

ENERGY CONSUMPTION AND ENERGY EFFICIENCY

The steady growth rates in the Company's production have resulted in increased consumption of energy resources in recent years. Aware of the human impact of these processes, Gazprom Neft has increased the energy efficiency of its production assets and is working to reduce the consumption of energy resources.

The Company adheres to the Gazprom Neft Energy Policy, which serves as the foundation for the Energy Management System (EMS). The EMS meets the requirements of ISO 50001:2011. The EMS has been gradually introduced

at the Company's facilities starting from 2012. The Energy Conservation and Energy Efficiency Programme serves as the main tool for achieving the Company's planned energy efficiency indicators.

UPSTREAM DIVISION

The EMS was introduced at Gazpromneft-Yamal LLC and Messoyakhaneftegaz JSC in 2017.

The Energy Efficiency Programme exceeded its targets in 2017. Energy savings totalled 466 million kWh (RUB 1.501 billion).

The key energy efficiency indicator for the Upstream Division is the specific electricity consumption for liquid extraction, which totalled 28.98 kWh/t in 2017, or 1.4% below the planned level for the year.

During the reporting year, the Upstream Division drafted and implemented the Programme for the Improved Reliability and Modernization of Electrical Equipment and Networks, which included 102 measures. Implementing these measures made it possible to significantly reduce oil shortages during emergency power outages compared with 2016.

NEW TECHNOLOGIES IN THE ARCTIC

In 2017, Gazpromneft-Yamal launched the pilot testing of the YURTA combined wind-solar power plant.

The power plant has capacity of 47.5 kW and is designed to supply power to a group of line-to-line consumers. The hybrid technology will significantly reduce the cost of power supplies to long-distance and remote sites from network infrastructure facilities due to the lack of a need to build power lines.

TOTAL ENERGY CONSUMPTION BY THE UPSTREAM DIVISION

Indicator	2013	2014	2015	2016	2017
Electricity consumption (purchased + generated) (MWh)	6,032,738	6,177,164	6,419,919	6,298,276	6,064,268
Change vs. previous period (%)	6.0	2.4	3.9	(1.9)	(3.7)
Thermal energy consumption (internally produced and purchased from third-party suppliers) (GJ)	1,218,555	1,064,758	982,015	996,644	1,124,180
Change vs. previous period (%)	1	13	8	1	12.8 ¹

¹ — The growth in thermal energy consumption is due to the introduction of new boiler houses at Gazpromneft-Vostok and boiler houses at the major projects of the Messoyakha and Novoportovskoye fields.

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DOWNSTREAM DIVISION

In 2017, the enterprises of the Downstream Division continued implementing the measures of the integrated Energy Conservation Programme. As a result, the Downstream Division exceeded the target for the savings of fuel and energy resources, which amounted to:

- thermal energy – 279,400 Gcal;
- fuel – 137,500 TOE;
- electricity – 18.9 mn kWh.

Overall, energy-saving activities made it possible to save 7.8 TJ of heat, electricity, and fuel. The economic effect exceeded the targets and amounted to RUB 929.7 million.

In 2017, Gazpromneft-Aero and Gazpromneft-BM joined the Energy Conservation Programme, which as a result now includes the energy conservation measures of the Downstream Division's 49 production assets.

During the reporting year, Slavneft-YANOS OJSC and the Omsk Lubricants Plant were included in the unified EMS of the Downstream Division.

In addition, due to the implementation of the measures of the integrated Programme for the Increased Reliability of Power Supplies for Oil Refining Enterprises, the number of power supply violations at oil refineries decreased by 15% compared with 2016.

MOSCOW OIL REFINERY BOOSTS ENERGY EFFICIENCY

The modernization and repair of key facilities at the Moscow Oil Refinery in 2017 made it possible to reduce the refinery's fuel consumption by 2.1% and thermal energy consumption by 0.9%.

The main contribution to the reduction in fuel consumption came from the modernization of the process furnaces of the Crude and Vacuum Distillation Unit Complex-6, which account for 19% of the plant's total energy consumption, and the completion of their transition from liquid to eco-friendly gas fuel. In addition, the installation of modern energy-efficient equipment and the transfer of the entire plant's lighting system to energy-saving technologies contributed to the energy savings.

CONSUMPTION OF PURCHASED ENERGY IN THE DOWNSTREAM DIVISION

Indicator	2013	2014	2015	2016	2017
Purchased electricity (minus electricity transferred to third parties) (MWh)	3,322,147	3,262,669	3,340,550	3,400,210	3,236,805
Change vs. previous period (%)	6.4	(1.8)	2.4	1.8	(4.81)
Purchased thermal energy (minus electricity transferred to third parties) (GJ)	17,373,245	16,581,709	16,081,895	15,186,997	15,531,129
Change vs. previous period (%)	3.1	(4.6)	(3.0)	(5.6)	2.27