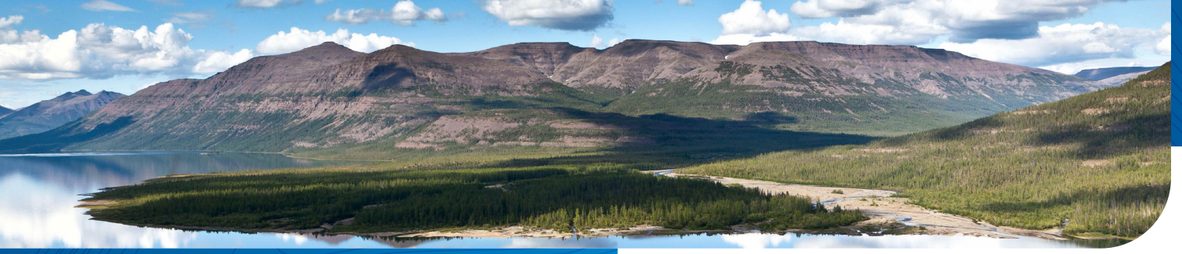
NORNICKEL

CLIMATE CHANGE REPORT

Nornickel group
2024



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APPROVED
by the Board of Directors
of MMC Norilsk Nickel
Minutes No. GMK/16-pr-sd
dated 26.05.2025

RECOMMENDED FOR APPROVAL
by the Sustainable Development and Climate Change Committee
of MMC Norilsk Nickel's Board of Directors
Minutes No. 1 dated 20.05.2025

APPROVED
by the Management Board
of MMC Norilsk Nickel
Minutes No. GMK/11-pr-p
dated 7 May 2025

Vice president's statement

Dear colleagues,

I am pleased to present Nornickel's second Climate Change Report, covering the year 2024, in which we detail the results of our efforts to address climate change.

The climate agenda remains a key element of Nornickel's development strategy. On the one hand, our assets are concentrated in the Arctic zone, where monitoring climate-related risks is of particular importance. On the other hand, we see strong market potential for our metals, driven by transport electrification, growth in renewables, and the advancement of hydrogen technologies.

We remain committed to reducing our own climate impact. In the reporting year, despite a slight increase in production, we managed to keep gross greenhouse gas emissions at 7.5[1] mln t – one of the lowest levels among major metals companies. In 2024, renewable electricity accounted for 54% of total consumption across the Group. Spending on our energy efficiency programme and other climate-related initiatives totalled RUB 4.8 billion.

In addition to the geotechnical monitoring system deployed at the Norilsk site, last year we partnered with Fedorovsky Polar State University to develop a background monitoring system for permafrost soils. Background monitoring will enable us, over time, to better assess trends in permafrost degradation outside urban areas – where a significant portion of our linear infrastructure is located. In addition, in 2024, we also collaborated with the Institute for Economic Forecasting of the Russian Academy of Sciences to update our proprietary scenarios for global economic and climate development. Based on these scenarios, we revised our forecasts for demand and prices for our metals. Our analysis has shown that under any scenario – whether one of accelerated decarbonisation or of a global retreat from such efforts – our basket of metals ensures the long-term resilience of our financial position.

I would like to thank Nornickel employees and partners involved in our joint climate-related efforts for their valuable contributions, and I trust that this active cooperation will continue into the future.

With best regards,
Stanislav Seleznev,
Vice President for Ecology and Industrial Safety at MMC Norilsk Nickel

[1] Including a GHG emissions provision for the Sulphur Project at Nadezhda Metallurgical Plant and excluding GHG emissions generated from heat and electricity supplies to the public.

Executive summary

The Report provides information on the progress made by the Nornickel Group[1] in achieving its strategic climate-related goals, outlines how the Company is responding to climate changes in its regions of operation, and presents Nornickel's value proposition in the context of the global energy transition.

Nornickel produces metals that are critical to the energy transition, including nickel (16% of the global market), copper (2%), palladium (40%), platinum (11%), and cobalt. The Company's customer network comprises over 300 clients worldwide. Plans are in place to launch lithium production to capture the growing global demand for this green metal.

As part of the Company's Innovation and R&D Strategy, Nornickel's Palladium Centre aims to bring over 100 new palladium-containing materials to market, which are expected to generate at least 40–50 tonnes of new palladium demand by 2030. The Centre's portfolio comprises over 25 developments across several distinct application areas – greentech, high-tech materials, and traditional uses. In 2024, Nornickel also launched the Battery Technology Centre, which focuses on the development of nickel-containing cathode active materials (CAMs) – a key component in modern batteries. The first samples of cathode materials for NCM 811+ chemistry have already been developed.

Nornickel continues to implement its 2031 Environmental and Climate Change Strategy. In 2024, the strategy was updated and divided into two parts: a mandatory one, driven by the requirements of national legislation and stock exchanges, and voluntary commitments, reflecting the Company's extended responsibility to reduce greenhouse gas emissions and comply with international standards. The share of renewable electricity use in 2024 reached 54%, exceeding the target of 46%. The Company also remains committed to keeping the amount of absolute Scope 1 and 2 emissions at 10 mln t of CO_2 equivalent. This will ensure that the Company's metals maintain a competitive carbon footprint among the world's major metals and mining companies. For 2024, Scope 1 emissions amounted to 7.1[2] mln t of CO_2 equivalent, while Scope 2 emissions totalled 0.4 mln t of CO_2 equivalent.

In 2024, the Board of Directors approved the Key Focus Areas of Carbon Neutrality, a document that outlines the Company's forward-looking efforts to reduce greenhouse gas emissions. These efforts include the deployment of energy-efficient technologies, the implementation of climate projects, the use of low-carbon energy sources in power generation and transport, gangue mineralisation in tailings storage facilities, and other initiatives.

The Company uses TCFD[3] recommendations to assess climate-related risks and opportunities.

- To assess transition climate risks and opportunities, in 2024, Nornickel, in collaboration with the Institute for Economic Forecasting of the Russian Academy of Sciences, updated its three proprietary scenarios for global economic and climate development: Rapid Transition, Sustainable Palladium, and Global Growth, which correspond broadly to the IPCC SSP1-2.6, SSP2-4.5, and SSP5-8.5 scenarios, respectively. Based on these scenarios, Nornickel analysed its consolidated financial and economic model until 2040. The analysis showed that, under any scenario, Nornickel's basket of metals ensures the resilience of its financial position through to 2040.
- To assess physical climate risks, the Company, in partnership with the Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences, evaluated climate change trends since the 1960s and climate projections up to 2050 for the Norilsk, Kola, and Bystrinsky production sites. Key risk factors include permafrost degradation, precipitation anomalies, and more frequent thunderstorms. In 2024, the Company focused on developing an approach to climate vulnerability assessment based on the Energy Division's assets, as linear infrastructure and tanks at the Norilsk site are more likely to be exposed to climate impacts.

[1] For the purposes of this Report, the Nornickel Group shall refer to PJSC MMC Norilsk Nickel and its subsidiaries. Unless otherwise specified or required by the context, the terms "Company", "Group", "Nornickel", and "Nornickel Group" refer to the Norilsk Nickel Group.

[2] Including a GHG emissions provision for the Sulphur Project at Nadezhda Metallurgical Plant and excluding GHG emissions generated from heat and electricity supplies to the public.

[3] Task Force on Climate-related Financial Disclosures.

Key decarbonisation initiatives in 2024 included:

- Energy efficiency projects, which, combined, resulted in reductions of 79.2 kt of CO_2 equivalent in Scope 1 emissions and 180.5 kt of CO_2 equivalent in Scope 2 emissions
- The Company also gauged the natural GHG absorption capacity of gangue at its tailings storage facilities. In 2024, total absorption amounted to 375 kt of CO_2 equivalent and was verified by TÜV Austria

Further development of permafrost monitoring at the Norilsk site continued in 2024. The geotechnical monitoring system, which controls the technical condition of the foundations of buildings and structures was expanded to include a background permafrost monitoring system focused on the natural landscapes of the Norilsk Industrial District. The data collected within a unified information and diagnostic system will support more accurate modelling of permafrost temperatures in the region and help refine forecasts of permafrost degradation. The monitoring system is the Company's key climate change adaptation project, with a budget of approximately RUB 3 billion

Key climate change metrics for 2024

IFRS S2 29e

7.1 mln t of CO_2 equivalent[1]
Scope 1 GHG emissions

6.7 mln t of CO_2 equivalent
Total Scope 3 GHG emissions, including:

1.2 mln t
upstream Scope 3 emissions

5.5 mln t
downstream Scope 3 emissions

0.4 mln t of CO_2 equivalent
Scope 2 GHG emissions

54.4%
Share of renewable electricity across the Group

RUB 4.8 billion
Spending on climate action initiatives

Product carbon footprint[2]
(kg of CO_2 equivalent per g of metal):

Pd **24.6**

Pt **24.7**

Rh **36.9**

(kg of CO_2 per kg of metal):

Metal
Ni **8.9**

Sulphate
Co **2.6**

Sulphate
Ni **3.0**

Cathodes
Cu **3.8**

Metal
Co **39.0**

[1] Including a GHG emissions provision for the Sulphur Project at Nadezhda Metallurgical Plant and excluding GHG emissions generated from heat and electricity supplies to the public.

[2] According to ISO 14044, a 100-year global warming potential (GWP) metric was applied. The calculation includes a GHG emissions provision for the Sulphur Project at Nadezhda Metallurgical Plant.

About Nornickel

Nornickel is a leading diversified metals and mining holding company, the world's largest producer of palladium, and one of the leading global producers of Class I nickel, platinum, and copper.

The Company manages the full metal production cycle, from ore mining to refining, along with its own energy, transport, and support infrastructure as well as a dedicated research institute.

Nornickel's products

Nornickel's products are used in car manufacturing, energy infrastructure construction, and the production of equipment for green energy as well as across many other industries.

Pd Palladium

Ni Nickel

Pt Platinum

Cu Copper

Ag Silver

Ru Ruthenium

Rh Rhodium

S Sulphur

Co Cobalt

Au Gold

Te Tellurium

Ir Iridium

Se Selenium

Nornickel Group's structure

Nornickel is the largest company operating in the Russian Arctic, a cornerstone of local economies, and the largest employer in four of its host cities: Norilsk, Dudinka, Monchegorsk and Zapolyarny. In addition, Nornickel's production assets are also located in the Trans-Baikal Territory. The Company's Head Office is based in Moscow.

2024 milestone

In 2024, two divisions – Norilsk and Kola, comprising the Group's core operating assets, – were merged into the Polar Division to enhance operational efficiency and streamline internal processes.

Group divisions[1]

Polar Division

Kola Peninsula, Murmansk Region

Development of deposits within the Western Ore Cluster, mining and further processing of disseminated copper-nickel sulphide ores

Zhdanovskoye, Zapolyarnoye, and Tundrovoye deposits

Taimyr Peninsula, north of the Krasnoyarsk Territory, Russia

Deposit development and full metals production cycle – from mining of rich, cupriferous, and disseminated copper-nickel sulphide ores to manufacturing of end products

Oktyabrskoye and Talnakhskoye deposits, Norilsk-1 deposit as well as non-metallic deposits (Ozero Lesnoye, Gorozubovskoye, Kayerkanskoye, Mokulayevskoye, and Gribanovskoye), development projects (Maslovskoye and the Western flank of the Oktyabrskoye deposit), and high potential areas (Yuzhno-Norilskaya, Mikchangdinskaya, and Arylakhskaya)

Trans-Baikal Division

Trans-Baikal Territory, Gazimuro-Zavodsky Municipal District

Exploration, mining, and further processing of gold-iron-copper ores

Bystrinskoye deposit, development projects (Bystrinsko-Shirinskoye and Bugdainskoye deposits, flanks of the Bystrinskoye deposit), and high-potential areas (Alenuyskaya, Shamyanskaya, Mostovskaya, and Dogyinskaya)

[1] For more details on deposits and the Group's business model, please see MMC Norilsk Nickel's 2024 Annual Report.

Energy Division

Norilsk Industrial District

Production and transportation of natural gas and gas condensate, generation of heat and electricity for the Company's production assets, local consumers, and residents of the Norilsk Industrial District, as well as organising supplies and storage of light and heavy petroleum products in the Far North

Pelyatkinskoye, Yuzhno-Soleninskoye, Severo-Soleninskoye gas condensate fields, Messoyakhskoye gas field

Sales Division

Russia, Switzerland, China (Shanghai and Hong Kong SAR)

Selling end and semi-products, expanding the customer base, ensuring customer satisfaction, venturing into new product segments and sales markets, and conducting scientific, technology, and marketing research

Nornickel's approach to climate change

Nornickel recognises and considers the risks associated with global climate change. The Company contributes to the implementation of the Paris Agreement's goals to hold the increase in the global average temperature to well below 2 °C and pursue efforts to limit the rise to 1.5 °C above pre-industrial levels by the end of the 21st century. As a signatory to the UN Global Compact, the Company fully supports the UN Sustainable Development Goals (SDGs), in particular SDG 13: Climate Action. In addition, Nornickel contributes to the achievement of national climate policy goals and objectives as set forth in the Climate Doctrine of the Russian Federation and the Strategy of Socio-Economic Development of the Russian Federation with a Low Level of Greenhouse Gas Emissions Until 2050.

IFRS S2 14b

In practice, the Company puts the above commitments into action as follows:

- Pursues a strategy aimed at growing the production and sales of metals that are critical for the global transition to a green economy
- Implements an environmental and climate change strategy that enables it to maintain some of the lowest greenhouse gas emissions and one of the most competitive product carbon footprints among major global metals and mining companies
- Develops innovative technology solutions to reduce GHG emissions and implements climate change adaptation projects
- Establishes partnerships with research institutions and provides support for scientific research and development projects related to climate change
- Engages on climate change issues with a wide range of stakeholders, including expert communities, local communities, professional associations, and government authorities

Why climate change issues are important to the Company

Improving the reliability of facility operations

Global warming issues are of particular relevance to Nornickel, as the Company's core production and energy assets are located within the Arctic zone. According to the scientific community, the average surface temperatures in the Arctic are rising three to four times faster than the global average, posing additional operational risks. In the Company's view, the primary threat stems from permafrost thawing in the Arctic, which undermines the stability of building and structure foundations. To assess the impact of permafrost thawing processes, Nornickel has deployed a monitoring system. For more details, please see the Permafrost Monitoring sub-section.

Supporting global energy transition

A report by the Intergovernmental Panel on Climate Change (IPCC)[1] shows that achieving the Paris Agreement goal will require a drastic reduction in GHG emissions by 2050. The greatest potential for GHG emission reductions has been identified in the energy, transport, and construction sectors.

The International Energy Agency (IEA) has identified[2] the following metals and minerals as critical for the global energy transition.

1 IPCC, 2023: Climate Change 2023: Synthesis Report. Summary for Policymakers.
2 Mineral requirements for clean energy transitions – The Role of Critical Minerals in Clean Energy Transitions – Analysis – IEA

Nornickel already supplies four of the nine categories of critical green metals to the global market and is planning to develop a lithium deposit.

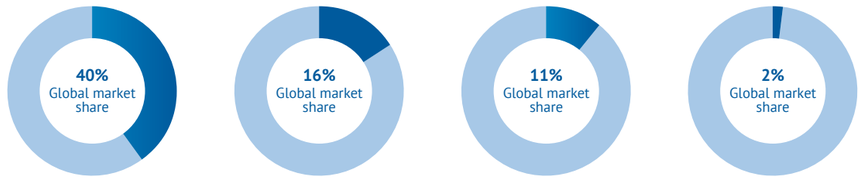
	Nornickel's metals								
	Copper	Nickel	Cobalt	PGMs	Lithium	REE	Chromium	Zinc	Aluminium
Solar power	●	●	●	●	●	●	●	●	●
Wind power	●	●	●	●	●	●	●	●	●
Hydropower	●	●	●	●	●	●	●	●	●
Concentrated solar power systems	●	●	●	●	●	●	●	●	●
Bioenergy	●	●	●	●	●	●	●	●	●
Geothermal power	●	●	●	●	●	●	●	●	●
Nuclear power	●	●	●	●	●	●	●	●	●
Power transmission lines	●	●	●	●	●	●	●	●	●
Electric vehicles and batteries	●	●	●	●	●	●	●	●	●
Hydrogen energy	●	●	●	●	●	●	●	●	●

Relative importance of metals and minerals for various clean energy technologies: High: ● Medium: ● Low: ●

PGMs – platinum group metals. REE – rare earth elements.

Position in the industry[1]

>300
customers
from across the globe



No. 1 palladium producer

No. 2 metal nickel producer

No. 4 platinum producer

No. 13 copper producer

In addition, Nornickel is expanding its portfolio of innovative products to support the low-carbon transition. The Company has established the Palladium Centre, which develops new palladium-based products for hydrogen and solar energy, aviation fuel, and electrified transport. In the long term, more than 100 new palladium-containing materials are planned to be brought to market.

The Battery Technology Centre was also established to develop nickel-containing cathode active materials (CAMs) – a key component in modern batteries. The first samples of cathode materials for NCM 811+ chemistry have already been produced, with plans for further product innovation in place. For more details, please see the Product Portfolio Diversification section.

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

Climate change governance at the end of 2024

TCFD Ga, TCFD Gb, IFRS S2 6a, 6b

Nornickel's organisational structure enables a systematic approach to managing climate change. Responsibility is allocated vertically, starting at the top with the Company's key governance bodies: the Board of Directors and the Management Board of MMC Norilsk Nickel

A dedicated Sustainable Development and Climate Change Committee operates at the level of the Board of Directors. In April 2024, the Committee reviewed a framework for assessing climate-related risks and opportunities, and in December, it discussed progress on its rollout.

The implementation of climate risk management measures and procedures is the responsibility of the Company's Management Board and its Risk Management Committee. Key risks, including those related to climate change, are reviewed by the Committee on a quarterly basis.

Board of Directors

Sustainable Development and Climate Change Committee of the Board of Directors

- Approval of the Climate Change Policy
- Approval of the climate strategy and risk appetite
- Oversight over the operation of the climate risk management system

President

First Vice President – Chief Financial Officer

- Quantification of upstream Scope 3 GHG emissions
- Calculation of the internal carbon price
- Calculation of the actual and projected product carbon footprint
- Assessment of the impact of climate-related risks on consolidated IFRS financial statement metrics

Vice President – Head of Energy Division

- Implementation of energy efficiency initiatives
- Modernisation of energy infrastructure facilities
- Implementation of renewable energy development projects

Vice President for Ecology and Industrial Safety

- Monitoring and coordination of the implementation of the Company's sustainability policy
- Development of the Environmental and Climate Change Strategy and an action plan to implement it
- Quantification of Scope 1 and 2 GHG emissions
- Implementation of decarbonisation projects
- Assessment of climate-related risks
- Provision of methodological support to risk owners in incorporating climate risk factors into risk management
- Development of corporate procedural documents and tools for carbon regulation

Management Board

Risk Management Committee of the Management Board

- Implementation of climate risk management procedures
- Alignment of the Company's climate risk appetite metrics and submission of recommendations to the Board of Directors regarding their approval

Senior Vice President – Head of Strategy and Business Development

- Integration of the climate strategy into the Company's development strategy
- Calculation of strategic model scenarios and assessment of the long-term impact of climate scenarios

Vice President – Head of Internal Control and Risk Management

- Ensuring a uniform approach within the risk management system
- Preparation of key risk management reports
- Development of the risk appetite statement

Vice President for Federal and Regional Programmes

- Cooperation with federal, regional, and municipal authorities as well as engagement with expert, scientific, and non-governmental organisations and indigenous small-numbered peoples of the North on climate change issues

Senior Vice President – Head of Sales, Commerce, and Logistics

- Assessment of the impact of climate-related risks and opportunities on the resilience of the product portfolio and sales strategy
- Quantification of downstream Scope 3 GHG emissions

Heads of branches and business units

- Implementation of climate-related projects
- Coordination of risk management efforts

Climate Change Policy

IFRS S2 6a (i)

Nornickel has adopted PJSC MMC Norilsk Nickel's Climate Change Policy, which sets out the principles guiding the Company's actions and commitments within the framework of the climate agenda. The Policy defines the approach taken by the executive bodies to shaping the Company's climate change strategy.

The Company's key commitments under the Climate Change Policy:

- Develop and regularly update the Company's climate change strategy
- Deploy a framework and tools for managing climate-related risks
- Conduct regular audits of climate risk management
- Identify and measure the contribution of the Company's products to the low-carbon economy as part of life-cycle assessments
- Explore commercially viable opportunities to reduce the carbon footprint through clean technology partnerships aimed at accelerating the decarbonisation of own operations
- Consider opportunities to raise and efficiently deploy capital for implementing the Company's climate change strategy
- Stimulate innovation in low-carbon technologies
- Use greenhouse gas offset mechanisms, including climate projects, where their application proves to be the most practical and commercially viable option
- Set key performance indicators (KPIs) related to climate change goals for Company employees
- Expand engagement with stakeholders on climate change agenda
- Ensure transparent and regular disclosure of targets for greenhouse gas emissions and other material climate metrics

Nornickel's climate change strategy and goals

TCFD Ma, TCFD Mc, IFRS S2 6a (i), IFRS S2 6a (v), IFRS S2 14a

Key focus areas under the 2030 Sustainable Growth Strategy

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. In particular, the Company's customers have high expectations regarding our compliance with international sustainability principles and standards. In addition, the Company maintains ongoing dialogue with shareholders, non-governmental organisations, local communities, and other stakeholders in the context of achieving SDG 13: Climate Action. The sustainability agenda is one of the key drivers in Nornickel's planning of strategic initiatives and investment projects.

The low-carbon transition of the global economy is opening up new opportunities for Nornickel's green metals. The decarbonisation of transport and the focus on renewable and hydrogen energy will support long-term growth in demand for Nornickel's products.

In terms of mineral resource base development, Nornickel's strategy provides for production upgrades, maximum utilisation of existing mining and concentration capacities, and the development of the South Cluster[1]. The Company also plans to develop a deposit located in the Murmansk Region that holds Russia's largest lithium reserves – 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 its environmental impact, the Company continues to implement the Sulphur Project, which will cut sulphur dioxide emissions at Nadezhda Metallurgical Plant. The technology used is based on neutralising sulphuric acid with limestone to produce gypsum – a non-hazardous type of waste – which is then disposed of in a dedicated tailings storage facility. In 2024, absolute sulphur dioxide emissions were reduced by 22% compared to the 2017 base year. Although the Sulphur Project will significantly improve the quality of life for local residents, its implementation inevitably leads to an increase in greenhouse gas emissions.

An essential element of the Strategy is the modernisation of energy infrastructure, which will improve energy efficiency while also enhancing the reliability of power supply to the Company's production facilities.

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

Environmental and Climate Change Strategy

Nornickel's key climate-related targets are set out in its 2031 Environmental and Climate Change Strategy.

The Strategy was first approved by the Board of Directors in 2021, with an updated version adopted in 2024. The main drivers behind the update were the tightening of Russia's environmental legislation and evolving geopolitical landscape. The revised Strategy includes extending the planning horizon; expanding the list of assets involved in implementation; adding 54 new initiatives; postponing or cancelling certain initiatives; and revising the targets for sulphur dioxide emissions reduction and land rehabilitation.

Another key change was the division of the Strategy into two parts: mandatory and voluntary. The mandatory part ensures compliance with Russian environmental legislation, helping the Company avoid regulatory penalties, and also ensures adherence to stock exchange requirements. The voluntary part covers greenhouse gas emissions reduction targets and alignment with international standards not linked to Russian environmental legislation.

Key amendments to the Environmental and Climate Change Strategy[1]

2021 version	2024 version
• 21 goals (16 quantitative metrics across 6 areas, and 5 focused on compliance with international standards) • >360 initiatives	The updated Strategy is structured into mandatory and voluntary sections: • The mandatory part includes nine targets across the following areas: prevention of emergencies, air, water, tailings and waste, soil, biodiversity, and stock exchange requirements • The voluntary part comprises seven targets in the following areas: climate change, tailings and waste, and compliance with standards • >420 initiatives

Given the high degree of external uncertainty and the need to monitor both the economic and environmental impacts of individual measures, the Strategy is subject to annual review.

Strategy's targets in the Climate Change area

TCFD Mb, IFRS S2 29a, 29e, IFRS 33a, 33d, 33g

2021 version	2024 version (IFRS S2 29e)			
Indicators	**Indicators**	**2020 baseline**	**2024 actual**	**2031 target**
1. Maintaining the amount of absolute Scope 1 and 2 GHG emissions from operations at around 10 mln t of CO_2 equivalent through 2030 while increasing production volumes	1. Scope 1 and 2 GHG emissions[2], mln t of CO_2 equivalent	8.5	**7.5**	TBD
	2. Share of renewable energy use, %	46%	**54%**	

In addition, the Environmental and Climate Change Strategy sets compliance with TCFD recommendations, ICMM Principles, and the IRMA Standard for Responsible Mining as a formal objective.

Spending on our energy efficiency programme and other climate-related initiatives totalled

RUB 4.8 billion

[1] For more details on the focus areas and targets of the Environmental and Climate Change Strategy, please see the Norilsk Nickel Group's 2024 Sustainability Report.

[2] Excluding GHG emissions from electricity and heat supply to local communities and other consumers but including GHG emissions from the Sulphur Project at Nadezhda Metallurgical Plant. Until the Sulphur Project reaches its design capacity, a projected design amount of prospective emissions – the so-called "provision" – of 1.2 mln t of CO_2 equivalent is applied.

Nornickel's Key Focus Areas of Carbon Neutrality

IFRS S2 14a (v)

Alongside the updated Environmental and Climate Change Strategy, in 2024, the Company's Board of Directors also approved Nornickel's Key Focus Areas of Carbon Neutrality. This document sets out the priority areas for reducing the Nornickel Group's gross GHG emissions and lowering the carbon footprint of its products.

Key focus areas

- Promotion of low-carbon energy sources
- Implementation of climate projects
- Use of energy-efficient technologies and equipment
- Use of artificial intelligence
- Conversion of vehicles to alternative fuels
- Gangue mineralisation in tailings storage facilities

The approved focus areas of Nornickel's carbon neutrality pathway enable the Company to initiate the development and selection of the highest-impact projects within each area. In 2024, the Company started to develop and implement projects across the following focus areas:

- Promotion of low-carbon energy sources (implementation of a renewable-energy project in the Trans-Baikal Territory)
- Exploring the potential for the conversion of pit machinery to alternative fuels
- Studies on direct absorption of greenhouse gases by gangue in tailings storage facilities
- Implementation of climate projects
- Use of energy-efficient technologies and equipment

Climate change adaptation plan

TCFD Mc, IFRS S2 14a (ii)

To support the Company's strategic objectives in the areas of Climate Change and Compliance with International Standards, Nornickel has developed an action plan for 2024–2025. The plan covers activities in the areas of physical and transition risks, risk assessment methodology, climate-related reporting, and employee training on climate change. The tasks scheduled for 2024 have been successfully achieved.

Integrating climate change into the supply chain

The Company manages a responsible supply chain, which may potentially reduce indirect GHG emissions. The first step was the adoption of PJSC MMC Norilsk Nickel's Supplier Code of Conduct, which sets out Nornickel's expectations for suppliers, including requirements to reduce GHG emissions. Since 2021, questions related to GHG emissions have been included in the scope of the mineral supplier due diligence process1, and since 2023 - in the scope of sustainable development practices assessment for goods, works and services suppliers.

[1] The Company's mineral suppliers include suppliers of mined minerals (primary processed material which has never been previously refined) and suppliers providing minerals transportation, their processing and loading/unloading services. "Minerals" are minerals containing nickel, cobalt, and copper.

Climate-related risks and opportunities

Approaches to assessing climate-related risks and opportunities

TCFD Rb, TCFD Rc, IFRS S2 25a, IFRS S2 25a (ii), IFRS S2 25 (b)

Guided by the TCFD Recommendations, IFRS S2, COSO ERM Framework, and the Environmental and Climate Change Strategy, Nornickel is building procedures for managing climate-related risks and opportunities.

The Company follows the TCFD and IFRS S2 classification, which identifies two key categories of risks and opportunities:

- Physical risks, associated with extreme weather events (acute risks) or lasting changes in weather patterns (chronic risks)
- Transition risks and opportunities, associated with evolving market, regulatory, technological, and political environment as the global economy transitions to a low-carbon model

To manage climate-related risks, the Company is implementing the following procedures:

Risks	Forecast	Identification	Assessment	Mitigation and adaptation
Physical risks	Forecasting climate risk factors for the Company's regions of operation	Analysing the incorporation of climate risk factors into risk assessments, identifying new risks	Assessing the impact on the Company's financial performance	Developing mitigation and adaptation measures
Transition risks and opportunities	Developing our own scenarios for the global economy and climate change IFRS S2 25a (ii)	Identifying transition risks and opportunities		

Public reporting

IFRS S2 10a, IFRS S2 10b

IFRS S2 10a, IFRS S2 10b

The Company's assets are located in regions that have long been affected by climate change, which is reflected in its current technical and production risks. The Company continues to integrate climate-related risk identification and assessment procedures into the corporate risk management system. This involves improving the rules for managing both operational and longer-horizon risks, as governed by PJSC MMC Norilsk Nickel's Procedure Rules for Risk Management.

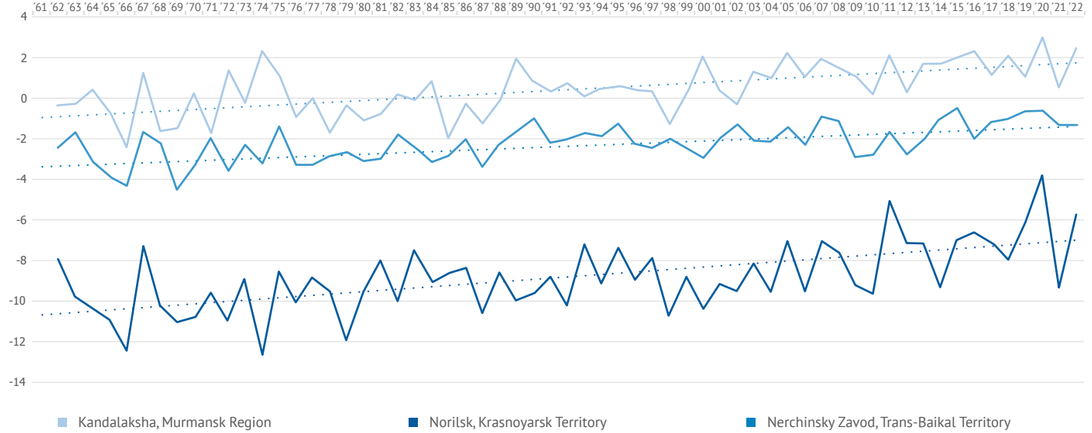
Within the corporate risk management framework, physical risks, as well as transition risks and opportunities, may be treated either as standalone risks and opportunities or as contributing factors to risks already identified.

Physical risks

TCFD Ra

The Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences analysed Rosgidromet[1] data on various climate factors in the regions where the Company's production sites are located, covering a period from the 1960s to the present. The observations indicate significant changes in certain climatic factors, such as average air temperatures. Changes recorded by the Norilsk weather station support the conclusion that temperatures in the Arctic are rising significantly faster than the global average: +0.6 °C per decade in Norilsk vs +0.18 °C per decade globally.

Average air temperature in 1961–2022, °C

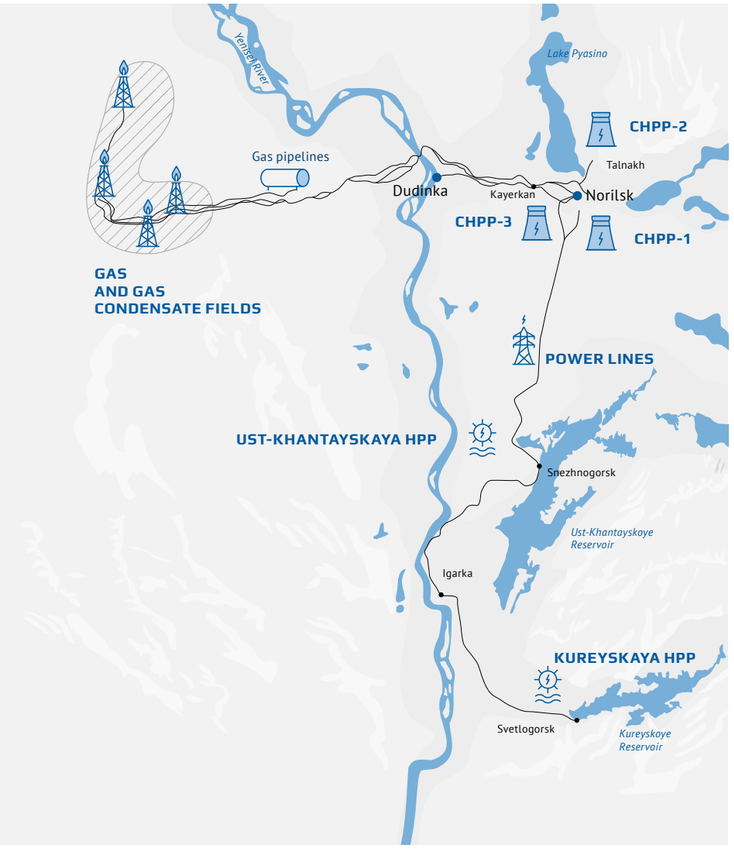


In addition to evaluating the long-term climate trends identified in Nornickel's regions of operation, the Institute of Atmospheric Physics of the Russian Academy of Sciences developed climate projections up to 2050. The regional forecasts are based on three IPCC global scenarios (SSP1-2.6, SSP2-4.5, and SSP5-8.5) and the CMIP6[2] ensemble of climate models. For the SSP2-4.5 climate scenario, which the Company considers the most likely, the following major changes are projected by 2050.

[1] Federal Service for Hydrometeorology and Environmental Monitoring (Rosgidromet).
[2] Coupled Model Intercomparison Project.

Projected climate factor changes by 2050 (vs 2022)

Climate factor	Norilsk Industrial District	Murmansk Region	Trans-Baikal Territory
Average air temperature	+1.5 °C	+1.1 °C	+1 °C
Thickness of the seasonally thawed soil layer The term “permafrost degradation” is used in the context of the assessment. This factor is particularly relevant for evaluating infrastructure risks outside urban areas	+0.8 m	Irrelevant	Irrelevant
Annual precipitation Mainly due to changes in the trajectory of Atlantic cyclones and increased atmospheric moisture content	+58 mm	+4 mm	+23 mm
Number of days with a high risk of severe thunderstorm per year Due to changes in temperature and humidity	+6 days	+2 days	+5 days



Based on forecasting results, the key climate risk factors for Nornickel facilities are permafrost degradation, an increase in total annual precipitation (including more frequent precipitation anomalies), and a higher likelihood of thunderstorms. Most of the changes are expected to occur after 2040.

To improve threat assessment, it is also necessary to model climate-dependent factors such as river basin water availability, flood synchronisation, ice conditions along the Northern Sea Route, and others. For example, low river water levels – an issue the Company already faced in 2013 – may pose a threat due to the potential:

- shortage of water supply for production and social facilities in Norilsk
- increase in natural gas consumption resulting from the additional load on combined heat and power plants due to low reservoir levels and reduced output at the Ust-Khantayskaya and Kureyskaya hydropower plants.

IFRS S2 13b

Most industrial buildings and structures in the Norilsk Industrial District are built on stable (rock) foundations. However, linear infrastructure – including power lines, gas pipelines, water pipelines, and railway infrastructure – as well as certain fuel storage tanks, which are primarily located outside urban areas, are vulnerable to permafrost degradation.

Expected changes in climate factors by 2050 vs 2022

IFRS S2 25a (v)

To mitigate risks associated with the condition of permafrost soils in the Norilsk Industrial District, the Company conducts ongoing monitoring of the technical condition of its assets through expert assessments, inspections, and monitoring of permafrost and foundation stability.

Factors

Factors	Activities				
		Monitoring	Repairs	Reconstruction	Construction
Permafrost degradation	Fuel storage tanks	✓	✓	✓	✓
	Power lines	✓	✓		✓
	Gas pipelines	✓	✓		
	Heat and water supply pipelines	✓	✓	✓	✓
	Railway	✓	✓		
Increased frequency of thunderstorms	Equipping power lines with lightning surge protection systems and monitoring the number of lightning strikes on power grid facilities				
Higher annual precipitation	Maintaining and modernising hydraulic structures to ensure technical reliability				
Higher frequency of heavy precipitation	Monitoring the technical condition of facilities and water levels in the Norilskaya River and water reservoirs				

According to the initial assessment, the impact of climate risk factors in the short- and medium-term horizon until 2028 is mitigated as part of operational activities and through initiatives and investment projects aimed at enhancing the reliability of industrial assets and infrastructure.

Transition risks and opportunities

TCFD Ra, IFRS S2 22b

In 2022, to identify and assess relevant transition risks and opportunities, Nornickel – in collaboration with the Institute for Economic Forecasting of the Russian Academy of Sciences – developed three proprietary long-term scenarios for global economic and climate development through 2050. The projected changes in global temperature under these scenarios are consistent with the three IPCC scenarios (SSP1-2.6, SSP2-4.5, and SSP5-8.5), which the Company also uses for its assessment of physical climate risks.

In 2024, the scenarios were updated to reflect actual data for 2022–2023, the upward revision of projected global GHG emissions across all scenarios, and the extension of the projection period to 2060. The mix of vehicle fleets – one of the key areas of application for the Company’s metals – has also shifted: sales of battery electric vehicles and hybrid vehicles have increased, while sales of internal combustion engine vehicles and hydrogen fuel cell electric vehicles have declined.

The probability of the Rapid Transition scenario was lowered from 25% to 20%. This revision reflects a rise in global emissions of more than 2% over 2021–2023, which further complicates the already challenging task of global economic decarbonisation. The difficulty stems from: (a) the limited financial capacity of the global economy to absorb the specialised costs involved; and (b) the insufficient level of international collaboration and cooperation, which are critically important to tackling global challenges such as climate change. The probability of the Sustainable Palladium scenario was raised to 75% as it aligns most closely with current trends. The probability of the Global Growth scenario remains at a minimal level of 5%, as the high economic growth rates required for this pathway are currently considered unattainable.

TCFD Sa

Key characteristics of climate scenarios

Scenario	Rapid Transition SSP1-2.6	Sustainable Palladium SSP2-4.5	Global Growth SSP5-8.5
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 rapid economic growth fuelled by hydrocarbons
Inflation	High	Moderate	Low
Resource/Energy intensity	Low	Moderate reduction	High
Climate regulation	Strict	Moderate	Insignificant
Carbon price	Strong growth	Moderate growth	At 2021 levels
Temperature change by 2060	+1.9 °C	+2.2 °C	+3 °C
Probability	20%	75%	5%

The underlying assumptions vary between climate scenarios, with these differences directly linked to the Company's product portfolio. The Sustainable Palladium scenario is considered baseline; it provides for traditional industries to remain centre stage along with the growing green economy. For example, internal combustion engine (ICE) vehicles will retain a large market share, contributing to robust demand for palladium in the long run. The other two scenarios are used to stress-test the Company's financial performance.

Nornickel has identified potential transition risks and opportunities based on global economic and climate change scenarios, analysis of proposed carbon regulation initiatives, market trends, and stakeholder expectations.

Identified transition risks and opportunities

TCFD Sa, IFRS S2 10a, IFRS S2 10b

Regulatory risks

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

Regulation-related opportunities

- Use of ESG financing tools
- Sale of carbon credits generated by climate projects

Technology risks

- Failure to achieve decarbonisation targets due to lack of access to advanced foreign low-carbon technologies

Market risks

- Restrained demand for primary platinum group metals due to declining sales of internal combustion engine vehicles
- Restrained demand for primary nickel due to the development and mass production of new nickel-free batteries
- Restrained demand for primary metals due to increased recycling

Market opportunities

- Higher demand for primary nickel and copper, driven by transport electrification, the expanding hybrid vehicle market, and the growth of renewables
- Growing demand for primary platinum group metals due to the use of platinum and palladium in the hydrogen economy and of palladium in vehicle hybridisation

Reputational risks

- Increased protest activity by non-profit organisations and local communities, including indigenous peoples of the North

To mitigate risks arising from the need to comply with carbon regulations, the Company regularly monitors legislation both in Russia and in its export markets.

The introduction of the CBAM[1] in the European Union does not pose any risk to the Company in the short term, as non-ferrous and platinum group metals are not currently covered by the cross-border carbon tariff. The Company continues to monitor developments in carbon regulation and to forecast the potential associated costs going forward.

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 for trading carbon credits that may be generated through the implementation of climate projects.

Sustainability assessment of Nornickel's product portfolio

TCFD Sb, TCFD Sc, IFRS S2 13a, IFRS S2 13b, IFRS S2 22a

One of the key drivers of Nornickel's long-term strategy is the growing demand for the Company's metals to support the development of a low-carbon economy. By supplying green metals to the market, the Company is already actively contributing to the global transition to cleaner modes of transport and renewable energy.

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

Factors	Ni	Pd/Pt	Cu
Growth of battery electric vehicle (BEV) market share	↑	↓	↑
Expansion of the hybrid vehicle market	↑	↑	↑
Growth of the fuel cell market and the hydrogen economy	→	↑	→
Increased power generation from renewables / low-carbon fuels	↑	↑	↑
Expansion of energy-storage and charging infrastructure to support growth in EVs	↑	→	↑
Net effect	↑	→	↑

IFRS S2 25b

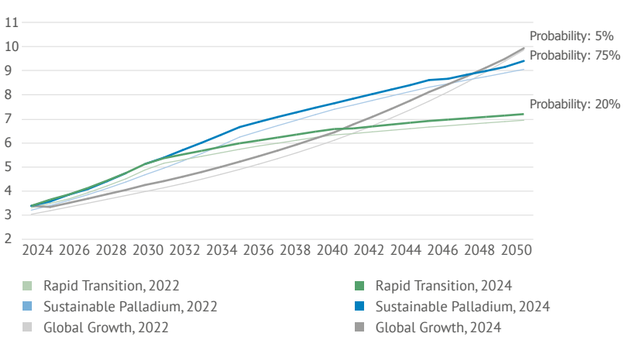
To assess market-related transition risks and opportunities, Nornickel modelled changes in demand for key metals under its three proprietary global economy and climate change scenarios.

Based on the updated 2024 scenarios, the Company revised its metal consumption forecasts.

[1] Carbon Border Adjustment Mechanism.

Nickel

Primary nickel consumption, mln t



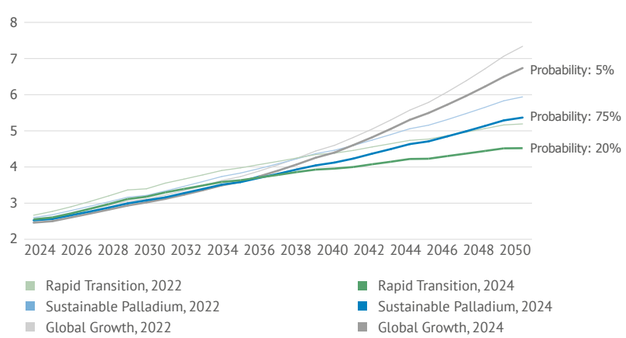
Nickel is a key material for the production of stainless steel, which is widely used across various sectors – from mechanical engineering and construction to renewable energy. In addition, nickel is a primary metal used in the production of next- and future-generation batteries, which in turn are crucial for the development of electrified transport.

Despite strong decarbonisation efforts and a shift to electric vehicles in the Rapid Transition scenario, higher nickel demand is expected in the Sustainable Palladium scenario due to faster GDP growth and greater production of electric vehicles, and under the Global Growth scenario on the back of a significant increase in demand for the metal from the stainless steel and alloy industries.

Nickel forecasts have been revised slightly upwards: in the Rapid Transition scenario, this is driven by projected higher consumption in the renewable energy sector, while in the Sustainable Palladium scenario, it reflects rising global sales of electric vehicles.

Copper

Primary copper consumption, mln t



Copper is a critical metal for the transition to a low-carbon future, widely used in high-tech equipment, including components for renewable energy systems. More than 70% of global copper output is used in the production of cable and wire products. Copper consumption is expected to at least double by 2050.

Similar to the nickel demand outlook, higher GDP growth and greater electrification of transport are expected to drive increased long-term copper consumption under the Sustainable Palladium scenario compared to the Rapid Transition scenario. The highest demand for copper is projected under the Global Growth scenario, supported by the strongest GDP growth and the resulting peak copper needs in sectors such as transport, air conditioning and refrigeration, construction, heavy engineering, and consumer goods.

The downward revision in copper consumption forecasts reflects a reassessment of the intensity of copper use in electric vehicles, solar panels, and wind power, as well as a lower projected average annual global GDP growth rate.

Palladium

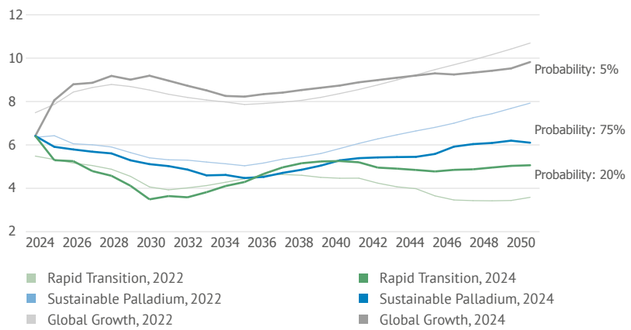
More than 80% of medium-term palladium demand is driven by catalytic converters (“catalysts”), primarily used in petrol engines, including hybrids. The installation of catalysts in vehicles is mandatory and legally regulated in most countries.
The remaining share of palladium consumption comes from the electronics, dental, jewellery, chemical, and pharmaceutical industries. Palladium also has potential applications in technologies for long-distance hydrogen transportation and purification.

In the Sustainable Palladium scenario, which the Company has adopted as the most likely, demand for palladium remains stable through to 2050, supported by the continued high share of ICE vehicles and moderate electrification of transport.

The lowest demand for palladium is expected under the Rapid Transition (green) scenario, which assumes a decline in the total number of vehicles and a gradual phase-out of ICE cars in key global economies.

The highest demand is expected in the Global Growth scenario, driven by robust GDP growth and strong demand for palladium, primarily in the transport sector due to increased hybrid vehicle production, as well as in the jewellery industry.

Primary palladium consumption, Moz



In the updated Sustainable Palladium scenario, the forecast for ICE vehicle sales has been revised downward, which negatively impacted the palladium demand outlook. Conversely, in the Rapid Transition scenario, the outlook for palladium has improved due to an expected uptick in ICE vehicle sales.
In the Global Growth scenario, however, a decline in palladium consumption in other sectors by 2050 is attributed to a lower average annual global GDP growth rate.

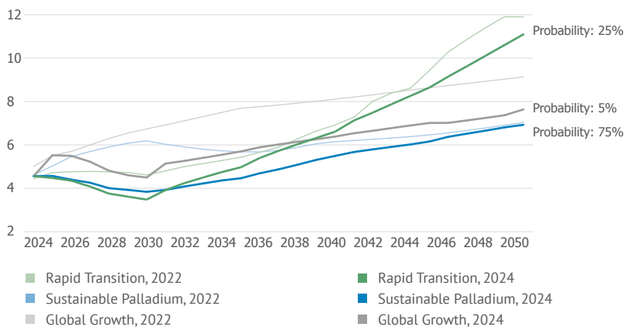
Platinum

40% of platinum consumption comes from the automotive industry, where it is used in catalytic converters for vehicles with internal combustion engines, including hybrids. A further 25% of platinum demand comes from the jewellery industry. Platinum is also used in the glass and electronics industries. In addition, platinum is a critical component of catalysts used in electrolysers for green hydrogen production and in fuel cells deployed in both transport and stationary hydrogen energy systems.

Platinum demand is expected to increase across all scenarios. In the Global Growth and Sustainable Palladium scenarios, demand is primarily driven by the continued high share of ICE vehicle production.

The Rapid Transition scenario is projected to show the highest demand by 2050. Despite a decline in ICE vehicle sales, this scenario sees stronger growth in hydrogen energy and the fuel cell market, leading to greater platinum demand compared to the other two scenarios.

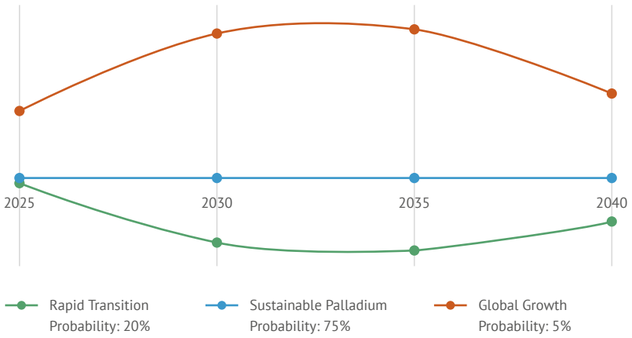
Primary platinum consumption, Moz



The downward revision of platinum consumption forecasts across all updated scenarios is attributed to a lower average annual global GDP growth outlook, as well as increased substitution of platinum with palladium in automotive catalysts. In the Rapid Transition scenario, the decline is further driven by lower sales projections for hydrogen-powered vehicles. In the Sustainable Palladium scenario, it stems from reduced forecasts for ICE vehicle sales, while in Global Growth, it reflects a downward revision in overall vehicle sales.

Scenario analysis of the consolidated financial and economic model until 2040

EBITDA deviation under stress scenarios from the Sustainable Palladium baseline scenario



Based on the updated scenarios, Nornickel conducted a scenario analysis of its consolidated financial and economic model until 2040.
The analysis showed that under any scenario – whether accelerated decarbonisation or a global retreat from such efforts – Nornickel's basket of metals supports the resilience of its financial position through to 2040.

The analysis has shown that the EBITDA forecast is most favourable for the Company in the Global Growth scenario and least favourable in the Rapid Transition scenario. The key growth drivers behind the highest EBITDA figures in the Global Growth scenario include the highest GDP and population growth rates, which will fuel the strongest demand for palladium and copper vs the other two scenarios. The Company estimates the probability of the Global Growth scenario at 5%.

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, including 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 as well as ride-sharing development. The probability of the Rapid Transition scenario is estimated at 20%.

After 2034, the stress scenarios are closer to the Sustainable Palladium baseline scenario due to their different metal price growth rates, which are higher in Rapid Transition and, in contrast, lower in Global Growth vs Sustainable Palladium.

Product portfolio diversification

As part of the Company's Innovation and R&D Strategy, new products are being developed to seize market opportunities and mitigate risks associated with the energy transition.

Battery Technology Centre

In 2024, Nornickel inaugurated its Battery Technology Centre in Saint Petersburg, marking a new phase in the Company's efforts to advance technological capabilities in the promising field of nickel-containing cathode active materials – a key component in modern batteries.

The new centre will focus on the development and research of battery materials using state-of-the-art process equipment unique in Russia, enabling the full cycle of synthesis and testing under specialised conditions.

Nornickel's R&D centre has already produced the first samples of cathode materials for NCM 811+ chemistry, with further research planned to develop new products. The outcomes of the Battery Technology Centre's efforts are expected to lay the groundwork for future production projects in the battery materials sector.

Palladium Centre

Nornickel has also established its dedicated Palladium Centre (the "Centre"), which develops, tests, and brings to market new palladium-based materials that support the accelerated transition to green technologies and help reduce carbon footprints.

Due to their properties, platinum group metals are used in industry as catalysts, components of creep-resistant alloys (to prevent oxidation and ensure mechanical strength), and contact coatings (to minimise electrical signal loss).

In most cases, palladium demonstrates superior catalytic activity, hydrogen permeability, oxidation resistance, electrical conductivity, and magnetic susceptibility – all of which directly impact the efficiency of various technological processes. These characteristics underpin palladium's strong potential to enhance the performance of alternative energy and high-tech industries.

The Centre is actively building a partner network that involves joint research and development with Russian and international institutes and laboratories, as well as collaboration with commercial customers to accelerate the market launch of new products.

The Centre's portfolio currently comprises over 25 developments across three distinct application areas – greentech, high-tech materials, and traditional uses. In the long term, over 100 new palladium-containing materials are planned to be brought to market. Their application is expected to drive at least 40–50 tonnes of new palladium demand by 2030.

China market outlook

In 2024, employees of the Palladium Centre participated in the China Precious Metals Industry Development Forum held in Xi'an, China.

According to CPMIC experts, prospective demand for PGMs in the Chinese market is projected to reach 5.6–6.5 Moz by 2035.

Greentech focus area

In green technologies, the Centre has developed a suite of new materials for alternative energy applications.

Hydrogen energy

New palladium-based materials improve the efficiency of the entire value chain: electrolyser catalysts (boosting energy efficiency by 5%–10%), membranes for ultra-pure hydrogen production (reducing hydrogen cost by a factor of three), and fuel cell catalysts (increasing catalytic activity by 5%–10% and halving degradation rates). All of these materials underwent intensive industrial trials with Chinese consumers in 2024, and the first commercial batches are expected in 2025

Solar power

Laboratory testing of new palladium-containing components designed for silicon and perovskite solar panels (offering a projected efficiency increase of 1–2 %) is expected to be completed in early 2025

Aviation fuel

The development of new catalysts designed to enhance the efficiency of sustainable aviation fuel synthesis from plant-based feedstocks is planned for 2025

High-tech materials focus area

In high-tech materials, the Centre focuses on technologies essential for advancing the artificial intelligence and electric mobility industries. Research and development efforts are currently underway to extend the service life of OLED displays by a factor of 2–3 through the integration of palladium-containing components which increase the luminescence lifetime of blue LEDs

Traditional uses focus area

In this area, in 2024, the Centre focused on technologies aimed at improving energy efficiency and reducing the carbon footprint through the application of palladium.

- Industrial tests were conducted, and the first commercial batch of new palladium-containing anodes for water disinfection by electrolysis was produced – a more environmentally friendly technology that eliminates the need to produce, transport and store chlorine. These new anodes demonstrate a 10%–20% reduction in energy consumption compared to existing alternatives, have a longer service life, and are more affordable.
- Industrial trials of glass fibre bushings with palladium-based current leads designed to enhance energy efficiency and reduce product costs were successfully completed.

Also in 2025, the Centre intends to complete fundamental research into integrating new palladium catalysts into lithium-sulphur batteries to extend their lifespan and increase power output. Lithium-sulphur batteries are a promising technology that in the future may reduce battery weight by 30%–40% compared to lithium-ion alternatives. This weight reduction would make the new batteries suitable for use in aviation, where low weight, while maintaining other technical characteristics, is a critical factor for energy storage systems. Preliminary estimates suggest that replacing lithium-ion batteries with lithium-sulphur batteries incorporating palladium catalysts could triple the driving range of electric vehicles.

Development of a lithium deposit

Nornickel, together with a partner, plans to develop Russia's most promising lithium deposit, located in the Murmansk Region. The project provides for the production of 45 kt of lithium carbonate and hydroxide per year.

IFRS S2 14a (v)

Decarbonisation projects

Mineralisation of mining waste

Research into the mineral sequestration of carbon dioxide has been under way since the late 20th century, but has significantly intensified over the past two decades due to the global search for safe, environmentally sound, and long-term solutions for CO_2 disposal.

The CO_2 mineralisation process implies the reaction of carbon dioxide with various minerals – such as olivine, serpentine, and other silicates containing calcium, magnesium, and iron. During the reaction, a carbon dioxide molecule binds with the positively charged ions of these elements in the presence of water to form carbonates, thereby converting into a solid phase.

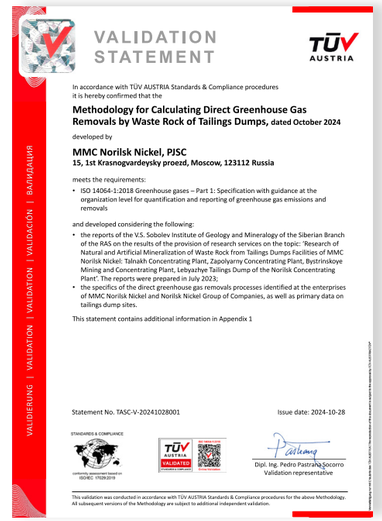
The amount of direct CO_2 absorption depends on the volume of waste rock disposed of at the Company's tailings storage facilities in the reporting period. The amount of actual removals for 2021–2024 was verified by TÜV AUSTRIA.

Nornickel plans to further develop this project, with studies of artificial and active gangue mineralisation in tailings storage facilities scheduled to start as early as 2025. These approaches have greater potential for greenhouse gas capture compared to natural mineralisation.

In 2024, TÜV AUSTRIA validated Nornickel's methodology for calculating direct GHG absorption through gangue mineralisation in tailings storage facilities to GOST R ISO 14064-1-2021 Greenhouse gases.

Part 1. Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals. This methodology is unique in Russian practice.

The methodology provides for measuring CO_2 absorption through passive (non-anthropogenic) carbonation of certain minerals in the tailings stored at the Company's tailings storage facilities. The rate of passive carbonation depends on the mineral composition of the parent ore, particle size, climatic conditions, and the chemistry of pore water in the rock mass. One of the key factors influencing the efficiency of the mineralisation process is the acid–alkaline balance of the solution in which the reaction occurs. To estimate the amount of CO_2 absorbed, analytical methods are used, including infrared (IR) spectroscopy, X-ray diffractometry, and CHNS(CN) elemental analysis, which determines the carbon content in the pulp and tailings.



VALIDATION STATEMENT

TÜV AUSTRIA

In accordance with TÜV AUSTRIA Standards & Compliance procedures
it is hereby confirmed that the

Methodology for Calculating Direct Greenhouse Gas Removals by Waste Rock of Tailings Dumps, dated October 2024

developed by

MMC Norilsk Nickel, PJSC
15, 1st Krasnogvardeysky proezd, Moscow, 123112 Russia

meets the requirements:

- ISO 14064-1:2018 Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

and developed considering the following:

- the reports of the V.S. Sobolev Institute of Geology and Mineralogy of the Siberian Branch of the RAS on the results of the provision of research services on the topic: 'Research of Natural and Artificial Mineralization of Waste Rock from Tailings Dumps Facilities of MMC Norilsk Nickel: Talnakh Concentrating Plant, Zapolyarny Concentrating Plant, Bystrinskoye Mining and Concentrating Plant, Lebyazhye Tailings Dump of the Norilsk Concentrating Plant'. The reports were prepared in July 2023;
- the specifics of the direct greenhouse gas removals processes identified at the enterprises of MMC Norilsk Nickel and Norilsk Nickel Group of Companies, as well as primary data on tailings dump sites.

This statement contains additional information in Appendix 1

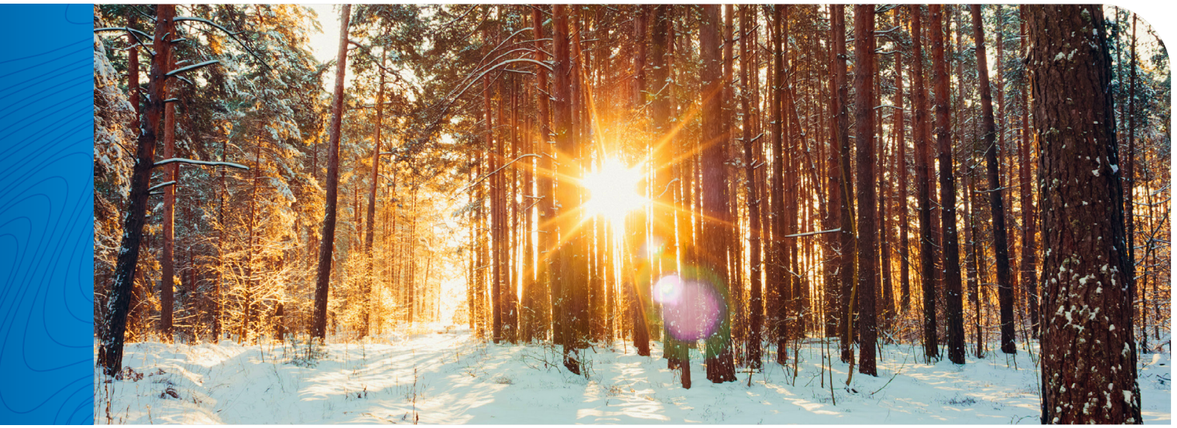
Statement No. TASC-V-20241028001 Issue date: 2024-10-28

STANDARDS & COMPLIANCE

Dipl. Ing. Pedro Pastrana Socorro
Validation representative

This validation was conducted in accordance with TÜV AUSTRIA Standards & Compliance procedures for the above Methodology. All subsequent versions of the Methodology are subject to additional independent validation.

VALIDIERUNG | VALIDATION | VALIDATION | VALIDACIÓN | ВАЛИДАЦИЯ



Use of renewables in energy and transport

Favourable climatic conditions make the Trans-Baikal Territory one of Russia's leading regions in terms of insolation (amount of sunshine). In October 2024, Nornickel signed an EPC contract for the construction of a 518-kW solar power plant at the existing rotation camp of its production site in the Trans-Baikal Territory. Nornickel plans to commission the facility in the second half of 2025, becoming the first mining company in the region to start using renewables. In addition, the Company is considering the use of alternative-energy dump trucks at its production sites in the Trans-Baikal Territory and the Murmansk Region.

Energy efficiency

IFRS S2 14a (v)

The implementation of the Energy Efficiency Programme is one of the key avenues for achieving the targets set out in Nornickel's Environmental and Climate Change Strategy. Its activities help reduce actual energy consumption and GHG emissions.

Key initiatives and technologies used

Key initiatives/technologies	Impact
Optimisation of in-plant operation of CHP plants	Reduction of natural gas consumption for power generation
Automatic regulation of heat supply based on ambient temperature	Optimisation of energy consumption for heating
Installation of heat pumps at a production site in the Trans-Baikal Territory	Reduction of electricity consumption
Installation of solar collectors	Reduction of electricity consumption

IFRS S2 14b

In 2024, as a result of implemented energy efficiency initiatives, the Company saved 782.9 TJ of energy.

The following reductions in GHG emissions were also achieved:
- Scope 1 – 79.2 kt of CO_2 equivalent
- Scope 2 – 180.5 kt of CO_2 equivalent

Fuel and energy savings resulting from energy consumption reduction and energy efficiency initiatives in 2024 (TJ)

Indicators	Figure for the Nornickel Group		
	2022	2023	2024
Total savings, TJ	**362.7**	**469.5**	**782.8**
Including:			
• electricity	76.6	55.1	**382.6**
• heat in water and steam	248.3	251.3	**255.0**
• fuel	37.8	163.1	**145.2**

Nornickel's climate project and carbon unit transactions

Nornickel's first climate project was implemented at the Kola production site in the Murmansk Region. The main ventilation units at Severny Mine were switched from fuel oil to electric heating, enabling the retirement of the onsite oil-fired boiler and resulting in a reduction of 17.5 kt of CO_2 equivalent in GHG emissions. The project was validated in November and registered in the Russian Register of Carbon Units in December.

In addition, in September 2024, Nornickel purchased 10 thousand carbon units – the largest public transaction of 2024 in the national carbon market.

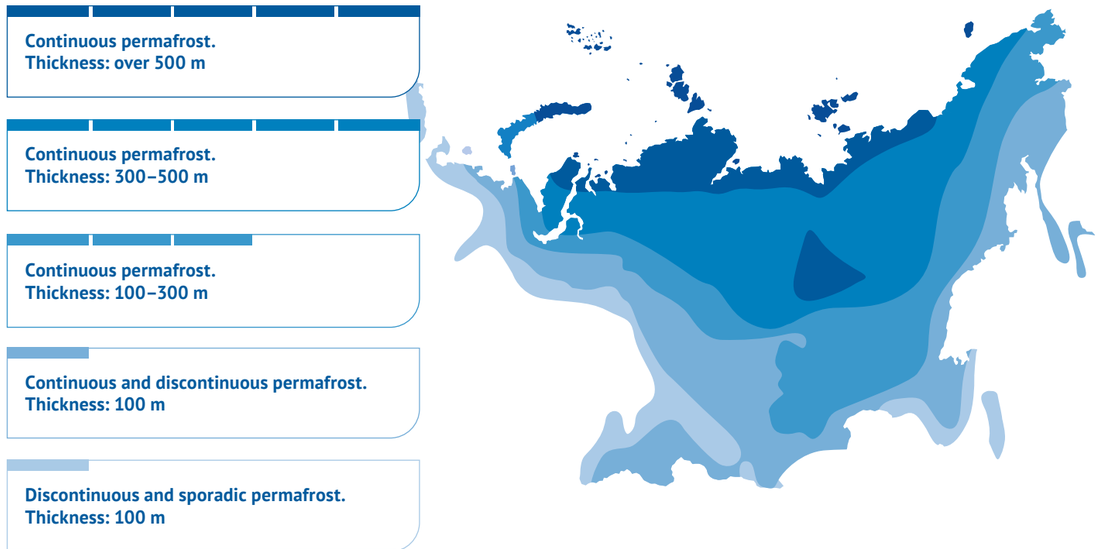
Nornickel's climate change adaptation efforts

IFRS S2 25a (v)

Permafrost monitoring

Permafrost soils in Russia cover about 11 million sq km – nearly 65% of the country's territory. These frozen layers can be hundreds of thousands of years old.

Permafrost map

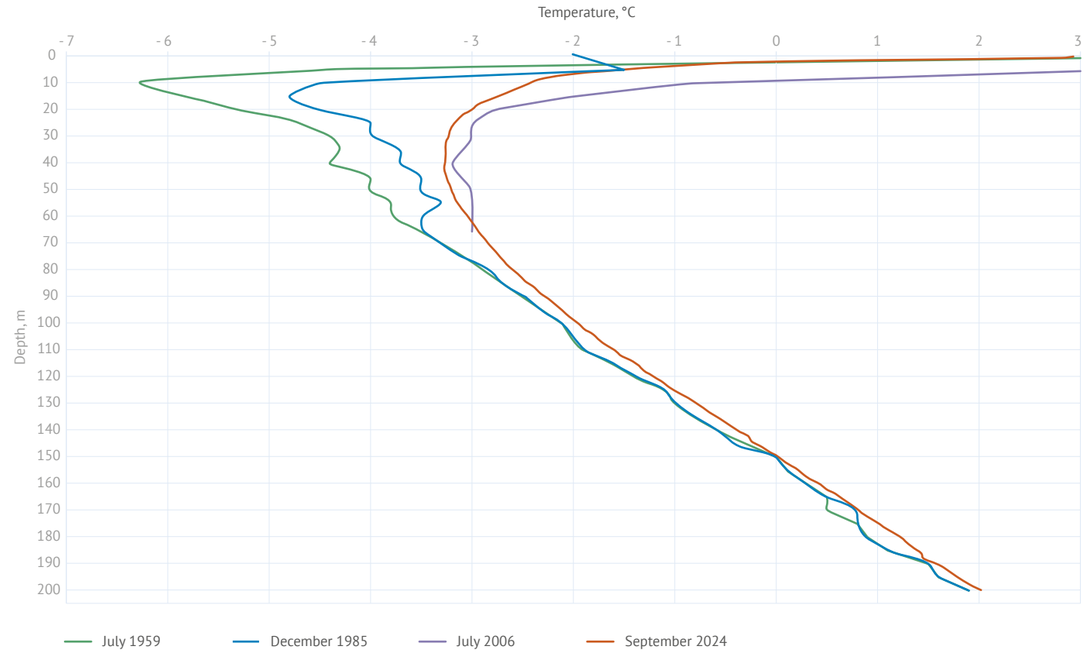


The Norilsk production site is located in the permafrost zone. Permafrost conditions in the Norilsk Industrial District are highly heterogeneous: the thickness of permafrost ranges from 5 m to over 500 m, while the average annual ground temperature varies from –7 °C to +2 °C.

Rising air temperatures result in permafrost warming, which may compromise the stability of the Company's infrastructure.

[1] Source: National Archives Catalogue, adapted map

Changes in ground temperature in central Norilsk (1959–2024)



Over the past 65 years (since 1959), ground temperature at a depth of 10 m has increased by 4.3 °C. Significant temperature fluctuations have been recorded down to a depth of 90 m, while at greater depths (up to 200 m), the average temperature change has reached 0.3 °C. To support ongoing monitoring of these processes and manage the risks associated with permafrost thawing, Nornickel is deploying a monitoring system comprising the following two interconnected components.

Geotechnical monitoring system – its main purpose is to monitor the technical condition of foundations and load-bearing structures of buildings and structures and promptly identify any operational risks. The Company has been implementing this system in-house since 2020.

Background permafrost monitoring system – this component focuses mostly on applying scientific methods to assess the state of permafrost and forecast its condition over the longer term in the natural landscapes of the Norilsk Industrial District, beyond the urban area. The system has been deployed in partnership with Fedorovsky Polar State University since 2023.

All information is stored and processed in a unified information and diagnostic system (IDS) deployed at the Company's Norilsk site, enabling the use of these data to support management decision making.

Permafrost monitoring system

IFRS S2 25a (v)

Geotechnical monitoring system

Objectives:
- ensuring the safe operation of buildings and structures (BS)
- assessment of BC current and forecasted technical condition

Geotechnical monitoring across BS

- Borehole temperature monitoring of BS
- Instrumental measurements:
  - Geodetic
  - Geothermal
  - Hydrogeological
- Visual inspections
- Groundwater level monitoring in wells
- Maintaining a digital archive of design, survey, and expert review documents
- Monitoring of ambient air temperature and other climatic parameters
- Monitoring of humidity and temperature in crawl spaces
- Monitoring changes in BS geometry

Engineering and geological surveys

Comprehensive inspections

Development and refinement of GTM programmes

Instrumental surveys

Monitoring results analysis

Risk-based approach to asset operation

Background permafrost monitoring system

Objectives:
- specification of permafrost degradation forecasts
- assessment of permafrost degradation impact on the Company's facilities outside the urban area

Background permafrost monitoring

- Determination of atmospheric meteorological parameters
- Snow cover characterisation
- Assessment of thermal insulation provided by vegetation
- Geocryological studies of permafrost soils

Study of geocryological processes

Laboratory tests

Thermometric measurements

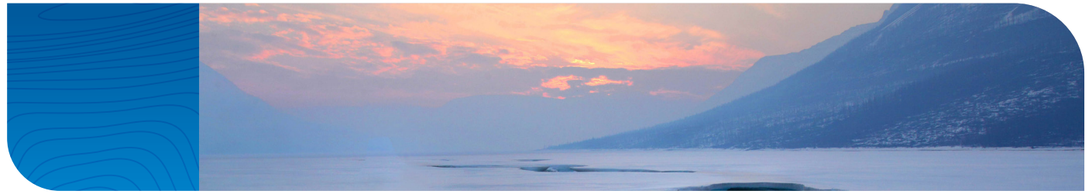
Geophysical surveys

Monitoring results analysis

Projections of climate impact on permafrost

Monitoring system's IT core: Polar Division's information and diagnostic system

Core · Analytics · Storage · Reporting



Geotechnical monitoring system

IFRS S2 14c, IFRS S2 25a (v)

The system monitors the condition of foundations and load-bearing structures of the Company's core production and infrastructure facilities.

It has been deployed in five phases.
1. A network of observation thermometric wells was restored, and engineering and geological surveys were conducted.
2. Inspections of foundations of buildings and structures were carried out.
3. Some buildings and structures were equipped with automated measurement systems.
4. The results of these measurements were integrated into the information and diagnostic system.
5. Geotechnical monitoring data were incorporated into the processes for planning and carrying out repairs.

The information and diagnostic system is used at 17 of the Company's enterprises. Around 1 thousand facilities are connected to it, with automated monitoring in place at 222 of them; data for the remaining facilities are entered manually. The total budget for the project is approximately RUB 3 billion.

The Building and Structure Monitoring System project has been repeatedly recognised by the expert community as a breakthrough solution that leverages advanced technologies and has the potential to be scaled across the entire Russian Arctic.

Project awards:

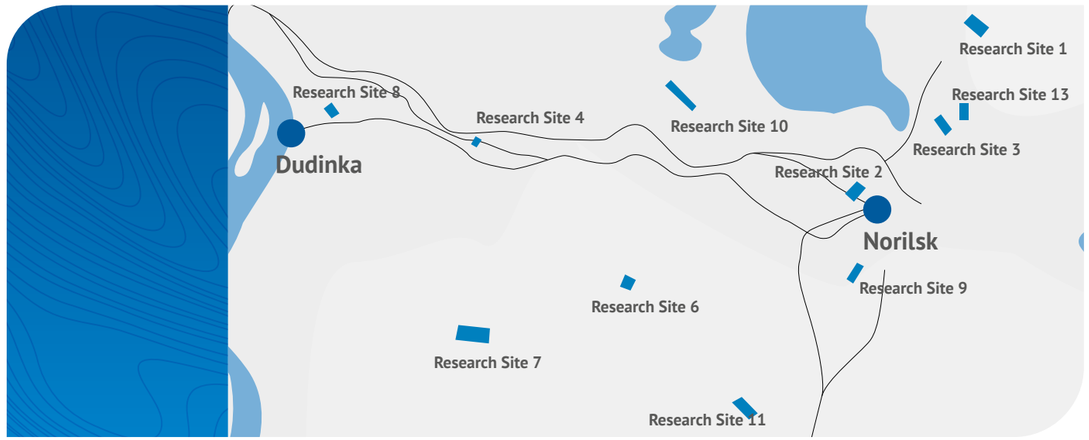
- ComNews Awards 2022, in the Best Digital Solution in Industrial Safety category
- Global CIO's Project of the Year award, in the Best IT Project in the Urals, Siberian, and Far Eastern Federal Districts category
- Silver award, MINEX 2022, in the Technical Innovation for the Metals and Mining Sector category
- 10th International Professional Competition held by the National Association of Members Performing Engineering Surveys and Design Documentation for the Best Project 2023, in the Best Project in Engineering Surveys, Including Methodological and Technical Works (Implemented) category
- 2nd National Award in Information Technology Priority: Digital 2024, in the Digital Transformation category
- Included in the Best Practices Register, BRICS Solutions Awards 2024

Background permafrost monitoring system

IFRS S2 25a (v)

Background permafrost monitoring enables the assessment of permafrost degradation trends in natural landscapes outside urban areas.

The system has been deployed in five phases.
1. An approach to background monitoring was developed, and representative locations were selected for permafrost research sites.
2. Laboratory analyses of soils from the permafrost research sites were conducted.
3. The research sites were equipped with measuring instruments.
4. Systems were put in place to collect and store measurement data.
5. Soil models for the research sites were created, and projected changes in temperature patterns were calculated through 2100.

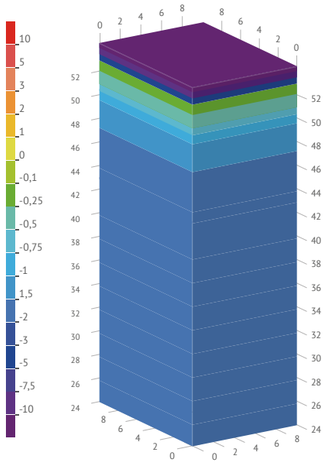


The approach to background monitoring was developed in collaboration with Fedorovsky Polar State University. Nornickel carried out engineering and geological surveys at the permafrost research sites, drilling 20 monitoring wells 10–20 m deep and three additional wells to a depth of 200 m.

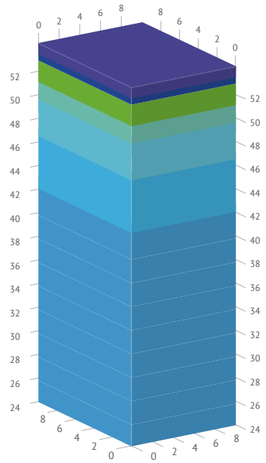
As a result, a landscape map of the Norilsk Industrial District was produced, with the characteristics, composition, and properties of the soils and vegetation identified – forming the basis for mathematical modelling. Modelling of changes in the mean annual ground temperature at a 10 m depth was based on regional climate projections under the SSP5-8.5 scenario, previously developed by the Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences.

Initial results indicate that by 2050, ground temperatures are projected to rise across the entire Norilsk Industrial District. For instance, zones with low temperatures (from –3 °C to –4 °C) at 10 m depth – covering up to 18% of the area in 2024 – are expected to vanish completely. The proportion of intermittently frozen ground with temperatures ranging from +1 °C to –0.5 °C is projected to grow from 20% to 33% of total area by 2050, with sustained thawing expected in 20% of those areas.

Example of modelling results:



Soil temperature at one of the research sites in 2024



The projected temperature in 2050

Maps of average annual soil temperature for 2024 and 2050 were used as part of the programme activities of the Yenisei Siberia scientific and educational centre under the TP-21 initiative Launch of the Yenisei Arctic Geographic Information System (GIS).

Project awards:

- National Environmental Prize named after V.I. Vernadsky, in the Science for Sustainable Development category
- Second place, International Professional Competition held by the National Association of Members Performing Engineering Surveys and Design Documentation for the Best Project, in the Best Project in Engineering Surveys, Including Methodological and Technical Works (Implemented) category
- Winner, GenerationS Innovation Award (Federal Prize for Corporate Innovation), in the Cooperation of Science and Business category
- Winner, Green Eurasia international competition, in the Monitoring and Forecasting Climate Change category
- Included in the Best Practices Register, BRICS Solutions Awards 2024

Assessment of facility vulnerability to climate impacts

In 2024, Nornickel launched the development of a methodology for assessing the vulnerability of its facilities to climate-related impacts. The assessment is driven by objective data already available within the Company, including:

- design documents
- industrial safety reviews
- results of surveys and inspections
- monitoring results
- statistics on incidents and accidents.

The methodology was tested at the Energy Division's facilities, as they are the most exposed to climate impacts in the Norilsk Industrial District. Checklists with assessment criteria on a low/medium/high vulnerability scale were developed for each type of assessed facility.

Within the Energy Division, 105 facilities were identified for assessment, of which 45 have already been assessed. Based on the results, 36 out of the 45 assessed facilities were found to be vulnerable to various climate factors to some degree. In 2025, the Company plans to complete the testing of this methodology across all its facilities.

Internal carbon price

IFRS S2 14b, IFRS S2 29f

In 2024, Nornickel continued to implement an internal carbon price. This tool is used to estimate the potential tax burden from future carbon regulation within the financial and economic models of individual projects and the Company's overall budgeting model.

The Company analysed the practices of international metals and mining companies and selected the shadow pricing approach, which involves calculating theoretical costs or expenses to be considered in investment decision making. Several carbon price forecasts are applied depending on the expected level of carbon-related payments under various economic and climate scenarios. For 2024, the base price was set at USD 49 per tonne of CO_2 equivalent.

During the year, 60 of the Company's investment projects were evaluated using this internal carbon price. Assessment results indicate that, even at its highest level, the internal carbon price does not reduce the NPV or IRR of commercial projects below predetermined thresholds.

Key climate metrics

Scope 1 and 2 GHG emissions

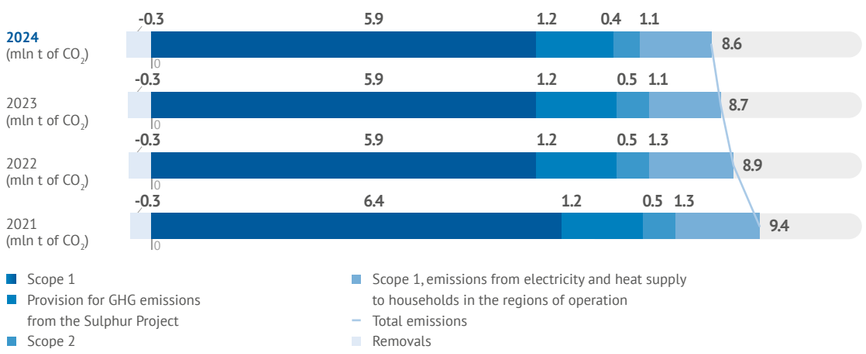
TCFD Mb, IFRS S2 29a

When calculating Scope 1 and 2 GHG emissions in accordance with the GHG Protocol methodology, Nornickel takes into account carbon dioxide (CO_2), nitrous oxide (N_2O), and methane (CH_4).

The quantification of Scope 1 and 2 GHG emissions includes the Company's estimated prospective GHG emissions related to the implementation of the Sulphur Project at Nadezhda Metallurgical Plant[1].

Dynamics of GHG emissions (Scope 1 + 2) and removals for 2021-2024

IFRS S2 14c



GHG emissions intensity (Scope 1 and 2) was

6.5 tonnes

of CO_2 equivalent per RUB 1 million of consolidated IFRS revenue[3]

GHG emissions (Scope 1 and 2) amounted to

7.5 tonnes

of CO_2 including those associated with the Sulphur Programme and excluding those associated with heat and electricity supply to households in the regions of operation

In 2024, direct and indirect GHG emissions (Scope 1 and 2) from production and other activities of the Nornickel Group, taking into account the adjustment for the Sulphur Project's[1] GHG emissions provision, amounted to 8.6 mln t of CO_2 equivalent, including 8.2 mln t of direct emissions[2] and 0.4 mln t of indirect emissions.

Over the past four years, the Nornickel Group has maintained its downward trajectory in GHG emissions. In 2024, GHG emissions decreased compared to 2023 levels, driven by:

- lower per unit fuel consumption for heat and electricity generation as a result of optimising equipment operation modes at CHP plants
- favourable weather conditions in the Norilsk Industrial District during the autumn-winter period
- updating of regional CO_2 emission factors for electricity supply within the energy systems of the Murmansk Region and the Trans-Baikal Territory.

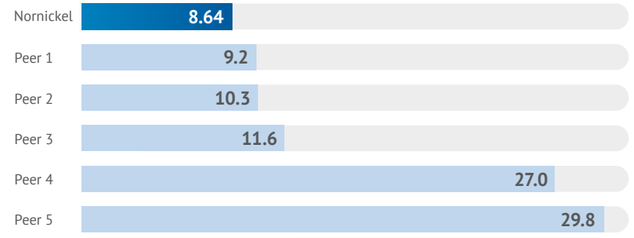
The Trans-Baikal Division signed a direct bilateral power purchase agreement to purchase 124.9 million kWh of electricity from a certified low-carbon energy supplier (a hydropower plant), driving Scope 2 GHG emissions down by more than 126 kt of CO_2 equivalent in 2024.

Verification of emissions metrics

GHG emissions (Scope 1 and 2) and removals for the Group in 2024 were verified by TÜV AUSTRIA.

Comparison with global metals and mining peers[4]

GHG emissions (Scope 1 and 2) (mln t of CO_2 equivalent)



The comparison is based on available data for fiscal years 2023 and 2024. Peers include leading global diversified metals and mining companies: BHP Billiton, Rio Tinto, Vale, Glencore, and Anglo American.

[1] Historically, the GHG emissions provision for the Sulphur Project was estimated at 2.2 mln t of CO_2 equivalent. However, in the reporting year, due to planned reconfiguration of copper production, the prospective emissions from the implementation of the Sulphur Project are expected to be lower – approximately 1.2 mln t of CO_2 equivalent. This adjustment, among other factors, was also used to restate Scope 1 and 2 GHG emissions for previous reporting periods.

[1] Due to plans to reconfigure copper production.

[2] Including a GHG emissions provision for the Sulphur Project at Nadezhda Metallurgical Plant and GHG emissions generated from heat and electricity supplies to the public. In 2024, actual direct and indirect GHG emissions (Scope 1 and 2) reached 7.5 mln t of CO_2 equivalent, including Scope 2 GHG emissions at 0.4 mln t of CO_2 equivalent as well as actual emissions from the Sulphur Project at Nadezhda Metallurgical Plant and GHG emissions generated from heat and electricity supplies to the public (the Sulphur Project GHG emissions provision at Nadezhda Metallurgical Plant was determined separately).

[3] Net of the Sulphur Project's GHG emissions provision at Nadezhda Metallurgical Plant, but including actual emissions from the Sulphur Project in 2024.

[4] Direct and indirect GHG emissions (Scope 1 and 2) from production and other activities of the Nornickel Group, including the Sulphur Project's GHG emissions provision at Nadezhda Metallurgical Plant.

GHG emissions (Scope 3): downstream and upstream

The Company conducts an annual quantification of Scope 3 emissions that arise outside of the Nornickel Group's operations and are beyond its control. These emissions are categorised as upstream and downstream emissions.

Their quantification follows the recommendations of the GHG Protocol and the IPCC Guidelines for National Greenhouse Gas Inventories.

GHG emissions (Scope 3) (mln t of CO_2 equivalent)

Indicators	2022	2023	2024
Upstream, including:	**1.4**	**1.3**	**1.2**
• purchased goods and services	0.9	0.8	**0.7**
• capital goods	0.1	0.1	**0.1**
• energy and fuel	0.3	0.3	**0.3**
• other categories	0.1	0.1	**0.1**
Downstream, including:	**3.9**	**5.1**	**5.5**
• transportation of sold products	0.2	0.2	**0.2**
• processing of sold products	3.7	4.9	**5.3**
Total Scope 3 emissions	5.3	6.4	**6.7**

In 2024, the Company continued to quantify its upstream Scope 3 GHG emissions, covering all emission categories required by the GHG Protocol. The bulk of upstream Scope 3 emissions was attributable to the purchase of goods and equipment from third-party suppliers as well as to energy and fuel consumption (to the extent not included in Scope 1 and 2). In 2024, total upstream Scope 3 emissions amounted to 1.2 mln t of CO_2 equivalent.

Downstream Scope 3 emissions are associated with the transportation of the Company's sold products from production assets to consumers and their subsequent processing into finished products.

In 2024, the Company updated its methodology for quantifying other indirect (downstream Scope 3) GHG emissions, incorporating new guidance documents, such as the Scope 3 Emissions Accounting and Reporting Guidance (2023) by the International Council on Mining and Metals (ICMM), ISO 14083:2023, Global Logistics Emissions Council (GLEC) Framework, Scope 3 GHG Emissions in the Nickel Value Chains. A Guide to Determine Nickel-Specific Scope 3 GHG Emissions by the Nickel Institute, and industry best practices.

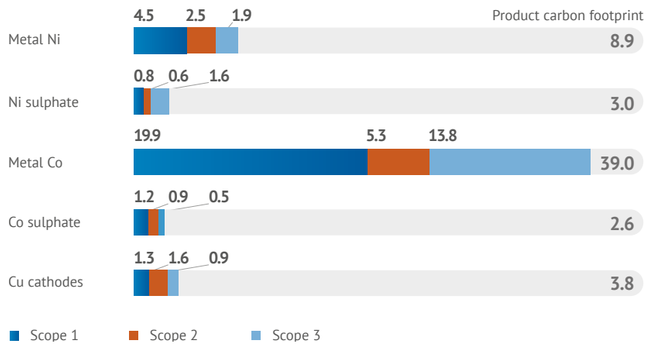
The downstream Scope 3 emissions assessment for 2024 covered nickel, copper, palladium, platinum, copper and nickel intermediates, and iron ore concentrate sold outside the Nornickel Group[1]. The bulk of these emissions comes from intermediates sold outside the Group. Emission volumes are influenced by changes in sales volumes, the Group's product portfolio, and the geographic mix of product sales.

[1] Including foreign operations.

Product carbon footprint

Product carbon footprint assessments for 2024[1]

Product carbon footprint of non-ferrous metals (kg of CO_2 equivalent per kg of product)

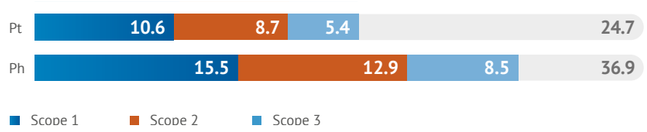


The carbon footprints of Nornickel's products are calculated based on:

- ISO 14067:2018, ISO 14040:2006, ISO 14044:2006
- GHG Protocol Product Life Cycle Accounting and Reporting Standard methodology
- LME passport guidance – Nickel Institute guidance for nickel producers to calculate their GHG emissions
- the IPA's guidance: The Carbon Footprint of Platinum Group Metals: A Best Practice Guidance for the Calculation of Greenhouse Gas of Primary Produced PGMs.

The scope of the carbon footprint calculation for MMC Norilsk Nickel's products in 2024 included direct greenhouse gas absorption by tailings. For more details on this project, please see the Decarbonisation Projects sub-section.

Product carbon footprint of PGMs (kg of CO_2 equivalent per g of metal)

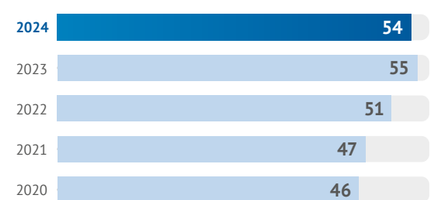


Use of renewable energy sources

In 2024, the share of electricity generated from renewable sources reached 54.4% for the Group. This is slightly lower than in the previous year but exceeds the target of 46% set by the Environmental and Climate Change Strategy.

Given the extreme climatic conditions at some of the Group's production sites, the potential for solar, geothermal, and wind energy remains limited. At the same time, the Company is exploring opportunities to develop additional renewable generation capacity. For more details, please see the Decarbonisation Projects sub-section.

Share of renewables in total electricity consumption by the Nornickel Group (%)



In the longer term, Nornickel aims to achieve an energy mix that combines nuclear, thermal, and hydro generation.

[1] Including the Sulphur Project's provision.

Partnerships and stakeholder engagement

Engagement with the academic community

IFRS S2 25a (v)

In 2024, Nornickel continued its close cooperation with the Russian Academy of Sciences. The Company collaborated with the Institute for Economic Forecasting of the Russian Academy of Sciences to update its proprietary scenarios for global economic and climate development.

Cooperation with the Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences continued, focusing on climate change forecasts for the Company's regions of operation.

In 2024, Nornickel also maintained its collaboration with Fedorovsky Polar State University.

- A commission established at the university to address the design, construction, operation, and monitoring of buildings and engineering structures in the Norilsk Industrial District reviewed two of Nornickel's facilities. Recommendations were issued to bring these facilities into regulatory compliance and to guide further research efforts.
- As part of the winter field school, the Norilsk site – in collaboration with the Geography Department at Lomonosov Moscow State University (MSU) – conducted studies of snow accumulation within Norilsk's urban area and the surrounding tundra zone. The research assessed the impact of snow deposition on the thermal regime of permafrost soils.
- During the geocryology summer field school, joint fieldwork by Norilsk researchers and MSU's Geology Department included landscape, geophysical, and geodetic surveys at permafrost research sites, with monitoring of cryogenic processes initiated.
- The integration of thermometric data, engineering surveys, and snow cover measurements enabled the creation of digital 3D models of the research sites and subsequent forecasting of climate change effects on permafrost.
- Monitoring of thermokarst Lake Maloye's evolution was initiated. A comparative analysis showed that the lake's surface area has expanded by more than 9% over 20 years.

Engagement with indigenous peoples

In 2021, the Indigenous Communities Coordination Council was established in the Taimyrsky Dolgano-Nenetsky Municipal District at the initiative of tribal communities of indigenous small-numbered peoples of the North. The Council represents 58 communities. The Council meets twice a year to discuss, among other topics, the adaptation of traditional economic activities to changing climatic conditions, including the impact of climate change on fishing practices, the use of natural pasture lands for domestic reindeer grazing, and the migration routes of wild reindeer.

The Company also supports reindeer herding communities. For example, in 2024, ten solar panel kits were purchased for herders in the Khatanga rural settlement.

Participation in COP29

In November 2024, Nornickel participated in the UN Climate Change Conference (COP29), held in Baku. At COP29, delegates from more than 100 countries discussed measures to address the adverse effects of global warming and proposed solutions for reducing greenhouse gas emissions.

Nornickel speakers showcased the Company's innovation projects and climate action initiatives leveraging the Company's unique expertise in operating in the Arctic region.

Appendices

TCFD disclosures

Section	Disclosure	Page
G – Governance Disclose the organisation's governance around climate-related risks and opportunities	Ga) Describe the board's oversight of climate-related risks and opportunities	13
	Gb) Describe management's role in assessing and managing climate-related risks and opportunities	13
S – Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	Sa) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	23
	Sb) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	24
	Sc) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2 °C or lower scenario	24
R – Risk Management Disclose how the organisation identifies, assesses, and manages climate-related risks	Ra) Describe the organisation's processes for identifying and assessing climate-related risks	20, 22
	Rb) Describe the organisation's processes for managing climate-related risks	19
	Rc) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	19
M – Metrics and Targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	Ma) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	16
	Mb) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	17, 41
	Mc) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets	16, 18

IFRS S2 disclosures[1]

Section	Disclosure	Page
Governance Controls and procedures the entity uses to monitor and manage climate-related risks and opportunities	6 (a): Indicate the governance body (individual) responsible for oversight of climate-related risk and opportunity management	13
	(i) How responsibilities for climate-related risks and opportunities are reflected in the mandates, role descriptions, and other related policies applicable to that body	15, 16
	(iii) How and how often the body is informed about climate-related risks and opportunities	13
	(v) How the body oversees the setting of targets related to climate-related risks and opportunities, and monitors progress towards those targets, including whether and how related performance metrics are included in remuneration policies	16
	6 (b): Describe the role of executive management in the processes and procedures for the management and oversight of climate-related risks and opportunities	13
	(i) Whether the role is delegated to a specific officer or collegial governance body (committee) and how oversight is exercised over that officer or body	13
Strategy The approach the entity uses to manage climate-related risks and opportunities	10 (a): Describe climate-related risks and opportunities that could reasonably be expected to affect the entity's prospects	19, 20, 23
	10 (b): Explain, for each climate-related risk the entity has identified, whether the entity considers the risk to be a climate-related physical risk or climate-related transition risk	19, 20, 23
	10 (c): Specify, for each climate-related risk and opportunity the entity has identified, over which time horizons (short, medium, or long term) the effects of each climate-related risk and opportunity could reasonably be expected to occur	The Company assesses physical risks in a short-term horizon up to 2028. For market risks, a general assessment has been completed for the horizons up to 2050
	13 (a): Describe the current and expected impact of climate-related risks and opportunities on the entity's business model and value chain	24
	13 (b): Indicate which parts of the entity's business model / value chain are characterised by climate-related risks and opportunities	21, 24
	14 (a): Explain how the entity plans to achieve any climate-related targets it has set and any targets it is required to meet by law or regulation	16
	(ii) Current and anticipated direct mitigation and adaptation efforts	18
	(v) How the entity plans to achieve any climate-related targets, including any greenhouse gas emissions targets	18, 32, 34
	14 (b): Information about how the entity is resourcing, and plans to resource, the activities disclosed in accordance with paragraph 14(a)	The Environmental and Climate Change Strategy allocates a budget for climate-related activities 9, 33, 40
	14 (c): Provide quantitative and qualitative information about the progress of plans disclosed in previous reporting periods	38, 41, 49
	22 (a): Disclose information about the entity's assessment of the climate resilience of its strategy and business model as at the reporting date	24
	22 (b): Indicate how and when the climate-related scenario analysis was carried out	22
Risk management Processes the entity uses to identify, assess, prioritise, and monitor climate-related risks and opportunities	25 (a): Describe the process of identifying, assessing, and prioritising climate-related risks	19
	(ii) Whether and how the entity uses climate-related scenario analysis to identify climate-related risks	19
	(v) How the entity monitors climate-related risks	22, 35, 37, 38, 45
	(vi) Whether and how the entity has changed the processes it uses compared with the previous reporting period	Approaches to risk identification and assessment have not changed compared to the data in the previous Climate Change Report
	25 (b): Describe the processes the entity uses to identify, assess, prioritise, and monitor climate-related opportunities, including whether the entity uses climate-related scenario analysis to identify climate-related opportunities	24
Metrics and targets The entity's performance in relation to sustainability/ climate-related risks and opportunities, including progress towards the objectives set by the entity or required by law or regulation	29 (a): Disclose Scope 1, 2, and 3 greenhouse gas emissions and approaches to measurement methodology	17, 41
	29 (e): Disclose the amount of capital expenditures, investments, and other types of financing allocated to projects associated with climate-related risks and opportunities	17
	29 (f): Disclose information on the entity's application of an internal carbon price mechanism	40
	29 (g) (i): Provide a description of whether and how climate-related considerations are factored into executive remuneration	In 2024, no relevant KPIs were set for the Company's executives. Climate-related metrics were part of the annual team KPIs in 2023. For more details, please see p. 59 of the Nornickel Group's 2023 Sustainability Report
	33: Disclose the quantitative and/or qualitative climate-related goals and targets that the entity has set to monitor progress towards achieving its strategic goals, as well as the targets it is required to meet by law or regulation (including greenhouse gas emissions targets), including:	17
	33 (a): the metric used to set the target	17
	33 (d): the period over which the target applies	17
	33 (g): if the target is quantitative, whether it is an absolute target or an intensity target	17
	Applicable metrics from SASB Metals & Mining Sustainability Accounting Standard as specified in the Industry-Based Guidance on Implementing IFRS S2 Climate-Related Disclosures: EM-MM-110a.1, EM-MM-110a.2, EM-MM-130a.1, EM-MM-140a.1, EM-MM-140a.2, EM-MM-000.A, and EM-MM-000.B	Disclosed in the SASB Metals & Mining Content Index appendix to the Nornickel Group's 2024 Sustainability Report

[1] Disclosure is limited to IFRS S2 requirements. For the remaining elements, the Company continues to improve its governance, accounting, and reporting frameworks to support future disclosure.

Disclosure of quantitative indicators

IFRS S2 14c

Indicators	Unit	2021	2022	2023	2024
Greenhouse gas (GHG) emissions					
Scope 1 emissions, excluding those associated with heat and electricity supply to households and other consumers in the regions of operation	mln t of CO_2 equivalent	6.3	5.9	5.9	5.9
Scope 1 emissions associated with heat and electricity supply to households and other consumers in the regions of operation	mln t of CO_2 equivalent	1.3	1.3	1.1	1.1
Estimated prospective Scope 1 emissions related to the ramp-up of the Sulphur Project at Nadezhda Metallurgical Plant to design capacity ("provision")	mln t of CO_2 equivalent	1.2	1.2	1.2	1.2
Energy indirect Scope 2 GHG emissions (location-based)	mln t of CO_2 equivalent	0.5	0.5	0.5	0.4
Absorption by gangue in tailings storage facilities	mln t of CO_2 equivalent	0.32	0.34	0.36	0.37
Scope 3	mln t of CO_2 equivalent	5.4	5.3	6.4	6.7
Downstream Scope 3 emissions, including:	mln t of CO_2 equivalent	4.0	3.9	5.1	5.5
• Refining at the first stage (first use)	mln t of CO_2 equivalent	3.8	3.7	4.9	5.3
• Transportation of sold products	mln t of CO_2 equivalent	0.2	0.2	0.2	0.2
Upstream Scope 3 emissions, including:	mln t of CO_2 equivalent	1.4	1.4	1.3	1.2
• Purchased goods and services	mln t of CO_2 equivalent	0.8	0.9	0.8	0.7
• Capital goods	mln t of CO_2 equivalent	0.1	0.1	0.1	0.1
• Energy and fuel	mln t of CO_2 equivalent	0.4	0.3	0.3	0.3
• Other categories	mln t of CO_2 equivalent	0.1	0.1	0.1	0.1
GHG emissions intensity (Scope 1 and 2)	tonnes of CO_2 equivalent per RUB 1 million of consolidated IFRS revenue	6.2	6.5	6.1	6.5
Product carbon footprint according to ISO 14044 (GWP 100)					
Palladium	kg of CO_2 equivalent per g of metal	30.4	27.4	28.6	24.6
Platinum	kg of CO_2 equivalent per g of metal	31.4	27.9	29.2	24.7
Rhodium	kg of CO_2 equivalent per g of metal	31.7	33.6	40.0	36.9
Metal nickel	kg of CO_2 equivalent per kg of product	9.7	8.3	8.5	8.9
Nickel sulphate	kg of CO_2 equivalent per kg of product	10.6	1.8	1.9	3.0
Metal cobalt	kg of CO_2 equivalent per kg of product	24.3	29.3	43.2	39.0
Cobalt sulphate	kg of CO_2 equivalent per kg of product	13.9	2.4	2.4	2.6
Copper cathodes	kg of CO_2 equivalent per kg of product	6.8	6.0	6.0	3.8
Fuel and energy savings resulting from energy consumption reduction and energy efficiency initiatives					
Group's total	TJ	546.8	362.7	469.5	782.8
Including electricity	TJ	35.8	76.6	55.1	382.6
Including heat in water and steam	TJ	454.7	248.3	251.3	255.0
Including fuel	TJ	56.3	37.8	163.1	145.2
Total energy consumption by the Nornickel Group					
Fuel consumption	TJ	151,235	141,909	137,150	133,746
Self-generated electricity and heat consumption from renewable energy sources	TJ	14,586	16,152	16,800	16,686
Electricity and heat purchased from third parties	TJ	10,891	11,005	8,701	8,660
Electricity and heat sales to third parties	TJ	19,974	18 968[1]	19 216[2]	18 838[3]
Total energy consumption across the Group	TJ	156,738	150,098	143,435	140,254
Energy intensity	GJ per RUB million[4]	117	127	116	120
Share of renewables in total electricity consumption	%	47	51	55	54
Fuel consumption by Group companies by type of fuel					
Total fuel consumption	TJ	151,235	141,909	137,150	133,746
Natural gas	TJ	130,867	125,934	121,643	117,940
Coal[5]	TJ	1,557	2,027	1,562	1,765
Diesel fuel and fuel oil	TJ	15,097	13,623	13,080	13,471
Petrol and jet fuel	TJ	3,715	325	312	297
Lignite	TJ	-	-	552	273
Electricity and heat consumption by Group companies					
Electricity and heat consumption by Group companies	TJ	60,772	60,143	59,687	60,034
Including electricity	TJ	30,487	31,546	30,334	30,266
Including heating and steam	TJ	30,285	28 597[6]	29,353	29,768

1 Including 4,183 TJ of electricity and 14,785 TJ of heat.
2 Including 4,203 TJ of electricity and 15,012 TJ of heat.
3 Including 4,108 TJ of electricity and 14,730 TJ of heat.
4 RUB million of consolidated revenue.
5 The Company uses coal as a chemical feedstock in its production processes and does not use it for heating purposes.
6 Including 5,946 TJ of steam energy.

Glossary

Climate change adaptation (adaptation) is the process of adjusting to current or anticipated climate conditions and their effects, with the goal of reducing harm or taking advantage of beneficial opportunities.

Internal carbon price is a tool used within the Company to reflect the potential cost of greenhouse gas emissions in a project's financial model.

Permafrost is soil that remains in a frozen state continuously for three or more years.

Permafrost degradation is the process of periodic thawing caused by a gradual increase in the average annual temperature of permafrost, leading to a reduction in the thickness of the permafrost layer.

Decarbonisation is the process of transitioning to a low-carbon economy by reducing greenhouse gas emissions.

Stakeholders are parties that either have expectations of the Company or are affected by its operations and can influence its management decisions. Stakeholders include the Company's shareholders and employees, investors, suppliers, contractors, consumers, trade unions and other non-governmental organisations, federal and local authorities, the media, and residents of the regions where the Company operates, among others.

Climate is the statistical description of the entirety of meteorological quantities characterising the state of various climate system components (the atmosphere, hydrosphere, lithosphere, biosphere, and cryosphere) over a certain period of time, which may range from several months to thousands of years. The World Meteorological Organization 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 particular region.

Climate model is a numerical representation of the climate system based on the physical, chemical, and biological properties of its components and their interactions. A climate system can be represented by models of varying complexity, which are used to study and simulate the climate.

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

Climate scenario is a plausible and deliberately simplified representation of future climate conditions based on climate models. Climate scenario input data include greenhouse gas and aerosol emission volumes as well as changes in natural resource use driven by global social and economic development pathways. Model outputs may produce scenario-based projections of temperature and precipitation changes, the frequency and intensity of extreme weather events, sea level rise, and other climate indicators.

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

Intergovernmental Panel on Climate Change (IPCC) is an international organisation established in 1988 under the auspices of the United Nations and the World Meteorological Organization to study climate change processes.

Mitigation refers to reducing the likelihood of a risk occurring and minimising its potential impacts.

Low-carbon economy is an economy based on low-carbon energy sources, characterised by minimal greenhouse gas emissions into the atmosphere.

Acute risks are a category of risks caused by individual extreme weather events, such as cyclones, hurricanes, floods, thunderstorms, etc.

Scope 1 emissions are direct greenhouse gas emissions that occur from sources that are owned and/or controlled by an entity and result directly from its activities.

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

Scope 3 emissions are other indirect greenhouse gas emissions that result from an organisation's activities but occur from sources owned or controlled by other entities, and are distinct from energy indirect greenhouse gas emissions.

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

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

Paris Agreement is an international treaty adopted under the United Nations Framework Convention on Climate Change (UNFCCC), aimed at intensifying efforts to combat climate change, adapt to its effects, and provide climate-related support to developing countries.

Greenhouse gases (GHG) are gases that absorb and emit energy within the thermal infrared range, leading to an increase in the average atmospheric temperature. The main greenhouse gases are water vapour (H2O), carbon dioxide (CO_2), methane (CH4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF6).

Climate risk factor is a climate-related factor considered within the risk management process as a potential cause of risk.

Permafrost thawing is the process whereby soil receives enough heat not only to raise its natural sub-zero temperature to 0 °C but also to melt the ice contained within it.

Risk is the effect of uncertainty on the achievement of goals.

Risk appetite refers to the types and thresholds of risks the Company is willing to accept in pursuit of its set goals.

Carbon neutrality refers to achieving net-zero greenhouse gas emissions either through eliminating emissions from production activities or by offsetting them through carbon-negative projects.

Product carbon footprint is the total amount of greenhouse gas emissions, both direct and indirect, released as a result of an organisation's activities in the production of a given product over a specific period of time.

Chronic risks are risks associated with long-term climate change, such as rising average temperatures, increased annual precipitation, and similar trends.

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

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

CO_2 equivalent is a universal unit of measurement used to express the global warming potential of greenhouse gases relative to that of carbon dioxide.

Global warming potential (GWP) is a value describing the radiative forcing impact of one unit of a given GHG relative to one unit of carbon dioxide over a given period of time.

Abbreviations

Ag	Argentum (silver)
Au	Aurum (gold)
BEV	Battery electric vehicle
BS	Buildings and structures
CBAM	Carbon Border Adjustment Mechanism
CH_4	Methane
CHPP	Combined heat and power plant
CIO	Chief information officer
Co	Cobaltum (cobalt)
CO_2 equivalent	Carbon dioxide equivalent
COP29	29th Conference of the Parties to the UN Framework Convention on Climate Change
COSO ERM	The Committee of Sponsoring Organizations of the Treadway Commission's Enterprise Risk Management
Cu	Cuprum (copper)
ESG	Environmental, social, and governance
GDP	Gross domestic product
GHG Protocol	Greenhouse Gas Protocol
GOST	State standard
Group	The Norilsk Nickel Group
GWP	Global warming potential
HPP	Hydropower plant
ICMM	International Council on Mining and Metals
IDS	Information and diagnostic system
IFRS	International Financial Reporting Standards
IPCC	Intergovernmental Panel on Climate Change
Ir	Iridium
IRMA	Initiative for Responsible Mining Assurance
ISO	International Organization for Standardization
IT	Information technologies
KPI	Key performance indicator
LME	London Metal Exchange
MMC	Metals and mining company
MSU	Lomonosov Moscow State University
N_2O	Nitrous oxide
Ni	Niccolum (nickel)
Pd	Palladium

PJSC	Public joint stock company
Pt	Platinum
Rh	Rhodium
Ru	Ruthenium
S	Sulfur (sulphur)
SASB	Sustainability Accounting Standards Board
SDG	United Nations Sustainable Development Goal
Se	Selenium
SSP	Shared Socioeconomic Pathways
TCFD	Task Force on Climate-related Financial Disclosures
Te	Tellurium
UN	United Nations
GWP	Global warming potential
LME	London Metal Exchange
N_2O	Nitrous oxide
Ni	Niccolum
Pd	Palladium
Pt	Platinum
Rh	Rhodium
Ru	Ruthenium
S	Sulfur
SA	Società Anonima
SASB	Sustainability Accounting Standards Board
Se	Selenium
SSP	Shared Socio-Economic Pathways
TCFD	Task Force on Climate-related Financial Disclosures
Te	Tellurium
UN	United Nations

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Independent Audit Firm’s Limited Assurance Report on Information on Greenhouse Gas Emissions the Carbon Footprint of Products for 2024 presented in the Climate Change Report of Nornickel Group for 2024

To Shareholders and Management 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 issue a report on the information on greenhouse gas emissions and carbon footprint of products for 2024 (hereinafter – the Information on GHG emissions and CFP) presented in the Climate Change Report of Nornickel Group for 2024 (hereinafter – the Report), which includes a limited assurance conclusion on whether Information on GHG emissions and CFP is prepared, in all material respect, in accordance with the applicable criteria (set out below in section «Criteria Used» of this report) and is free from material misstatement.

Our conclusion covers only the Information on GHG emissions and CFP for 2024 that is set out below and presented in the Report and set out below:

Indicators	Unit	Value, 2024
Greenhouse gas (GHG) emissions		
Scope 1, direct GHG emissions, including:	mln t of CO_2 equivalent	7,1
Scope 1 emissions, excluding those associated with heat and electricity supply to households and other consumers in the regions of operation	mln t of CO_2 equivalent	5,9
Scope 1 emissions associated with heat and electricity supply to households and other consumers in the regions of operation	mln t of CO_2 equivalent	1,1
Actual emissions from the Sulphur Project at Nadezhda Metallurgical Plant	mln t of CO_2 equivalent	0,1
Scope 2, energy indirect GHG emissions (location-based)	mln t of CO_2 equivalent	0,4
TOTAL for Scope 1 and 2	**mln t of CO_2 equivalent**	**7,5**
Downstream Scope 3 emissions, including:	mln t of CO_2 equivalent	5,5
Refining at the first stage (first use)	mln t of CO_2 equivalent	5,3
Transportation of sold products	mln t of CO_2 equivalent	0,2
Upstream Scope 3 emissions, including:	mln t of CO_2 equivalent	1,2
Purchased goods and services	mln t of CO_2 equivalent	0,7
Capital goods	mln t of CO_2 equivalent	0,1
Energy and fuel	mln t of CO_2 equivalent	0,3
Other categories	mln t of CO_2 equivalent	0,1

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TOTAL for Scope 3	**mln t of CO_2 equivalent**	**6,7**
Product carbon footprint according to ISO 14044 (GWP 100)		
Palladium	kg of CO_2 equivalent per kg of product	24,6
Platinum	kg of CO_2 equivalent per kg of product	24,7
Rhodium	kg of CO_2 equivalent per kg of product	36,9
Metal nickel	kg of CO_2 equivalent per kg of product	8,9
Nickel sulphate	kg of CO_2 equivalent per kg of product	3,0
Metal cobalt	kg of CO_2 equivalent per kg of product	39,0
Cobalt sulphate	kg of CO_2 equivalent per kg of product	2,6
Copper cathodes	kg of CO_2 equivalent per kg of product	3,8

Our conclusion does not extend to any other information presented in the Report.

Management’s Responsibility

Management is responsible for the preparation of the Information on GHG emissions and CFP without misstatements in accordance with the applicable criteria (set out below in section «Criteria Used» of this report).

This responsibility includes designing, implementing and maintaining the system of internal control applicable to the preparation of the Information on GHG emissions and CFP that is free from material misstatement, whether due to fraud or error. This responsibility also includes: selecting the applicable criteria (set out below in section «Criteria Used» section of this report); selecting and applying relevant GHG quantification methodologies and GHG and CFP reporting policies; preventing and detecting fraud; identifying and ensuring that the Group complies with regulations applicable to its activities; making judgements and estimates that are reasonable in the circumstances; maintaining adequate records in relation to the Information on GHG emissions and CFP; ensuring appropriate training of employees involved in the preparation of Information on GHG emissions and CFP.

Our Responsibilities

Our responsibility is to perform procedures to obtain evidence in respect of the Information on GHG emissions and CFP thereon in the form of a limited assurance conclusion regarding whether the Information on GHG emissions and CFP is prepared, in all material respect, in accordance with the applicable criteria (set out below in section «Criteria Used» of this report) and is free from material misstatement, based on the evidence obtained.

We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements 3410 *Assurance Engagements on Greenhouse Gas Statements* (ISAE 3410), issued by the International Auditing and Assurance Standards Board.

ISAE 3410 requires that we plan and perform our procedures to obtain a limited assurance about whether the Information on GHG emissions and CFP is prepared, in all material respect, based on the applicable criteria (set out below in section «Criteria Used» of this report) and is free from material misstatement.

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*, the Russian *Code of Professional Ethics for Auditors* and other independence requirements applicable to our engagement in the Russian Federation, 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 International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or 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, depend on our judgment, including the assessment of the risk of material misstatement in the preparation of the Information on GHG emissions and CFP, whether due to fraud or error, our understanding of the activities of the Group, as well as other circumstances of the engagement.

In making these risk assessments, we considered internal control system relevant to the preparation of the Information on GHG emissions and CFP, in order to design procedures that are appropriate in the circumstances, but not for the purposes of forming a conclusion as to the effectiveness of the internal control of the Group.

Our engagement also included assessing the appropriateness of determination of GHG emissions included in the Information on GHG emissions and CFP, the suitability of the applicable criteria (set out below in section «Criteria Used» of this report) used by Management in preparing the Information on GHG emissions and CFP in the circumstances of the engagement, evaluating the appropriateness of the GHG quantification methods, policies and procedures used in the preparation of the Information on GHG emissions and CFP and the reasonableness of estimates made by Management.

The procedures we developed based on the risk assessment were based on our professional judgement and included, but were not limited to, the following:

- assessment of the reasonableness and suitability of key assumptions,
- inquiries to obtain an understanding of conditions of operations impacting the Information on GHG emissions,
- interviewing the Management and responsible employees of the Group regarding internal procedures regulating the collection of data used in the preparation of the Information on GHG emissions and CFP, including production indicators,
- inquiries about and analysis of information to assess the completeness of the emission sources, data collection methods, used input data and assumptions relevant in the circumstances of the engagement,
- recalculation of greenhouse gas emissions quantitative data on a sample basis,
- inspection of underlying documentation on a sample basis.

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

Criteria Used

Applicable criteria comprise relevant requirements and recommendations related to the greenhouse gas emissions quantification and reporting, as well as reference information contained in the following documents:

- 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» [1];
- Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard[2];
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories[3];
- International Council of Mining and Metals (ICMM) «Scope 3 Emissions Accounting and Reporting Guidance»[4];
- ISO 14083:2023 «Greenhouse gases Quantification and reporting of greenhouse gas emissions arising from transport chain operations»[5];
- Global Logistics Emissions Council (GLEC) Framework[6];
- Scope 3 GHG Emissions in the Nickel Value Chains. A Guide to Determine Nickel-Specific Scope 3 GHG Emissions[7];
- ISO 14067:2018 «Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification»[8];
- ISO 14040:2006 «Environmental management — Life cycle assessment — Principles and framework — Amendment 1»[9];
- ISO 14044:2006 «Environmental management — Life cycle assessment — Requirements and guidelines»[10];
- A guide to calculate the carbon footprint of nickel products (LME Passport Guidance — Nickel Institute)[11];
- The Carbon Footprint of Platinum Group Metals: A Best Practice Guidance for the Calculation of GHG of Primary Produced PGMs[12].

Inherent Limitations

Greenhouse gas emissions quantification is subject to inherent uncertainties due to the imprecision of measurements and statistical processing of data of the instrumental control of physical parameters, as well as the possible incompleteness of the scientific knowledge on the basis of which the reference greenhouse gas emission factors used in the quantification are developed.

[1] Order of the Ministry of Natural Resources and the Environment of the Russian Federation dated 29.06.2017 No. 330 Official Publication of Legal Acts - Official Internet Portal of Legal Information (pravo.gov.ru)
[2] Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard
[3] 2006 IPCC Guidelines for National Greenhouse Gas Inventories
[4] International Council of Mining and Metals (ICMM) «Scope 3 Emissions Accounting and Reporting Guidance»
[5] ISO 14083:2023 «Greenhouse gases Quantification and reporting of greenhouse gas emissions arising from transport chain operations»
[6] Global Logistics Emissions Council (GLEC) Framework
[7] Scope 3 GHG Emissions in the Nickel Value Chains. A Guide to Determine Nickel-Specific Scope 3 GHG Emissions
[8] ISO 14067:2018 «Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification»
[9] ISO 14040:2006 «Environmental management — Life cycle assessment — Principles and framework — Amendment 1»
[10] ISO 14044:2006 «Environmental management — Life cycle assessment — Requirements and guidelines»
[11] A guide to calculate the carbon footprint of nickel products (LME Passport Guidance — Nickel Institute)
[12] The Carbon Footprint of Platinum Group Metals: A Best Practice Guidance for the Calculation of GHG of Primary Produced PGMs

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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, nothing has come to our attention that causes us to believe that the Information on GHG emissions and CFP is not prepared, in all material respects, in accordance with the applicable criteria (set out in section «Criteria Used» of this report) or is not free from material misstatement.

Velichko Natalia Nikolaevna

Director of JSC "Kept"

Power of attorney No. 44/25 dated 09th of January 2025

Moscow, Russia

May 26, 2025

Disclaimer

The information contained herein relies on the data available to PJSC MMC Norilsk Nickel (the "Company") as at the date of this 2024 Climate Change Report (the "Report"). After this Report was prepared, the Company's operations as well as forecasts and overview of the current situation presented in the 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 as well as Russian individuals and legal entities, the Russian Federation's response to sanctions, economic and other measures introduced to maintain the economic and financial stability of the Russian Federation, and other factors beyond the Company's control.

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 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 the Company operates may differ materially from those expressed or implied by the forward-looking statements contained in this Report. The Company hereby disclaims any liability for any loss resulting from the use of this Report, and assumes no obligation to update any forward-looking statements contained herein.

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

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Climate Quiz

Climate Myths