

Upstream Division

462

M KWH

energy savings
in the Upstream
Division in 2018

1,504

₽ M

economic effect

The Upstream Division's energy efficiency programme covers technical and organisational measures.

When it comes to technical measures, the key driver for improving energy efficiency is the production equipment upgrade. Of all production operations, mechanical liquid lifting consumes the biggest portion of energy. The Company optimises well performance by switching to short-term or intermittent operation and introducing energy efficient downhole equipment. Other technical improvement measures are the upgrade of pumps, use of energy efficient rotors and installation of variable-frequency drives in the reservoir pressure maintenance, oil preparation and pumping systems.

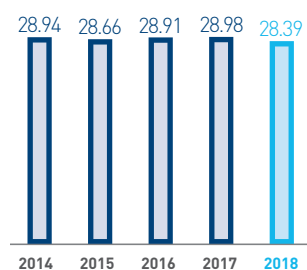
The Company achieved significant energy savings through well interventions to reduce the amount of produced water and use water injection techniques. The key organisational measures include energy audits and the implementation of an energy efficiency monitoring system and IT projects to support energy saving and energy efficiency processes.

Power consumption per tonne of produced liquid, the key energy efficiency metric, was 28.39 kWh/t.

In addition to implementing its Energy Efficiency Improvement Programme, the Company shut down low-margin wells and optimised the operation of oil pumping equipment at central gathering facilities to cut specific power consumption.

Power consumption per tonne of produced liquid (kWh/t)

Source: Company data



Equipment optimisation

2018 saw the overhaul of high-pressure multistage centrifugal ring-section pumps with a performance improvement of 3%. Slavneft-Megionneftegaz successfully tested electric submersible pump units with high-performance EC motors, with energy consumption at pilot wells falling by 25–30%. In 2019, the Company plans to install 25 similar units across the Division.

Power consumption in Upstream Division¹

Metric	2014	2015	2016	2017	2018
Power consumption (purchase + generation), MWh	6,177,164	6,419,919	6,298,276	10,121,321	9,002,159
Y-o-y change, %	2.4	4.0	-1.9	61.0	-11.0
Heat consumption (self-generated and purchased from third-party suppliers), GJ	1,064,758	982,015	996,644	1,500,839	1,730,723
Y-o-y change, %	13.0	8.0	1.0	51.0	15.0

¹ Starting from 2018, the perimeter of consolidated data includes Gazpromneft-Yamal, Messoyakhaneftegaz, Upstream Division of Gazprom Neft, Gazpromneft-Noyabrskneftegaz, Gazpromneft-Khantos, Gazpromneft-Vostok, Gazpromneft-Orenburg and Slavneft-Megionneftegaz. The 2017 and 2018 data include power consumption indicators of these companies. At Upstream Division of Gazprom Neft, power consumption in 2017 (excluding Gazpromneft-Yamal, Messoyakhaneftegaz and Slavneft-Megionneftegaz) stood at 6,064,268 MWh, while heat consumption amounted to 1,124,180 GJ.