 102

See the online version of the Key Technologies of Gazprom Neft PJSC on the website of the 2017 Annual Report: https://ar2017.gazprom-neft.com
Prirazlomnaya, the world’s first offshore ice-resistant fixed platform (OIRFP) for oil production on the Arctic shelf, launched operations in 2013. It produces Arco grade oil.

Two multifunctional icebreaking vessels supply the platform with everything it needs.

Two ice class tankers provide uninterrupted supplies of oil to Murmansk from which they the oil is shipped to the port of Rotterdam. The full loading of the tanker takes only 8–9 hours.

The platform is equipped with an automated control and safety system. It utilizes the principle of ‘zero discharge’ with no industrial or domestic pollution of the environment.

Environmental monitoring is conducted around the platform. Specialists monitor the preservation of biodiversity, in particular the population of the Arctic walrus.

The average depth of oil is 2,300–2,700 m.

The difference in temperature is -50°C to +30°C.
**PRIRAZLOMNOYE FIELD**

- **79 MN T OF OIL RECOVERABLE RESERVES**
- **2.64 MN T OF OIL PRODUCED IN 2017**

- **141 m** total height of the platform
- **20 m** sea depth
- **2 m** ice thickness in winter
- **13 wells, including 8 producing, 4 injection and 1 slurry well**

**Helicopters** transport staff from Varandey shift camp. They fly at a height of more than 500 m so as not to disturb animals and birds.

**The closed drilling derrick** operates in all conditions and can withstand winds of up to 51 m/s.

**The Prirazlomnaya OIRFP** is designed to work in harsh Arctic conditions.

1 — The national classification of reserves and resources of oil, gas, condensate and components contained them, from the industrial value.

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**Set of devices for direct oil shipment to tankers.** In the event of any problems, the system stops shipping in 7 seconds.

**The caisson** – the foundation of the platform – is divided into 16 storage tanks for 240,000 m³. They are always filled with water or oil. This prevents oxygen from getting in and the risk of explosion.

**The shut-off valve** at a depth of 150 m and a backup hydraulic valve immediately isolate the well in the event of an accident.

**Currently commissioned**

- **37 m** average effective oil-saturated thickness of the formation
- **4,000–8,000 m** length of wells
The East Messoyakha oil and gas condensate field was discovered in 1990. It is the northernmost continental field under development in Russia. Messoyakhaneftegaz JSC – a joint venture between Gazprom Neft and Rosneft – own the license for its exploration and development. Gazprom Neft handles the operational management of Messoyakhaneftegaz.

The field is located beyond the Arctic Circle. Its development has required complex logistical and technical solutions. In addition, its impact on the fragile ecosystem of the Arctic also had to be minimized.

The first stage of the East Messoyakha field was put into operation in 2016. Oil is transported via a pressure pipeline to the Zapolyarye-Purpe trunk pipeline. The oil is initially extracted from horizontal and multi-hole wells with a horizontal length of about 1,000 metres due to the geological structure of the deposits, which are further complicated by a powerful gas cap. In addition, the oil in the upper and lower layers of the field has different attributes. Messoyakha oil contains almost no sulphur.

**Fishbone Technology**

Fishbone technology involves the construction of wells with multiple horizontal branches that lead to separate oil sites without touching the formation with gas or water. This makes it possible to increase accumulated extraction by more than 20% compared with standard horizontal wells. The technology is particularly effective if the deposit has a shale streak between the gas and oil, as is the case at the East Messoyakha field.

**Deer crossings**

The pipeline route does not cross pastures and places that are sacred for the local indigenous population. Special crossings have been built on deer migration paths.

**The pressure pipeline**

is equipped with leak detection and corrosion control systems. It runs above ground so as not to disturb the permafrost.

**98 KM**

length of the pipeline

**6 MN T PER YEAR**

pumping capacity

**Underwater crossings**

The pipeline crosses the major rivers Muduyahu and Indikyahu underground. These are the northernmost underwater crossings built using directional drilling methods in Russia.
EAST MESSOYAKHA FIELD

**Recoverable reserves (100%)**

- **353.3 MN T OF OIL**
- **2.9 MN T OF CONDENSATE**
- **119 BN M³ OF GAS**

**Production**

- **3.16 MN T OF OIL (100%) PRODUCED IN 2017**
- **5.9 MN T PER YEAR AT FULL DESIGN CAPACITY (2021)**

**Temperature Range**

-60°C to +30°C

**Facilities**

- Central oil production facility
- Modern equipment for drilling mud cleaning reduces water consumption by 25%
- Gas turbine power station
- Shift camp residential complex

**Technology**

- Fishbone technology
- Oil from the lower level is lighter and much less viscous than in the upper deposits. 136 million years old.
- Technology – multi-stage hydraulic fracturing (MSHF) (planned in 2018)

**Geology**

- **1,000 M** length of the horizontal wellbore
- **800 M** vertical well depth
- **3,300 M** vertical well depth
- **4,400 M** total well length

**Reserves**

- **70% OF RESERVES** consist of heavy, high-viscosity, resinous oil with a low light fraction content. 97.5 million years old. The deposits are complicated by a gas cap.

---

1: The national classification of reserves and resources of oil, gas, condensate and components contained them, from the industrial value.
The Novoportovskoye field is the northernmost and one of the largest oil and gas condensate fields on the Yamal Peninsula. Novy Port light crude oil is produced at the field with a low sulphur content (about 0.1%). This field is not easy to develop due to low-permeability reservoirs, the high partitioning of deposits, and a powerful gas cap, which requires special technologies.

The operator of the project is Gazpromneft-Yamal LLC. Crude oil is shipped year-round through the remote Gates of the Arctic terminal, which is 3.5 km from the shores of the Gulf of Ob.

**Multi-lateral wells**

A multi-lateral well is a well that has several trunks extending from the main one. This technology is an alternative to hydraulic fracturing for deposits below the gas cap with a low-quality reservoir. Russian-made equipment was successfully used to build the first multi-lateral well in Russia with four horizontal cased trunks at the Novoportovskoye field. The total penetration level was 6,756 m of which 4,411 m were drilled in the target formation. The well was built in 39 days at a pace of 5.78 days per 1,000 m.

**Gates of the Arctic** – a unique offshore terminal designed for year-round operation at low temperatures

**Shipments management programme** automatically calculates the tanker mooring schedule

**Two multifunctional icebreaking vessels** supply the platform with everything it needs

**‘Zero discharge’ technology** ensures no foreign substances get into the waters of the Gulf of Ob

**Ice class tankers** ensure uninterrupted oil supplies
NOVOPORTOVSKOYE FIELD

> 490 MN TOE RECOVERABLE RESERVES

5.95 MN T OF OIL PRODUCED IN 2017

1.26 BN M³ OF GAS PRODUCED IN 2017

Shipping oil from the field is difficult due to the constantly changing weather conditions and heavy ice, which is 2.5 m thick in some places.

OVER 100 KM length of the pipeline on land

Two insulated pipelines that circulate heated oil

Russia's first multi-lateral well with four horizontal cased trunks was drilled at the field

Unmanned aerial vehicles (UAVs) used to monitor equipment

> 250 MN T oil and condensate

> 270 BN M³ of gas

> 490 MN TOE

1 — The national classification of reserves and resources of oil, gas, condensate and components contained them, from the industrial value.

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> 270 BN M³ of gas

1 — The national classification of reserves and resources of oil, gas, condensate and components contained them, from the industrial value.
BAZHEN TECHNOLOGICAL CENTRE
NEW INDUSTRIALIZATION
OF WESTERN SIBERIA

ESTABLISHING TECHNOLOGICAL LEADERSHIP

The Bazhenov formation consists of a bed of rocks that is 30-80 m thick in Western Siberia at depths of 2,000-3,000 metres over an area of more than 1 million km². According to optimistic estimates, the oil resources in the Bazhenov formation could reach as much as 18-60 billion tonnes and are classified as non-conventional. The rocks in the Bazhenov formation are regarded as similar to North American shale from which shale oil is extracted in the U.S.

One of the largest scientific consortiums in Russia was established to study the Bazhenov formation. It consists of an alliance between Moscow State University, Moscow Institute of Physics and Technology, Gubkin Russian State University of Oil and Gas, and the Skolkovo Technical Centre, where Gazprom Neft is a production partner. The alliance studied 617 m of the core of the Bazhenov formation from nine prospective areas and conducted more than 20,000 experiments.

Now, Gazprom Neft and its partners are setting up the Bazhen Technological Centre at the Palyanovskaya area of the Krasnoleninskoye field in KMAD-Yugra. It will provide an open platform for the development of technologies that can be used not only by oil and gas companies, but also by engineering, oilfield services, machine-building companies and software developers. The project has already been granted national status, and the Centre is scheduled to open in 2018. Approximately RUB 8.5 billion will be invested in the site by 2021, including investments of RUB 7.5 billion by Gazprom Neft and RUB 685 million in state financing. The Company plans to drill more than 50 wells at the Palyanovskaya area by 2021 followed by another 50 plus wells with hydraulic fracturing by 2027. As the required technologies are developed, oil production from the Bazhenov formation will reach 10 million tonnes per year by 2025, with Gazprom Neft’s share making up 2.5 million tonnes of that amount.

Multi-stage hydraulic fracturing (MSHF)

Internal structure of the Bazhenov formation

Hydraulic fracturing is a technology in which fluid is pumped into a well, creating cracks in the rock, along which oil enters into the borehole bottom.

Multi-stage hydraulic fracturing is widely used nowadays. The main task of MSHF is to combine small disconnected pores filled with oil into a single hydro-dynamically connected system by creating a sufficiently dense system of artificial cracks using fracturing methods.

Gazprom Neft drilled two horizontal wells with MSHF at the Palyanovskaya area in 2016 and obtained a commercial inflow of 45 tonnes of oil per day. This demonstrated the effectiveness of the basic technology that had been adapted for the Bazhenov formation.

The MSHF Growth software developed by the research consortium jointly with Gazprom Neft was tested at the wells of the Bazhenov formation in 2017. This solution allows for simulating the formation of cracks in the reservoir, calculate the flow of oil, and select the optimal parameters for hydraulic fracturing.

MSHF is used at 80% of the Company’s wells.

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1 — Potentially recoverable resources that will only be available if the necessary technological solutions are developed.
BAZHENOV FORMATION

760
MN T
CONSERVATIVE FORECAST FOR RECOVERABLE RESOURCES AVAILABLE WITH THE CURRENT LEVEL OF TECHNOLOGY

18–60
BN T OF OIL GEOLOGICAL RESOURCES

1,000 TIMES HIGHER PERMEABILITY OF THE CONVENTIONAL RESERVOIR THAN THAT OF THE BAZHENOV FORMATION DEPOSITS

UP TO 1,000
WELLS PER YEAR BY 2025
PLANNING DRILLING AT THE BAZHENOV FORMATION

The Palyanovskaya area of the Krasnoleninskoye field in KMAD-Yugra will be the pilot site for the industry.

2–3 KM
depth of formation

30–60 M formation thickness

MSHF in a horizontal well – the main method for developing the Bazhenov formation today

>1 MN KM² area of the Bazhenov formation

Bazhenov bed

GAZPROM NEFT | ANNUAL REPORT | 2017

32 // 33
One of the key goals of the modernization of the oil refineries of Gazprom Neft PJSC is to enhance the eco-friendliness of the manufacturing of petroleum products. In 2017, the Moscow Oil Refinery commissioned the unique Biosphera complex of biological treatment facilities.

The complex has capacity for wastewater treatment of 1,400 m$^3$ per hour with the ability for an increase to 2,000 m$^3$ per hour under high power conditions. The water in the treatment plants undergoes multi-stage purification: mechanical, physical, chemical, and biological as well as filtration through a system of carbon filters and the removal of salts.

Wastewater treatment efficiency at the oil refinery rose to 99.9% as a result of the launch of Biosphera. Modern technologies provide a closed cycle of water consumption. Biosphera enabled the Moscow Oil Refinery to reduce the intake of river water by 60%. Roughly 75% of the treated effluents are returned to production, while the remaining water, whose quality is monitored according to 32 parameters, enters the Mosvodokanal system.

Concurrently with the commissioning of the Biosphera system at the Moscow Oil Refinery in 2017, the Company launched an even larger project to build a similar purification system at the Omsk Oil Refinery. The capacity of the new treatment facilities at the Omsk Oil Refinery will expand by 20% compared to the existing facilities and amount to 3,450 m$^3$ per hour. The construction of the Biosphera facility will make it possible to reduce the area occupied by treatment facilities by more than 94% (from 159 to 9.2 hectares). The Omsk complex’s features include gas-convection chambers for cleaning off-gases and a nitrogen pad to prevent evaporation into the atmosphere.

**Membrane bioreactor**

The membrane bioreactor is a key component of the complex. It mixes the wastewater with the active silt – a group of microorganisms that use oil refining waste as a nutrient medium. They are grown specifically for Biosphera at the Luberetsk sewage treatment plant of Mosvodokanal.

Active sludge is the ideal solution for removing sulphides, phenol, benzene, petroleum products, ammonium nitrogen, and thiosulphates from the water. The spent sludge that has passed through membrane filters with a pore size of 0.03–0.1 μm (thinner than human hair) may be reused.

All off-gases are cleaned at photoionization stations that guarantee the complete removal of odours. The air is first cleaned using filters, then disinfected with ultraviolet light.
Purified water filtration unit and membrane bioreactor. Reverse osmosis unit. Coal filters. Wastewater saturated with air.

\[ \text{Water passes through biological membranes} \]

\[ \text{Water separates from the sludge mixture} \]

Air bubbles bring impurities to the surface. Removal of pollutants with activated sludge. Biological treatment [key part of the system].

This system has no analogues for now among Russian oil refineries.
MODERNIZATION OF OIL REFINERIES

INCREASED PRODUCTION EFFICIENCY

ESTABLISHING TECHNOLOGICAL LEADERSHIP

OMSK OIL REFINERY

The Omsk Oil Refinery is one of the most modern refineries in Russia and one of the largest in the world. Gazprom Neft has been modernizing the Omsk Oil Refinery since 2008. This has made it possible to reduce the refinery’s impact environmental impact by 36%, and this impact will be reduced by an additional 28% by 2020. Total investment in the modernization of the oil refinery will exceed RUB 300 billion.

STAGE I. 2008–2015:
- light naphtha isomerization complex;
- cat-cracked petrol and diesel fuel hydrotreating complex;
- transition to Euro-5 fuel.

STAGE II. 2016–2020:
- construction of the delayed coking unit, which will ensure the additional release of light petroleum products and will become Russia’s first production facility of needle coke, a valuable raw material for the metallurgical, nuclear, chemical, and space industries;
- construction of the Biosphera treatment facilities (see pp. 34-35);
- the new crude vacuum unit-6 for primary oil refining will replace several obsolete units;
- construction of a deep oil refining complex (see insert 2).

For more about the refinery, see the ‘Oil refining’ section, p. 64

Hydrocracking complex at the Omsk Oil Refinery

Technology C.1

The Omsk Oil Refinery will employ the so-called severe two-stage hydrocracking under pressure of 18 MPa and temperature of 380–400ºC, which is capable of operating in two modes: fuel and oil. As a result of the hydrocracking unit, the Omsk Oil Refinery will increase the output of refined light petroleum products by more than 6% and take the raw material base for the production of modern group II and III oils with a high viscosity index to the next level.
MOSCOW OIL REFINERY
The Moscow Refinery is one of the industry leaders in terms of the production of Euro-5 high-octane gasoline and diesel fuel. Gazprom Neft has been carrying out the comprehensive modernization of the Moscow Oil Refinery since 2011 to achieve the best production standards and ensure environmental safety. Total investment in the modernization of the Moscow Oil Refinery will amount to RUB 250 billion.

STAGE I. 2011–2015:
- light naphtha isomerization complex;
- cat-cracked petrol hydrotreating unit;
- transition to Euro-5 fuel.

STAGE II. 2016–2023:
- modernization of the crude vacuum unit-6 for primary oil refining ensured its enhanced energy efficiency;
- reconstruction of the catalytic cracking complex increased its capacity by 20% and made it possible to increase the yield of light petroleum products and reduce their sulphur content to improve environmental performance;
- the combined Euro+ oil refining unit within crude distillation units, reforming, hydrotreating of diesel fuels, and a gas fractionating unit (GFU) will replace the ‘small technological ring’ for oil refining that was introduced in the 1960s and will reduce pollutant emissions by 11% per 1 tonne of refined oil;
- construction of a deep oil refining complex (see insert 2).

For more about the refinery, see the ‘Oil refining’ section, p. 64.

DIAGRAM OF THE MOSCOW OIL REFINERY AFTER STAGE II OF MODERNIZATION

Increase in oil refining depth at the Moscow and Omsk Oil Refineries

Technology C.2

up to 99%
REFINING DEPTH AT THE MOSCOW AND OMSK OIL REFINERIES FOLLOWING MODERNIZATION

up to 81%
YIELD OF LIGHT PETROLEUM PRODUCTS AT THE MOSCOW AND OMSK OIL REFINERIES FOLLOWING MODERNIZATION

The key projects in the Stage II modernization of the Moscow and Omsk Oil Refineries are the construction of advanced oil refining complexes (AORC) as part of hydrocracking and delayed coking plants. The implementation of projects will make it possible to:
- enhance refining efficiency by increasing its depth and the production volume of world-class motor fuels;
- to produce raw materials for group 2 and 3 base oils at the Omsk Oil Refinery;
- flexibly regulate the volume of raw materials and output.

The construction of the AORC will place Gazprom Neft oil refineries among the world’s best refineries in terms of efficiency. The refining depth at the Omsk and Moscow Oil Refineries will increase to 99%, while the yield of light petroleum products will exceed 80%.
Construction began on a new production facility for oil refining catalysts in Omsk in 2017. The existing production facility’s capacity is 3,000 tonnes of catalysts per year. The new complex will increase that output to 21,000 tonnes. It will produce catalysts for catalytic cracking and hydrogenation processes – the key technological stages in oil refining. Omsk is home to Russia’s only engineering centre that tests catalysts for oil refineries, which is equipped with a pilot catalytic cracking unit.

Roughly 20-40% of the catalysts will be supplied to the Company’s own enterprises. Gazprom Neft will be able to sell the rest on the domestic market and export them. This high quality of the catalysts, which are on a par with the products of global leaders in terms of quality, will make exports possible. The Company has its own research laboratory and long-term cooperation agreements with leading research institutes in Russia. This highly economical and energy efficient catalyst production technology has no analogues in the world. The Russian Ministry of Energy has granted national status to the project.

Catalytic cracking catalysts:
- ensure an increase petrol output by 2-3% and light petroleum oil products by 1-2% compared with imported analogues;
- make it possible to produce petrol with a higher octane number;
- make it possible to process more types of raw materials;
- have a longer service lift (up to 10-12 months).

Hydrotreating catalysts:
- ensure the depth of diesel fuel treatment to sulphur content of <0.001%;
- increase the energy efficiency of hydrotreating;
- reduce the consumption of active metals;
- last 7-8 months longer.

Hydrocracking catalysts:
- increase the yield of products compared with imported analogues by 3%;
- make it possible to lower process temperatures compared to imported catalysts by 10°C.

Strategic cooperation for the development of catalysts

Technology C.3

10 patents
REGISTERED FOR CATALYSTS BY GAZPROM NEFT SINCE 2013

RUB 240 mn
STATE SUBSIDIES FROM THE RUSSIAN MINISTRY OF EDUCATION AND SCIENCE FOR THE DEVELOPMENT OF NEW EFFICIENT HYDROPROCESS CATALYSTS IN 2017-2020

Gazpromneft-Catalytic Systems develops catalysts for oil refining processes in cooperation with the Boreskov Institute of Catalysis of the Siberian Branch of the Russian Academy of Sciences (Novosibirsk), the Institute of Hydrocarbon Processing Problems of the Siberian Branch of the Russian Academy of Sciences (Omsk), the National Scientific Research Institute for Oil Refining JSC (Moscow), and UNISIT LLC (on the core of the chemical laboratory of Lomonosov Moscow State University).

Gazprom Neft PJSC is the patent owner of the developed technologies. Having a reputation as a technological leader enables Gazprom Neft to raise government subsidies in the interests of developing its catalytic business.
Gazpromneft-Omsk Oil Refinery

St. Petersburg
Moscow

21,000 2020
T PER YEAR, including:
15,000
T PER YEAR catalytic cracking catalysts
4,000
T PER YEAR hydrotreating catalysts
2,000
T PER YEAR hydrocracking catalysts

23 BN
INVESTMENT IN CONSTRUCTION

CAPACITY OF THE COMPLEX UNDER CONSTRUCTION

CATALYST PRODUCTION COMPLEX UNDER CONSTRUCTION (OMSK OIL REFINERY)

Bunker warehouse
Zeolite and catalytic cracking catalyst production facility
Production of catalysts for hydroprocessors, raw materials, and carriers of catalytic cracking catalysts

Automotive loading rack

R&D centre
Goods warehouse
Outdoor facility of the drying and rolling unit
Central operator station
Pump house

Acid and alkalis warehouse

Warehouse for acids with drainage tanks

Finished product shipment platform

Ammonia warehouse

Railway loading rack
For the first time since 2013, demand on the global oil market exceeded supply last year. This resulted both from sustained growth in oil consumption as well as measures adopted by a group of exporting countries to curtail production. The change in this balance led to an increase in oil prices in addition to their relative stability throughout the year. These factors will continue in 2018, meaning the oil can expected to remain balanced.

The International Energy Agency (IEA) estimates that the global oil deficit averaged 0.46 million barrels per day in 2017 (versus a surplus of 0.7 million barrels per day in 2016). By the end of the year, the deficit had increased, and oil reserves in OECD countries alone were already declining at a rate of about 1 million barrels per day.

The current situation, among other things, resulted from the actions of a group of oil-exporting countries, which in late of 2016 decided to limit production by a total of 1.8 million barrels per day. The purpose of the agreement, in which Russia is a key party, is to reduce oil reserves to the average level seen over the past five years. Over the course of 2017, the surplus of reserves declined from 340 million to 74 million barrels, partly due to an increase in the average OECD reserves over the past five years with respect to which the surplus is determined. The goal of the agreement is expected to be met in 2018, which may allow its parties to revise the benchmarks for production.

Surmounting the surplus on the physical market supported oil prices and ensured their stability throughout the year. From January until the end of December 2017, spot prices for Brent crude were up by about USD 10 per barrel, while the average price was USD 54.20 per barrel (versus USD 43.4 in 2016). The volatility of oil prices has significantly subsided compared with 2016.
As in the previous few years, steady growth in the global economy in 2017 ensured a substantial increase in the consumption of oil and other energy resources. According to the International Monetary Fund (IMF), the world economy grew by 3.7% in 2017; this pace is expected to accelerate in 2018 and 2019. In these conditions, global oil consumption in 2017 maintained a high level of growth, which according to the IEA amounted to 1.6 million barrels per day versus 1.2 million barrels per day in 2016. Asian countries led the way in terms of increased consumption with demand in the region expanding by 1 million barrels per day due to continued high growth rates in the economies of China and India.

At the same time, the most developed countries made a significant contribution to increased demand for oil around the world. Over the past year, the Eurozone economy saw significant growth, which affected the consumption of petroleum products: demand for oil in Western Europe expanded by 0.3 million barrels per day. The IEA expects global demand for oil will reach 100 million barrels per day in the first half of 2019.

Geopolitical factors, which the market frequently ignored during the oil surplus period, once again began to affect prices in 2017. Disruptions in oil supplies from Kurdistan and political events in Saudi Arabia resulted in a noticeable reaction from the oil market in late 2017. The stability of oil supplies once again loomed large in determining the market situation.

### STABLE DEMAND FOR OIL

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### DEMAND FOR OIL BY COUNTRY/REGION IN 2013–2017 AND THE CORRESPONDING EXPECTATIONS OF THE IEA BY 2040 (MN BARRELS/DAY)

According to the IMF, in 2017 the global economy grew by **3.7%**
A soft monetary policy was partially responsible for the accelerated growth in Western economies. A low level of inflation allowed the financial authorities of the U.S. and the Eurozone to maintain low interest rates, which, in turn, creates favourable conditions for financial markets and mitigates the risk of negative developments in the world economy in the short term.

The global automotive market, which is an indirect indicator of the demand for oil, slowed down somewhat in 2017 as fuel prices increased and government support for automotive markets decreased. Car sales in major markets – China and the U.S. – in 2017 fluctuated negligibly from the 2016 results. Global vehicle sales slowed compared with 2016 with only a roughly 3% increase.

At the same time, sales of cars that run on alternative fuels continue to grow rapidly. An estimated 1.2 million electric vehicles were sold in 2017, a 60% increase from the previous year. However, despite the high growth rates in sales, electric cars make up slightly more than 1% of the market for new cars and have an even smaller share in the global structure of such vehicles.

Strong growth has been seen in the consumption of petroleum products in air transport. According to the IATA, the global air transportation market expanded by 7.6% in 2017, which is much higher than the average rate for the last 10 years (5.5%). These dynamics confirm the forecasts stating that the aviation and petrochemical industry, apart from road transport, will account for a significant portion of increased oil consumption in the coming years.
STRUCTURE OF PASSENGER CAR SALES IN THE U.S. AND CHINA IN 2017 (MN CARS)
Sources: Autodata Corporation, China Association of Automobile Manufacturers

### STRUCTURE OF PASSENGER CAR SALES IN THE U.S.
- **SUV\(^1\) and MPV\(^2\)**: 6.3 MN
- **Passenger cars**: 10.9 MN

### STRUCTURE OF PASSENGER CAR SALES IN CHINA
- **Sedans**: 11.8 MN
- **SUV\(^1\)**: 10.3 MN
- **MPV\(^2\)**: 2.1 MN
- **Other**: 0.5 MN

The global automotive market, which is an indirect indicator of the demand for oil, slowed down somewhat in 2017 as fuel prices increased and government support for automotive markets decreased. Car sales in major markets – China and the U.S. – in 2017 fluctuated negligibly from the 2016 results.

SALES AND THE GLOBAL FLEET OF ELECTRIC VEHICLES AND CARS WITH IC ENGINES IN 2017
Source: www.ev-volumes.com, Gazprom Neft analysis

### SALES
- **IE engines**: 98.7%
- **Electric vehicles (including connectable hybrids)**: 1.3%

### VEHICLE FLEET
- **IE engines**: 99.7%
- **Electric vehicles (including connectable hybrids)**: 0.3%

CHANGE IN OIL CONSUMPTION BY INDUSTRY UNTIL 2040 (FORECAST, MN BARRELS/DAY)
Source: IEA

- **Petrochemicals**: -2
- **Aviation and sea transport**: -1
- **Cargo vehicles**: 0
- **Passenger vehicles**: 1
- **Other sectors**: 2

---

1 — Light trucks.
2 — Minivans / station wagons.
POSITION OF THE MAIN PRODUCERS

Rising oil prices and cost optimization in the oil and gas industry are driving a revival of investment activity in the sector. The declining investment in the global oil industry that had been seen since 2014 came to a halt in 2017. Investment in the sector is expected to grow by 10-15% in 2018, and the number of authorized oil production projects will increase.

Companies working in the private sector are planning to significantly increase oil production in 2018, meaning competition between producers and between different production classes will continue to expand despite the increase in oil consumption.

U.S. companies specializing in shale production rapidly increased drilling activity and production over the course of 2017. Even though as of the end of the year the number of active oil drilling sites was half what it was at its peak in 2014, the volume of shale production was comparable. As a result, by the start of 2018 total oil production in the U.S. had approached the all-time highs seen in 1970. The jury is still out on the long-term prospects for growth in oil shale production, but a significant increase in production can be expected in 2018 and this segment will arguably continue to play an important role in ensuring the balance of supply and demand on the world oil market.

INVESTMENT BY MAJOR FOREIGN OIL INDUSTRY COMPANIES

Source: company data, Gazprom Neft calculations

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OIL DRILLING AND PRODUCTION DYNAMICS AT IMPERMEABLE LAYERS IN THE U.S [MN BARRELS/DAY]

Source: Energy Information Administration of the US Energy Ministry

A revival has been seen in traditional oil production. The number of large-scale production projects authorized in 2017 significantly exceeded the level seen in 2016. In some cases these were projects that were frozen when oil prices declined in 2014–2015. The technical optimization of projects, a reduction in operating costs, and lower prices for equipment and services made it possible to create lower payback levels for these projects, which made them desirable given the moderate oil prices.
COMPANY STRATEGY

The instability seen on the world oil market in recent years, on the one hand, has led to less investment by global oil companies in large projects and on the other hand, to the increased popularity of investments in relatively short projects on a small scale. Some of the industry’s largest companies have acquired significant assets in shale oil production, while some major companies have made this segment their focus of growth for the next few years.

Guided by the interests of shareholders and the public as well as possible long-term changes in the market, some oil companies are spending a growing share of their investments in areas that are not directly related to oil and gas production. The most popular areas are renewable energy and the electricity market as a whole, projects for the utilization of carbon dioxide, and digital technologies. Such areas make up a small percentage of the overall structure of investments, but this trend may have an impact on investment in core activities given the limited financial resources in the global oil industry.

This situation makes the risk of a supply shortage in the medium term – in three to five years – a vitally important issue. Given that countries of the Middle East are the main source of ‘quick’ supply in the event of a deficit, the political stability in the region may be considered a key factor for the oil market.

“...The number of global trends affecting energy consumption is increasing. Thanks to technological development, it has become possible to incorporate new hydrocarbon reserves around the world into development. Given the high uncertainty of the current situation, Gazprom Neft adheres to moderately conservative forecasts regarding the price of oil”.

Alexey Yankevich
Deputy CEO for Economics and Finance
Gazprom Neft PJSC

Main factors for the oil market in 2018

- **Economic Growth Dynamics**
- **Implementation of the OPEC+ Agreement**
- **Shale Production Dynamics**
- **Political Stability in Producing Regions**
The Russian Federation joined the agreement to limit oil production due to weak production dynamics on the domestic market. Oil and condensate production amounted to 546.8 million tonnes in 2017, a slight decrease compared with 2016. At the same time, there was an increase in the percentage of oil produced offshore and at hard-to-recover reserve categories. An extension in the decision to limit oil production suggests that production will remain at a stable level in 2018.

The volume of oil exports from the Russian Federation did not change significantly in 2017. According to the Russian Ministry of Energy, exports totalled roughly 258 million tonnes. However, there was a change in the structure of exports: shipments to China continued to grow as exports to Europe declined slightly. By the end of the year, the Russian Federation had become the primary supplier of oil to China, well ahead of Saudi Arabia in this regard.

Primary oil refining, which amounted to 279.5 million tonnes in 2017, remained virtually unchanged. At the same time, the output structure of petroleum products continued to change due to the influence of modernization and changes in tax and customs legislation: fuel oil production declined significantly, while the production of jet fuel increased. As projects are implemented to modernize Russian oil refineries, the average depth of refining continues to increase.
MACROECONOMICS

GDP AND CONSUMER PRICE INDEX (CPI) DYNAMICS IN THE RUSSIAN FEDERATION IN 2013-2017 [%]

Source: Rosstat

Moderate growth was seen in the economy of the Russian Federation throughout the year. For the year, GDP expanded by 1.5% and industrial production edged up 1%. Retail turnover grew by 1.2%. At the same time, negative trends in the real incomes of the population continued last year.

The pace of consumer inflation declined to an all-time low in the history of the Russian Federation with only a 2.5% change in consumer prices as of the end of the year. The low level of inflation allowed the Central Bank of the Russian Federation (the Bank of Russia) to significantly loosen its monetary policy. The Bank of Russia reduced its key interest rate from 10 to 7.75% over the course of the year, and rate cuts continued in early 2018.

The stabilization in the macroeconomic situation and improvements in budget indicators enabled leading rating agencies to upgrade the credit rating of the Russian Federation. Higher oil and gas revenue and lower lending rates have created conditions for the positive trends in the Russian economy to continue.

RECOVERY OF THE DOMESTIC MARKET

The situation with domestic demand for petroleum products was consistent with the varying dynamics in economic indicators. Fuel consumption by motor vehicles demonstrated moderate growth of roughly 1-2% amidst weak dynamics in household incomes and retail trade.

The air transportation market has recovered much faster. Air carriers increased passenger transportation by 18.6% and freight transportation by 15.7% in 2017. As a result, domestic jet fuel consumption expanded by approximately 10% for the year.

In 2017, air carriers increased passenger transportation by 18.6%.

TAX POLICY AND REGULATION

Decisions on tax legislation concerning the oil industry in 2017 followed the logic of the changes that have been made over the past few years. The mark-up factor on the mineral extraction tax rate for oil in the amount of RUB 428 per tonne was extended until 2020. The schedule of changes to excise taxes on petroleum products was approved, including an increase in excise taxes on motor petrol and diesel fuel until 2020 inclusive. In addition, in an effort to counter surrogate fuels, clarity was brought to the market regarding the concept of ‘medium distillates’ for the purpose of excise taxation. At the end of the year, the Government of the Russian Federation approved the bills required to transition to the taxation of financial results in the form of an additional income tax (AIT) for the oil industry and submitted them to the Federal Assembly. The purpose of the new policy, in particular, is to increase oil production at fields that will be included in a number of pilot projects for the AIT.