

Climate Change Report



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APPROVED
by the Management Board
of PJSC MMC Norilsk Nickel
Minutes № GMK/28-pr-p
dated 17.11.2023

RECOMMENDED FOR APPROVAL
by the Committee on sustainable
development and climate change
of PJSC MMC Norilsk Nickel
Minutes № 3
dated 27.11.2023

APPROVED
by the Board of Directors
of PJSC MMC Norilsk Nickel
Minutes № GMK/42-pr-sd
dated 05.12.2023



About Norilsk Nickel Group

Overview

Nornickel is a leader of the Russian metals and mining industry, ranks No. 1 among the world's producers of high-grade nickel and palladium, and is one of the major

producers of platinum, cobalt, copper, and other metals and chemical elements globally. Our metals contribute

to infrastructure development and to advancing the low-carbon economy and green transport.

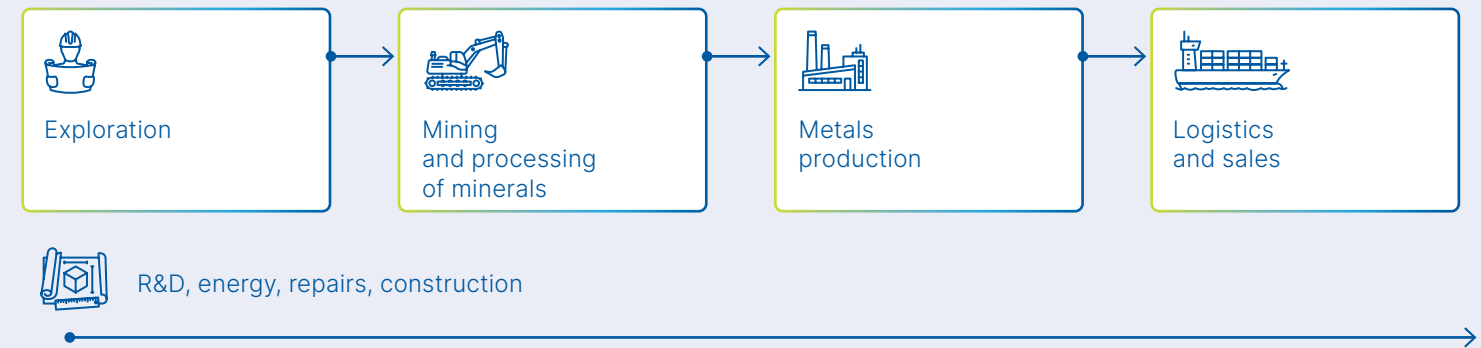
Nornickel's products



28 Ni Nickel	46 Pd Palladium	78 Pt Platinum	27 Co Cobalt	29 Cu Copper	45 Rh Rhodium
79 Au Gold	47 Ag Silver	77 Ir Iridium	16 S Sulphur		
52 Te Tellurium	34 Se Selenium	44 Ru Ruthenium			

The Company is a vertically integrated holding boasting a full metals production cycle, from ore mining to refining, along with its own energy, transportation, support and R&D assets.

Nornickel is the largest business in the Russian Arctic, a mainstay of local economies, and one of the major employers across its geographies, including Norilsk.



GROUP STRUCTURE

Since 2020, MMC Norilsk Nickel's branches and Norilsk Nickel Group's entities have been reorganised into four divisions – Norilsk, Energy, Trans-Baikal and Kola.

The Group's production assets are located in two countries – Russia and Finland.
MMC Norilsk Nickel's Head Office is based in Moscow.

The Group operates its own sales network, construction and repair assets, R&D divisions, river transport infrastructure, port terminals, a one-of-a-kind Arctic cargo sea fleet, and a range of other auxiliary units.



Operating assets



Energy



Transport



R&D



Sales

KEY FACILITIES BY DIVISION

Norilsk

- Polar Division of MMC Norilsk Nickel
- Medvezhy Ruchey

Energy

- NTEC
- Norilskgazprom
- Norilsktransgaz
- Taimyr Fuel Company

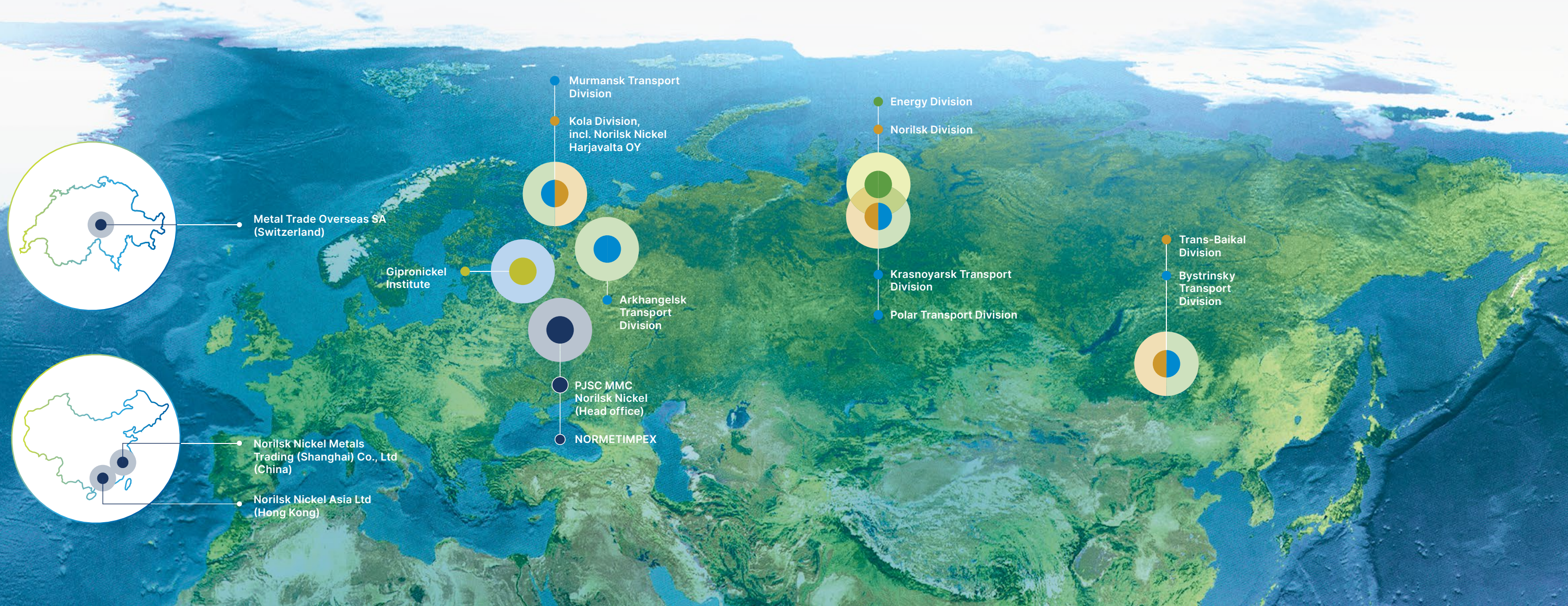
Kola

- Kola MMC
- Norilsk Nickel Harjavalta Oy

Trans-Baikal

- GRK Bystrinskoye

➔ For a detailed description of production processes across the branches and entities by division (Norilsk, Energy, Kola, and Trans-Baikal), please see Nornickel's 2022 Annual Report and 2022 Sustainability Report, as well as respective sections on the Company's website.



President's Letter



DEAR COLLEAGUES,

Climate change is a global problem and one of the greatest challenges that humankind has ever faced. Its impact is already visible around the globe: from the equator to polar latitudes. Talking about the Arctic, which is home to the key production assets of Nornickel, the temperature rise here is several times as fast as across the planet on average.

Climate agenda remains one of our sustainability priorities. We have ambitious goals to mitigate our climate impact while also adjusting our operations to climate changes that are already taking place and that are projected in the future.

With our production chains and infrastructure located in the Arctic, we put an emphasis on analysing risks related to permafrost thawing. We focus on analysing ongoing climate changes and developing relevant adaptation measures to maintain business continuity and enhance occupational safety. The ongoing initiatives include an automated monitoring system for the foundations of buildings and structures we are rolling out in the Norilsk Industrial District

to monitor changes in soil temperature at foundations and deformation behaviour in them. In 2021–2022, we installed over 1,200 sensors at 165 facilities covered by the project, commissioned an information and diagnostics system, and set up a control unit. Our assessment shows that until 2028, physical risks related to climate change will be mitigated by activities targeting improvements in the reliability of production assets and infrastructure.

OPEX and CAPEX associated with climate change-related activities stood at RUB 8.9 bn in 2022, helping deliver considerable savings in energy and resource efficiency of our operations. In 2022, we also increased the share of renewable sources in our energy mix to 51% (from 47% in 2021).

Global transition to low-carbon economy is creating market opportunities for our portfolio of green metals. As renewable energy construction is ongoing and electric vehicles and hydrogen economy are gaining momentum, we already see greater demand for our metals. Nornickel invests considerable efforts in decarbonising

the global economy, and we expect the demand for our products to steadily rise, which will contribute to our sustainable and well-balanced growth.

With climate change seen as a global issue, we seek to expand our partnerships with stakeholders and look for collaborative solutions. On an ongoing basis, Nornickel liaises with the academic community to enhance in-house expertise and conduct joint research. In 2022, supported by the Russian Academy of Sciences, we engaged in climate change scenario modelling for territories across our footprint, and developed our own global economy and climate change scenarios until 2050 to assess risks and opportunities.

I appreciate the dedication of all our employees and their commitment to the efforts that are currently underway and that I hope continue going forward.

[President and Chairman of MMC Norilsk Nickel Management Board](#)

Vladimir Potanin

Chairman's Letter



DEAR COLLEAGUES,

I am happy to present Nornickel's first public climate change report. Prepared in accordance with international recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), it describes the steps that we have been taking to address the global challenge of climate change, and outlines the key outcomes we have delivered so far. While this is our first report that focuses exclusively on climate change, it is an area that we have been exploring for quite a while now, with public reporting on our climate change efforts in place since 2016.

We are committed to achieving UN Sustainable Development Goal 13 Climate Action and the goal under the Paris Agreement to hold the increase in the global average temperature to well below 2 °C and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels in the second half of the 21st century. In line with Russia's Low-Carbon Development Strategy approved by the government and targeting carbon neutrality by 2060, Nornickel will continue its endeavours to reduce greenhouse gas emissions.

As part of that commitment, the Company aims to increase the share of renewables in its energy mix, improve the efficiency of its operations, and research into, develop, and introduce new low-carbon technology. I am proud to say that products made by Nornickel boast one of the lowest carbon footprints in the industry.

The Company has a robust system in place to manage and allocate responsibilities for the climate agenda. In 2021, our Board of Directors approved the Climate Change Policy. Climate issues are on the Board's radar on an ongoing basis. Since 2021, the Board has the Sustainable Development and Climate Change Committee in place, responsible for overseeing Nornickel's progress against the corporate climate change strategy. In 2022, the Committee reviewed key outcomes achieved as part of our climate action projects, including those designed to improve resilience to physical climate risks and adjust to climate change. The Committee also reviewed Nornickel's public reporting on climate change as part of Norilsk Nickel Group's Sustainability Report.

Nornickel pursues and seeks to expand its cooperation with the academic community, engaging in comprehensive joint research of climate and climate-related factors and the impact that those have on production facilities across the Company's footprint. We also monitor developments in the global economy associated with the low-carbon transition. Our first public climate action report provides details on what we have achieved so far.

The Board of Directors expects the Company to go ahead with its strategic projects and initiatives to combat climate change, along with cooperation with industry peers, local communities, R&D centres, and stakeholders at large to identify the best solutions to address global climate change.

[Chairman of MMC Norilsk Nickel Board of Directors](#)

Andrei Bougrov

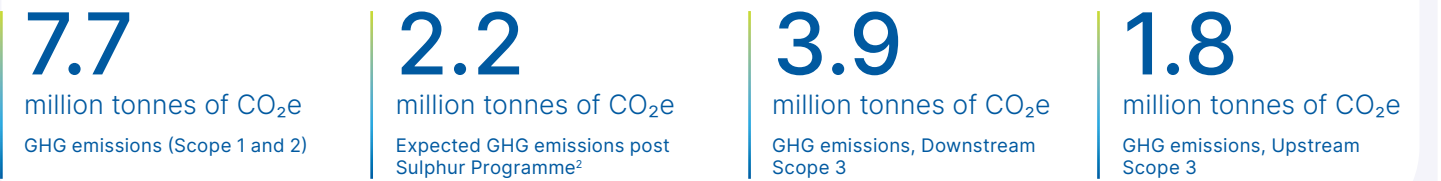
Highlights and Results



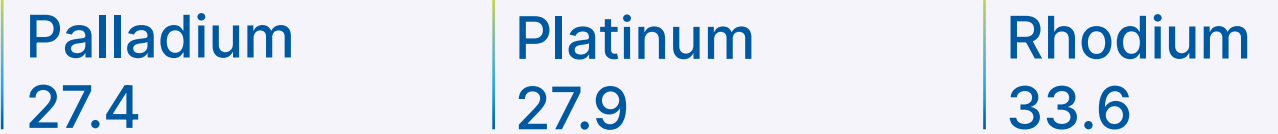
KEY CLIMATE ACTION ACHIEVEMENTS IN 2022

- Proprietary global economy and climate change scenarios developed to assess climate-related risks and opportunities.
- Climate change modelling until 2050 across the Company's footprint conducted, with key climate risk factors identified and their impact on the production assets of Norilsk, Energy, Kola and Trans-Baikal Divisions preliminarily assessed.
- Transition risks and opportunities identified and their pilot assessment conducted.
- A methodology developed to calculate an internal carbon price and an initiative launched to test its application in investment project evaluation.
- Upstream Scope 3 GHG emissions calculated for the first time.
- GHG emissions data verified by TÜV AUSTRIA Standards & Compliance, an international testing, inspection and certification company.
- A report on Nornickel's GHG emissions submitted to the Russian Ministry of Economic Development with a view to adding relevant data to the registry of GHG emissions.
- The first stage of a system to monitor buildings and structures built on permafrost soils deployed in the Norilsk Industrial District.

2022 performance highlights¹



Carbon footprint according to ISO 14044 (GWP 100), kg of CO₂e per g of metal



Carbon footprint according to ISO 14044 (GWP 100), kg of CO₂e per kg of product



Buildings and Structures Monitoring System project:



¹ GHG emissions and carbon footprint data include those of Norilsk Nickel Harjavalta OY.

² This is a large-scale environmental project designed to capture and recover sulphur dioxide emissions at the Nadezhda Metallurgical Plant and the Copper Plant (both part of Nornickel's Polar Division), dramatically reducing emissions. For more details on the Sulphur Programme, please see the Strategic Vision section, as well as the Company's 2022 Annual Report and 2022 Sustainability Report.

Approach to Climate Change

Nornickel realises that climate change is one of the most significant and urgent global issues that poses high risks to the Company's economic activities and society as a whole. As a party to the UN Global Compact, the Company fully supports the UN Sustainable Development Goals (SDGs), in particular SDG 13 Climate Action, and actively participates in efforts to combat global warming.

The Company unconditionally shares the principles of the Paris Agreement and supports its goal in terms of keeping the global average temperature increase well below 2 °C and making efforts to limit the increase to 1.5°C. Nornickel actively engages with the scientific community, supporting and promoting nature and climate studies in the regions of its operation, creating and expanding the climate and geocryological monitoring

system, and developing and implementing measures to reduce GHG emissions and adapt to climate change.

The Company is guided by recognised international standards for building corporate governance and climate risk management systems as well as standards for climate-related disclosures, including:

- TCFD (Task Force on Climate-Related Financial Disclosures) recommendations;

- GHG protocol;
- GRI Standards;
- SASB Metals & Mining Sustainability Accounting Standard;
- ICMM's Mining Principles;
- Standard for Responsible Mining of the Initiative for Responsible Mining Assurance (IRMA);
- Global Industry Standard on Tailings Management (GISTM);

- requirements of independent ESG agencies (Ecovadis, Sustainalytics, MSCI ESG, CDP);
- Bank of Russia's recommendations for public joint-stock companies to disclose non-financial information regarding their operations¹;

- methodological recommendations and indicators of the Russian Ministry of Economic Development on climate change adaptation².

Key Climate Action Results and Short-Term Plans

2021	2022	Short-term plans
<ul style="list-style-type: none"> ✔ Sustainable Development and Climate Change Committee of the Board of Directors established. ✔ Nornickel's Climate Change Policy drafted and approved by the Board of Directors. ✔ Environmental and Climate Change Strategy drafted and approved by the Board of Directors. ✔ Roadmap to comply with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) developed and approved by the Senior Vice President for Sustainable Development ("TCFD Roadmap"). ✔ Climate action targets and roles set and assigned at the Head Office and division levels. ✔ Methodology developed and the first assessment conducted to measure the carbon footprint of the Company's core products. 	<ul style="list-style-type: none"> ✔ Pilot project to assess physical climate-related risks launched at branches and entities of the Norilsk and Energy Divisions as well as in the Polar Transport Division. ✔ Supplier Code of Conduct developed to cascade Nornickel's requirements down to its suppliers, including those pertaining to GHG emissions reduction, in line with Nornickel's commitment to build a responsible supply chain. <ul style="list-style-type: none"> ✔ Approaches to climate-related risks and opportunities assessment developed. ✔ Climate change modelling until 2050 across the Company's footprint conducted jointly with climate scientists, with key climate risk factors identified and their impact on the production assets of Norilsk, Energy, Kola and Trans-Baikal Divisions preliminarily assessed. ✔ International best practices in climate-related risk adaptation studied at cities and companies levels. ✔ Proprietary global economy and climate change scenarios developed. ✔ Register of transition risks and opportunities compiled and their pilot assessment conducted. ✔ Nornickel's consolidated financial and economic model stress-tested under global economic and climate change scenarios. ✔ Amendments to the Company's internal regulations drafted in connection with climate-related risk management (including the Risk Management Regulations). ✔ Science-based targets (SBT) criteria analysed for the Company. ✔ Methodology developed to calculate the internal carbon price with its application in assessing investment projects being tested. 	<ul style="list-style-type: none"> ✔ Upstream Scope 3 GHG emissions calculated for the first time. ✔ Group's GHG emissions and product carbon footprint verified and expected GHG emissions following the Sulphur Programme implementation validated by TÜV AUSTRIA Standards & Compliance, an international testing, inspection and certification company. ✔ Methodologies for calculating direct GHG emissions and indirect energy-related GHG emissions developed and validated by an international verifier for the Company's internal accounting purposes. ✔ Report on Nornickel's GHG emissions submitted to the Russian Ministry of Economic Development with a view to adding relevant data to the registry of GHG emissions (in accordance with Federal Law No. 296-FZ On Limiting Greenhouse Gas Emissions dated 2 July 2021). ✔ Quality of public climate change disclosure in Sustainability Report improved. ✔ Possible options analysed for the development of in-house power generation facilities up to 2050 based on low-carbon technologies. ✔ A total of over 200 employees trained in climate change and climate-related risks. <ul style="list-style-type: none"> ✔ Develop an action plan to comply with standards and recommendations on climate change disclosure. ✔ Refine the methodology for assessing climate-related risks and opportunities by, inter alia, leveraging the scientific community's expertise. ✔ Integrate climate-related risks and opportunities management process into corporate business processes, including making necessary changes to internal regulations. ✔ Develop adaptation and mitigation approaches and tools for transition risks and physical risks (for individual production assets as well). <ul style="list-style-type: none"> ✔ Develop approaches to implementing the Company's nature-based solutions to climate change. ✔ Expand the scope of the Company's supplier due diligence to include GHG emissions. ✔ Harmonise the corporate methodology for product carbon footprint calculation with an industry model. ✔ Design a system to assess climate change-related competencies as part of the personnel competence model. ✔ Develop cooperation and partnerships and promote the climate agenda in the professional community, in particular participation in climate agenda committees and working group of ESG Alliance.

¹ Bank of Russia's Information Letter No. IN-06-28/49 On Recommendations for Public Joint-Stock Companies to Disclose Non-Financial Information Regarding Their Operations dated 12 July 2021.

² Order No. 267 of the Russian Ministry of Economic Development On Approving Methodological Recommendations and Indicators on Climate Change Adaptation dated 13 May 2021.

Strategy and Governance

Nornickel's Strategic Vision

KEY FOCUS AREAS AND TARGETS OF NORNICHEL'S SUSTAINABILITY STRATEGY THROUGH 2030

The low-carbon transition of the global economy is opening up new opportunities for Nornickel's green metals. Decarbonisation of transport and focus on renewable and hydrogen energy will be driving demand for our products in the long run.

Nornickel is aware that sustainable development is impossible without an efficient holistic approach to managing natural resources that would respect the interests of all stakeholders. As one example, our customers have high standards that we need to meet in terms of compliance with international principles and sustainability standards. On top of that, the Company is engaged in ongoing dialogue with shareholders, non-governmental organisations, local communities and other stakeholders, among other things on management of climate-related risks to help achieve SDG 13 Climate Action. Sustainability agenda is among the key drivers that we are guided by when planning strategic initiatives and investment projects.

In terms of resource base development, our strategy focuses on production upgrades, maximum utilisation of existing mining and concentration capacities, and development of the South Cluster¹.

Also, Nornickel plans to develop the Kolmozerskoye deposit in the Murmansk Region with Russia's largest reserves of lithium, one of the key metals required for the global energy transition. With all these projects under its belt, Nornickel is perfectly positioned to meet the world's growing demand for green metals.

To reduce our environmental footprint, we carry on with our major Sulphur Programme.

After we finished its stage on the Kola Peninsula in 2021, sulphur dioxide emissions of the Kola Division went down 90% in 2022 compared to the 2015 baseline.

In 2023, the Company is to complete the first stage at Nadezhda Metallurgical Plant in the Norilsk Industrial District, which will reduce sulphur dioxide emissions at Polar Division by 45% vs 2015. While our unprecedented programme to cut down on sulphur dioxide emissions into the air of the Norilsk Industrial District is set to deliver meaningful improvements in the quality of life of local communities, the process to neutralise sulphuric acid with limestone associated with the production and disposal of gypsum (non-hazardous waste) will inevitably lead to higher GHG emissions. To account for that, the Company has already created a respective provision in its total GHG emissions. Environmental footprint reduction delivered as part

of the Sulphur Programme is extremely important for Russian regions and the nation in general: it is the key initiative of Russia's Clean Air federal project. The Company continues looking into ways to minimise the climate impact associated with the Sulphur Programme, including by considering alternative options of utilising sulphuric acid in other sectors (such as manufacturing, fertilizers, or production of auxiliary inert materials) without having to neutralise it and store gypsum in a geographically remote and isolated region.

The Company also plans to upgrade its energy infrastructure as a way to enhance the reliability of energy supplies to its production assets in the long run, and goes ahead with energy efficiency initiatives as a way to help reduce the carbon footprint of production.

CLIMATE CHANGE STRATEGY

The Company's climate change vision is outlined in a number of documents approved by the Board of Directors.

The key corporate documents on climate change include:

- Environmental and Climate Change Strategy;
- Climate Change Policy;
- Environmental Policy;
- Renewable Energy Sources Policy.



¹ South Cluster is Nornickel's project to develop reserves in the northern part of the Norilsk-1 deposit.

There are several areas where Nornickel contributes to climate change efforts.



Supporting global energy transition

A report by the Intergovernmental Panel on Climate Change (IPCC)¹ shows that achievement of the Paris Agreement goal will require a drastic reduction in GHG emissions by 2050. Energy, transport, and construction were identified as industries with the strongest potential to reduce their GHG emissions.

The International Energy Agency (IEA) identified the following metals and minerals as critical for the global energy transition.

Nornickel's metals

	Copper	Nickel	Cobalt	PGMs	Lithium	REEs	Chromium	Zinc	Aluminium
Solar PV	●	●	●	●	●	●	●	●	●
Wind	●	●	●	●	●	●	●	●	●
Hydro	●	●	●	●	●	●	●	●	●
Concentrating solar power	●	●	●	●	●	●	●	●	●
Bioenergy	●	●	●	●	●	●	●	●	●
Geothermal	●	●	●	●	●	●	●	●	●
Nuclear	●	●	●	●	●	●	●	●	●
Electricity networks	●	●	●	●	●	●	●	●	●
EVs and battery storage	●	●	●	●	●	●	●	●	●
Hydrogen	●	●	●	●	●	●	●	●	●

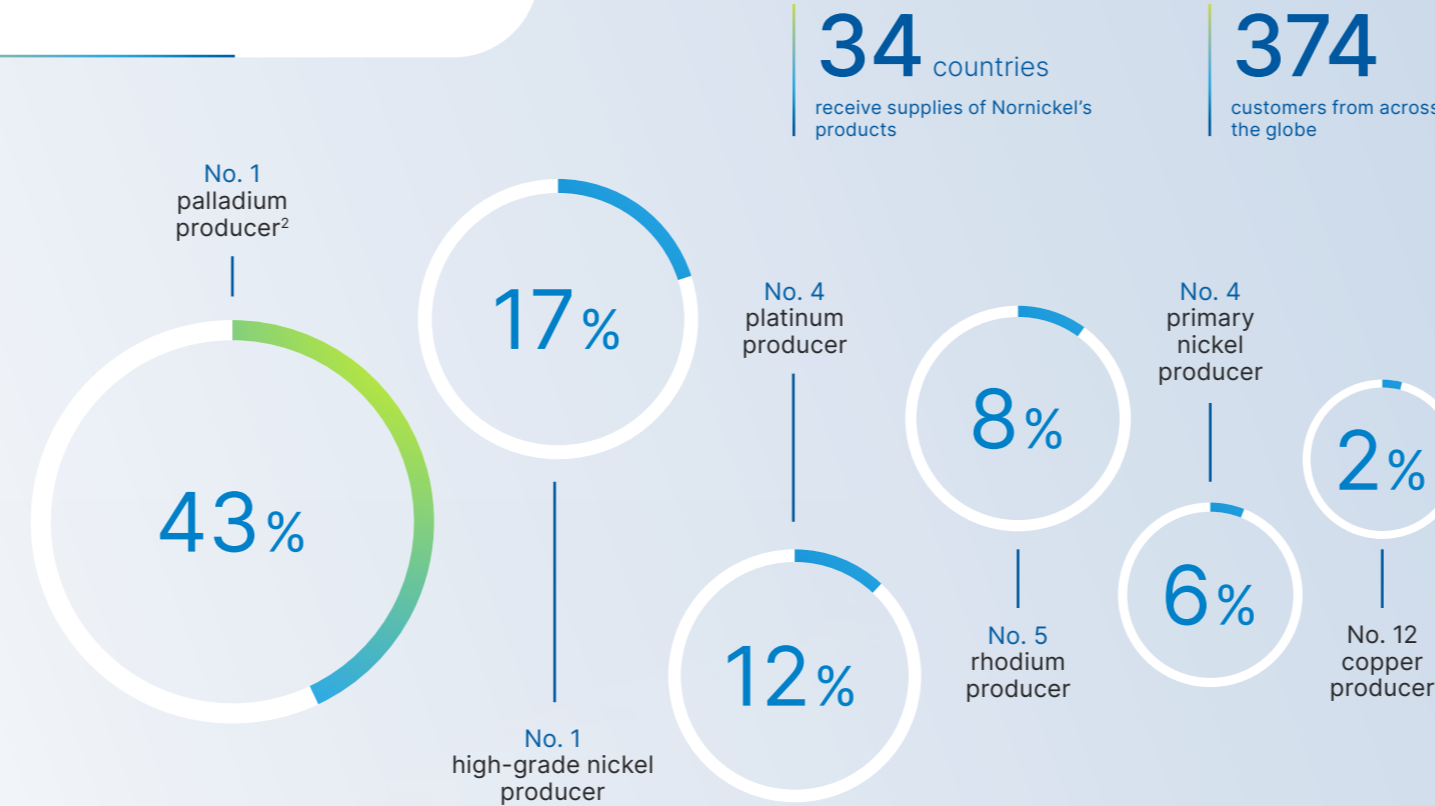
Source: IEA²

Relative importance of metals and minerals for various clean energy technologies:

- High;
 - Medium;
 - Low;
- PGMs — platinum group metals;
REEs — rare earth elements.

Nornickel is already a supplier of four out of nine critical green metals to the global market and has plans to start developing a lithium deposit.

Position in the industry¹



Proven and probable ore reserves³

1,127 million tonnes
Norilsk and Kola Divisions

274 million tonnes
Trans-Baikal Division

Reserves-to-production ratio at the current production level
>75 years

Nornickel is also expanding its product portfolio by developing innovative products to support the low-carbon transition (for more details, please see the Product Portfolio Diversification section).



Decarbonisation

Nornickel seeks to retain its status as one of the lowest GHG emitters (Scope 1 and 2) among globally diversified mining companies (for more details, please see the Greenhouse Gas Emissions section). To that end, the Company takes steps to implement energy saving technology and upgrade energy infrastructure assets. Also, Nornickel aims to increase the share of renewable energy in its energy mix.

Share of electricity obtained from hydropower plants in 2022:
51% +4 p.p vs 2021

For indirect GHG emissions, the Company is building a responsible supply chain. The first step was the adoption of the Supplier Code of Conduct, which sets out Nornickel's requirements to suppliers, including as regards reductions in GHG emissions. In the short term, the Company plans to include questions on GHG emissions into its supplier questionnaires.



R&D to support the Company's decarbonisation in the long run

To reduce GHG emissions in the longer term, Nornickel and the academic community conduct joint research into prospective low-carbon technologies and solutions. As part of these efforts, in 2022 we analysed potential pathways for our power generating facilities until 2050 using low-carbon solutions.

The Company looks into the mine tailings potential to capture carbon dioxide as part of the mineralisation process. We also work on a methodology to calculate GHG absorption.

Nornickel is also developing new approaches to the implementation of nature-based solutions to climate change.



Climate change adaptation

Nornickel's assets are located in regions heavily affected by climate change. The Company assumes that despite the steps taken by the global community to cut down on GHG emissions, there are inevitable changes to be suffered by the environment across the geographies where we operate.

To adapt to existing and potential climate change impacts, the Company is developing procedures to identify and assess climate-related risks.

We have developed our own global economy and climate change scenarios to assess transition risks and opportunities.

Global climate change scenarios have been localised to the Company's regions of operation to assess physical risks.

A general framework has been developed to identify and assess climate-related risks and opportunities.

Nornickel is running a major project to monitor buildings and structures built on permafrost in the Norilsk Industrial District.

17 Nornickel entities (700 facilities) covered by the monitoring system as at the end of 2022

165 facilities equipped with automated sensors

RUB 3 bn investments at the project's first stage

¹ IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647.

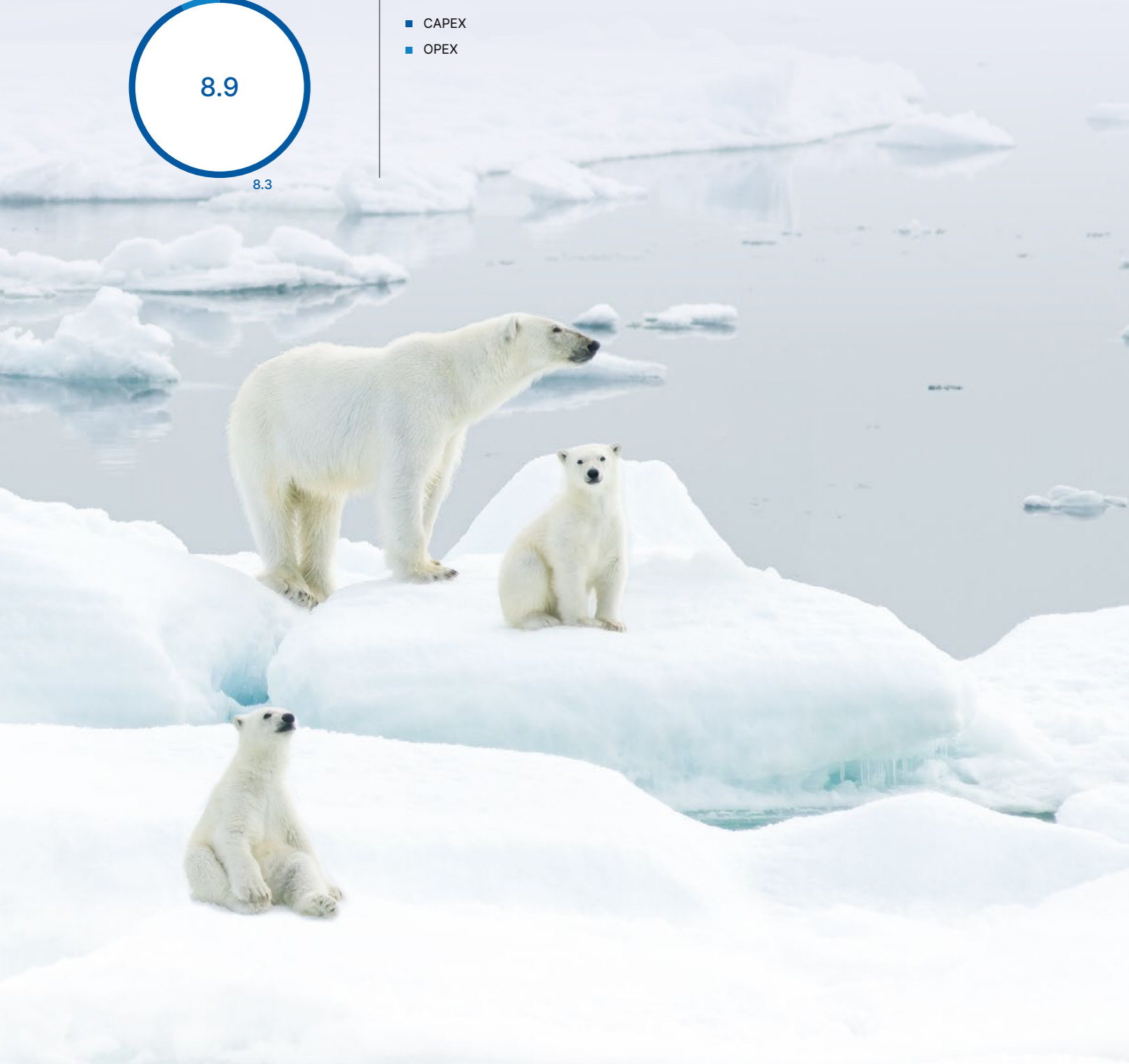
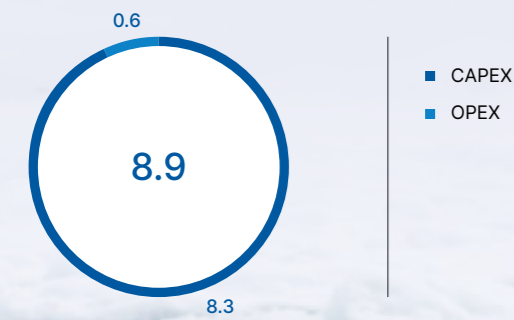
² Mineral requirements for clean energy transitions — The Role of Critical Minerals in Clean Energy Transitions — Analysis — IEA.

¹ For palladium, nickel, platinum, and rhodium markets – in terms of refined metals production (including tolling arrangements), for the copper market – in terms of mining.

² Primary metal market share.

³ A decrease in ore reserves and inferred resources in the Norilsk Industrial District mainly ensued from the impact a change in economic parameters and a new MET rate had had on the feasibility of developing a portion of disseminated ore from the Talnakh Ore Cluster after 2035.

Capital and operating expenses to run climate action initiatives² in 2022 (RUB bn)



¹ Including energy efficiency and setting up the monitoring system for buildings and structures built on permafrost.

Approaches to Climate Change Management

Nornickel is developing a climate change management system and improving its management structure by allocating responsibilities and describing respective functional roles in the Company's corporate documents.

THE COMPANY HAS THE FOLLOWING KEY OBLIGATIONS UNDER THE POLICY



Develop and regularly update its climate change strategy¹.



Identify and measure the contribution of the Company's products to the low-carbon economy in the process of organisational life-cycle assessment.



Attract and effectively allocate capital to implement the Company's climate change strategy.



Organise regular audits of climate-related risk management and publicly disclosed climate change indicators.



Implement management systems and risk management tools to respond to climate change and have them integrated into the corporate risk management framework in line with the TCFD requirements.



Review commercially sensible opportunities to reduce carbon footprint, including the use of assessment tools for responsible value chain management and the development of green technology partnerships to accelerate the decarbonisation of the Company's operations.



Promote advance practices and innovations.



Expand engagement and partnership with stakeholders on climate change agenda.



Ensure transparent and regular disclosure of GHG emission targets and other relevant indicators and aspects in accordance with the Russian laws and best global standards.



Apply GHG emission offsetting mechanisms, including nature-based solutions (including conservation and restoration of forests and other ecosystems that absorb carbon dioxide) where the application of these solutions appears to be the most feasible and commercially viable solution.



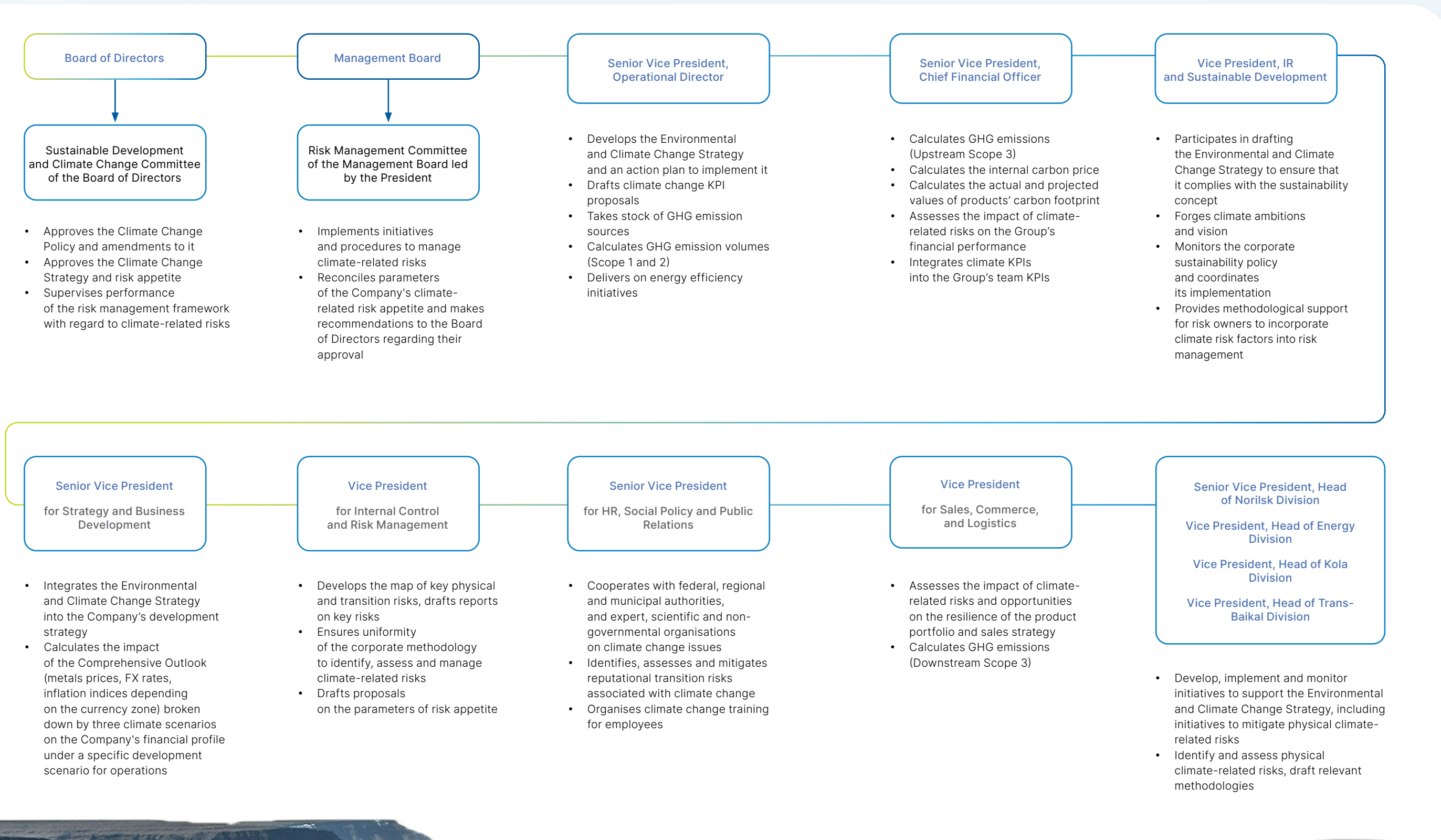
Adopt key performance indicators (KPIs) related to climate change goals for managers and employees of the Company.

¹ Part of the Environmental and Climate Change Strategy.

¹ https://nornickel.com/upload/iblock/510/PJSC_MMN_NORILSK_NICKEL_s_Climate_Change_Policy.pdf



Climate change management framework



RESPONSIBILITIES

The Board of Directors reviews and approves our Environmental and Climate Change Strategy and risk appetite and supervises climate-related risk management. In 2021, the Board created the Sustainable Development and Climate Change Committee to ensure a deeper focus on these matters. The Committee discusses the following matters:

- integration of sustainability principles, including climate change, into the Company's operations;
- development and implementation of a strategy on sustainable development and climate change;
- risk management and internal control in the realm of sustainable development and climate change;
- the Company's internal reporting and disclosures on sustainable development and climate change;
- external audit of the Company's sustainable development and climate change reports and activities.

In 2022, the Sustainable Development and Climate Change Committee considered the following matters:

- 2021 Sustainability Report;
- the Company's KPI system (including GHG emission reduction KPIs);
- climate scenarios to assess climate-related risks.

The implementation of climate-related risk management measures and procedures is inter alia a responsibility of the Company's Management Board and the Management Board's Risk Management Committee. Members of the Board agree upon parameters of the Company's risk appetite,

including those relating to climate change, and make recommendations to the Board of Directors regarding their approval. The key risks, including climate change threats, are reviewed on a quarterly basis.

In 2022, the Risk Management Committee held two meetings to discuss the following climate change matters:

- progress against the TCFD Roadmap;
- approval of the selected climate change scenarios of the Intergovernmental Panel on Climate Change and climate change models to analyse and assess physical risks for all of the Company's assets;
- approval of global economy and climate change scenarios developed by the Company to analyse and assess transition risks;
- approval of the Company's draft risk appetite statement for 2022, including parameters linked to GHG emissions.

The Vice President for Investor Relations and Sustainable Development, who supervises the Sustainable Development Department, is responsible for setting ambition and vision for climate change and developing and monitoring the implementation of the Company's Climate Change Policy.

The Sustainable Development Department is responsible for providing methodology support to the Company on climate change and related risks, reporting on climate change in order to adhere to best disclosure practices, and monitoring progress against the TCFD Roadmap. Starting 2022, the Department's scope of responsibilities also includes methodological support for risk owners

to help them incorporate climate risk factors into risk management. Amendments to that effect were introduced to the Regulation on the Sustainable Development Department and the Company's Risk Management Regulations. Dedicated units of the Head Office, branches and Norilsk Nickel Group companies are responsible for certain aspects of the Climate Change Policy and the Environmental and Climate Change Strategy within their scope¹. The Company's branches and business units that are part of Norilsk Nickel Group develop proposals regarding the Environmental and Climate Change Strategy implementation, ensure the availability of financial and other resources related to the Environmental and Climate Change Strategy implementation, identify and assess physical climate-related risks.

INCORPORATION OF CLIMATE GOALS INTO KPIs IN 2022

To confirm our commitment to deliver against climate goals and integrate the climate agenda into our corporate culture and Norilsk Nickel Group's annual team KPIs, including those for the top management, our KPIs now include GHG emissions reduction targets (Scope 1 and 2) with a weight of 20%.

Team KPI:
GHG emissions reduction
(Scope 1 and 2)
Weight: **20%**

NORNICKEL'S TCFD ROADMAP

In 2021, we began implementing the TCFD Roadmap. The Roadmap includes over 50 activities to improve strategic and operational management in the area

of climate change, including risks and opportunities, and is designed to help achieve goals and targets as recommended by TCFD and to publicly report on our performance.

Core elements of the TCFD Roadmap

Dimension	Key initiatives
Corporate governance	<ul style="list-style-type: none"> • Strengthening the role of the Board of Directors and top management to increase the effectiveness of managing climate-related issues, regular monitoring of climate risks and opportunities, and overseeing the implementation of key measures • Developing procedures for climate risk management and improving the Company's regulations and guidelines
Corporate strategy and financial planning	<ul style="list-style-type: none"> • Developing scenarios to assess climate-related risks and opportunities • Analysing the resilience of the Company's strategy when it comes to climate change scenarios
Risk management	<ul style="list-style-type: none"> • Integrating climate-related risks into corporate business processes by preparing amendments to regulatory and procedural guidelines; keeping risk owners abreast of climate risk factors • Building procedures of and approaches to assessment of physical risks and transition risks and opportunities
Goals and targets	<ul style="list-style-type: none"> • Calculating and disclosing the carbon footprint of products • Calculating and disclosing Scope 1, 2 and 3 GHG emissions • Developing an internal carbon price calculation approach • Regularly updating and disclosing goals and target indicators used by the Company to measure progress in the climate strategy implementation • Analysing science-based targets (SBT) criteria for the Company

In 2023, the Company is going to update the Roadmap and develop initiatives for the medium term.



¹ For full information on responsibilities and functions of the Company's governance bodies and units, please see PJSC MMC Norilsk Nickel's Climate Change Policy at https://www.nornickel.com/upload/iblock/5f0/PJSC_MMC_NORILSK_NICKEL_s_Climate_Change_Policy.pdf

Climate-Related Risks and Opportunities

Corporate Risk Management Framework

Integrated in Nornickel's business processes, its corporate risk management framework allows for risk-oriented decision-making at various levels to achieve strategic and operational goals.

Nornickel has the following risk management objectives:

- increase the likelihood of achieving the Company's goals;
- make resource allocation more efficient;
- boost the Company's investment case and shareholder value.

The risk management framework is based on the principles and requirements of applicable laws and professional standards and guidelines, including the Corporate Governance Code recommended by the Bank of Russia, GOST R ISO 31000-2019 (Risk Management. Principles and Guidelines), and COSO ERM Guidance (Enterprise Risk Management – Integrating with Strategy and Performance). It also relies on recommendations on risk management, internal controls, internal audit and the work of the Board of Directors' (Supervisory Board's) audit committee in public joint-stock companies (appendix to the Bank of Russia's Information Letter No. IN-06-28/143 dated 1 October 2020).

To manage production and infrastructure risks, the Company develops, approves, updates and tests business continuity plans designed to maintain and restore current operations.

Nornickel's key documents that set out the core principles and approaches in risk management are the Risk Management Policy, Risk Management Regulations, and Procedure for Managing Technical and Production Risks and Environmental Risks of MMC Norilsk Nickel.

➔ [For more details on the key process participants and allocation of responsibilities in risk management, please see MMC Norilsk Nickel's 2022 Annual Report \(page 219\) and 2022 Sustainability Report \(page 235\).](#)

To assess climate-related risks and opportunities, Nornickel uses TCFD recommendations, which identifies two key risk categories.

PHYSICAL RISKS

Their impact may manifest in the form of weather anomalies (acute risks) or irreversible changes of climatic conditions (chronic risks). Physical risk for the Company may result in permafrost thawing, change of water levels in water bodies, precipitation volumes and patterns and other climate risk factors that may have a material adverse impact on the Group's operations.

TRANSITION RISKS AND OPPORTUNITIES

They are associated with the transition to a low-carbon economy. For the Company, these risks mainly include policy and legal, technology, market, and reputation risks, which may cause considerable shifts in demand for the Company's products.

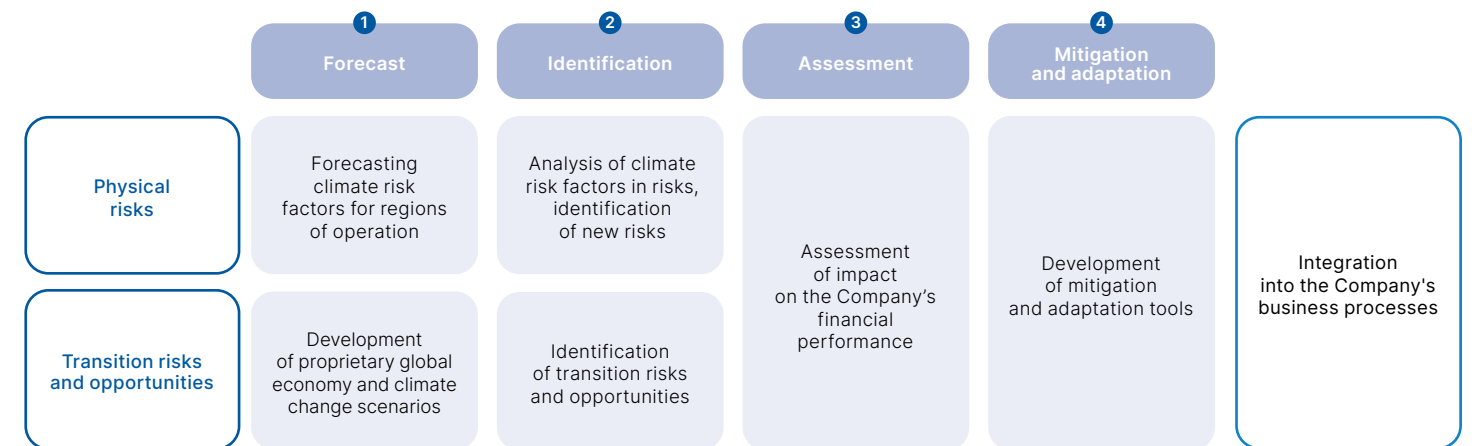
The Company's assets are located in regions that have now long been under the impact of climate change, a trend that is reflected in existing technical and production risks as well as environmental risks. The Company continues to integrate management of climate-related risks and risk factors into its business processes in line with TCFD and COSO recommendations. The ongoing integration of physical risks means bringing more structure into the procedure and rules of handling current risks as well as longer-term risks. Transition risks under the TCFD classification can be both standalone risks and risk factors for other risks. The Company has identified a list of relevant transition risks and carried out their pilot assessment.

Improved approaches to climate-related risk management and their integration within the corporate risk management framework were reflected in the updated Risk Management Regulations, which were amended in late 2022. Going forward, amendments are also expected to be introduced as needed to other internal guidelines and regulations of Nornickel.

Approaches to Climate-Related Risks Assessment. Assessment Results

As part of implementing the TCFD Roadmap and meeting the targets set in the corporate Environmental and Climate Change Strategy, Nornickel is improving its procedures for climate-related risk management.

Building procedures for climate-related risk management



As the first step in building these procedures, we selected public climate scenarios for the identification and assessment of physical risks. Then, Nornickel used the selected

scenarios to develop its own global economy and climate change scenarios to identify and assess transition risks and opportunities.

Procedure for developing climate change scenarios

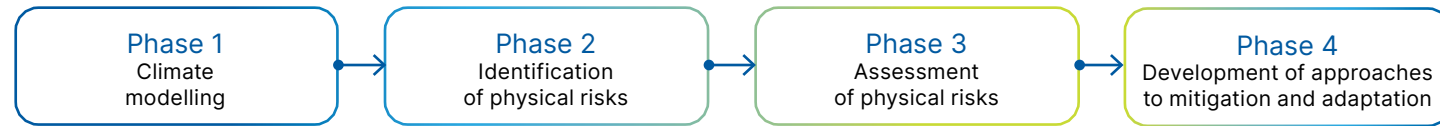


At the next stage, the Company established approaches to assessing the impact of physical risks, as well as transition risks and opportunities on the Company's

operations and financial performance before identifying the main areas of adaptation to said risks and ways of mitigating them.

PHYSICAL RISKS

The project to develop a physical risk management methodology for the Company's facilities is divided into four key phases:



Phase 1. Climate modelling

The initial phase involved retrospective analysis of climate change since the 1960s supported by experts from the Institute

of Atmospheric Physics of the Russian Academy of Sciences (IAP RAS) to determine the climate trends already occurring in the Company's regions of operation. The analysis revealed a trend

for changes in a number of climate factors¹. In Norilsk, for example, the temperature has been rising by 0.6 °C every decade, suggesting that the Arctic is warming faster than the global average.

Retrospective data on climate factors was obtained using measurements from the following weather stations.

World Meteorological Organisation Index	Weather station
22217	Kandalaksha
22101	Jäniskoski
23078	Norilsk
23179	Snezhnogorsk
23274	Igarka
30879	Nerchinsky Zavod
FIE00142526	Kokemäki Peipohja Hyrköla
FIE00142511	Turku Turun lentoasema

Changes in key climate factors at Nornickel's main production assets in 1966–2020

= There were no noticeable changes in the quantitative value for the climate factor over the analysed period (1966–2020)

↑ There were noticeable changes in the quantitative value for the climate factor over the analysed period (1966–2020)

Climate factor / division	Norilsk and Energy Divisions	Kola Division	Norilsk Nickel Harjavalta OY ¹	Trans-Baikal Division
Acute factors				
Number of days with high temperature per year	↑	↑	↑	↑
Number of days with low temperature per year	↓	↓	↓	↓
Number of days with heavy precipitation per year	↑	↑	↑	=
Number of days with a high risk of severe thunderstorm per year	↑	↑	↑	↑
Number of days with strong winds per year	↓	↑	↑	↑
Frequency of days with high risk of forest fire	Irrelevant	↑	=	↑
Chronic factors				
Annual precipitation	=	↑	↑	=
Average air temperature	↑	↑	↑	↑

Retrospective analysis was followed by scenario modelling of possible changes in climate risk factors until 2050. To this end, the Company selected three global climate scenarios developed

by the IPCC – SSP1–2.6, SSP2–4.5 and SSP5–8.5, as well as CMIP 6². In 2022, the Risk Management Committee of the Management Board approved this selection and the Sustainable Development

and Climate Change Committee of the Board of Directors recommended it for further physical risk assessment³.

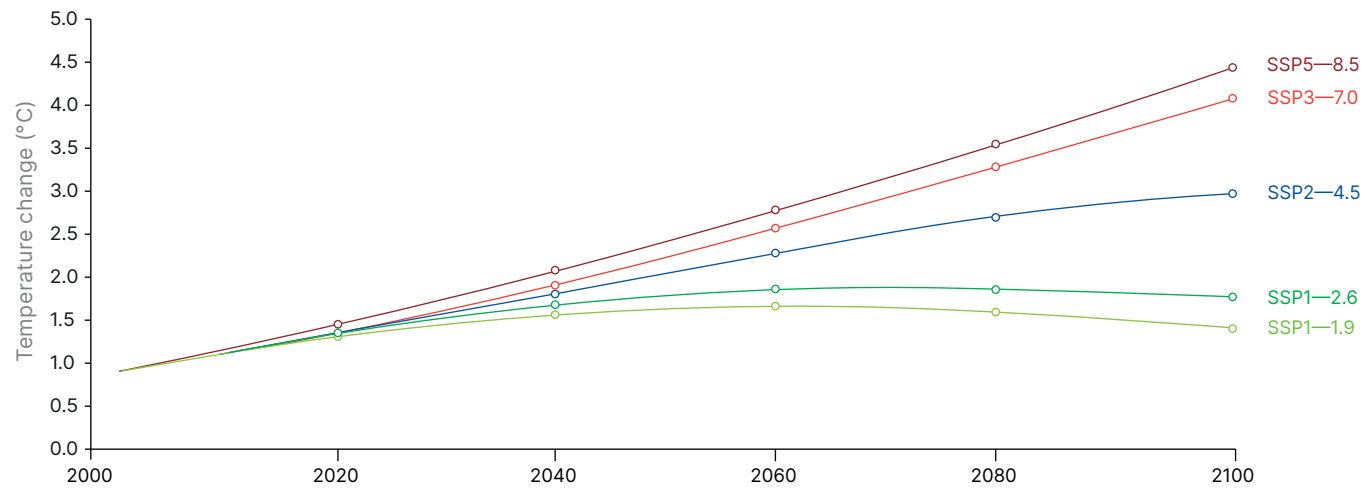
¹ In the context of climate modelling, the expression "climate factor" is used throughout the text of the Report, while in the context of risk management, "climate risk factor" is used.

² Norilsk Nickel Harjavalta OY is part of Kola Division.

³ Sixth generation models of the Coupled Model Intercomparison Project.

The following probability of risk occurrence was determined for the selected scenarios: SSP1–2.6 – 25%, SSP2–4.5 – 70%, SSP5–8.5 – 5%.

Characteristics of IPCC scenarios

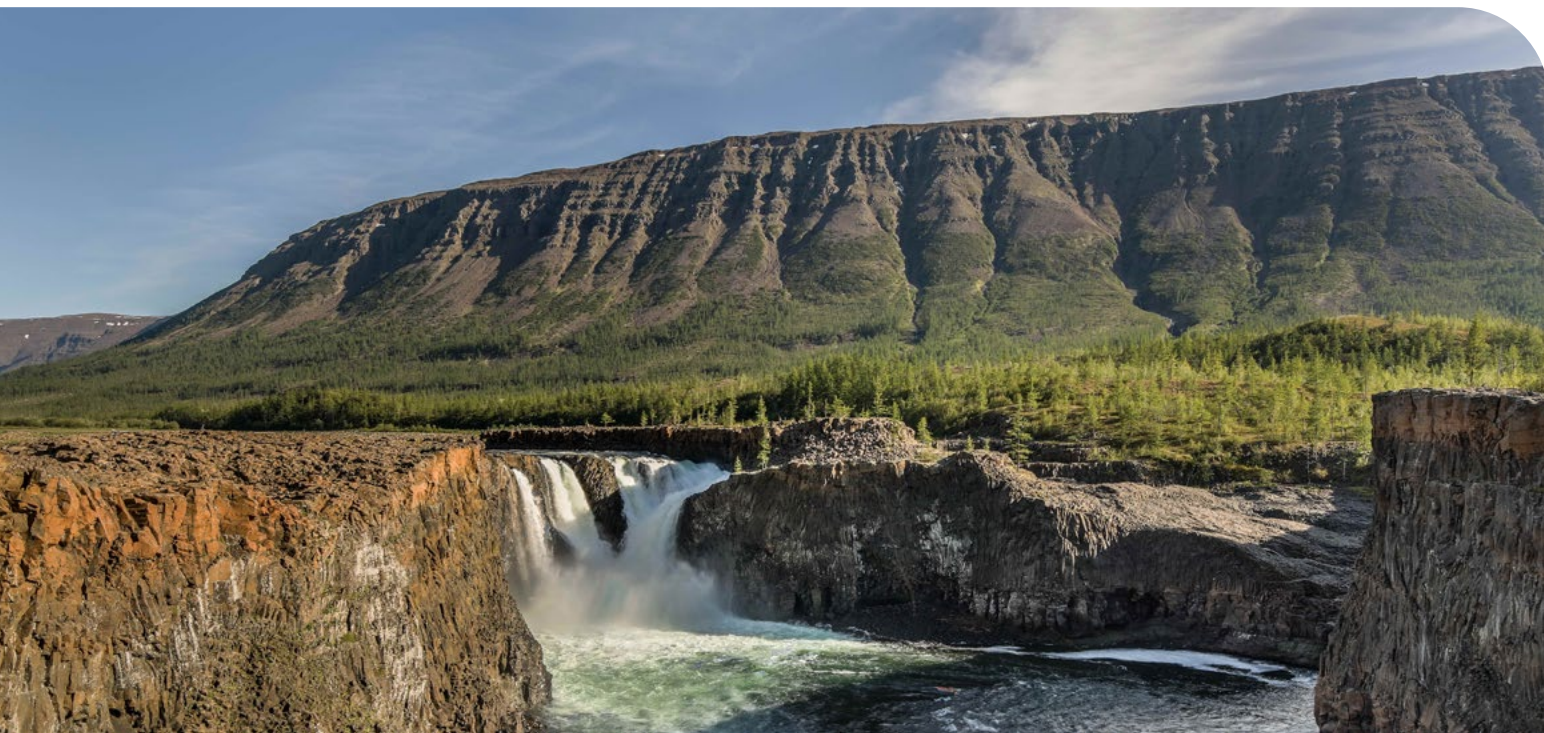


Source: IPCC Sixth Assessment Report: Climate Change 2022

SSP1-2.6 scenario: greenhouse gas emissions are expected to decline and reach zero by 2055, with an average annual temperature increase of 1.8 °C by 2100. Society makes the transition to more sustainable practices, with the focus shifting from economic growth to general well-being. Investments in education and health will be growing, and inequality will be declining.

SSP2-4.5 scenario: the current rate of increase in greenhouse gas emissions will be maintained, with carbon neutrality achieved by 2100. Socio-economic factors are changing in line with historical trends. Progress towards sustainable development is slow, with an even growth of the pace of development and incomes. According to the scenario, the average temperature will increase by 2.7 °C by the end of the century.

SSP5-8.5 scenario: the current level of GHG emissions will double by 2050. The world economy will demonstrate a rapid growth and development through the extensive use of fossil fuels and increased energy consumption. By 2100, the average temperature will increase by 4.4 °C.



For risk assessment purposes, global climate scenarios were localised by IAP RAS for all regions where the Company operates, including Finland. A number of climate factors were modelled until 2050.

They are taken into account in the risk assessment as risk factors for the Company's technical and production risks.

Modelling of changes in climate factors up to 2050 performed by IAP RAS for the territories where the Company's assets are located, in scenario SSP2-4.5^{1,2}

Climate factors	Expected changes in climate factors by 2050 vs 2022			
	Norilsk and Energy Divisions	Kola Division	Norilsk Nickel Harjavalta OY	Trans-Baikal Division
Changes in seasonal thaw depth, m This factor is mainly applicable to infrastructure risk assessment outside urban areas. The phrase "degradation of permafrost soil" is used in the assessment	0.8	Irrelevant	Irrelevant	Irrelevant
Number of days with heavy precipitation per year Precipitation occurring with a probability of 5%	1.4	0.6	2	-0.3
Number of days with a high risk of severe thunderstorm per year Due to changes in temperature and humidity	6	2	2	5
Annual precipitation, mm Mainly due to changes in the trajectory of Atlantic cyclones and an increase in the moisture content of the atmosphere	58	4	41	23
Average air temperature, °C	1.5	1.1	0.6	1
Change in sea level, mm	58	49	37	Irrelevant

Please note that according to the modelling results, the bulk of changes in climate factors will occur after 2040.

forward, it is advisable to expand the list of modelled climatic factors relevant to the areas where the Company operates.

Sea Route and others. Modelling such factors is a complex task that requires further methodology development and data from other reliable sources. Developing a list of climate-related factors that affect the Company's assets is one of the priorities of improving the assessment of climate-related risks and opportunities.

To achieve the objectives of the first phase of physical risk assessment, a list of climate factors that are available for prediction was modelled using weather data and climate models. Going

Alongside that, to improve the assessment it is equally important to take into account the effect of climate-related factors such as river basin water availability, floods, ice conditions on the Northern

¹ Other climate factors (forest fires, abnormal wind and abnormal cold, etc.) were also modelled, but their change in the models up to 2050 is insignificant (no or negative change trend) or they are irrelevant.
² Scenario SSP2-4.5 is viewed by the Company as the most probable (baseline scenario).

Phases 2 and 3: Identification and assessment of physical risks

The Company completed the first phase of assessing the impact of climate risk factors¹ on its Russian assets: Norilsk, Energy, Kola and Trans-Baikal Divisions.

In preparation for the assessment, various sources of information were analysed in addition to the modelling of climate factors:

- data sheet for monitoring technical, production and environmental risks;

- permafrost maps and data on the type of foundations of buildings and structures on permafrost soil;
- data from the system deployed in the Norilsk Industrial District to monitor buildings and structures on permafrost soil;
- data on registered defects and accidents caused by climate risk factors and the costs of their elimination;
- data on unfavourable weather conditions and emergencies;
- expert assessments of asset exposure to climate risk factors.

The assessment identified key risks posed by climate change and measures the Company is already taking to mitigate their impact.

Factor	Mitigation measure
Degradation of permafrost soil	<ul style="list-style-type: none"> • Expand the coverage and functionality of the system for monitoring foundations of buildings and structures in the Norilsk Industrial District (priority²: oil depots, mines, warehouses) • Monitor the condition of linear facilities on a permanent basis • Modernise emergency fuel farms and oil depots of the Energy Division's entities
Higher frequency of heavy precipitation	Monitor the technical condition of facilities and control water level in the Norilskaya River and water reservoirs
Higher annual precipitation	Maintain the technical condition of, and modernise, hydraulic structures

The analysis found that most of the industrial buildings and structures in the Norilsk Industrial District are built on stable (rock) foundations; therefore, linear infrastructure such as pipelines and power lines is more susceptible to the impact of permafrost soil degradation.

According to the assessment, the impact of climate risk factors in the short- and medium-term until 2028 is mitigated by operations, activities and investment projects aimed at improving the reliability of industrial assets and infrastructure. In order to mitigate the risks associated with the condition of permafrost soil in the Norilsk Industrial District, the Company monitors the technical condition of assets on an ongoing basis through expert examinations, surveys, and monitoring of the condition of permafrost soils and basement foundations.

To estimate the long-term impact of climate risk factors on the Company's operations until 2050, we will have to improve climate modelling, collect additional statistics of the Company to assess the impact of climate risk factors on its operations, and analyse data on geological and permafrost conditions of infrastructure locations. In addition, climate change projections will need to be periodically updated and the assessment methodology refined to reflect new data.

Phase 3. Development of approaches to mitigation and adaptation

The Company analysed international best practices in adapting to and mitigating climate-related risks at the city and company levels. In developing its approaches to adaptation, Nornickel follows best practices in:

- developing employee competencies in climate change monitoring;

- building procedures for climate-related risk assessment;
- monitoring and analysing climate data and impact of climate risk factors on the Company's operations;
- assessing physical climate-related risks;
- fostering cooperation with R&D centres on climate-related issues.

TRANSITION RISKS AND OPPORTUNITIES

To assess the risks and opportunities associated with the global energy transition, Nornickel has developed three proprietary long-term global economy and climate change scenarios until 2050.

¹ Physical risk assessment considers climate impact at the level of risk factors vs the Company's risks.

² According to the Prioritisation and Deployment Plan for the Buildings and Structures Monitoring System in the Norilsk Industrial District.

"Using the long-term climate scenarios and global economy scenarios is key to adapting to the climate-related physical risks, as well as risks associated with the global energy transition. At the same time, the latter presents certain opportunities as we expect the global demand for Nornickel's green metals to grow, and our nickel boasts one of the lowest carbon footprints in the industry."

Vladimir Zhukov,
Vice President for Investor Relations and Sustainable Development at Nornickel



To create global economy and climate change scenarios, the Company and the Institute of National Economic Forecasting of the Russian Academy of Sciences reviewed about 190 available public scenarios from leading developers (International Energy Agency, World Energy Council, International Renewable Energy Agency, OPEC, Bloomberg, NGFS, Shell,

BP, DNV, etc.). This resulted in three global economy and climate change scenarios corresponding to the climate change trajectories that are presented in public scenarios SSP1-2.6, SSP2-4.5, SSP5-8.5.

The first scenario, Rapid Transition, aims at achieving the Paris Agreement goals, the second, Sustainable Palladium, focuses

on maintaining current social, economic and technological trends, and the third, Global Growth, involves abandoning efforts to curb climate change, with further economic growth to be supported by hydrocarbons, mainly in developing countries.

Key characteristics of the scenarios developed to assess transition risks and opportunities until 2050

	Rapid Transition (SSP1-2.6)	Sustainable Palladium (SSP2-4.5)	Global Growth (SSP5-8.5)
Probability	25%	70%	5%
Strategic focus	Low-carbon development paradigm with the global community's efforts focused on the reduction of GHG emissions	Maintaining current socioeconomic trends. Traditional industries remain centre stage along with the green economy	Abandoning efforts to curb climate change with further economic growth fuelled by hydrocarbons
Inflation	High	Moderate	Low
Resource/Energy intensity	Low	Moderate reduction	High
Climate regulation	Strict	Moderate	Insignificant
CO₂ prices	Major increase	Moderate increase	At 2021 levels
Temperature change by 2050¹	+1.7°C	+2.0°C	+2.5°C
Alignment with the Paris Agreement goal	+	-	-

¹ Growth in temperature vs pre-industrial levels

Sustainable Palladium became the baseline scenario, which provides for traditional industries to remain centre stage along with the green economy. In particular,

ICE vehicles will retain a large market share, contributing to a steady demand for palladium in the long run. The Company will apply the other two scenarios

in stress-testing of climate-related risks. In addition, a scenario parameter monitoring tool was developed to record actual deviations from the baseline scenario.

Changes in global indicators in the scenarios developed to assess transition risks and opportunities in 2019–2050

Indicator	Rapid Transition	Sustainable Palladium	Global Growth
Population (%)	+15	+26	+37
GDP (in 2017 prices, PPP ¹)	+74%	x2,1	x3,6
Average annual consumer price index (%)	104.2	103.2	102.6
GDP energy intensity (%)	-47	-34	-25
Annual energy investments (in 2020 prices) (%)	+44	+37	+56
Price per t of CO ₂ equivalent (2050, in 2020 USD prices)	135	22	5
CO ₂ emissions related to energy consumption	-43%	+10%	x2.8
Share of oil, gas and coal in energy consumption (2050) (%)	54	67	88
Annual sales of electric passenger cars, hydrogen fuel cars and plug-in hybrids	x33	x34	x5.5
Fleet of electric passenger cars, hydrogen fuel cars and plug-in hybrids	x121	x132	x29
Annual production of renewable energy ²	x9	x8	+70%
Annual carbon capture	x95	x32	x5
Annual green hydrogen production (million tonnes)	126	14	1

¹ Purchasing power parity.

² Wind, solar, geothermal and tidal energy, biofuel, excluding nuclear and hydroelectric power.

RESULTS OF TRANSITION RISKS AND OPPORTUNITIES ASSESSMENT

Potential risks and opportunities were identified based on global economy and climate change scenarios, as well as analyses of legislative carbon initiatives, market trends and stakeholder expectations.

Policy and legal/financial

- Compliance with carbon regulations in the Company's export markets
- Compliance with national carbon regulations

Market

- Inability to raise additional funds on favourable terms
- Limited sales opportunities due to insufficient carbon intensity reduction efforts compared to peers
- Restrained demand for primary platinum group metals due to declining sales of internal combustion engine vehicles
- Restrained demand for primary nickel due to a decline in overall vehicle production as a result of increase in ride-sharing and autonomous vehicles and the development and mass production of new nickel-free batteries
- Restrained demand for primary metals due to increased recycling

Technology

- Failure to achieve the decarbonisation targets:
 - due to a mismatch between the real and expected impact of low-carbon technologies or the inability to scale low-carbon technologies;
 - due to the lack of opportunity to engage with and purchase services from advanced international low-carbon technology providers

Reputation

- Negative stakeholder perception towards the Company's climate action
- Higher frequency of protests by non-profit organisations and local communities, including indigenous northern minorities

Transition risks



Transition opportunities

Policy and legal/financial

- Use of ESG financing tools
- Sale of carbon credits resulting from climate projects

Technology

- Use of low-carbon technologies due to their development and lower cost in the long term

Market

- Higher demand for primary nickel and copper due to the transport system electrification, growing hybrid vehicle market, and the development of renewables
- Growing demand for primary platinum group metals due to the use of platinum and palladium in the hydrogen economy and palladium in vehicles hybridisation
- Benefiting from the low carbon footprint of products

Reputation

- Higher stakeholder loyalty thanks to the Company's climate action

POLICY AND LEGAL/FINANCIAL RISKS AND OPPORTUNITIES

To mitigate the risks associated with carbon regulations, the Company frequently monitors legislative initiatives in both Russia and export markets.

In 2022, as part of the "Sakhalin experiment", the Russian Government set a fee for exceeding the GHG emission quota at RUB 1,000 per tonne of CO₂. This charge only applies to entities operating in the Sakhalin Region and does not affect Nornickel.

As to overseas markets, the Carbon Border Adjustment Mechanism (CBAM) introduced in the European Union from 2023, does not pose any risk to the Company in the short term as base and platinum group metals are not currently included in the list of products subject to the tariff. The Company will keep monitoring the development of carbon regulation both in Russia and abroad and forecast the amount of potential associated costs.

In the long term, Nornickel relies on its competitive advantage – one of the lowest product carbon footprints in the industry.

The Company is also exploring opportunities related to the trading of carbon credits that may be generated as a result of climate projects both in the Russian and foreign carbon markets.

REPUTATIONAL RISKS AND OPPORTUNITIES

To reduce reputational risks associated with the global low-carbon transition and capitalise on opportunities, the Company:

- continuously monitors the requirements of Russian and international standards, industry best practices, recommendations, including TCFD and GRI, and improves the scope and quality of information disclosure;
- maintains an active dialogue with all stakeholders, including customers, suppliers and local communities;
- builds a responsible supply chain: in 2023, Nornickel plans to start collecting information on GHG emissions from its suppliers;
- conducts audits and self-assessments for compliance with the requirements of international and Russian industry standards and associations;

- participates in Russian and international ESG ratings, including those assessing climate action;
- promotes the climate agenda both domestically and internationally, shares its experience in implementing climate change projects and facilitates cross-sector and industry dialogue.

TECHNOLOGY RISKS AND OPPORTUNITIES

Nornickel seeks to reduce its GHG emissions and maintain one of the lowest product carbon footprints in the industry. We monitor the market for commercially available low-carbon technologies and explore opportunities to collaborate with advanced companies that develop such technologies.

In the context of restricted access to certain foreign technologies for improving energy efficiency and reducing GHG emissions, the Company is taking steps to redesign its key investment projects in line with actually available technologies.

MARKET RISKS AND OPPORTUNITIES

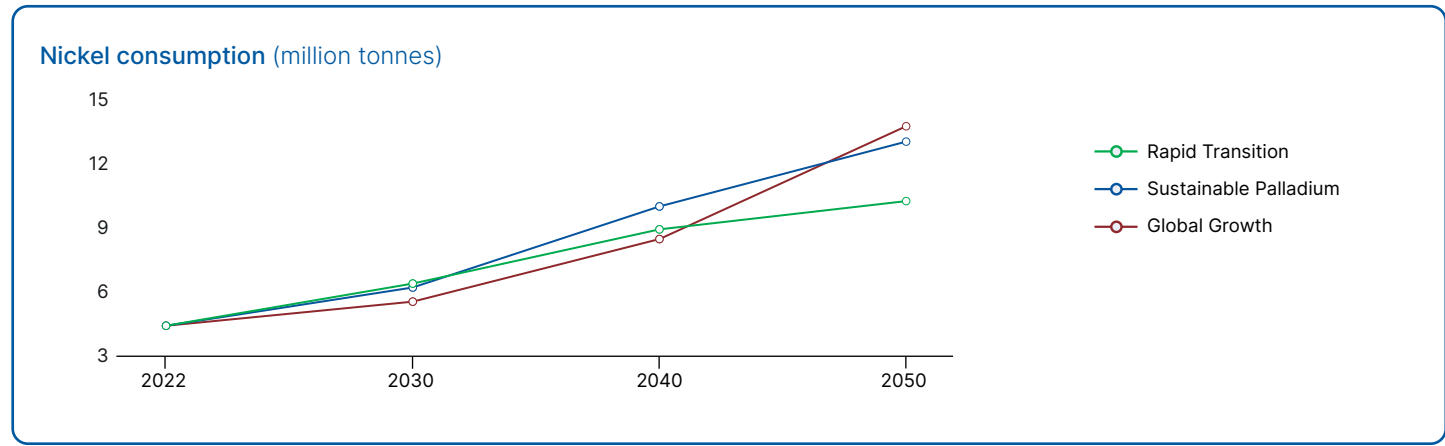
Sustainability assessment of Nornickel's product portfolio under three global economy and climate change scenarios

One of the key drivers of Nornickel's long-term strategy is the growing demand for the Company's metals to develop a low-carbon economy. The very fact of supplying green metals to the market means that the Company is actively contributing to the global transition to cleaner modes of transport and renewable energy.

Key climate change factors affecting the demand for the Company's key products:

	Ni	Pd/Pt	Cu
Growth of market share of battery electric vehicles (BEVs)	↑	↓	↑
Growing hybrid vehicle market	↑	↑	↑
Growing fuel cell market and hydrogen economy	=	↑	=
Growth of renewables / low carbon fuel in power generation	↑	↑	↑
Storage and grid expansion to support growth in EVs	↑	=	↑
Net impact	↑	=	↑

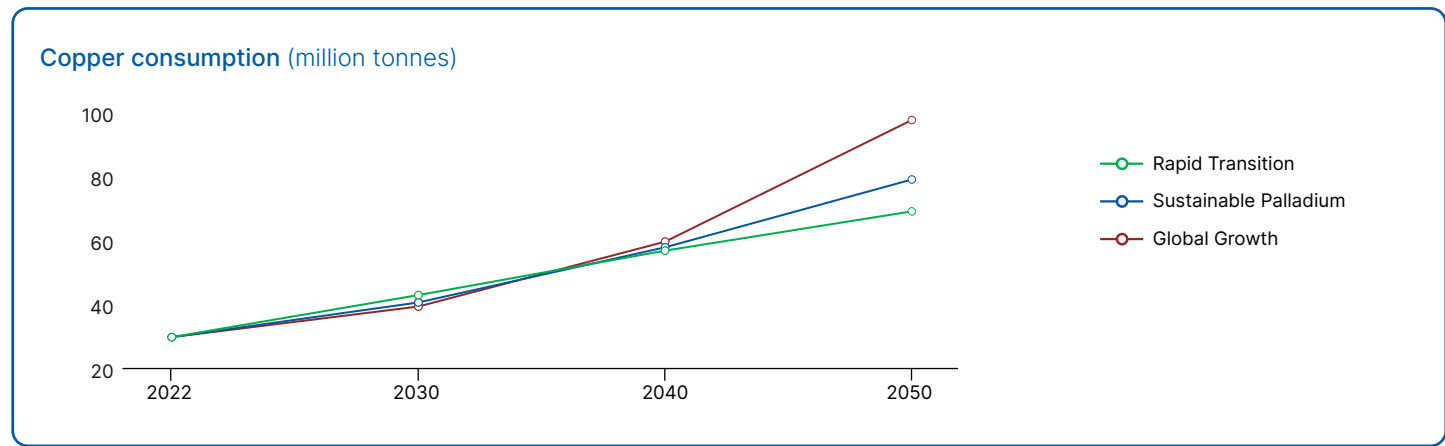
To assess market-related transition risks and opportunities, Nornickel modelled changes in the demand for key metals under three own global economy and climate change scenarios.



The demand forecasting was based on the analysis of development trends in the industries that are major consumers of Nornickel's metals. Nickel is the core metal for stainless steels used in multiple sectors – from mechanical engineering and construction to renewable energy. In addition, Nickel is essential in producing

new and future generation batteries, which in turn play a vital role in developing electric transport. Despite strong decarbonisation and a shift to electric vehicles in the Rapid Transition scenario, higher nickel demand is expected in the Sustainable Palladium

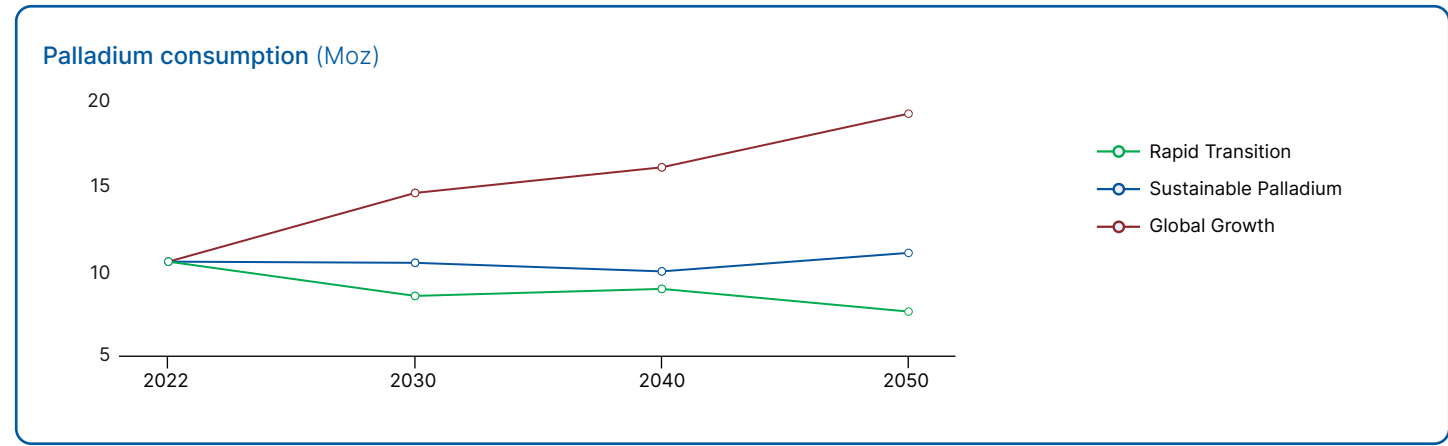
scenario due to a faster GDP growth and greater numbers of electric vehicles, and in the Global Growth scenario on the back of a significant increase in the metal demand for the stainless steel and alloy industries.



Copper becomes critical for transitioning to a low-carbon future, as it is used in high-tech equipment, including RES hardware. Over 70% of copper produced globally is used to manufacture various cables and wires. Total copper consumption is expected to at least double by 2050.

Similar to the nickel demand outlook, higher GDP growth and greater electrification of vehicles will ensure higher copper consumption in the long term in the Sustainable Palladium scenario than in the Rapid Transition scenario. The highest demand for copper is expected in the Global

Growth scenario due to the highest GDP growth rate and the resulting strong demand for copper in transport, air-conditioning and refrigeration, construction, heavy engineering, and consumer goods.

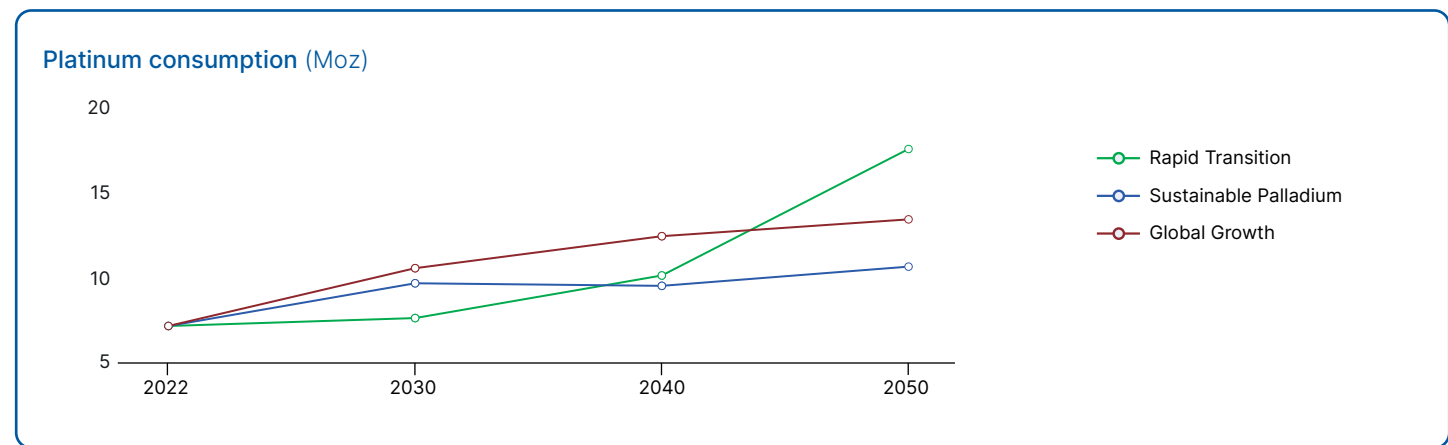


Catalytic converters mainly for petrol engines (including hybrids, which have a lower carbon footprint than traditional ICE vehicles) are the biggest palladium consumers (over 80%) in the middle term. This metal is used in catalytic converters to detoxify exhaust fumes. In most countries, such converters are legally required to be installed on all cars. Other applications for palladium include electronics, dentistry and jewellery, chemicals and pharmaceuticals. Palladium may also be used to enable long-distance transportation of hydrogen and its purification.

The main driver of the decline in palladium demand in the greenest Rapid Transition scenario, which assumes universal reduction in car ownership and use, is phasing-out of ICE vehicles in the world's key economies.

In the Sustainable Palladium scenario, which the Company has adopted as the most likely one, moderate electrification of vehicles alleviates the effect of falling demand for palladium, while the still high share of ICE vehicles will support such demand.

The highest demand is expected in the Global Growth scenario due to the strong GDP growth and demand for palladium, primarily in the transport sector, where the manufacture of ICE vehicles is expected to grow (through hybrid vehicles), as well as in jewellery.



At present, the automotive industry is the key consumer of platinum (40%) which goes to auto catalytic converters for ICE vehicles, including hybrids. Another important application area is jewellery which consumes around 25% of platinum. Platinum is also used in glass manufacturing to produce equipment (bushings) for making glass fibre and optical glass, and in electronics. Platinum is an essential component of catalysts for electrolyzers used in the production of green hydrogen, as well as fuel cells used in both transport and stationary hydrogen energy generation solutions.

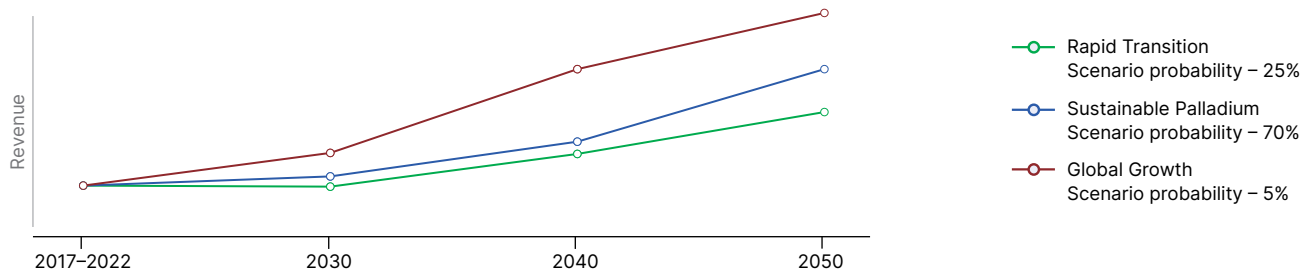
All three scenarios presume that the platinum demand will grow. In the Global Growth and Sustainable Palladium scenarios, the platinum demand is mainly driven by the continued high percentage of ICE vehicles.

At the same time, the Rapid Transition scenario is expected to have the highest demand by 2050: despite the decline in sales of ICE vehicles, the development of hydrogen energy and the fuel cell market will generate the highest platinum demand compared to the other two scenarios.

To understand the potential impact of transition risks on the Company better, the Company plans to update the global economy and climate change scenarios and risk assessment at least once every three years.

SCENARIO ANALYSIS OF THE CONSOLIDATED FINANCIAL AND ECONOMIC MODEL UNTIL 2050

Revenue dynamics from Nornickel's metals portfolio



Based on the global economy and climate change scenarios, Nornickel conducted a scenario analysis of the consolidated financial and economic model until 2050. The analysis shows revenue growth in all scenarios by 2050 against the average value for 2017–2021. The key revenue growth drivers in the Global Growth scenario are the highest GDP and population growth rate, which will

fuel the strongest demand for palladium, nickel, and copper in 2050 vs the other two scenarios. Although the Rapid Transition scenario is based on the most aggressive decarbonisation rates, which is impossible without green metals – nickel and copper, – the scenario projects the global economy to slow down, with the lowest GDP and population growth rates. On top of that, the total car

fleet, along with the fleet of passenger EVs, hydrogen cars, and plug-in hybrids in the Rapid Transition scenario will be lower than that in the Sustainable Palladium scenario as a result of the general trend towards reduction in car ownership and use and ride-sharing development.

PRODUCT PORTFOLIO DIVERSIFICATION

To meet the growing demand for materials in the the rapidly developing battery sector, the Company expands its portfolio of cobalt

and nickel products, including by amplifying the production of sulphates and other nickel and cobalt compounds. Nornickel is also developing technologies for the manufacture of lithium compounds, precursors and cathodes for the battery sector.

To mitigate the risk of restrained demand for platinum group metals due to declining sales of ICE vehicles in the Rapid Transition scenario, the Company is exploring the outlook of producing palladium catalysts for the growing hydrogen energy market.

Today the hydrogen energy market uses platinum- and iridium-based catalysts. Nornickel is considering catalyst efficiency improvements achieved through partial replacement of these metals with palladium, which, thanks to its extremely high chemical resistance, may be more effective in catalysts than other platinum group metals.

Nornickel joined forces with the scientific community to create the first prototype of a palladium-based catalyst – nanosized material for membrane electrode assemblies used in the electrolysis of hydrogen.

“The hydrogen energy market is still in the making, but it is becoming increasingly evident that sooner or later hydrogen will find its niche in the technology sector by offering a viable alternative to traditional energy sources. We have every chance of emerging as one of key players in this industry, which is desperately looking for innovative products such as the one we are currently working on.”

Vitaly Busko,
Vice President for Innovations at Nornickel



Nornickel is exploring the prospects of using palladium in the production of the anode and cathode of a hydrogen-air fuel cell and a proton exchange membrane electrolyser. The Company's Kola Division serves as a production site to manufacture limited batches of chemical compounds with platinum group metals. The latter can be used as the source material (precursor) to produce palladium-based catalysts.

The Company sees the development potential not only for catalysts, but also

for other hydrogen energy segments such as membrane technologies for making, storing and transporting high-purity hydrogen.

In addition, Nornickel and the mining division of the State Atomic Energy Corporation Rosatom are set to develop Russia's most promising lithium deposit located in the Murmansk Region. The project of the Kolmozerskoye Deposit development envisages a 45 ktpa output of lithium carbonate and hydroxide.

The partners plan to set up a large-scale integrated production site spanning everything from mining and processing to high-tech production, helping to create over 1,000 new high-skilled jobs and substitute the imports of lithium feedstock and battery components.



“The timing of the Kolmozerskoye project is just perfect amid the soaring demand for lithium in electric transport and energy storage. Given the plans announced by other lithium producing nations, we must act swiftly. The partnership with Rosatom provides the project with the maximum range of competencies and enables its joint integration into all the stages and processes of the battery industry.”

Sergey Stepanov
Senior Vice President – Operational Director at Nornickel

Global climate change trends

United States of America

Rejoined the Paris Agreement

2030

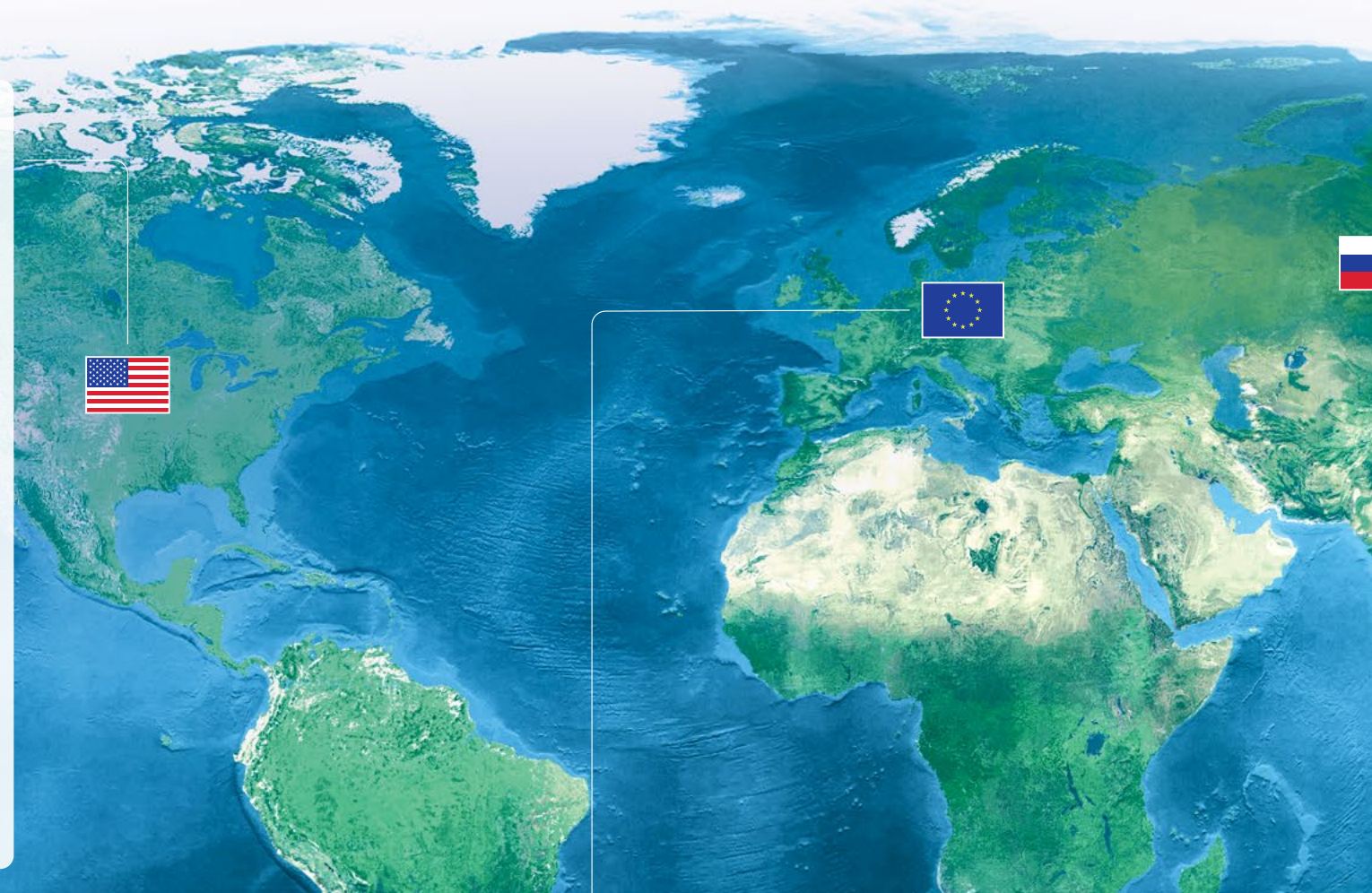
Ban on the sale of new vehicles with internal combustion engine in certain states, including Washington from 2030, California, Massachusetts, New York, and New Jersey from 2035

Approved in investment under Biden's "Build Back Better" plan, including USD 7.5 bn in funding for an EV charging network under the Bipartisan Infrastructure Deal Jersey from 2035

USD **1.2 tn**

by **2050**
Carbon neutrality

2030
emissions target: 50% reduction¹



Russian Federation

by **2060**
Carbon neutrality

European Union

by **2050**
Carbon neutrality

starting **2023**
CBAM² introduced for some materials

by **2025** announced
20+ battery gigafactories

from **2030**
Ban on the use of vehicles with internal combustion engine in large cities (Paris, Amsterdam)

from **2035**
Ban on the sale of new vehicles with internal combustion engine (except for synthetic fuel vehicles in Germany)

EUR **1 tn**
of investment over ten years under the European Green Deal

China

in **2021**
CO₂ quotas trading mechanism launched

by **2035**
Target sales of electric vehicles (including hydrogen-fuelled cars): 50%, with the rest being hybrids

by **2060**
Carbon neutrality

South Korea and Japan

State-backed hydrogen economy programmes

from **2035**
Ban on the sale of new vehicles with internal combustion engine in Japan

by **2050**
Carbon neutrality

¹ Compared to 2005 levels.
² Nornickel's metals are not subject to the CBAM.

Climate Action Achievements and Initiatives

Key highlights

GREENHOUSE GAS EMISSIONS

Scope 1 and Scope 2

The Company regularly assesses greenhouse gas emissions (Scope 1 and 2) in accordance with the GHG Protocol methodology. The calculation of GHG emissions for the Group takes into account carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄), with emissions of other greenhouse gases either negligible or non-existent. The quantitative assessment of Scope 1 and Scope 2 GHG emissions also includes the Company's estimated prospective GHG emissions associated with the implementation of the Sulphur Programme.

Based on the results of 2022, Nornickel's direct and indirect GHG emissions (Scope 1 and 2) decreased by 0.5 million tonnes of CO₂e y-o-y to a total of 7.7 million tonnes of CO₂e, including emissions not linked to our operations (heat and electricity supply to households) and excluding estimated prospective GHG emissions associated with the implementation of the Sulphur Programme (around 2.2 million tonnes of CO₂e). The Company's direct GHG emissions amounted to 7.2 million tonnes of CO₂e and indirect energy emissions to 0.5 million tonnes of CO₂e. Indirect energy emissions were calculated using the location-based method, taking into account regional coefficients. GRK Bystrinskoye, a key facility in Nornickel's Trans-Baikal Division, entered into a deregulated bilateral

power purchase agreement for the supply of 118.3 mln kWh of electricity in order to reduce its climate impact.

The Company received a positive verification statement from the international verifier TÜV AUSTRIA confirming that its 2022 GHG emission calculations are in line with the requirements of ISO 14064-1:2018 "Greenhouse gases. Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals".

In 2022, the Group's inventory of equipment that is a source of GHG emissions was also updated to cover an extended range of facilities.

The Group's Downstream Scope 3 emissions encompass categories 9 (Downstream Transportation and Distribution) and 10 (Processing of Sold Products) emissions from the first use of its products after sale. The selection of these categories was based on industry best practices and their relevance to the Group's operations.

Downstream Scope 3 emissions relate to semi-products (iron ore concentrate, copper and nickel semi-products) and finished metals (nickel, copper, cobalt, platinum group metals, gold) sold by the Group.

academic or industry publications, online maps and calculators, and reference data on vehicle properties.

Emissions in the Processing of Sold Products category include those generated during post-sale stages, when the sold products are utilised by Nornickel's customers for manufacturing their own products. These GHG emissions are assessed based on data related to fuel and energy consumption during these stages or emission factors associated with the use of Nornickel's products to manufacture other products. Relevant information is obtained from publications of industry associations (World Stainless Association, World Steel Association, Nickel Institute, and others), standards and reference guides on best available technologies, scientific literature, publicly available customer information, and reference data sources.

The primary source of the Company's Downstream Scope 3 emissions is iron ore concentrate, which is produced by GRK Bystrinskoye and serves as a semi-product for subsequent highly carbon-intensive steel making. The processing of other Nornickel products, which mainly comprise finished metals, is associated with significantly lower volumes of GHG emissions. The volume of our Downstream Scope 3 emissions is relatively small compared to global metals and mining peers, reflecting the structure and size of the Group's product portfolio, in particular the low production volumes of bulk raw materials.

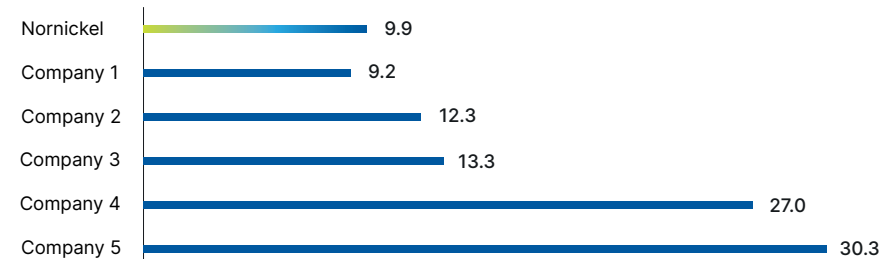
In 2022, the Group's Downstream Scope 3 emissions totalled 3.9 million tonnes of CO₂e, down 3% y-o-y. The main drivers of the reduction were lower sales volumes and changes to the geographical and sectoral structure of sales.

Actual GHG emissions intensity (Scope 1 and 2) was 6.5 tonnes of CO₂ equivalent per million roubles of consolidated IFRS revenue.

A report on Nornickel's 2022 GHG emissions was filed with the Russian Ministry of Economic Development with a view to adding relevant data to the registry of GHG emissions (in accordance with Federal Law No. 296-FZ On Limiting Greenhouse Gas Emissions dated 2 July 2021). Only direct GHG emissions are included in the quantitative assessment of emissions¹.

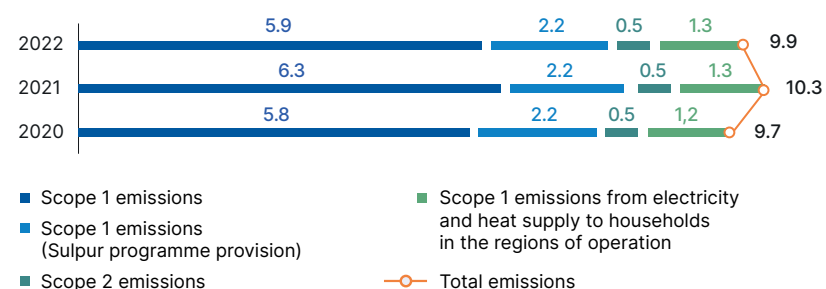
Comparison with major diversified global metals and mining peers

GHG emissions (Scope 1 and 2), million tonnes of CO₂e



Source: 2021–2022 data for BHP Billiton, Rio Tinto, Vale, Glencore and Anglo American

GHG emissions (Scope 1 and 2)¹, million tonnes of CO₂e



The reduction of GHG emissions (Scope 1 and 2) in 2022 was due to the following reasons:

- optimisation of in-plant operation of the heat and power plants;
- optimisation of hydropower plant load regimes (increasing the share of electricity output from hydropower plants);
- weather conditions – in 2022, the heating period was shorter and the ambient air temperature during the heating period was higher than in 2021.

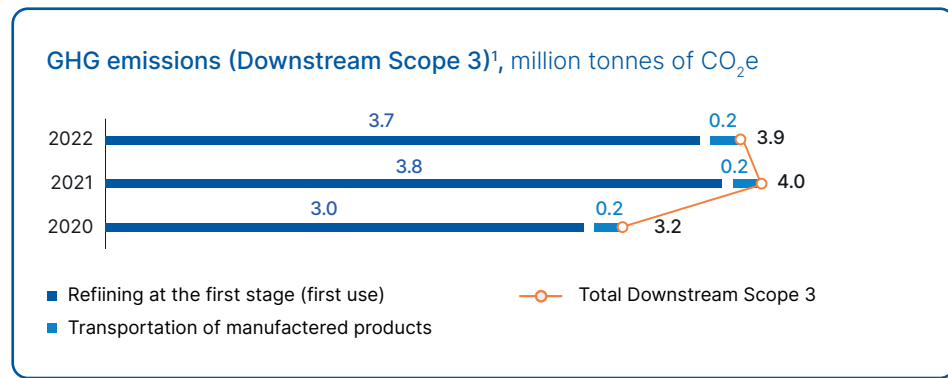
Scope 3

In addition to Scope 1 and 2 GHG emissions, the Group quantitatively assesses Scope 3 indirect emissions which fall outside its direct control. The quantitative assessment of downstream Scope 3 emissions is conducted in line with the globally accepted methodology outlined in the GHG Protocol.

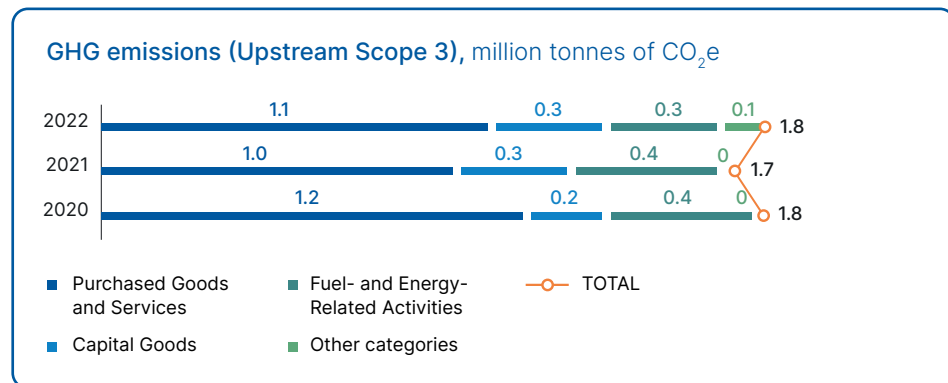
Emissions in the Downstream Transportation and Distribution category include those generated during the transportation of products sold by the Group in the reporting year, from production sites to customers, utilising rail, maritime, road, and air transport. The calculation of GHG emissions is based on a methodology that reflects the transportation distance (time), cargo weight, and the type of transport used. Relevant information is sourced from

¹ GHG emissions are calculated in line with the GHG Protocol methodology. The Group's total GHG emissions encompass direct carbon dioxide (CO₂) emissions of 9.7 mt, nitrogen oxide (N₂O) emissions of 53.3 t, methane (CH₄) emissions of 2.5 kt (mainly generated by gas transportation units), including those associated with the Sulphur Programme and heat and electricity supply to households. They also include prospective GHG emissions after the completion of the Sulphur Programme. Data includes Norilsk Nickel Harjavalta OY.

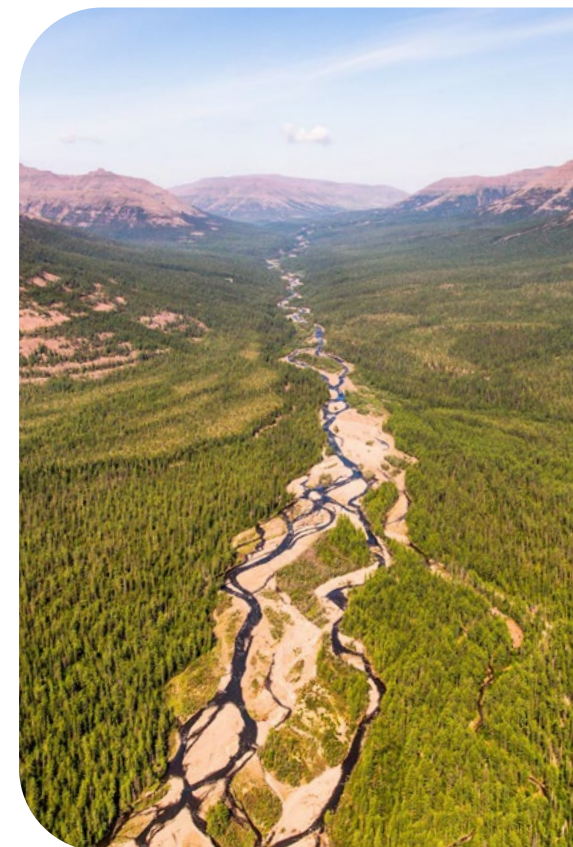
¹ GHG emissions are calculated in accordance with Order No. 371 On Approving Methods for Quantitative Assessment of Greenhouse Gas Emissions and Absorption dated 27 May 2022. According to Federal Law No. 296-FZ On Limiting Greenhouse Gas Emissions dated 2 July 2021, starting from 2023, regulated organisations with annual GHG emissions totalling 150 kt or more of carbon dioxide are required to file annual GHG emission reports before 1 July of the year following the reporting year.



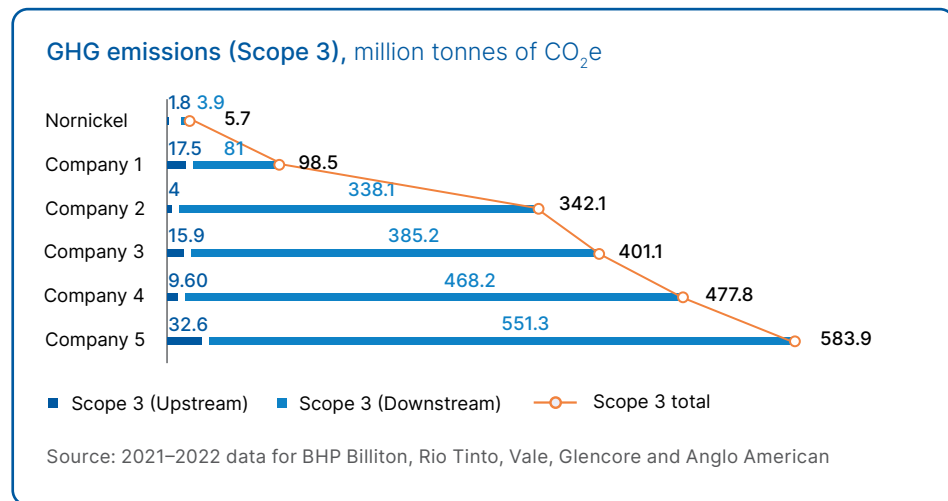
In 2022, the Company made its first public disclosure of a quantitative estimate of Upstream Scope 3 GHG emissions, covering all emission categories required by the GHG Protocol. The bulk of the emissions are related to the purchase of goods and equipment from third-party suppliers and to energy and fuel consumption (to the extent not included in Scope 1 and 2).



In 2022, Upstream GHG emissions amounted to **1.8** million tonnes of CO₂e.



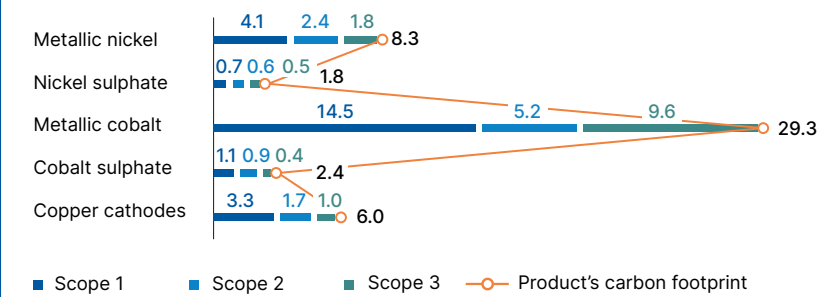
Comparison with major diversified global metals and mining peers



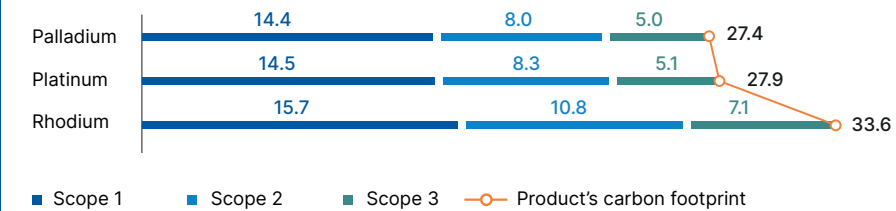
CARBON FOOTPRINT OF PRODUCTS

Assessment of product carbon footprint in 2022¹

Carbon footprint of base metals, kg of CO₂e per kg of product



Carbon footprint of PGM, kg of CO₂e per g of metal



Nornickel measures the carbon footprint of its entire product portfolio on an annual basis. It is calculated in accordance with ISO 14067:2018, ISO 14040:2006, ISO 14044:2006, ISO 14064-1:2018, GHG Protocol Product Life Cycle Accounting and Reporting Standard methodology, and the LME passport guidance by the Nickel Institute providing the methodology to calculate GHG emissions for nickel producers.

In 2022, the Company took steps to harmonise its corporate methodology for product carbon footprint calculation to align it with an industry model.

In the medium term, Nornickel plans to deploy an end-to-end automated system for calculating GHG-related indicators based on a unified methodology using a dedicated IT platform. This solution will enable more efficient and accurate carbon accounting of all material flows, process stages, and resources across the Group. In addition, the automated process will make it easier to provide information on products' carbon footprint to all stakeholders in a timely manner.

Scope of products' carbon footprint calculation

- | | |
|--|--|
| End product manufacturers: <ul style="list-style-type: none"> • Polar Division • Kola MMC • GRK Bystrinskoye • Norilsk Nickel Harjavalta OY | Raw materials / resources manufacturers or service providers <ul style="list-style-type: none"> • Medvezhy Ruchey • NTEC • Norilsk Production Support Complex • Norilskgazprom • Norilsktransgaz • Murmansk Transport Division • Norilsknickelremont |
|--|--|

¹ Data for 2021 and 2020 was recalculated using emission factors applied in 2022. Group data including Norilsk Nickel Harjavalta OY.

¹ Including the Sulphur Programme provision and Norilsk Nickel Harjavalta OY.

INTERNAL CARBON PRICE

In 2022, Nornickel started developing the internal carbon price – a new management tool enabling the Company to consider climate-related risks as part of strategic planning. By incorporating the internal carbon price into investment and operational decision-making, Nornickel follows the recommendations of leading international climate change standards, including TCFD recommendations.

To design an effective methodology for calculating the internal carbon price, the Company carefully reviewed comparable practices employed by its mining and metals

peers. Several approaches to the carbon price use and calculation were identified and evaluated to ensure their relevance for Nornickel based on the nature of its operations.

The Company selected shadow carbon pricing as the testing approach that best fits its purposes. It involves calculating theoretical or assumed costs of carbon emissions when making investment decisions. Shadow carbon pricing helps companies measure the economic impact of GHG emissions, new investments, net present value and economic feasibility of their projects, evaluate business models, and design business strategies.

It is instrumental to the achievement of Nornickel's key strategic sustainability goals.

While testing carbon price sensitivities, the Company calculates the cost of carbon emissions based on tax obligations (current and future) related to GHG emissions from its operations. For the year 2023, a shadow carbon price of USD 47 per tonne of CO₂ equivalent has been set.

Nornickel intends to continue testing the methodology to determine an optimal approach to incorporating cost evaluations of GHG emissions into investment project decision-making.

Nornickel has been historically operating in permafrost areas. Assets and facilities of its Norilsk and Energy Divisions are located in extremely different permafrost environments. The thickness of permafrost varies from 5 to 200 m and more, and in intermontane valleys, large areas (up to 40%) have taliks even in northern parts of the region. The average annual temperature of rocks varies in a wide range from -5 °C to +5 °C. Discontinuous and sporadic permafrost with a thickness of up to 25 m dominates the Murmansk Region and Zabaykalsky Territory, which are home to the assets of our Kola and Trans-Baikal Divisions.

The current state of permafrost soils is to a large extent shaped by global climate change in the Arctic. Global warming

inevitably causes quantitative and qualitative changes in cryolithozone. Combined, the higher average air temperature and man-made impacts on permafrost soils result in a cumulative effect that may undermine the stability of permafrost soils around bases and in natural and engineering disasters. To address this issue and mitigate the accident risk, in 2021 the Company's Polar Division developed and commissioned an innovative system to monitor the condition of bases and foundations of buildings and structures located in permafrost areas. The project is run in the Norilsk Industrial District across the Company's assets and urban infrastructure facilities and relies on cutting edge automated surveillance solutions and a dedicated software – an information and diagnostics system of the Polar Division.

The project is focused on using automatic equipment to keep real-time track of temperatures in permafrost soils around bases, behaviour in foundations, as well as temperature and humidity levels in crawl spaces. It seeks to help prevent accidents at Nornickel's industrial facilities and, later on, local housing infrastructure and proactively identify any hazardous defects or deviations that might result in damage to the buildings and structures or their elements, with special safety criteria developed for all monitored indicators. If any such indicator exceeds its threshold, a signal is sent that the facility needs inspection and fixing.

Projects on Decarbonisation and Adaptation to Climate-Related Risks

SYSTEM TO MONITOR THE FOUNDATIONS OF BUILDINGS AND STRUCTURES

Estimates show that permafrost areas in Russia total around 11 million km² (almost two thirds of the country's total area). It is Eastern Siberia that accounts for most of the permafrost areas.

Permafrost map



Source: National Archives Catalogue, adapted map

The project's key objectives include:

- design and survey work to obtain more details on the soils around bases, as well as drilling of temperature sensor wells;
- comprehensive inspection of buildings and structures covered by the system;
- introduction of automated monitoring of soils around bases and foundation behaviour to enable faster decision-making and minimise manual measurements;
- creation and implementation of an information and diagnostics system to perform ongoing monitoring of parameters and analyse new data;
- timely repairs of foundations of buildings and structures based on any deviations in monitored metrics to make sure the Company's infrastructure remains in good working order;
- potential expansion of the list of metrics to be monitored.

The monitoring system relies on:

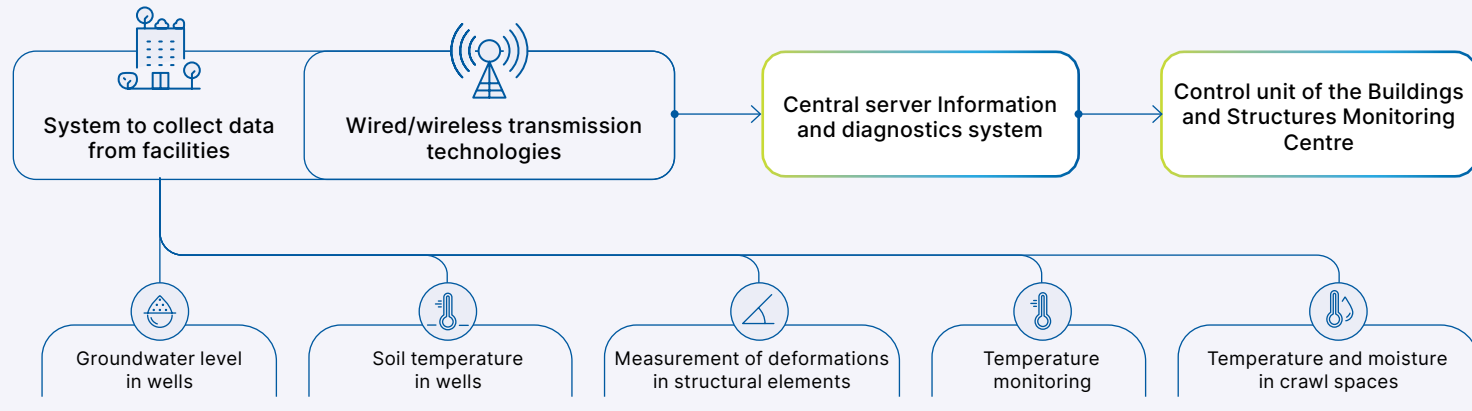
- thermistor strings to monitor soil temperature within wells;
- piezometer sensors to determine groundwater levels;
- hydrostatic levelling systems and inclinometers for determining deformations of structural elements of buildings;
- strain gauges to measure stress in steel structural elements made;
- thermo hygrometers for operational control of temperature and humidity levels in crawl spaces, including for rapid response to accidents affecting heat and water supply systems;

- satellite monitoring systems to identify movements of structural elements based on decoding and interpretation of multipass spaceborne radar monitoring data.

In 2021, Nornickel upgraded Polar Division's Buildings and Structures Monitoring Centre, which is responsible for geotechnical monitoring and inspection of facilities. As part of the project, more than 1,200 sensors were installed at 165 facilities. On top of that, 417 new wells were drilled to install temperature sensors inside, thermo hygrometers were set up to control temperature and humidity levels

in crawl spaces in real time, and geodetic measurements were carried out to determine deformations of structural elements of buildings and structures. In 2021, we also completed a pilot project to start monitoring the condition of 11 backup diesel fuel tanks of NTEC's HPP-1, HPP-2 and HPP-3.

Process flowchart for online monitoring systems



The information and diagnostics system is designed for data collection, processing, analysis, notification and reporting:

- receiving and accumulating data from sensors and comparing them with safety criteria;
- information support for the Buildings and Structures Monitoring Centre: from geotechnical monitoring planning to ensuring compliance;
- creating proprietary reporting forms, exporting forms approved by the Centre, and sending reports by email in line with approved schedule.

The control unit is responsible for taking actions as per the dispatcher's job description:

- informing line managers of the Buildings and Structures Monitoring Centre;
- carrying out ad hoc inspections / analysis of readings and coordination of dispatchers' actions;
- informing maintenance teams.

During 2022, an information and diagnostic system was established and put into operation, and comprehensive inspections were conducted at 154 facilities, each with geotechnical monitoring programmes and safety criteria developed by specialist contractors.

For effective data transmission and processing, a control room was deployed and a transparent business process for supervision, monitoring and inspection of buildings and structures was built, including the development of a geotechnical monitoring standard.

As at the end of 2022, 17 assets of the Company were connected to the system and around

700 facilities were monitored.

"Six months after the system was put on stream, we have decommissioned 15 buildings, with nine of them undergoing capital repairs and six dismantled altogether. Our automated geotechnical monitoring system has helped to make oversight over buildings and structures some 200% more effective without engaging more personnel. At Nornickel, we have also changed our approaches to construction. The monitoring system is now implemented as early as the construction stage. As a result, we can install rebar sensors directly inside building structures."

Anton Pryamitsky,
Deputy Chief Engineer of Nornickel's Polar Division



In the medium term, the Company plans to start providing ongoing monitoring data to the academic community for research purposes, including to Fedorovsky Polar State University, which established the Research Centre for Construction Technologies and Monitoring of Buildings and Structures in the Northern Arctic responsible for studying permafrost soils in the Norilsk Industrial District. Other partners are Lomonosov Moscow State University and Bauman Moscow State Technical University, some of Russia's leading higher education institutions.

The Company's experts are working with researchers to find the best way to develop frost-resistant sensors that will be able to operate at temperatures down to -50-60 °C.

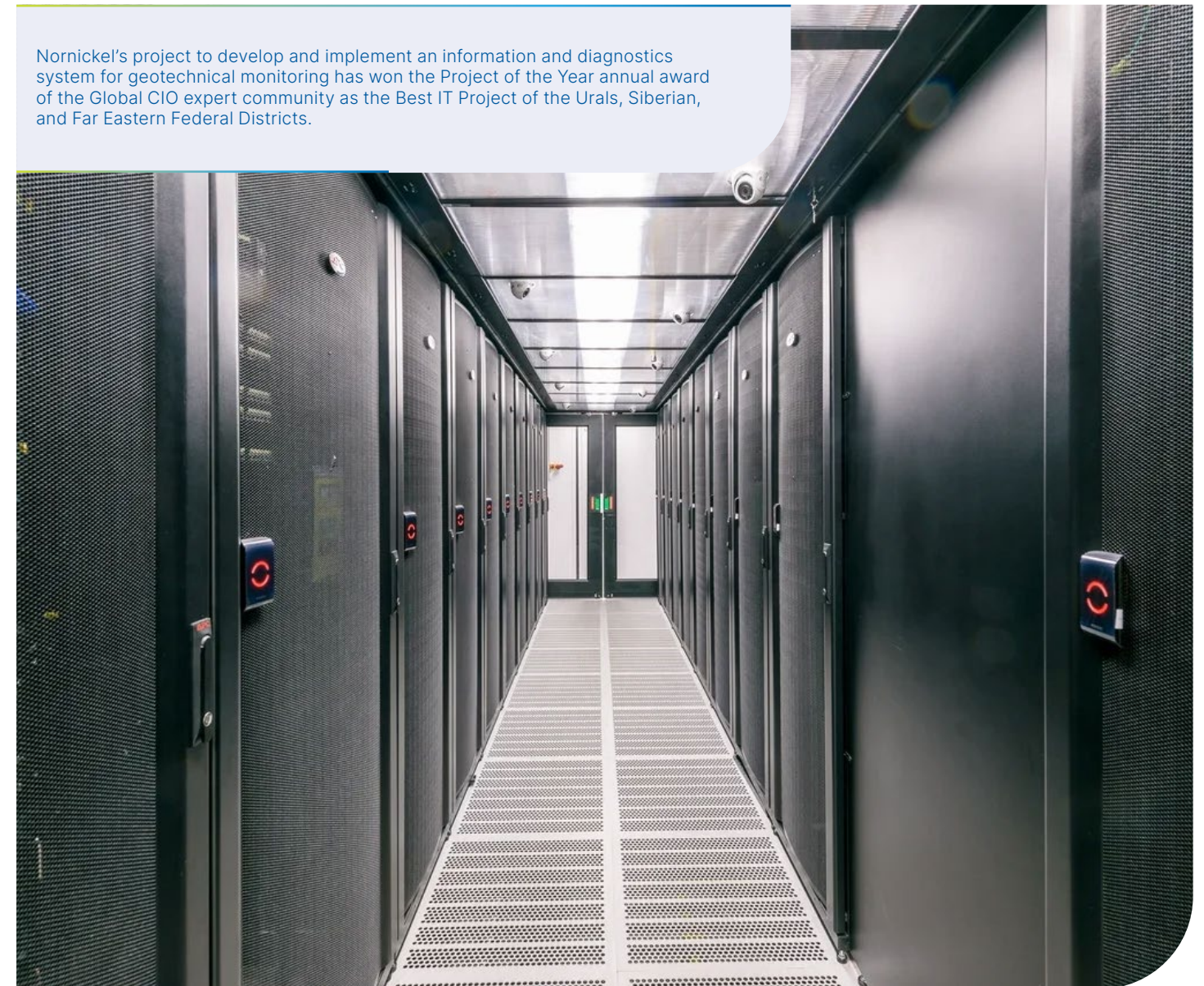
The project's second stage is fully underway and is scheduled for completion in mid-2024. By that time, monitoring stations are to be put in place at 55 hazardous production facilities of NTEC and four tailing dumps of Norilsk Division's facilities. Going forward, around 1,500 facilities are planned to be connected to the global information and diagnostics

monitoring system, including pump houses and substations, as well as linear facilities: pipelines used for various purposes, pressure hydrotransport, railway tracks, bridge crossings and, possibly, gas pipelines. There are also plans to monitor new facilities under construction.

To ensure accident-proof operations of its assets, the Company has already allocated

RUB 3bn in investments.

Nornickel's project to develop and implement an information and diagnostics system for geotechnical monitoring has won the Project of the Year annual award of the Global CIO expert community as the Best IT Project of the Urals, Siberian, and Far Eastern Federal Districts.

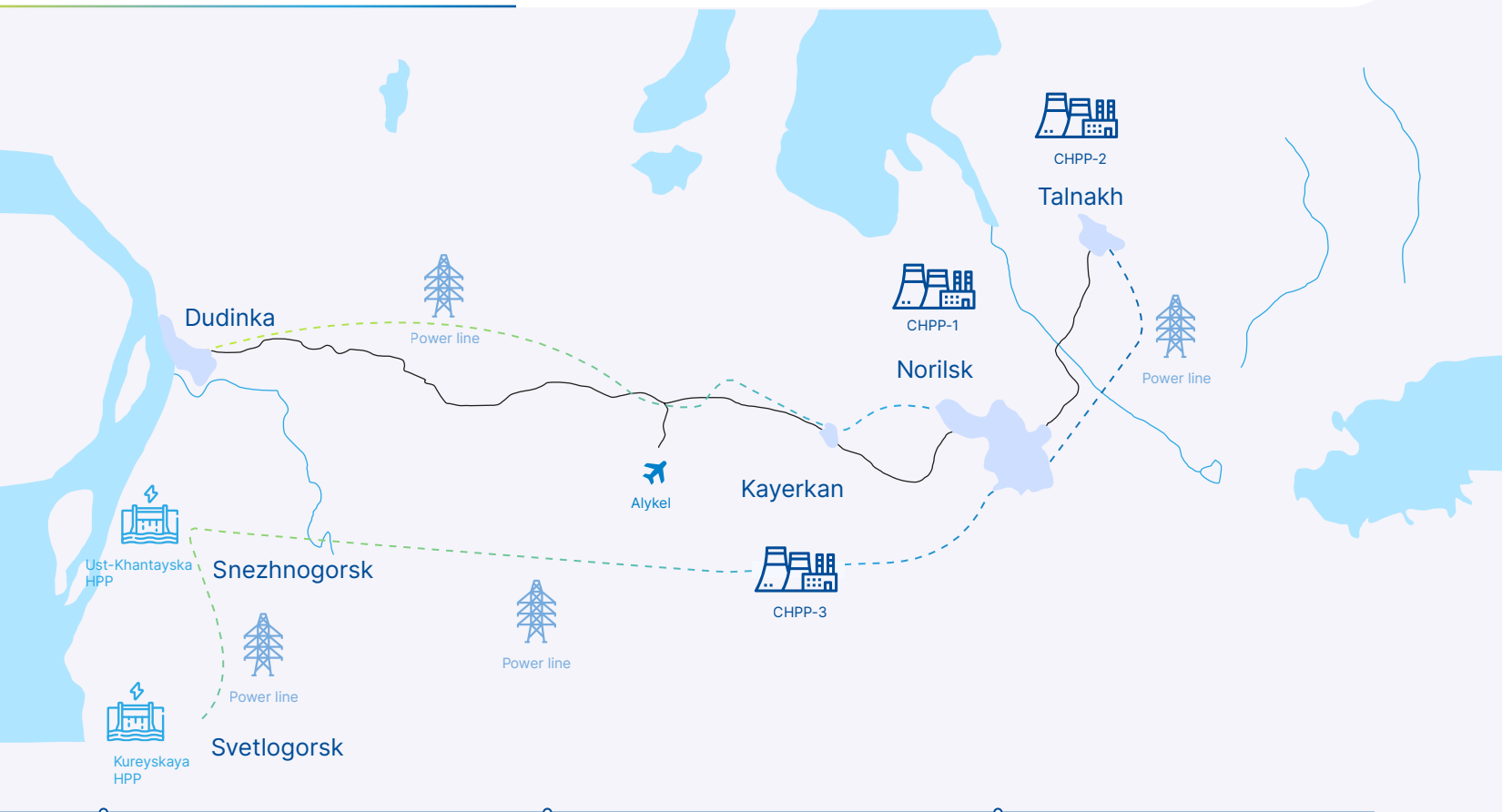


FOCUS ON POWER GENERATION AND ENERGY EFFICIENCY

As Norilsk Nickel Group's key production facilities operate in the harsh climate of the Far North, the Company's

fuel and energy services are tasked with a critical mission of ensuring reliable and continuous power supplies.

Nornickel's main power generation facilities in the Norilsk Industrial District



51% of electricity consumed came from renewable sources

More than half of the electricity is generated by two hydropower plants with a total capacity of 1,111 MW:

- Ust-Khantayskaya HPP – 511 MW;
- Kureyskaya HPP – 600 MW.

49% of electricity came

from gas-fired generation facilities, which have lower GHG emissions as compared to other traditional energy sources

Three combined heat and power plants with a total capacity of 1,115 MW:

- CHPP-1 – 325 MW;
- CHPP-2 – 350 MW;
- CHPP-3 – 440 MW.

In addition to CHPPs, there are seven gas boilers that meet Nornickel's heat needs

One boiler in each of Talnakh, Kayerkan and Alykel, and four boilers in Dudinka provide the district with heat

Below are the Company's key projects and activities aimed at improving the reliability of equipment and reducing physical climate-related risks

as well as enhancing energy efficiency and increasing the share of renewables in the energy mix:

Project / implementation effect	Reliability improvement	Mitigation of physical climate-related risks	Reduction in GHG emissions	Increased renewable energy production
Replacement of hydroelectric units of Ust-Khantayskaya HPP with a 16% increase in installed capacity (70 MW)	+		+	+
Replacement of the main power units at CHPP-2 and CHPP-3 in Norilsk	+		+	
Reconstruction of the backup diesel fuel storage facilities at CHPP-1, CHPP-2 and CHPP-3, boiler in Dudinka as well as at Ust-Khantayskaya HPP and Kureyskaya HPP	+	+		
Upgrades of electricity, heat and water supply systems	+	+	+	
Replacement of wooden supports at power lines with steel ones	+	+		
Modernisation of the gas transmission and gas distribution networks	+	+		
Major upgrade at the Norilsk, Dudinka and Kayerkan oil depots	+	+		

Reduction in GHG emissions

Branches and entities of the Company's divisions annually develop and implement

initiatives to save fuel, energy, and water and to ultimately deliver reductions in GHG emissions.

Fuel and energy savings resulting from energy consumption reduction and energy efficiency improvement initiatives in 2022 (TJ)

Indicator	Group's total	Including			
		Polar Division	NTEC	Kola MMC	Medvezhy Ruchey
Total savings	362.7	128.0	37.8	69.2	61.1
Including					
Electricity	76.6	12.5	–	24.2	9.4
Heat (hot water and steam)	248.3	115.4	–	45.0	51.7
Fuel	37.8	–	37.8	–	–

In 2022, the implementation of operational and technical measures to reduce energy consumption and improve energy efficiency resulted in savings of 362.7 TJ, with efficiency costs totalling RUB 2.2 bn. The savings were achieved due to the measures to switch to LED lighting, improving thermal insulation through the use of modern materials for piping, window and door openings,

the use of automatic heat control systems based on changes in ambient temperature, and by introducing automated energy accounting systems for plant workshops.

Renewable energy sources

Nornickel takes a comprehensive approach to energy infrastructure development, combining the objectives of improving

the reliability of production assets with those of reducing GHG emissions. We make continuous efforts to reduce the consumption of such energy sources as diesel fuel and coal, and develop alternative energy like hydropower. To that end, Nornickel works consistently to provide its operations with more economical and green energy sources, including in the long term.

Share of renewable energy in total electricity consumption by Norilsk Nickel Group (%)



In 2022, the total share of electricity consumed by Nornickel's production operations from renewable energy sources reached

51%
up 4 p.p. y-o-y.

The use of renewable energy, such as solar, geothermal and wind energy, is limited by climatic conditions, the length of the polar night and a number of other natural features of the regions where the Company operates. Nevertheless, Nornickel keeps working to find alternative solutions to improve its energy efficiency. In 2022, the Company conducted an analysis of opportunities to switch to green energy sources to replace its own conventional gas power generation facilities in the Norilsk Industrial District in the long term until 2050.

The analysis, carried out for the Norilsk region, revealed that most of the technologies considered as potential options for achieving zero carbon emissions from the Norilsk District's own power generation facilities in the long term to 2050 cannot be implemented under current conditions. Natural and climatic constraints of the Arctic Zone, the requirements of an isolated power system, and the Arctic design of equipment significantly limit the use of direct GHG emission reduction technologies in the Norilsk Industrial District.

Currently, Nornickel cooperates with Rosatom in exploring the possibility of using ground or water-based small modular reactors.

KEY ENERGY CONSUMPTION METRICS

Total energy consumption by Norilsk Nickel Group (TJ)

Indicator	2018	2019	2020	2021	2022
Fuel consumption	148,910	144,772	141,237	151,235	141,909
Energy from renewable sources (HPPs)	14,877	15,058	15,310	14,586	16,152
Electricity and heat procurement from third parties	10,931	11,331	11,200	10,891	11,005
Electricity and heat sales to third parties	18,926	18,766	17,254	19,974	18,968 ¹
Total energy consumption across the Group	155,792	152,395	150,493	156,738	150,098
Energy intensity (GJ / RUB mln) ²	214	174	135	117	127

Fuel consumption by Group companies by type of fuel (TJ)

Indicator	2018	2019	2020	2021	2022
Total fuel consumption	148,910	144,772	141,237	151,235	141,909
Natural gas	129,335	125,329	122,216	130,867	125,934
Coal ³	1,660	2,087	2,180	1,557	2,027
Diesel fuel and fuel oil	13,788	13,535	13,939 ⁴	15,097	13,623
Gasoline and jet fuel	4,127	3,820	2,902	3,715	325

In 2022, total fuel consumption by Group companies decreased by 6.2% compared to 2021 due to lower gasoline and jet fuel costs because of the sale of NordStar Airlines outside the Group's

perimeter in 2022. A 3% increase in electricity consumption by 2021 was due to an increase in the consumption by the key operations in the Norilsk Industrial District. Due to higher monthly

average temperatures in 2022, there was a 6% reduction in total heat and steam consumption compared to 2021.

¹ Including 4,183 TJ of electric power and 14,785 TJ of heating energy.

² RUB mln of consolidated revenue.

³ The Company uses coal as a chemical element in its production processes, with no coal used for heating purposes.

⁴ Taking into account the diesel fuel lost as a result of the NTEC's HPP-3 accident on 29 May 2020.

Electric power and heat consumption by Group companies (TJ)

Indicator	2020	2021	2022	Including in 2022	
				Electricity	Heating and steam
Electric power and heat consumption by Group companies	59,996	60,771	60,143	31,546	28,597 ¹
Including:					
• Polar Division	30,869	30,727	31,307	14,806	16,501
• NTEC	6,185	6,439	6,045	4,071	1,974
• Kola MMC	11,542	9,393	9,289	6,599	2,690
HPP share in total electric power consumption in the Norilsk Industrial District (%)	55	52	56	–	–
HPP share in total electric power consumption by the Company (%)	46	47	51	–	–
HPP share in total electric power and heat consumption by the Company (%)	25.5	24	26.9	–	–

OTHER HIGH-POTENTIAL AREAS FOR DECARBONISATION

Mineralisation of mining waste

In the process of mining, rock is extracted from under the ground and goes to concentrators, where grinding takes place and valuable content is separated from waste rock, or tailings. After that, tailings undergo special treatment and are sent to tailing dumps to be distributed across their surface. During weathering, which is long-term

exposure to air, minerals contained in Nornickel's ores react with carbon dioxide to form secondary carbonates. Combined, Nornickel's processes of ore mining and delivery to the surface create conditions for carbon dioxide capturing, or mineralisation.

In 2022, Nornickel's Technology Innovation Department started assessing the potential of carbon dioxide absorption by waste rock removed from the Company's deposits. To study natural mineralisation processes, experts collected around 200 samples

of waste rock and sent it to a dedicated research institute to analyse the mineral and chemical composition and therefore to estimate the carbon dioxide absorption potential.

Also, through computer modelling, Nornickel's experts select optimal process parameters to maximise carbon dioxide absorption. This innovative approach will enable us to manage the mineralisation process and speed it up.

"We are studying natural mineralisation in order to calculate total GHG volumes absorbed by waste rock at tailing dumps, and to develop a methodology to reflect these in the carbon footprint of our products. The study will enable us to assess the absorbing capacity of tailings based on the mineral composition per tonne of ore mined and process parameters at concentrators."

Sergey Vagner,
Head of Technologies for Recycling and Utilisation of By-Products, Technology Innovation Department



Together with scientists, Nornickel is also developing an engineered mineralisation technology, including by having flue or process gases bubbled through the process slurry at concentrators. Technology of this kind can result in considerably higher volumes of carbon dioxide absorption during production processes.

Climate projects

Nornickel is considering potential climate projects to reduce the impact of its operations on climate change. The Company has entered into an agreement with the Siberian Federal University

to develop high-level approaches to implementing nature-based solutions to climate change. Today, we are selecting land plots in regions where we operate and are looking into potential nature-based solutions.

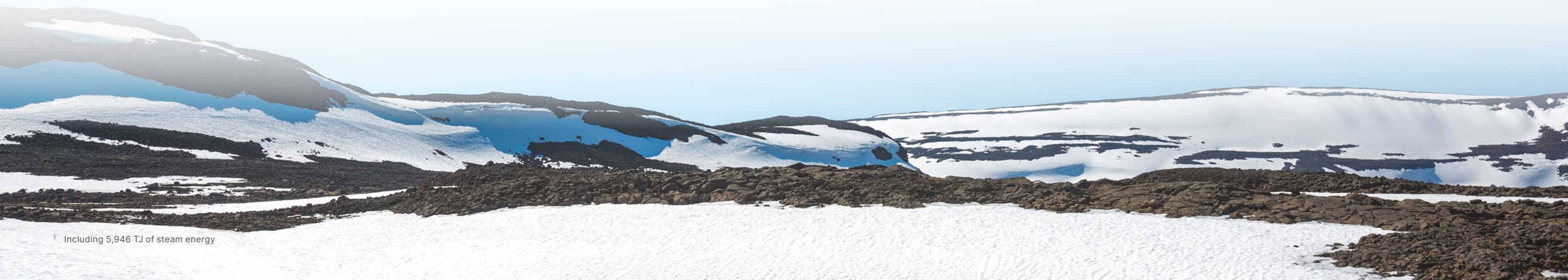
DEVELOPING COMPETENCES RELATED TO CLIMATE CHANGE

The Company is putting together a systemic approach to developing climate-related competences by integrating respective aspects into its corporate competence model, which can be used to identify material areas of knowledge for employees

of different levels. In the short term, Nornickel plans to introduce a system for assessing competences in the field of climate change and assess knowledge on a regular basis.

The Company also holds seminars on various climate-related matters, engaging leading experts and research organisations. In 2022, more than 200 Nornickel employees took part in the seminars. The Company is also developing a training course for employees on all aspects of the ESG agenda, including climate change.

¹ Including 5,946 TJ of steam energy



Partnership

Stakeholder Engagement

EDUCATIONAL AND VOLUNTEERING PROGRAMMES

Partnership with the Krasnoyarsk Pillars National Park

Located in Krasnoyarsk, the Krasnoyarsk Pillars National Park is a state nature reserve that plays a key role in carbon dioxide absorption. Considerable volumes of carbon dioxide emissions are absorbed by forest ecosystems in state nature reserves across the world. Nature reserves also help mitigate other impacts of global climate change.

The national park is home to the Bobrov Log Fun Park, a world-class all-weather sports and recreation park, part of Norilsk Nickel Group. Since 2018, the Fun Park has been running a partnership programme with the Krasnoyarsk Pillars National Park with a focus on a variety of areas.

Siberian Perspective eco-rally

On 30 September and 1 October 2022, Nornickel, with the support from the National Corporate Volunteering Council and the Russian Managers Association, used the Bobrov Log Fun Park premises to host the Second Siberian Perspective International Environmental Convention.

The event focused on climate change issues and the role of humankind in the new climate agenda. The event's programme had two tracks: a business programme

involving the industry's leading speakers, and a volunteering programme, which had participants create cross-functional teams to enhance ties within the eco-volunteering community and motivate employees to promote the environmental agenda among co-workers and communities at large.

The sessions discussed:

- approaches to adaptation to climate change nationally and regionally and the impact of the business community on national plans;
- urban space development amid adaptation to climate change;
- importance of social and environmental projects involving employees across geographies of operation.

During the event, volunteers set up a meteorological viewing point at the Krasnoyarsk Pillars National Park, installing six weather meters and information boards with insights into many years of climate observations in the region.

Green School, a free educational project for children aged 7–13

The Bobrov Log Fun Park runs the Green School project, which offers workshops, lectures, fun games, and a trade fair for children. One of the Green School modules focused on state nature reserves as major contributors to climate action.

EV charging station

Since June 2023, the Bobrov Log Fun Park has a charging station for electric vehicles, with all EV owners eligible for free parking space on the park's premises.

Arctic Lessons

In 2022, an educational interactive lesson called "Seven Wonders of the Arctic" was developed by Nornickel's corporate volunteers as part of the Let's Do It annual environmental marathon to foster greater awareness of the Arctic nature and the issues of its conservation. By February 2023, a total of 111 lessons had been held at 108 educational facilities for a combined audience of 2,620 people. Themes covered during the lessons among other things included climate change in the Arctic.

INTERACTION WITH INDIGENOUS COMMUNITIES

Nornickel is in consultations with indigenous peoples, their communities and reindeer herding farms, inter alia to discuss the impact of climate on traditional nature resource use practices, fishing conditions, domestic reindeer grazing, and wild reindeer migration routes. In the Murmansk Region, four open meetings were held with representatives of the Sámi, Komi (of the Izhma River) and Nenets peoples, residents of the villages of Lovozero and Krasnoshchelye, as well as a meeting of working groups

of Sámi non-governmental and reindeer herding organisations. In the Taimyrsky Dolgano-Nenetsky Municipal District, the Coordinating Council for Indigenous Minorities, together with the Company's Polar Division, regularly holds Company meetings with residents of local settlements.

INTERACTION WITH NON-PROFIT ORGANISATIONS

Nornickel is actively promoting the climate agenda. The Company provides expert and methodological assistance to other

industry players in order to deliver against national climate goals, share experience, and develop the best solutions to achieve the Paris Agreement's goal. Among other things, Nornickel is a member of the National ESG Alliance and takes part in its climate agenda activities as part of committees and working groups.

Engagement with the Academic Community

In 2021–2022, Nornickel continued advancing its dialogue with the professional and academic communities. Throughout 2022, we held regular consultations, conferences and round table discussions, organised working groups with research institutions and experts to discuss a wide range of matters related to the Company's environmental impact, including as regards the climate agenda.

COOPERATION WITH R&D INSTITUTIONS ON CLIMATE CHANGE

To improve the efficiency of its business solutions, share experience and expand knowledge and competences related to climate-related risks and opportunities, Nornickel is developing partnerships with R&D organisations and institutions, including the Higher School of Economics and institutes of the Russian Academy of Sciences. As part of these partnerships, the Company engaged experts from the Institute of National Economic Forecasting and the Institute of Atmospheric Physics of the Russian Academy of Sciences to prepare global economy and climate change scenarios and carry out climate

modelling and scenario analysis with a view to assessing physical risks and transition risks and opportunities¹.

As part of its partnership with the Higher School of Economics, Nornickel organised a number of expert seminars on the climate agenda to discuss the low-carbon transition of the mining industry and the risks and opportunities it entails for Russia, along with outcomes of COP27² as a conference that sets the global tone for the energy transition. In addition to Nornickel experts, the seminars also brought together senior executives of some of the largest companies, including mining businesses, representatives of the academic community, non-profit environmental organisations, and experts from ratings and consultancy agencies.

With support from Nornickel, the Higher School of Economics developed analytics on long-term demand scenarios for the industry amid the global decarbonisation drive, and analysed the structure of demand for Nornickel's products in its key markets (European Union, Asia Pacific, and North America).

Also, in 2022, as part of the Nornickel-financed programme for the development of the Fedorovsky Polar State University, a general concept was put forward to set up permafrost research sites in the Norilsk Industrial District, along with a set of methods to study permafrost environments. The new sites are to provide the foundation to run background monitoring of permafrost in the region and will help obtain the initial data to develop and verify models describing the impact of climate change on permafrost degradation. The concept was developed and endorsed by experts from key research institutions engaged in permafrost studies: Sergeev Institute of Environmental Geoscience of the Russian Academy of Sciences, Melnikov Permafrost Institute of the Siberian Branch of the Russian Academy of Sciences, Lomonosov Moscow State University, Russian University of Transport, and Polar Division of Nornickel. In 2023, there are plans to team up with the faculty of geology of Moscow State University to select the locations of the permafrost research sites and explore them as needed.



¹ For more details on the scenarios and climate change scenario analysis by the Russian Academy of Sciences Experts, please see the Climate Change Risks and Opportunities section.

² 27th Conference of the Parties of the United Nations Framework Convention on Climate Change.

Participation in COP27



Committed to developing partnerships and promoting the climate agenda in the professional community, Nornickel participated in the 27th Conference of the Parties of the United Nations Framework Convention on Climate Change (COP27), which took place in Egypt in November 2022. During the event, the Company presented its initiatives on mitigating climate change, including the scenarios it developed for the global economy and climate change.

During the Make Climate Action Everyone's Business Forum organised by the International Chamber of Commerce as part of COP27, Nornickel hosted a panel discussion on adaptation to physical risks. The session brought together representatives of Russian businesses and the academic community.

Nornickel experts also took part in a number of other events as part of COP27:

- discussion session on energy transition organised as follow-up to the Ecumene 2022: Global Financial Forum¹;
- round table of the UN Association of Russia and UN Global Compact Russia Network within Ecumene Discussion Club "Green Business. Role of the Private Sector in Restoring the Dialogue for Climate Agenda Advancement".

ENGAGEMENT WITH R&D ORGANISATIONS ON PRESERVING ECOSYSTEM BIODIVERSITY

Climate change has an adverse impact on ecosystems, which absorb around half of all greenhouse gases and also help alleviate implications of natural disasters.

Nornickel recognises the importance of preserving the biodiversity of ecosystems as the foundation underpinning all life on Earth and as an active contributor to the global climate system at large. In line with this approach, the Company inter alia focuses on biodiversity preservation.

Respective efforts began in 2022 with large-scale research carried out during the Big Scientific Expedition. The Company chose the Siberian Branch of the Russian Academy of Sciences to be responsible for the project, which in turn engaged expert organisations in the field: Institute of Systematics and Ecology of Animals, Institute of Soil Science and Agrochemistry, Central Siberian Botanical Garden, and Institute of Biophysics.

The expedition also featured researchers from specially protected natural areas in view of their comprehensive knowledge of the local context.

The studies covered three regions located more than 15 km away from production sites. The area studied totalled

71,300 km²

The expedition had the following goals:

- identify boundaries of impact on ecosystem biodiversity;
- identify reference areas;
- pin down any potential biodiversity threats posed by the Company's production facilities;
- study and evaluate the current biodiversity situation within the impact zones;
- identify indicator species reflecting the ecosystem condition;
- identify critical habitats within the impact zone and the list of endangered species;

- determine buffer zones of key biotopes;
- compile geoinformation databases on biodiversity.

Using the information gathered during the expedition, researchers produced an opinion on the extent of the negative impact. This helped to determine specific areas which needed focused efforts going forward, namely the areas adversely affected by mining and production assets. Later on, the Company plans to map impacts from its operations on natural ecosystems to follow the ARRC sequence².

To determine the direct contribution of initiatives of this kind to climate action, it is advisable to study the carbon sequestration potential during the process of ecosystem restoration. However, calculations are limited by the scarcity or sometimes absence of evidence-based methodologies. Going forward, the Company plans to continue its research into mechanisms for improved carbon capture and balance across various ecosystems.

Appendices

About the Report

This Climate Change Report is the first public climate report prepared by MMC Norilsk Nickel and addressed to a wide range of stakeholders.

The Report has been prepared in accordance with the TCFD recommendations and provides information on the Company's performance towards the achievement of SDG 13 Climate Action and the Paris Agreement goals of keeping the global average temperature increase well below 2 °C and making efforts to limit the increase to 1.5 °C.

In preparing the Report, the Company was also guided by the GHG protocol; GRI Standards, and requirements of ESG agencies and ratings (Ecovadis, Sustainalytics, MSCI ESG, CDP).

The Report covers the operations of the Norilsk Nickel Group companies. For the purposes of this Report, Norilsk

Nickel Group shall refer to MMC Norilsk Nickel and the entirety of operations of the Norilsk Nickel Group companies. Unless otherwise specified or required by the context, the terms "Company", "Group", "Nornickel" or "the Group companies" shall refer to Norilsk Nickel Group.

The Sustainable Development Department of MMC Norilsk Nickel and a dedicated working group comprising representatives of the Group's key companies supervised the preparation of the Report. The Report has been approved by MMC Norilsk Nickel's Management Board and Board of Directors.

The Report discloses the Company's short-, medium-, and long-term goals and plans. All plans and intentions outlined in this Report are provisional and subject, among other things, to a number of economic, political and legal factors, including those beyond Nornickel's control. Forward-looking

statements are subject to risks and uncertainties as they refer to events and depend on circumstances that may or may not occur in the future. Forward-looking statements are not guarantees of the Company's future operational and financial performance, and actual results of the Company's operations, its financial position, liquidity, prospects, growth, strategy, and the development of the industry in which MMC Norilsk Nickel operates may differ materially from those expressed or implied in the forward-looking statements contained in this Report.



¹ Ecumene 2022: Global Financial Forum – esgcongress.com.

² Avoid – reduce – restore – compensate.

Disclosure in accordance with TCFD guidelines

Section	Reporting element	Climate Change Report section	Assured by the auditor
Governance Disclose the organization's governance around climate-related risks and opportunities	a. Describe the board's oversight of climate-related risks and opportunities	Approaches to climate change management, pages 18-23 of the Report	✓
	b. Describe management's role in assessing and managing climate-related risks and opportunities		✓
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	Approaches to climate-related risks and opportunities assessment. Assessment results, pages 25-39 of the Report	
	b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	Sustainability assessment of Nornickel's product portfolio under three global economy and climate change scenarios, pages 35-38 of the Report	✓
	c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Scenario analysis of the consolidated financial and economic model until 2050, page 38 of the Report	✓
Risk Management Disclose how the organization identifies, assesses, and manages climate-related risks	a. Describe the organization's processes for identifying and assessing climate-related risks	Approaches to climate-related risks and opportunities assessment. Assessment results, pages 25-39 of the Report	
	b. Describe the organization's processes for managing climate-related risk	Approaches to climate-related risks and opportunities assessment. Assessment results, pages 25-39 of the Report	✓
	c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Approaches to climate change management, pages 18-23 of the Report	✓
Metrics and Targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	Approaches to climate change management, pages 18-23 of the Report	✓
	b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	Greenhouse gas emissions, pages 42-45 of the Report	✓
	c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	Approaches to climate change management, pages 18-23 of the Report	✓

Disclosure of quantitative indicators in the Climate Change Report of Norilsk Nickel Group

Quantitative indicators	Unit					Assured by the auditor
		2018	2019	2020	2021	2022
Greenhouse gas emissions						
Greenhouse gas emissions, Scope 1 and 2	million t CO ₂ e	-	-	7.5	8.1	7.7
Direct GHG emissions (Scope 1)	million t CO ₂ e	-	-	7.0	7.6	7.2
Scope 1	million t CO ₂ e	-	-	5.8	6.3	5.9
Scope 1 emissions from electricity and heat supply to households in the regions of operation	million t CO ₂ e	-	-	1.2	1.3	1.3
Indirect energy GHG emissions (Scope 2)	million t CO ₂ e	-	-	0.5	0.5	0.5
Scope 3	million t CO ₂ e	-	-	5.0	5.7	5.7
Greenhouse gas emissions, Downstream Scope 3	million t CO ₂ e	-	-	3.2	4.0	3.9
Refining at the first stage (first use)	million t CO ₂ e	-	-	3.0	3.8	3.7
Transportation of manufactured products	million t CO ₂ e	-	-	0.2	0.2	0.2
Greenhouse gas emissions, Upstream Scope 3	million t CO ₂ e	-	-	1.8	1.7	1.8
Purchased Goods and Services	million t CO ₂ e	-	-	1.2	1.0	1.1
Capital Goods	million t CO ₂ e	-	-	0.2	0.3	0.3
Fuel- and Energy-Related Activities	million t CO ₂ e	-	-	0.4	0.4	0.3
Other categories	million t CO ₂ e	-	-	0.0	0.0	0.1
Actual GHG emissions intensity (Scope 1 and 2)	tons of CO ₂ e per RUB 1 million of consolidated IFRS revenue	-	-	-	-	6.5
Carbon footprint according to ISO 14044 (GWP 100)						
Palladium	kg CO ₂ e/g of metal	-	-	-	-	27.4
Platinum	kg CO ₂ e/g of metal	-	-	-	-	27.9
Rhodium	kg CO ₂ e/g of metal	-	-	-	-	33.6
Metallic nickel	kg CO ₂ e/kg of product	-	-	-	-	8.3

Quantitative indicators	Unit					Assured by the auditor
		2018	2019	2020	2021	2022
Nickel sulfate	kg CO ₂ e/kg of product	-	-	-	-	1.8
Metallic cobalt	kg CO ₂ e/kg of product	-	-	-	-	29.3
Cobalt sulfate	kg CO ₂ e/kg of product	-	-	-	-	2.4
Copper cathodes	kg CO ₂ e/kg of product	-	-	-	-	6.0
Fuel and energy savings resulting from energy consumption reduction and energy efficiency improvement initiatives in 2022						
Total savings Group's total	TJ	-	-	-	-	362.7
Polar Division	TJ	-	-	-	-	128.0
NTEC	TJ	-	-	-	-	37.8
Kola MMC	TJ	-	-	-	-	69.2
Medvezhy Ruchey	TJ	-	-	-	-	61.1
including Electricity	TJ	-	-	-	-	76.6
Polar division	TJ	-	-	-	-	12.5
JSC NTEC	TJ	-	-	-	-	-
JSC Kola MMC	TJ	-	-	-	-	24.2
Medvezhy Ruchey LLC	TJ	-	-	-	-	9.4
including Heat (hot water and steam)	TJ	-	-	-	-	248.3
Polar Division	TJ	-	-	-	-	115.4
NTEC	TJ	-	-	-	-	-
Kola MMC	TJ	-	-	-	-	45.0
Medvezhy Ruchey	TJ	-	-	-	-	51.7
including Fuel	TJ	-	-	-	-	37.8
Polar Division	TJ	-	-	-	-	-
NTEC	TJ	-	-	-	-	37.8
Kola MMC	TJ	-	-	-	-	-
Medvezhy Ruchey	TJ	-	-	-	-	-
Total energy consumption by Norilsk Nickel Group						
Fuel consumption	TJ	148,910	144,772	141,237	151,235	141,909
Energy from renewable sources (HPPs)	TJ	14,877	15,058	15,310	14,586	16,152

Quantitative indicators	Unit					Assured by the auditor
		2018	2019	2020	2021	2022
Electricity and heat procurement from third parties	TJ	10,931	11,331	11,200	10,891	11,005
Electricity and heat sales to third parties	TJ	18,926	18,766	17,254	19,974	18,968 ¹
Total energy consumption across the Group	TJ	155,792	152,395	150,493	156,738	150,098
Energy intensity	GJ/RUB mln ²	214	174	135	117	127
Share of renewable energy in electricity consumption						
Share of renewable energy in electricity consumption	%	44	45	46	47	51
Fuel consumption by Group companies by type of fuel						
Total fuel consumption	TJ	148,910	144,772	141,237	151,235	141,909
Natural gas	TJ	129,335	125,329	122,216	130,867	125,934
Coal ³	TJ	1,660	2,087	2,180	1,557	2,027
Diesel fuel and fuel oil	TJ	13,788	13,535	13,939 ⁴	15,097	13,623
Gasoline and jet fuel	TJ	4,127	3,820	2,902	3,715	325
Electric power and heat consumption by Group companies						
Electric power and heat consumption by Group companies	TJ	-	-	59,996	60,771	60,143
Including in 2022: Electricity	TJ	-	-	-	-	31,546
Including in 2022: Heating and steam	TJ	-	-	-	-	28,597 ⁵
Electric power and heat consumption, Polar Division	TJ	-	-	30,869	30,727	31,307
Including in 2022: Electricity	TJ	-	-	-	-	14,806
Including in 2022: Heating and steam	TJ	-	-	-	-	16,501
Electric power and heat consumption, NTEC	TJ	-	-	6,185	6,439	6,045
Including in 2022: Electricity	TJ	-	-	-	-	4,071
Including in 2022: Heating and steam	TJ	-	-	-	-	1,974

¹ Including 4,183 TJ of electric power and 14,785 TJ of heating energy.

² RUB mln of consolidated revenue.

³ The Company uses coal as a chemical element in its production processes, with no coal used for heating purposes.

⁴ Taking into account the diesel fuel lost as a result of NTEC's HPP-3 accident on 29 May 2020.

⁵ Including 5,946 TJ of steam energy.

Quantitative indicators	Unit					Assured by the auditor
		2018	2019	2020	2021	2022
Electric power and heat consumption, Kola MMC	TJ	-	-	11,542	9,393	9,289
Including in 2022: Electricity	TJ	-	-	-	-	6,599
Including in 2022: Heating and steam	TJ	-	-	-	-	2,690
HPP share in total electric power consumption in the Norilsk Industrial District	%	-	-	55	52	56
HPP share in total electric power consumption be the Company	%	-	-	46	47	51
HPP share in total electric power and heat consumption be the Company	%	-	-	25.5	24	26.9
Electricity supply to GRK Bystrinskoye under a deregulated bilateral power purchase agreement	million kWh	-	-	-	-	118.3
Norilsk Nickel's main power generation facilities in the Norilsk Industrial District						
Total capacity of Ust-Khantayskaya HPP and Kureiskaya HPP	MW	-	-	-	-	1,111
Ust-Khantayskaya HPP capacity	MW	-	-	-	-	511
Kureiskaya HPP capacity	MW	-	-	-	-	600
Total capacity of CHPP-1, CHPP-2 and CHPP-3	MW	-	-	-	-	1,115
CHPP-1 capacity	MW	-	-	-	-	325
CHPP-2 capacity	MW	-	-	-	-	350
CHPP-3 capacity	MW	-	-	-	-	440
Share of electricity from gas-fired generation facilities	%	-	-	-	-	49

Abbreviations

Ag	Argentum (silver)
ARRC	Avoid – reduce – restore – compensate
Au	Aurum (gold)
CAPEX	Capital expenditures
CBAM	Carbon Border Adjustment Mechanism
CDP	Carbon Disclosure Project
CH₄	Methane
CHPP	Combined heat and power plant
Co	Cobaltum (cobalt)
COP27	27th Conference of the Parties of the United Nations Framework Convention on Climate Change
COSO ERM	The Committee of Sponsoring Organisations of the Treadway Commission Enterprise Risk Management
Cu	Cuprum (copper)
DNV	Det Norske Veritas
ESG	Environmental, Social, and Governance
GDP	Gross domestic product
GHG	Greenhouse gases
GISTM	Global Industry Standard on Tailings Management
GOST	State standard
GRI	Global Reporting Initiative
GRK	Mining and processing plant
Group	Nornickel Group
HPP	Hydropower plant
IAP RAS	Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences
ICE	Internal combustion engine
ICMM	International Council on Mining and Metals
IEA	International Energy Agency

IFRS	International Financial Reporting Standards
Inc.	Incorporated
IPCC	Intergovernmental Panel on Climate Change
Ir	Iridium
IRMA	Initiative for Responsible Mining Assurance
ISO	International Organisation for Standardisation
IT	Information technologies
J	Joule
KPI	Key performance indicators
LME	London Metal Exchange
Ltd.	Limited (Limited liability company)
MMC	Mining and metallurgical company
MSCI	Morgan Stanley Capital International
N₂O	Nitrogen oxide
NGFS	Central Banks and Supervisors Network for Greening the Financial System
Ni	Niccolium (nickel)
NTEC	Norilsk-Taimyr Energy Company
OPEC	Organisation of the Petroleum Exporting Countries
OPEX	Operating expenses
Oy	Osakeyhtiö (joint-stock company)
Pd	Palladium
PGM	Platinum group metals
PJSC	Public joint-stock company
PPP	Purchasing power parity
Pt	Platinum
R&D	Research and development

RAS	Russian Academy of Sciences
REE	Rare earth elements
RES	Renewable energy sources
Rh	Rhodium
Ru	Ruthenium
S	Sulfur (sulphur)
SA	Società Anonima (joint-stock company)
SASB	Sustainability Accounting Standards Board
SBT	Science-based targets
SDGs	UN Sustainable Development Goals
Se	Selenium
SSP	Shared Socio-Economic Pathways
UN	United Nations
USD	United States dollar
W	Watt

Glossary

Acute risks are risks that result from extreme weather events, such as cyclones, hurricanes, floods, thunderstorms, etc.

Best available technologies (BAT) are technologies ensuring the production of goods, performance of work and provision of services based on modern advances in science and technology and the best combination of criteria for achieving the goals of environmental protection, subject to the technical feasibility of their application.

Carbon footprint of a product is the total of all greenhouse gas emissions caused directly and indirectly for a product over a given period of time.

Carbon neutrality means achievement of zero carbon dioxide and similar emissions either by zeroing emissions from production activities or by implementing carbon-offset projects.

Climate is the statistical description of the entirety of meteorological quantities characterising the state of various climate system components (atmosphere, hydrosphere, lithosphere, biosphere, and cryosphere) over a certain period of time, which can range from a few months to thousands or millions of years. The World Meteorological Organisation (WMO) recommends using a 30-year reference period as a baseline for climate analysis. In a narrower sense, climate refers to the average weather conditions of a specific location or region.

Climate anomalies refer to deviations from normal climatic conditions typical of a specific region.

Climate change adaptation (adaptation) is the process of adjusting to the existing or expected climate and its impacts,

with a view to reducing potential damage or benefitting from opportunities associated with climate change.

Climate factor refers to a characteristic of the climate system that experiences variations as a result of the internal dynamics of the climate system and/or external factors impacting the system (such as fluctuations in solar radiation, changes in the chemical composition of the atmosphere, modifications in the radiative properties of the Earth's surface, etc.).

Climate model is a numerical representation of the climate system based on the physical, chemical, and biological properties of its components, their interactions, and feedback processes, and accounting for all or some of its known properties. A climate system can be represented by models of varying complexity. Coupled atmosphere-ocean general circulation models provide a comprehensive representation of the climate system. Climate models are applied, as a research tool, to study and simulate the climate.

Chronic risks are risks associated with long-term transformations of climatic conditions (e.g. increase in average air temperature, rise in annual precipitation, etc.).

Climate-related risks refers to the potential damage related to the impact of climate change, as well as measures aimed at preventing adverse human impact on the climate, adaptation to climate change, including those undertaken by governments and regulators in the countries that signed the Paris Agreement. Climate-related risks include physical and transition risks.

Climate-related risk factor is a climate-related factor considered within the risk management process.

Climate scenario is a plausible and simplified representation of future climate based on global climate models. Climate scenarios make use of assumed greenhouse gas and aerosol emissions and changes in natural resource use driven by global social and economic development and produce projections for changes in temperature, precipitation, frequency and intensity of climate extremes, sea level rise, and more.

CO₂ equivalent is a measure used to compare the warming potential of a greenhouse gas relative to carbon dioxide.

Decarbonisation is the process of transitioning to a low-carbon economy.

Downstream Scope 3 emissions are indirect greenhouse gas emissions related to sold goods and services.

Energy intensity is the amount of energy required per unit of output or activity.

Global Warming Potential (GWP) is a coefficient that quantifies the relative impact of a specific greenhouse gas, in terms of its radiative forcing, compared to carbon dioxide over a specified time period.

Goal of the Paris Agreement is the goal of keeping the global average temperature increase well below 2 °C above pre-industrial levels and continuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.

Greenhouse gases (GHGs) are gases that absorb and emit radiant energy within the thermal infrared range, causing the greenhouse effect. The main greenhouse gases are carbon dioxide (CO₂), water vapour (H₂O), methane (CH₄), nitrous

oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

Intergovernmental Panel on Climate Change (IPCC) is an international organisation established under the auspices of the United Nations and the World Meteorological Organisation in 1988.

Internal carbon pricing is a mechanism by which companies can manage decision-making processes concerning the impacts, risks, and opportunities related to climate change.

Low-carbon economy is an economy which is based on low-carbon power sources and has a minimal output of greenhouse gas emissions into the air, specifically carbon dioxide.

Man-made impact refers to the destruction of structures or technical equipment used at production facilities or uncontrolled explosion and release of hazardous substances.

Mitigation refers to the reduction of the probability of a risk event occurring and the minimisation of its potential impacts.

Nature-based solutions refer to a set of initiatives aimed at reducing (preventing) greenhouse gas emissions or increasing the absorption of greenhouse gases.

Paris Agreement is an international treaty adopted under the United Nations Framework Convention on Climate Change (UNFCCC) that aims to enhance efforts to combat climate change, adapt to its impacts, and provide increased climate-related support to developing countries.

Permafrost is soil which continuously remains below 0 °C (32 °F) for three years or more.

Permafrost condition refers to a combination of properties of perennially frozen soils.

Permafrost degradation is a process of periodic thawing associated with a gradually increasing average annual permafrost temperature, resulting in the lowering of the upper top of permafrost and the raising of its lower bottom.

Physical risks refers to the potential damage associated with natural phenomena arising from climate change. Physical risks are divided into acute risks related to sudden events and chronic risks associated with long-term changes in climatic characteristics and conditions.

Risk is the potential impact of uncertainty on the achievement of set goals.

Risk appetite is the amount and type of risk the Company's and its business units' are willing to accept in pursuit of their set goals.

Stakeholders are individuals and legal entities or their groups having certain expectations about the Company or affected by its operations, influencing its managerial decisions while being themselves influenced by such decisions. Stakeholders include the Company's shareholders, investors, employees, suppliers, contractors, consumers, trade unions and other public organisations, federal and local authorities, mass media, residents of areas where the Company operates, and others.

Scope 1 emissions are direct greenhouse gas emissions from company-owned and/or controlled resources.

Scope 2 emissions are indirect greenhouse gas emissions from purchased or acquired electricity, steam, heat and cooling.

Soil thawing is a process whereby soil receives heat in a quantity sufficient for its natural negative temperature to increase to 0 °C and also for its disseminated ice to turn to liquid.

Transition risks refers to the potential damage arising from the transition to a low-GHG economy, including steps taken by governments and regulators in the countries that signed the Paris Agreement set to prevent and adapt to climate change, which are categorised into political, legal, technological, market, and reputational risks.

Upstream Scope 3 emissions are indirect greenhouse gas emissions related to purchased or acquired goods and services.

Independent Assurance Report

JSC "Kept"

Naberezhnaya Tower Complex, Block C
10 Presnenskaya Naberezhnaya
Moscow, Russia 123112
Telephone +7 (495) 937 4477
Fax +7 (495) 937 4499



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To the Shareholders of PJSC Mining and Metallurgical Company Norilsk Nickel

Introduction

We were engaged by the Management of PJSC Mining and Metallurgical Company Norilsk Nickel (hereinafter – "the Management") to report on information in the Climate Change Report of Norilsk Nickel Group (hereinafter – "the Group") presented by the Group in 2023 (hereinafter – "the Report") in the form of a limited assurance conclusion on whether information in the Report is prepared, in all material respects, in accordance with the applicable criteria (presented in the section "Applicable criteria" of this report) and is free from misstatement.

Our conclusion applies to the information presented in the Report except for any planned or forecast financial and non-financial data, quantitative data for 2018-2021 as presented in Appendices to the Report Disclosure of quantitative indicators in the Climate Change Report of Norilsk Nickel Group and information not marked "Assured" in the column "Assured by the auditor" in Appendices to the Report Disclosure in accordance with TCFD guidelines (hereinafter - "Information in the Report").

Management's Responsibilities

Management is responsible for the preparation and presentation of the Report that is free from misstatement in accordance with the applicable criteria, and for the information contained therein.

This responsibility includes designing, implementing and maintaining internal control system relevant to the preparation of the Report that is free from material misstatement, whether due to fraud or error. It also includes: determining the Group's objectives in respect of climate performance and reporting; selecting applicable requirements of the standards used to prepare the Report; preventing and detecting fraud; identifying and ensuring that the Group complies with the laws and regulations applicable to its activities; selecting and applying appropriate policies; making judgments and estimates that are reasonable in the circumstances; maintaining adequate records in relation to the information included in the Report; ensuring that staff involved in the preparation of the Report is properly trained; information systems are properly updated and that any changes in the reporting system encompass all key business units.

Our Responsibilities

Our responsibility is to perform procedures to obtain evidence in respect of the Information in the Report and to report thereon in the form of a limited assurance conclusion regarding preparation of the Information in the Report in all material respects in accordance with applicable criteria and without material misstatement based on the evidence obtained.

We conducted our engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* (ISAE 3000) issued by the International Auditing and Assurance Standards Board.

ISAE 3000 requires that we plan and perform our procedures to obtain a limited level of assurance about whether the Information in the Report is prepared, in all material respects, in accordance with the applicable criteria (presented in the "Applicable Criteria" section of this report) and is free from material misstatement.

Engaging entity: PJSC "MMC "Norilsk Nickel"

Audit firm: JSC "Kept"

Entered in the Unified State Register of Legal Entities No. 1028400000298

Principal registration number of the entry in the Register of Auditors and Audit Organizations No. 12006020351

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Our Independence and Quality Management

We have complied with the independence and ethical requirements established by the Russian *Rules on Independence of Auditors and Audit Firms* and the Russian *Code of Professional Ethics for Auditors* and by the *International Code of Ethics for Professional Accountants (including International Independence Standards)* issued by the International Ethics Standards Board for Accountants, which are based on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

We apply the *International Standard on Quality Management 1*, which requires our organization to develop, implement and operate a system of quality management including policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Procedures Performed

The procedures selected, and our determination of the nature, timing and extent of these procedures is a matter of our professional judgment, including the assessment of risk of material misstatement during the preparation of the Report, whether due to fraud or error, our understanding of the Group's activities, as well as other engagement circumstances.

In making these risk assessments, we considered internal control system relevant to the Management's preparation of the Report in order to design procedures that are appropriate in the circumstances, but not for the purposes of expressing a conclusion as to the effectiveness of the Group's internal control.

Our engagement also included: assessing the appropriateness of the Information in the Report and the suitability of the criteria used by Management in the preparation of the Information in the Report in the circumstances of the engagement; evaluating the appropriateness of the methods, policies and procedures, used in the preparation of the Information in the Report and the reasonableness of estimates made by Management.

The procedures we developed based on the performed risk assessment are a combination of inspections, confirmations, recalculations, analytical procedures and inquiries.

Our procedures included, but were not limited to, the following:

- interviewing the Management and responsible employees of the Group's regarding internal procedures regulating the collection of data used in the preparation of the Information on the Report;
- assessment of the reasonableness and suitability of key assumptions;
- inquiries to obtain an understanding of operations impacting the Report;
- comparing the information presented in the Report with data from other sources to determine its completeness, accuracy and consistency;
- assessing the completeness of qualitative and quantitative information against the criteria used;
- recalculation of quantitative data and inspection of underlying documentation.

We conducted such procedures at the level of the following entities and branch of the Group, which were selected based on risk analysis using quantitative and qualitative criteria:

- Head office (PJSC Mining and Metallurgical Company Norilsk Nickel);
- the Polar branch (a branch of PJSC Mining and Metallurgical Company Norilsk Nickel);
- JSC NTEC;
- JSC Kola MMC;
- GRK Bystrinskoye LLC.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a

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limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Applicable Criteria

The applicable criteria comprise relevant requirements and recommendations on the methodology for preparing the Report, as well as necessary reference information contained in the following documents:

- Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD)¹;
- Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard²;
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories³;
- Principles International Council of Mining and Metals (ICMM)⁴;
- The Initiative for Responsible Mining Assurance (IRMA)⁵;
- Global Industry Standard on Tailings Management (GISTM)⁶;
- Requirements of independent ESG rating agencies (Ecovadis, Sustainalytics, MSCI ESG, CDP);
- Information Letter of the Bank of Russia No. IN-06-28/49 of 12.07.2021 "On Recommendations on the Disclosure by Public Joint Stock Companies of Non-Financial Information Related to the Activities of Such Companies"⁷;
- Order of the Ministry of Economic Development of Russia No. 267 of 13.05.2021 "On the Approval of Methodological Recommendations and Indicators on Adaptation to Climate Change"⁸.
- Order of the Ministry of Natural Resources and Environment of the Russian Federation of June 29, 2017 No. 330 "On Approval of Methodological Guidelines for the Quantitative Determination of the Volume of Indirect Energy Emissions of Greenhouse Gases"⁹;
- Order of the Ministry of Natural Resources and Ecology of the Russian Federation No. 300 dated June 30, 2015 "On Approval of Methodological Guidelines and Guidelines for Quantifying Greenhouse Gas Emissions by Organizations Engaged in Economic and Other Activities in the Russian Federation"¹⁰;
- Order of the Ministry of Natural Resources and Environment of the Russian Federation of May 27, 2022 No. 371 "On Approving Methods for Quantifying Greenhouse Gas Emissions and Sequestrations"¹¹;

Inherent Limitations

Greenhouse Gas quantification is subject to inherent uncertainty because of the incomplete scientific knowledge used to determine emission factors of different gases.

¹ Task Force for Climate-Related Financial Disclosures recommendations under TCFD

² Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

³ 2006 IPCC Guidelines for National Greenhouse Gas Inventories

⁴ Principles International Council of Mining and Metals (ICMM)

⁵ The Initiative for Responsible Mining Assurance (IRMA)

⁶ Global Industry Standard on Tailings Management (GISTM)

⁷ Information Letter of the Bank of Russia No. IN-06-28/49 of 12.07.2021 "On Recommendations on the Disclosure by Public Joint Stock Companies of Non-Financial Information Related to the Activities of Such Companies"

⁸ Order of the Ministry of Economic Development of Russia No. 267 of 13.05.2021 "On the Approval of Methodological Recommendations and Indicators on Adaptation to Climate Change"

⁹ Order of the Ministry of Natural Resources and Environment of the Russian Federation of June 29, 2017 No. 330 "On Approval of Methodological Guidelines for the Quantitative Determination of the Volume of Indirect Energy Emissions of Greenhouse Gases"

¹⁰ Order of the Ministry of Natural Resources and Ecology of the Russian Federation No. 300 dated June 30, 2015 "On Approval of Methodological Guidelines and Guidelines for Quantifying Greenhouse Gas Emissions by Organizations Engaged in Economic and Other Activities in the Russian Federation"

¹¹ Order of the Ministry of Natural Resources and Environment of the Russian Federation of May 27, 2022 No. 371 "On Approving Methods for Quantifying Greenhouse Gas Emissions and Sequestrations"

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Conclusion

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Based on the procedures performed, as described in this report, and the evidence obtained, nothing has come to our attention that causes us to believe that the Information in the Report is not prepared, in all material respects, in accordance with the applicable criteria (presented in the section "Applicable Criteria" of this report) or is materially misstated.



Velichko Natalia Nikolaevna

JSC "Kept"

Moscow, Russia

December 6, 2023

Disclaimer

The information contained herein relies on the data available to MMC Norilsk Nickel as at the date of this Climate Change Report. After this Climate Change Report was prepared, the Company's operations as well as forecasts and overview of the current situation presented in the Climate Change Report may have been affected by external or other factors, including the escalation of the geopolitical conflict in Ukraine, sanctions imposed by the United States, the European Union, the United Kingdom and other nations against the Russian Federation, Russian individuals and legal entities, Russian Federation's response to sanctions, economic and other measures introduced to maintain the economic and financial stability of the Russian Federation, the COVID-19 pandemic and other factors beyond the Company's control. In particular, the United States, the European Union, the United Kingdom, and other nations have imposed export controls against the Russian Federation that restrict, among other things, supply of industrial equipment to the Russian Federation. These export controls may have a negative impact on the manufacturing capabilities of MMC Norilsk Nickel, should it be unable to purchase and deliver equipment to the Russian Federation.

This Report discloses the Company's short-, medium-, and long-term goals, objectives, and plans. All plans and intentions outlined

in this Report are provisional and subject, among other things, to a number of economic, political and legal factors, including the factors mentioned above, beyond Nornickel's control. Forward-looking statements are subject to risks and uncertainties as they refer to events and depend on circumstances that may or may not occur in the future. Forward-looking statements are not guarantees of the Company's future operational and financial performance, and actual results of the Company's operations, its financial position, liquidity, prospects, growth, strategy, and the development of the industry in which MMC Norilsk Nickel operates may differ materially from those expressed or implied by the forward-looking statements contained in this Climate Change Report. MMC Norilsk Nickel hereby disclaims any liability for any loss resulting from the use of this Climate Change Report, and assumes no obligation to update any forward-looking statements contained herein.

Information about the market share and other statements regarding the industry in which MMC Norilsk Nickel operates, as well as the Company's position relative to its competitors are based on publicly available information published by other metals and mining companies or obtained from trade and business organisations and associations. Such data and statements have not been verified, and the financial

and operating performance metrics of MMC Norilsk Nickel's competitors used to assess and compare positions may have been calculated differently from the method used by MMC Norilsk Nickel.

This Climate Change Report is not part of a securities advertisement, an offer or invitation to sell, issue or offer the right to sell or subscribe for MMC Norilsk Nickel shares and other securities.

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Contacts

Head Office

Address: 15, 1st Krasnogvardeysky Drive, Moscow, 123100, Russia

Phone: +7 495 787-76-67

Email: gmk@nornik.ru

Sustainable Development Department

Alikhan Avarskiy

Climate Adaptation Lead

Phone: +7 495 787-76-67 (ext. 45 3044)

Email: AvarskiyAK@nornik.ru

Nornickel on social media

[x.com/nornikofficial](https://twitter.com/nornikofficial)

vk.com/nornickel_official

youtube.com/user/NornikOfficial

feeds.feedburner.com/nornik/AIDB

Corporate website

<https://nornickel.com>