Air

GRI 413-2

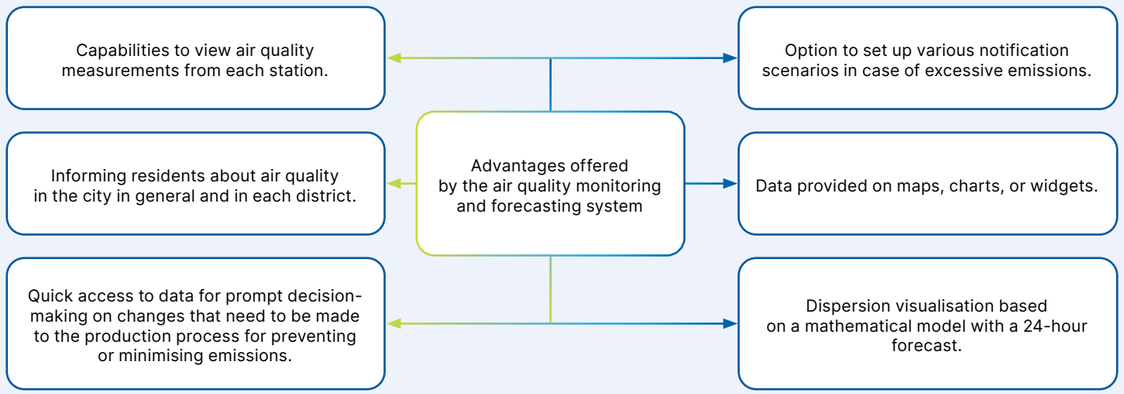
As Nornickel has a significant impact on atmosphere, reduction of pollutant emissions is one of the key objectives pursued by the Company's Environmental Strategy.

With its wide range of operations, Norilsk Division emits more than 60 pollutant substances into the air. Sulphur dioxide accounts for around 98% of those emissions.

Reduction of sulphur dioxide emissions is Nornickel's strategic priority. To that end, it runs the Sulphur Programme, the largest environmental initiative of the Company in terms of scope and financing.

Air quality monitoring and forecasting system

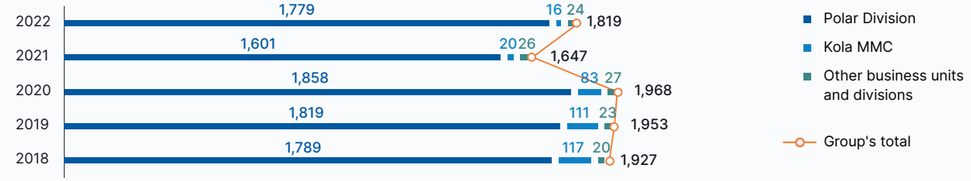
To ensure the high quality of input data and raise awareness of local communities about pollutant emissions, the Company has rolled out an advanced air quality monitoring and forecasting system in Norilsk, Monchegorsk, Nickel and Zapolyarny.



Air pollutant emissions

GRI 305-7, SASB EM-MM-120a.1

Air pollutant emissions, kt



Air emissions by pollutant, kt

In 2022, the Group's total emissions amounted to 1.8 mt, up 10.5% y-o-y. The growth was driven by the recovery of Norilsk Division's production volumes after their reduction in 2021 as a result of suspended operations at two mines of Norilsk Concentrator. Kola Division's emissions continued to decrease following the shutdown of several outdated metallurgical shops: total emissions went down by 18% y-o-y.

Use of ozone-depleting substances

Nornickel neither produces nor uses ozone-depleting substances (ODS), except for extremely limited amounts used as a chemical agent for laboratory-based chemical analysis as well as for filling and topping compressors in air conditioning units and carbonated water machines that produce water used as a cooling agent for medium- and low-temperature refrigerating equipment. The Company reports on the use of such substances to the Russian Ministry of Natural Resources and Environment as required.

There were no ODS emissions in 2022.

Sulphur Programme

The Sulphur Programme is Nornickel's flagship environmental project on sulphur dioxide (SO_2) capture and recovery, which is one-of-a-kind globally. The technology makes it possible to capture up to 99% of SO_2, convert it into sulphuric acid and then into gypsum.

The total CAPEX for the Sulphur Programme is estimated at around

USD **4.1–4.3** bn[1]

The Sulphur Programme provides for gradual reduction in SO_2 emissions in the Norilsk Industrial District and on the Kola Peninsula as our key geographies. On the Kola Peninsula the programme was completed in 2021, with Kola Division's SO_2 emissions declining by 90% vs 2015.

In 2022, Norilsk Division continued to build off-gas recycling facilities and related infrastructure at Nadezhda Metallurgical Plant.

Progress against the Sulphur Programme in Norilsk Division

The first stage of the programme aims to design and introduce new solutions and technology to recycle SO_2 coming from off-gases produced by the key smelting units of Nadezhda Metallurgical Plant. The off-gases will be used to make sulphuric acid, neutralise this acid with natural limestone and obtain gypsum.

In 2022, the Company completed a wide range of procurement and construction works at the key facilities of the integrated project implemented at Nadezhda Metallurgical Plant as part of the Sulphur Programme, while also building a variety of infrastructure and linear facilities for this project. These works included:

- construction and installation (earthworks, concrete works, assembly of metal structures, erection of structural parts of buildings and structures, installation of electrical equipment, overhead power lines, pipelines, gas ducts and technical infrastructure, cabling, assembly of engineering equipment, road construction, etc.);
- supply of materials and technical resources and installation of process equipment (including large-size equipment);
- construction and furnishing of gypsum storage facilities;
- individual equipment tests.

The second stage of the programme envisages a comprehensive project to design and introduce new solutions and technology at Copper Plant with a view to obtaining sulphuric acid from off-gases of the existing Vanyukov furnaces and the new continuous converting facility, neutralising this acid with natural limestone and producing gypsum.

As a number of technology partners refused to continue cooperation with Nornickel in 2022, the Company began to review some of its design solutions in a bid to minimise the adverse effects of the sanctions on the integrated project implemented as part of the Sulphur Programme at Copper Plant.

Social and economic impacts of the Sulphur Programme on Russian economy

In 2022, Nornickel joined forces with the Institute of Economic Forecasting of the Russian Academy of Sciences to assess the social and economic impacts of the sulphur disposal facilities constructed and operated by the Company (Sulphur Programme) on Russian economy.

Researchers from the Russian Academy of Sciences found that the Sulphur Programme has a clearly articulated social dimension. Instead of focusing on commercial gains, the Sulphur Programme seeks to create significant social and environmental benefits beyond the scope of its design capacities by boosting the output of enterprises from allied sectors and encouraging the redistribution of additional profits throughout wider economy in the form of salaries for employees, earnings for businesses and taxes paid to the budget of Russia. Eventually, this will trigger an increase in end demand for domestically produced goods and have a positive macroeconomic impact on GDP growth.

Also important is the positive impact the Sulphur Programme will have on the environment, as it will help increase the quality of life in local communities. Fundamental environmental changes will be instrumental in improving public health and reducing excess mortality in Norilsk.

[1] CAPEX to be updated in 2023 following the review of certain design solutions.

Water

Protection of water bodies

GRI 303-1, 303-2, 303-3, 303-4, 303-5, SASB EM-MM-140a.2

Nornickel takes a responsible approach to its use of water resources. The Company withdraws water for production needs strictly in line with the pre-approved limits and consistently ensures compliance with permissible wastewater discharge limits based on the Group companies' corporate environmental reporting and its analysis.

Nornickel uses water from surface and underground sources for drinking and production needs, as well as for recirculating and recycling water supply. The Company regularly runs observation programmes for water bodies and water protection zones that serve as water sources for Nornickel. In 2022, no major impact of Nornickel's operations on water bodies was identified; water withdrawal was within the pre-approved limits. No water is withdrawn from the bodies included in the Ramsar Convention on Wetlands of International Importance. The Company's areas of operation are not water-scarce[1].

To decrease withdrawal volumes, the Company continues to improve its closed water circuit, which enables efficient use of water resources. In 2022, 82% of all water used by the Company was recycled and reused.

Nornickel has in place a Position Statement on Water Stewardship, which outlines key relevant principles, commitments, initiatives and targets.

Key principles of Nornickel's water stewardship:

Complying with applicable national laws and rules	Enabling information accessibility and transparency as regards water stewardship	Working towards water consumption and discharge targets, efficient water use
Adherence to international best practices and requirements of leading sustainability associations	Liaising with government bodies to participate in drafting environmental responsible water protection regulations	No Company's or its branches' operations in waterscarce areas as they are defined in the World Resources Institute's Aqueduct Water Risk Atlas
Proactively engaging stakeholders on matters of external water resource management to support predictable, consistent and effective regulation	Making sure that the employees of the production facilities belonging to the Company and its branches comply with the 2021 Position Statement on Water Stewardship at all stages of these facilities' life cycle	Fostering employee knowledge and skills in responsible water use at our sites and branches, identifying meaningful incentives to stimulate responsible water use

The Company works to reduce and, where possible, prevent negative impact on water resources caused by production and delivery operations.

[1] The methodology to identify water-scarce areas is based on the data of the Aqueduct project of the World Resources Institute and Climate Zoning of the Russian Federation.