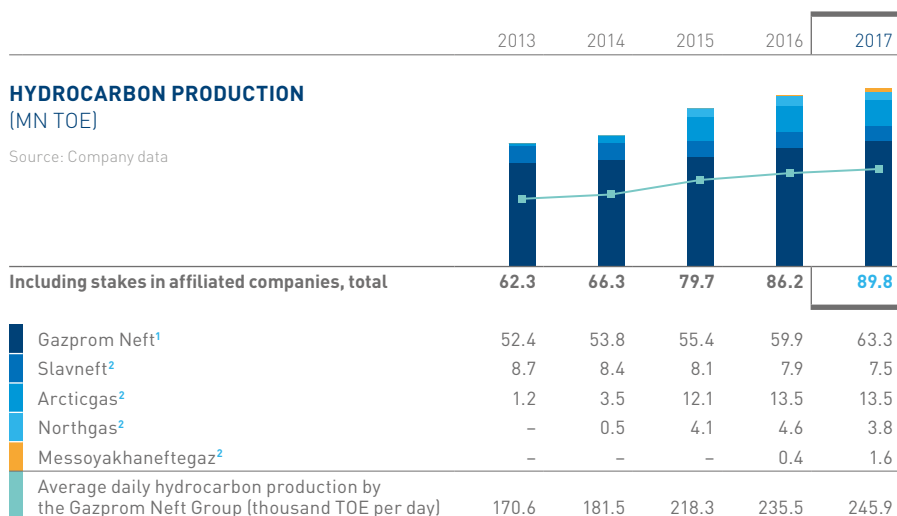


## OIL AND GAS PRODUCTION



<sup>1</sup> — Consolidated companies.  
<sup>2</sup> — Share in production.

Hydrocarbon production, including stakes in joint ventures, increased by 4.1% to 89.75 million TOE in 2017. The biggest contribution to the increased production came from the development of new major projects in the Arctic zone of the Russian Federation – the Novoportovskoye, East Messoyakha, and Prirazlomnoye fields as well as in Iraq. As a whole, the Group increased daily hydrocarbon production (in thousands of tonnes of oil equivalent) by 4.4% YoY.

### Upstream Control Centre

Technology B.4



Up to **15%**

REDUCTION IN OPERATING COSTS

**The Upstream Control Centre (UCC) opened in November 2017 at the subsidiary Gazpromneft-Khantos, combining all previously developed solutions to improve production efficiency.**

One of the key systems at the UCC is the 'Digital Twin' process for mechanical fluid lifting. It automatically selects the optimum operational modes and forecasts breakdowns and failures. All the information can be displayed both at the work stations of specialists and on a video wall. As a result, the team can quickly make decisions and monitor how they are performed.

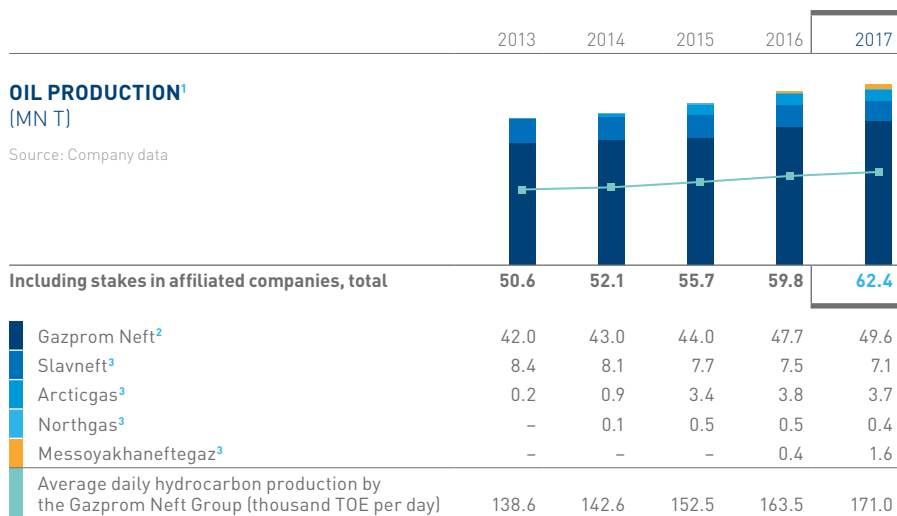
"Information technologies are significantly changing modern production, and digital transformation is already providing Gazprom Neft with an objective competitive advantage".

**Alexander Dyukov**

CEO of Gazprom Neft PJSC

Testing is now close to being completed on the 'Digital Twin' systems for maintaining reservoir pressure, energy supply, and the treatment and utilization of associated gas. According to preliminary estimates, the system cut losses by half and operating costs by 15%. In the future, Gazprom Neft plans to open upstream control centres at other subsidiaries.

## OIL PRODUCTION



- 1 — Including gas condensate.
- 2 — Consolidated companies.
- 3 — Share in production.

For more on the East Messoyakha field, see the 'Establishing technological leadership' section, p. 28

For more on the East Novoportovskoye field, see the 'Establishing technological leadership' section, p. 30

The Group boosted oil and condensate production by 4.3% YoY to 62.43 million tonnes due to increased production at the Novoportovskoye, Messoyakha, and Prirazlomnoye fields as well as in Iraq. Based on the results of 2017, the Company ranked third in Russia in terms of oil production behind Rosneft and LUKOIL.

Last year, Gazprom Neft launched commercial operations at two major fields – Novoportovskoye and East Messoyakha, which continue to develop at present. In addition, the Company will begin to develop the North Samburgskoye and Tazovskoye fields in the near future. The infrastructure created in the region will allow for the development of neighbouring fields that have both allocated and unallocated subsoil resources.

### High-tech drilling

#### Technology B.5



**853**

#### WELLS

SUPPORTED BY THE UCC IN 2017

**524**

#### WELLS

BUILT WITH MSHF IN 2017

**76**

#### MULTI-HOLE WELLS

DRILLED B 2017

#### Gazprom Neft has had a Drilling Control Centre (DCC) since 2012.<sup>4</sup>

In 2017, it supported the construction of more than 850 wells. Now the Centre has four round-the-clock shifts. Two of them constantly update geological models of wells, while the other two are responsible for updating engineering calculations. If necessary, the Company hires specialized experts on drilling and grouting mortars, well completion, hydraulic fracturing, coiled tubing, and control of the well path, among other things, from the drilling and downhole drilling work unit.

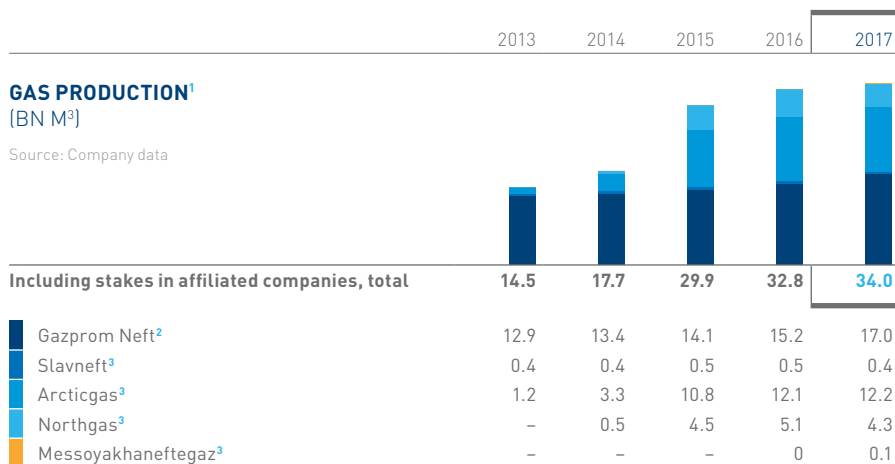
In addition, the Company has employed the 'Technical Limit' programme to improve drilling efficiency since 2014. It is based on the principle of continuously improving well construction. This requires the development of leadership among employees and the dissemination of best practices among all mining enterprises. The goals of the three-year programme until 2018 are a 30% reduction in the construction cycle, a 20% decrease in capital expenditures, and a 50% decrease in LTIF.<sup>5</sup> Most of the goals for 2017 were fulfilled.

- 4 — The DCC supports more than 60% of the total volume of high-tech well drilling at the Company.
- 5 — Lost time injury frequency (LTIF) – the frequency of injuries with temporary disability for 1 million man-hours.

## GAS PRODUCTION

The Group increased gas production by 3.7% compared with 2016, primarily as a result of an increase in the utilization of APG with the launch of a complex gas treatment unit at the Novoportovskoye field and the commissioning of a compressor station at the Ety Purovskoye field in the fourth quarter of 2016. In addition, the production of natural gas increased in the Noyabrsk region.

The Company is actively developing its gas business with a focus on commercializing the reserves of associated and natural gas produced at fields and increasing its value. The development of small gas deposits that make up larger fields at which Gazprom Neft operates will further enhance the cost-effectiveness of the utilization of the Company's reserves and help increase hydrocarbon production to 100 million TOE per year, as envisioned by the Company's Development Strategy until 2025.



## Soda-surfactant polymer flooding (ASP)

### Technology B.6



# 172

**MNT**  
POSSIBLE ADDITIONAL PRODUCTION  
AT 10 SITES



# 67%

OIL RECOVERY FACTOR  
AT THE PILOT ASP SITE



# -70%

DECREASE IN THE COST  
OF RUSSIAN-PRODUCED SAS  
COMPARED WITH IMPORTED SAS

**This is a chemical-based method for enhancing oil recovery from fields in the late stage of development due to the injection of a mixture of surfactants, soda, and polymer into the formation.**

The RosSurfactant project that Gazprom Neft is implementing with its partners (Salyem Petroleum Development, Norkem, and Tyumen State University) aims to create an efficient mixture for production in Russia.

Pilot projects were launched at the Western Salymkoye and Kholmogorskoye fields in 2016 and at the East Messoyakha field in 2017. For the first time in Russia, 11 new surfactants have been synthesized that are capable of replacing foreign analogues. The successful completion of testing will enable the Company to transition to the commercial introduction of the technology in Western Siberia. According to preliminary calculations, additional oil production will amount to 172 million tonnes with its introduction at the Company's largest 10 facilities.