

# ENERGY ASSETS

Nornickel owns an integrated network of fuel and energy assets, including four hydrocarbon deposits.

Most of Nornickel's production facilities are located beyond the Arctic Circle, operating in sub-zero temperatures for eight months of the year. It is therefore critical for the Group to ensure energy supplies to its production and infrastructure facilities, as well as to communities in its regions of operation.

**Norilskgazprom** (100% stake) produces gas and gas condensate at the Pelyatkinskoye, Yuzhno-Soleninskoye and Severo-Soleninskoye gas condensate fields, as well as the Messoyakhskoye gas field. The Pelyatkinskoye gas condensate field was transferred to Norilskgazprom in 2019 following the reorganisation of Taimyrgaz.

2,803.5  
mln Mcm

natural gas production

92  
kt

gas condensate production

44.5%

electricity generated  
from renewable sources

- **Start of production:** 1969
- **Gas reserves:** 246.6 bcm
- **Gas condensate reserves:** 4,727 kt
- **Gas production in 2019:** 2,803.5 Mcm
- **Gas condensate production in 2019:** 92 kt

## Production<sup>1</sup>

| Asset                     | 2017         | 2018         | 2019         |
|---------------------------|--------------|--------------|--------------|
| <b>Natural gas, Mcm</b>   | <b>3,014</b> | <b>2,896</b> | <b>2,804</b> |
| - Taimyrgaz               | 2,086        | 2,027        | 0            |
| - Norilskgazprom          | 928          | 869          | 2,804        |
| <b>Gas condensate, kt</b> | <b>100</b>   | <b>90</b>    | <b>92</b>    |
| - Taimyrgaz               | 98           | 88           | 0            |
| - Norilskgazprom          | 2            | 2            | 92           |

<sup>1/</sup> Data on gas condensate production include production losses (carryover with separation gas).

**Norilsktransgaz** (100% stake) transports natural gas and gas condensate from deposits to consumers.

The length of gas and gas condensate pipelines totals 1,588 km. The pipelines were commissioned between 1969 and 2018.

**NTEK** (100% stake) is focused on electricity and heat generation, transmission and sales harnessing the assets of Norilskenergo, a branch of Nor Nickel. Energy is produced from both renewable (e.g. hydropower) and non-renewable (e.g. natural gas) sources. NTEK supplies electricity, heat, and water to households in the city of Norilsk and to all production facilities within the Norilsk Industrial District. In terms of its location and operational mode, the local electricity grid is isolated from the national grid (the Unified Energy System of Russia), which means stricter reliability requirements. NTEK operates five generating facilities – three thermal power plants with installed electricity generation capacity of 1,190 MW, and two hydropower plants (HPPs) with total installed capacity of 1,091 MW. The total installed capacity of all plants is 2,281 MW.

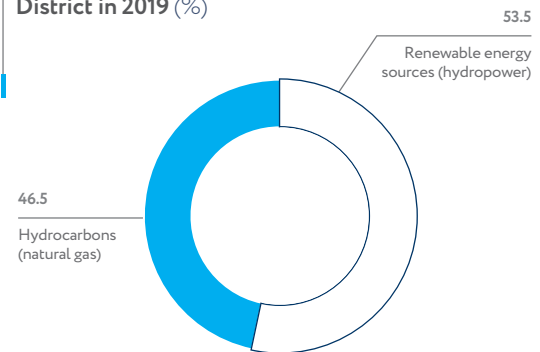
Ust-Khantayskaya and Kureyskaya HPPs (491 MW and 600 MW of installed capacity, respectively) are Nor Nickel's two renewable electricity generation facilities. In 2019, renewables accounted for 44.5% of total electricity consumed by the Group and 53.5% of total electricity consumption within the Norilsk Industrial District.

To boost the share of renewables such as hydropower, capture fuel and energy savings, and improve the reliability of energy and gas supplies, Nor Nickel's investment programme contains a number of large-scale priority projects. In 2019, the spending under the programme totalled about RUB 7.7 bn (USD 119 mln).

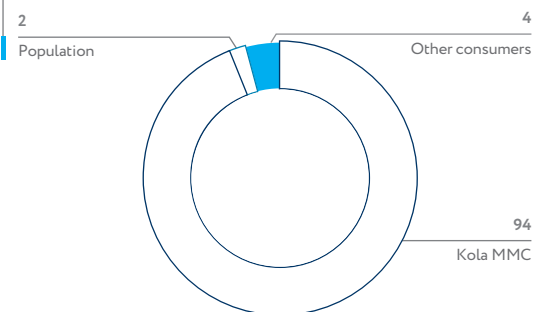
Selected major projects being implemented by Nor Nickel to improve equipment reliability, enhance energy efficiency, and boost product output:

- Replacement of seven hydropower units at Ust-Khantayskaya HPP

#### Power generation breakdown in the Norilsk Industrial District in 2019 (%)



#### Arctic-Energo electricity sales breakdown in 2019 (%)



- Replacement of power units at CHPP-2 and CHPP-3 in Norilsk
- Upgrade of power grids, main gas pipelines, and gas distribution networks within the Norilsk Industrial District

**Arctic-Energo** (100% stake) is a default electricity supplier to Kola MMC in Monchegorsk, established to ensure efficient and uninterrupted electricity supply at cheapest rates to Kola MMC operations. In 2019, it sold 2,719,610 thousand kWh of electricity.