

## Environmental projects

### SULPHUR PROGRAMME 2.0 (POLAR DIVISION)

#### Project overview

The Sulphur Programme 2.0 is a major environmental project aimed at gradual reduction of sulphur dioxide emissions in the Norilsk Industrial District by 45% in 2023 and by 90% in 2025 (2015: baseline). In 2020, investment in the project totalled RUB 11.3 billion (USD 154 million) and will reach close to USD 3.6 billion for 2019–2025.

The project is implemented in phases at the Company's two core metallurgical plants in the Norilsk Industrial District – Nadezhda Metallurgical Plant and Copper Plant as follows:

- Phase 1: Recovery of sulphur-rich gases into sulphuric acid at Nadezhda Metallurgical Plant and construction of acid neutralisation facilities (including gypsum storage and related infrastructure), – to be completed by 2023
- Phase 2: Recovery of sulphur dioxide from rich off-gases at sulphuric facilities at Copper Plant, discontinuing of converter operations with sulphur-poor gases and expansion of neutralisation infrastructure (for sulphuric acid from the Cu stream) – to be completed by 2025

#### LOCATION

**Norilsk Industrial District,  
Krasnoyarsk Region**



## COMPREHENSIVE ENVIRONMENTAL PROJECT AT KOLA MMC

### Project overview

The environmental project at Kola MMC provides for the complete shutdown of smelting operations in Nickel, upgrade of the beneficiation plant in Zapolyarny, construction of a loading point to ship concentrate to consumers and discontinuing copper production in Monchegorsk with the obsolete copper anode electrolysis technology replaced with more advanced electrowinning.

In late 2020, Nornickel shut down its smelting shop in Nickel town. The shop's annual throughput was 900 kt of charge. The project helped reduce sulphur dioxide emissions by 71% in Nickel and Zapolyarny and by 58% in 2020 (from a 2015 baseline) in the Russia–Norway border area.

When shutting down the shop, employees who wished to stay with the Company were offered jobs in other units, while those who decided to try their hand at entrepreneurship were provided with favourable starting conditions. Of the 660 employees of the smelting shop, 72% chose to continue working at the Company. The Company will spend some RUB 912 million (USD 12.8 million) on outplacement programmes for the smelting shop's employees in 2020–2022.

During 2021, the shop's building will be prepared for mothballing: it will be cleaned, while materials containing non-ferrous metals will be collected and sent for recycling. The industrial site may be preserved if an option is found for transforming it by installing green industries and creating new jobs.

With the shutdown of the smelting shop, our production chain was modified, with a preliminary upgrade of the flotation shop conducted at Zapolyarny Concentrator to produce high-grade and low-grade saleable concentrate. The construction of the first 250 kt loading point for low-grade concentrate has been completed. The second loading point, for high-grade concentrate, while still under construction, is in pilot operation. The copper refining shop in Monchegorsk was closed in March 2021.

Project investments between 2021 and 2025 will total RUB 3.5 billion (USD 49 million), in 2020 - RUB 1.2 billion (USD 16 million).

### LOCATION

**Nickel, Monchegorsk,  
Zapolyarny, Murmansk Region**