NORNICKEL

NAVIGATING THE TRANSITION TO A NET ZERO WORLD

Annual Report | 2021

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We are pleased to present to you the 2021 Annual Report of MMC Norilsk Nickel focused on our Sustainable Development Strategy. This strategy is driven by management's long-term vision for global commodity markets as the world economy progresses toward a carbon-free future. Nornickel has a unique resource base underpinning our ambitious programme of production growth and operational efficiency, along with an unprecedented environmental programme. This clean growth strategy not only lays out long-term ore production and capital investment targets but also sets out concrete action plans to reduce the Company's environmental footprint in its regions of operation.

This Annual Report has been prepared by the Company's Investor Relations Department in line with best practices in information disclosure and in accordance with the requirements of Bank of Russia's Regulation No. 714-P from 27 March 2020.

VLADIMIR ZHUKOV

Vice President for Investor Relations
MMC NORILSK NICKEL

REPORTING PERIOD
FROM 1 JANUARY 2021 TO 31 DECEMBER 2021
The 2021 annual report of PJSC «MMC «Norilsk Nickel» incorporates the results of MMC Norilsk Nickel and other operations of the Norilsk Nickel Group (MMC Norilsk Nickel, Nornickel, the Company, Group).

ACCURACY OF INFORMATION CONFIRMED
by the Audit Commission of MMC Norilsk Nickel
Opinion of
28 April 2022

APPROVED
by the Board of Directors of MMC Norilsk Nickel
Minutes
No. GMK/12 -pr-bd of
29 April 2022

APPROVED
by the Annual General Meeting of Shareholders of MMC Norilsk Nickel
Minutes No. 1 of
3 June 2022

VLADIMIR POTANIN

President,
Chairman of the Management Board
MMC NORILSK NICKEL

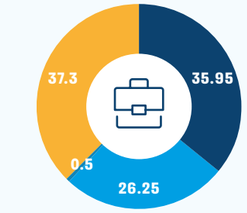
SERGEY MALYSHEV

Senior Vice President —
Chief Financial Officer
MMC NORILSK NICKEL

COMPANY PROFILE

Nornickel is Russia's leading metals and mining company, the largest palladium and high-grade nickel producer in the world, and a major producer of platinum and copper. Nornickel also produces cobalt, rhodium, silver, gold, iridium, ruthenium, selenium, and tellurium. Nornickel's shares are listed on the Moscow Exchange and are included in its Blue Chip Index. As of the end of 2021 its American Depositary Receipts (ADRs) traded on the US OTC market, as well as on the London, Berlin, and Frankfurt exchanges (OTC sections). Nornickel had a 7.02% weight in the MSCI Russia Index.

Shareholding structure as of 31.12.2021 (%)



1 Indirect ownership via controlled persons.

The Group's assets

The Group's production assets are concentrated in Russia and Finland. The Group's core businesses are represented by vertically integrated metals and mining operations. They include the Norilsk Division (including Polar Division and LLC Medvezhy Ruchey, located in the Norilsk Industrial District) Kola Division including Kola MMC and Norilsk Nickel Harjavalta Oy nickel refinery in Finland, and also Trans-Baikal Division (CRK Bystrinskoye, 50.01% stake), located in Trans-Baikal Region.

In South Africa, the Group owns 50% of Nkomati, which operates a nickel mine of the same name, put on care and maintenance due to termination of operations following a decision made jointly with African Rainbow Minerals, the Group's partner in the project, in 2019.

In addition to the production facilities, the Group operates captive global sales network and owns a wide range of R&D facilities, fuel and energy assets, river fleet, river and sea port terminals, a unique Arctic cargo sea fleet, as well as a number of other auxiliary units.

Nornickel is focused on the mining and processing of minerals, as well as the production and sale of non-ferrous and precious metals, as well as exploration.

Industry rankings

Nornickel's share of the global metals market[1], %

№ 1

38% Palladium

17% High-grade nickel

№ 4

10% Platinum

6% Primary nickel

№ 5 **7%** Rhodium

№ 12 **2%** Copper

№ 14 **2%** Cobalt

1 As of March 05, 2022. Based on refined metal (including tolling) output for palladium, nickel, platinum, and rhodium; based on contained metal production for copper and cobalt.

Consistently strong EBITDA margin vs global peers[2], %

2 The peer group includes Anglo American, BHP Billiton, Rio Tinto, Vale, and Glencore.

Competitive advantages

Nornickel boasts a world-class resource base that is unique in many ways, including the amount of valuable minerals in ores, their high content and extensive reserve life. The Group's key metals are nickel, copper and platinum group metals (PGMs). In 2021, the mineral resource estimate was updated, resulting in an increase of total reserves and resources by 225 mln t of ore.

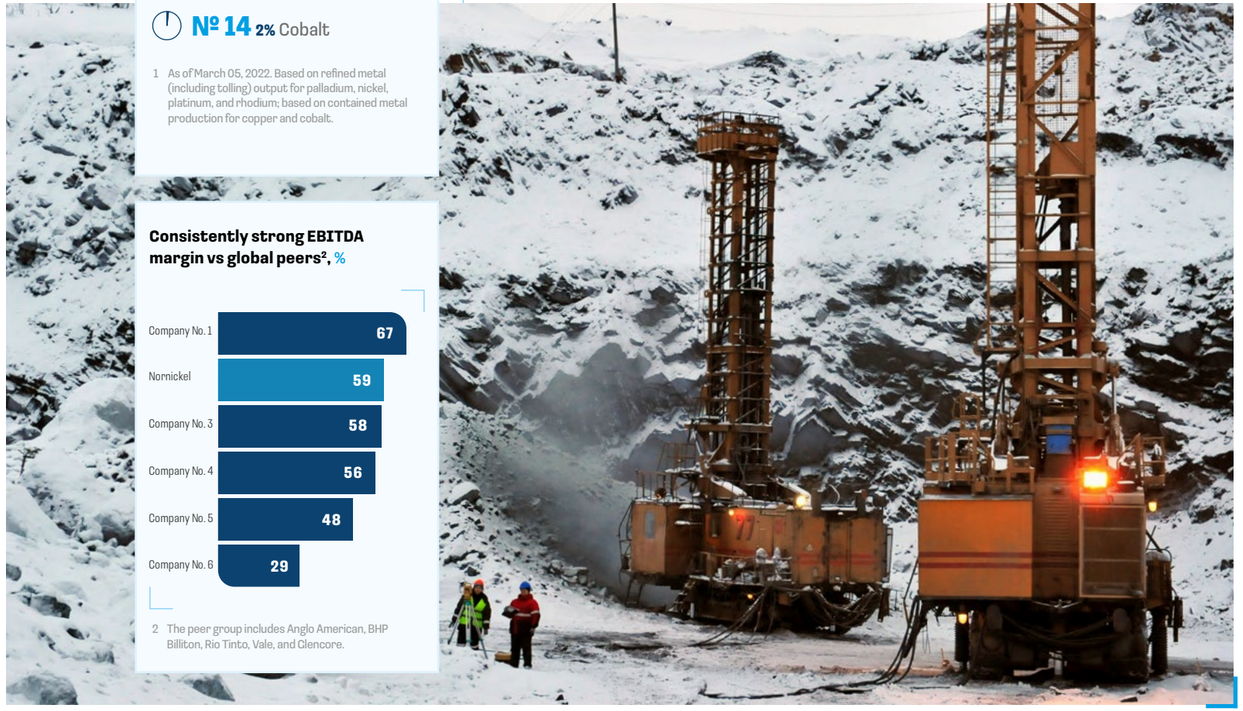
9 mines

Resources at the current production rate **over 75 years**

Proven and probable reserves
1,293 mln t
Ni — 8.7 mln t
Cu — 15.5 mln t
6PGMs — 175 moz

Measured and indicated resources
1,824 mln t
Ni — 13.5 mln t
Cu — 22.0 mln t
6PGMs — 246 moz

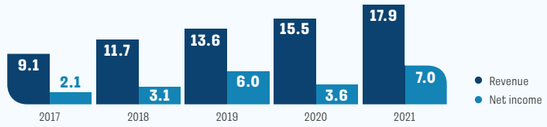
For more information about the resource base, see the Mineral Resource Base



PERFORMANCE HIGHLIGHTS

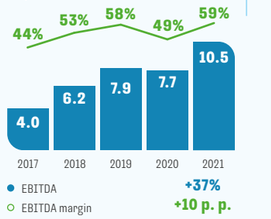
Financial highlights

Key financial highlights (USD bn)

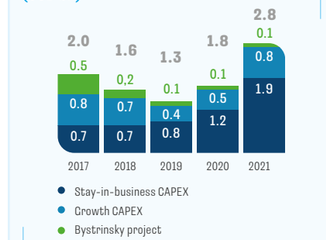


+15%
+92%

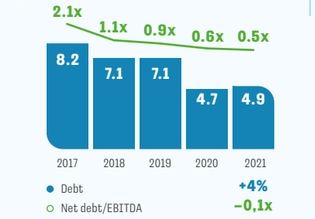
EBITDA & EBITDA margin (USD bn)



Capital investments (USD bn)

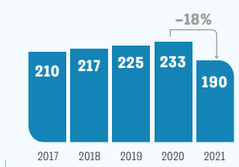


Debt (USD bn)

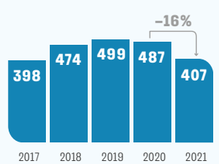


Operating highlights

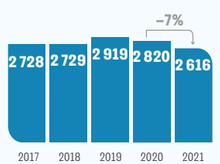
Nickel from own feedstock (kt)



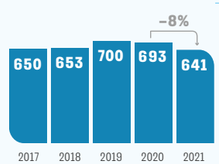
Copper from own feedstock (kt)



Palladium from own feedstock (koz)

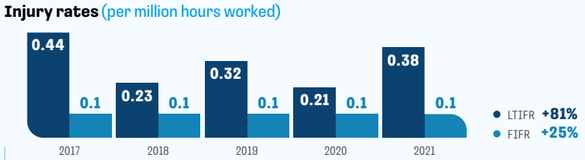


Platinum from own feedstock (koz)

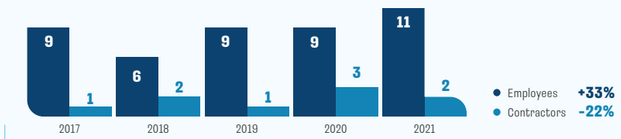


Sustainability highlights

Injury rates (per million hours worked)

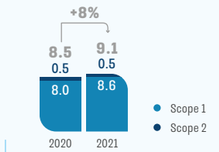


Work-related fatalities

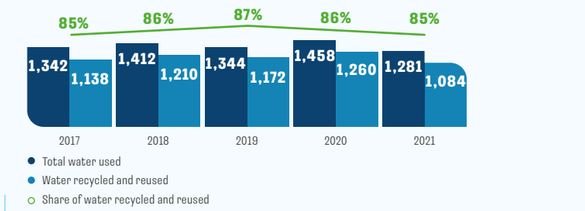


SO2 emissions (mln t)

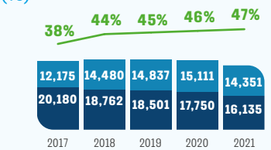
CHC emissions (mln t)



Water use (mcm)



Electricity consumption (TJ)



Key ESG initiatives

Shareholder	Current status/rating as of 31 December 2021
UN Global Compact	The company joined the UNCD in 2016 and every year confirms its commitment to the principles of sustainable development
FTSE4Good	Inclusion in the index constituent is reiterated: score at 4.3 (out of 5)
ISS	Environmental – 2, Social– 3, Governance – 6 (where 1 is low risk, and 10 is high risk), ISS ESG rating – "C+"
S&P Global	Score – 43 (out of 100)
Susnainalytics	ESG risk score: 36.9 (out of 100), where 1 is low risk and 100 is high risk
MSCI	ESG rating – BB, score – 3.4 (out of 10)
CDP	Climate Change – D rating, Water Security – C rating

CREDIT RATINGS AS OF 31 DECEMBER 2021

Moody's
«BAA2», Negative

S&P Global
«BBB–», Stable

FitchRatings
«BBB–», Stable

Expert РЕЙТИНГОВОЕ АГЕНТСТВО
«RUAAA», Stable

The Company's history

1935–1959

CREATION AND EVOLUTION OF NORILSK PLANT

In 1935, the USSR Council of People's Commissars resolved to build Norilsk Plant. The first batch of converter matte was produced in 1942, with Norilsk Plant opening a nickel tankhouse in 1943. In 1953, Norilsk was granted the status of a town, with Norilsk Plant producing 35% of nickel, 12% of copper, 30% of cobalt, and 90% of PGMs of the Soviet Union's total output.

1960–1992

NEW DEPOSITS DEVELOPED AND NEW FACILITIES PUT ONLINE

The Talnakhskoye deposit, the world's largest deposit of copper-nickel ores, was discovered in 1960, giving a new lease on life to Norilsk Plant. The construction of new mines and the town of Talnakh started. The Oktyabrskoye deposit of copper-nickel ores was discovered in 1965. Nadezhda Metallurgical Plant and the 1st Stage of Talnakh Concentrator were put on stream in 1981.

1993–2012

TRANSFORMATION IN A MARKET ECONOMY

In 1993, in line with an Executive Order of the Russian President, the Norilsk Nickel State Concern for the Production of Precious and Non-ferrous Metals was transformed into Russian Joint Stock Company (RJSC) Norilsk Nickel for the Production of Precious and Non-ferrous Metals. In 2001, the Company was restructured, with shareholders of RJSC Norilsk Nickel exchanging 96.9% of their stock to shares in MMC Norilsk Nickel. Since then, the Company shares have been trading on the RTS and MICEX stock exchanges and as ADRs in London and New York.

2013–2020

IMPLEMENTING A NEW STRATEGY

Vladimir Potanin and his new management team took the helm of the Company. The Board of Directors adopted a new long-term development strategy focused on world-class assets of the Polar Division and Kola MMC. Bystrinsky GOK, the largest greenfield project in the Russian metals industry, was constructed from scratch in the Zabaykalsky Region.

A programme was launched to improve the environmental situation across the Company's footprint, including the shuttering of Nickel Plant in Norilsk, the launch of the Sulphur Project to drastically reduce sulphur dioxide emissions in the Norilsk Industrial District and the closure of obsolete metallurgical facilities in the Murmansk Region.

2021–2030

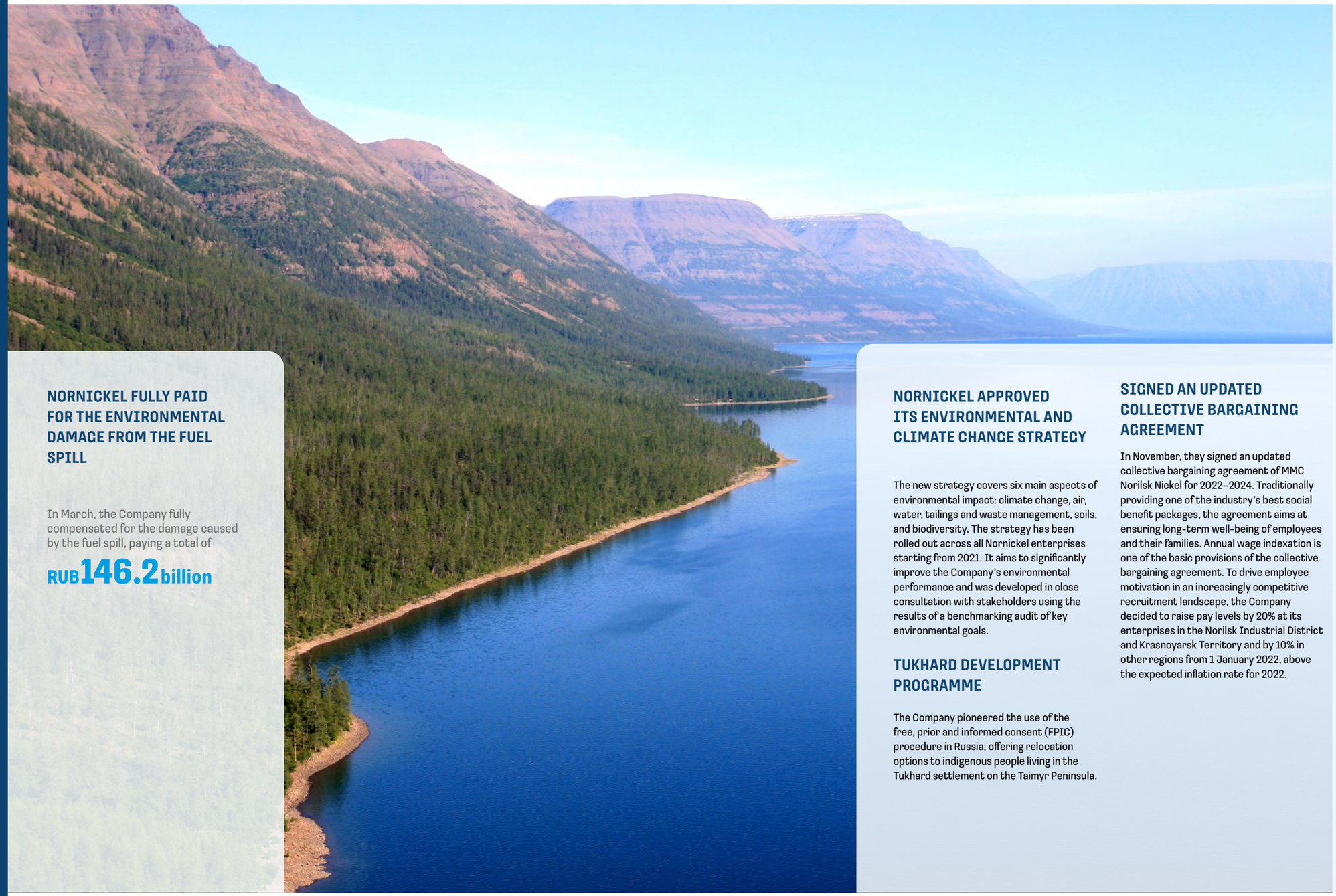
TOWARD A CARBON-FREE FUTURE

The Company announced a new investment cycle aimed at the comprehensive development of mining assets and the expansion of processing capacities, which is expected to increase metal production by 30%–40% by 2030 (nickel equivalent, from a 2017 baseline). Boasting the lowest carbon footprint in the global industry, Nornickel intends to ramp up its supplies of metals supporting the transition to a low-carbon economy.

By 2030, the Company plans to invest about USD 35 billion, with USD 6 billion to be spent on environmental projects and USD 8 billion on energy infrastructure upgrades.

Highlights of the year

Highlights of the year



NORNICKEL FULLY PAID FOR THE ENVIRONMENTAL DAMAGE FROM THE FUEL SPILL

In March, the Company fully compensated for the damage caused by the fuel spill, paying a total of

RUB 146.2 billion

NORNICKEL APPROVED ITS ENVIRONMENTAL AND CLIMATE CHANGE STRATEGY

The new strategy covers six main aspects of environmental impact: climate change, air, water, tailings and waste management, soils, and biodiversity. The strategy has been rolled out across all Nornickel enterprises starting from 2021. It aims to significantly improve the Company's environmental performance and was developed in close consultation with stakeholders using the results of a benchmarking audit of key environmental goals.

TUKHARD DEVELOPMENT PROGRAMME

The Company pioneered the use of the free, prior and informed consent (FPIC) procedure in Russia, offering relocation options to indigenous people living in the Tukhard settlement on the Taimyr Peninsula.

SIGNED AN UPDATED COLLECTIVE BARGAINING AGREEMENT

In November, they signed an updated collective bargaining agreement of MMC Norilsk Nickel for 2022–2024. Traditionally providing one of the industry's best social benefit packages, the agreement aims at ensuring long-term well-being of employees and their families. Annual wage indexation is one of the basic provisions of the collective bargaining agreement. To drive employee motivation in an increasingly competitive recruitment landscape, the Company decided to raise pay levels by 20% at its enterprises in the Norilsk Industrial District and Krasnoyarsk Territory and by 10% in other regions from 1 January 2022, above the expected inflation rate for 2022.

by 78% Nornickel cut emissions on the Kola Peninsula in 2021

NORNICKEL CUT EMISSIONS ON THE KOLA PENINSULA BY 78% IN 2021

The smelting shop closure in March 2020 enabled a 78% cut in sulphur dioxide emissions on the Kola Peninsula as compared to 2020, or a 90% reduction from a 2015 baseline, completely eliminating cross-border emissions. All the concentrate previously processed at the metallurgical shop was redirected to the Norilsk Division.

NORNICKEL COMPLETED ITS SHARE BUYBACK PROGRAMME AND REDUCED ITS AUTHORISED CAPITAL

Under the buyback programme, Nornickel repurchased a total of 5,382,079 ordinary shares from shareholders, followed by an Extraordinary General Meeting of Shareholders' resolution to reduce the Company's authorised capital to RUB 153,654,624 by cancelling the 4,590,852 shares repurchased by the Company. The remaining shares were set aside for the employee incentive programme.

BUSINESS MODEL

RESOURCES

MINERAL RESOURCE BASE

1,293 mln t
Proven and probable reserves

1,824 mln t
Measured and indicated resources

>75 years
of resources at the current production rate

WORKFORCE

~73.6 thousand employees

MINING AND METALLURGICAL ASSETS

9 mines

4 concentrators

3 metallurgical plants

AUXILIARY ASSETS

- **Transport enterprises**
- **Energy enterprises**
- **Global sales network**
- **R&D:** Cipronickel Institute

MINING

NORILSK DIVISION:

produced
17.5 mln t of ore

Ni	Cu	PGMs
1.20%	2.09%	6.69 g/t

KOLA DIVISION:

produced
7.2 mln t of ore

Ni	Cu	PGMs
0.57%	0.25%	0.29 g/t

TRANS-BAIKAL DIVISION:

produced
16.6 mln t of ore

Cu
0.50%

NATURAL GAS, GAS CONDENSATE:

produced
2,927 Mcm
of natural gas

102 kt
of gas condensate

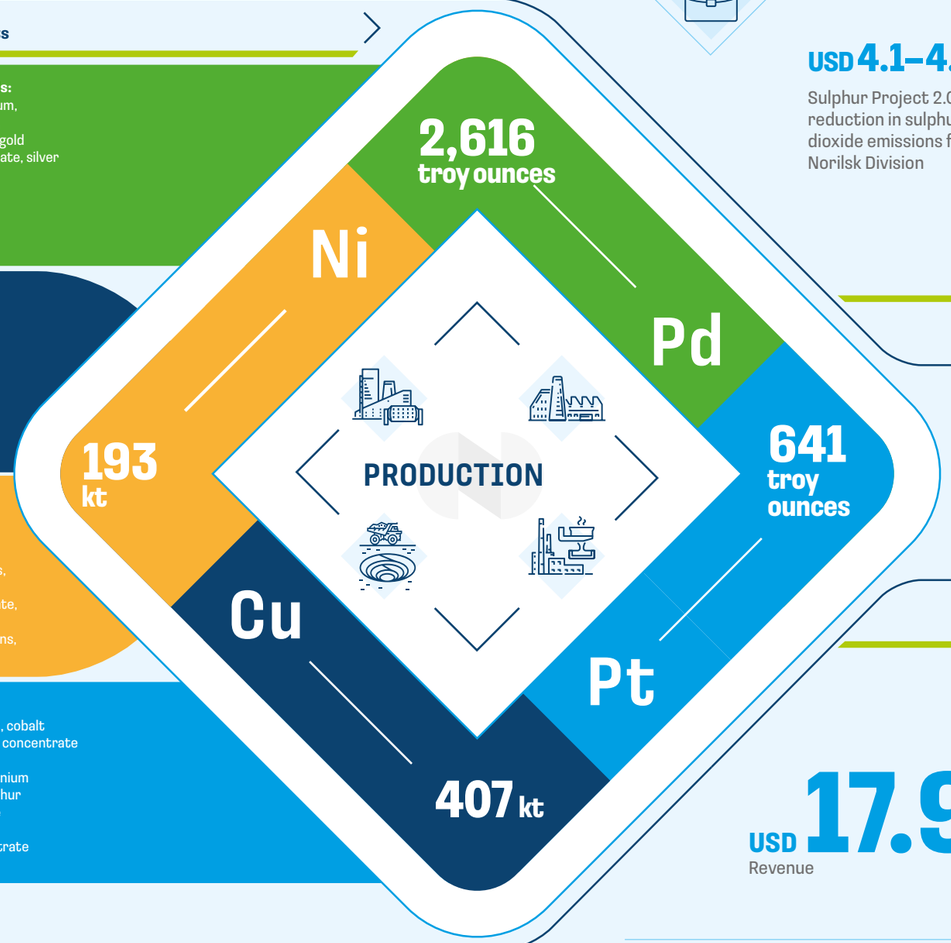
Core products

Precious metals:
platinum, palladium, rhodium, iridium, ruthenium, gold, gold gravity concentrate, silver

Copper:
cathodes, cake, intermediates

Nickel:
cathodes, carbonyl powder, briquettes, salts, pellets, nickel hydroxycarbonate, nickel sulphate crystals, solutions, intermediates

Other:
cobalt cathodes, cobalt sulphate, cobalt concentrate
tellurium ingots
commercial selenium
commercial sulphur
sodium sulphate
sulphuric acid
iron ore concentrate



The Company mines copper-nickel sulphide ores on the Taimyr and Kola Peninsulas and gold-iron-copper ores in the Zabaykalsky Region.

USD 4.1–4.3 bn
Sulphur Project 2.0 – reduction in sulphur dioxide emissions from the Norilsk Division

>USD 8 bn
Energy infrastructure upgrades

USD 1.4 bn
to upgrade refining capacity

LONG-TERM INVESTMENT

NORNICKEL is a global leader in the production of metals essential for clean transport and the development of a low-carbon economy. Nornickel is focused on the exploration, mining and processing of minerals, as well as the production and sale of non-ferrous and precious metals.

FINANCIAL PERFORMANCE

USD 17.9 bn
Revenue

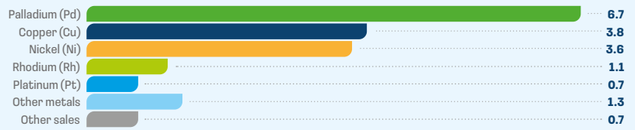
USD 10.5 bn
EBITDA

USD 7.0 bn
Net profit

59%
EBITDA margin

0.5x
Net debt/EBITDA

Revenue from sales of metals (USD bn)



VALUE CREATED FOR STAKEHOLDERS

SHAREHOLDERS

11%
dividend yield in 2021

EMPLOYEES

USD 161 mln
Spending on social programmes for employees

USD 1,970
Average monthly pay

USD 14 mln
Spending on pension plans

0.38
LTIFR

SUPPLIERS

95%
share of Russian companies in supplies to Nornickel

ENVIRONMENT

10.3 mln t
CHG emissions (Scope 1+2)

3.1 mln t
CHG emissions (Scope 3)

99%
of the Company's industrial waste is non-hazardous

47%
of electricity generated from renewable sources

85%
share of reused and recycled water

CONSUMERS

The Company's products are supplied to **37 countries worldwide**

GOVERNMENT

Tax and non-tax payments:

RUB 82.0 bn
Federal

RUB 177.6 bn
Regional

GEOGRAPHY

OPERATING ASSETS

- Norilsk Division
- Kola Division, including Norilsk Nickel Harjavalta Oy
- Trans-Baikal Division

ENERGY

- Energy Division

TRANSPORT

- Polar Transport Division
- Murmansk Transport Division
- Arkhangelsk Transport Division
- Krasnoyarsk Transport Division
- Bystrinsky Transport Division
- Yenisei River Shipping Company
- Krasnoyarsk River Port
- Lesosibirsk Port
- NordStar Airlines

R&D

- Gipronickel Institute

SALES

- NORMETIMPEX
- Metal Trade Overseas SA (Switzerland)
- Norilsk Nickel Asia Ltd (Hong Kong)
- Norilsk Nickel USA Inc. (USA)
- Norilsk Nickel Metals Trading (Shanghai) Co., Ltd (China)

STRATEGIC REPORT

25%–35% growth in nickel and copper production (in 2030 vs 2017)

50%–60% growth in PGM production (in 2030 vs 2017)

~2x reduction of SO_2 emissions from the Polar Division by 2023; 10x by 2026

In 2021, SO_2 emissions from the Kola Division were reduced **tenfold**.

USD 35 bn of projected investments through 2030, including USD 6 bn in environmental projects.

Nornickel's strategic goal is to achieve leadership in transitioning to the future green economy and in sustainability. This means not just full compliance with all national technical and legal requirements but also meeting the highest global environmental, industrial safety and climate change management standards.

DEPUTY CHAIRMAN'S LETTER

DEAR SHAREHOLDERS,

The past year was like no other in our recent memory.

On top of COVID-related remaining restrictions, we also had to deal with two industrial incidents. We express our deepest regret that lives of our employees have been lost. I can assure you that we have provided full support to their families and will do our best to eliminate the causes of such incidents. In fact, we are now putting zero fatalities into the top of our strategic priorities.

I would like to highlight that we have amended our KPIs to bring them more in line with our sustainable development targets. Our corporate governance has been considerably revamped over the past couple of years, raising emphasis on managing sustainable development in line with best international standards.

Despite sizeable operating disruptions in the first half of the year an exceptional commitment displayed by our employees helped us to recover production in the shortest possible time and mitigate an adverse impact on financial performance. The post-Covid economic recovery also provided a tailwind to our business as the consumption of our products substantially increased following solid demand for metals needed for the transition to green economy. Our revenue was up 15% y-o-y to USD 17.9 billion, while EBITDA increased almost 40% to record high of USD 10.5 billion.

We believe that the more you earn the more you have to share with the communities. That is why we have increased our social expenditures to almost USD 1 billion with a specific focus on a long-term renovation programme of Norilsk's housing and social infrastructure to significantly improve the quality of life of all local communities including indigenous people.

Our environmental program has reached a number of new milestones this year in Kola division, whereas Sulphur project in Norilsk is on track. We have been successful at ramping up our capex this year, which increased 60% year-on-year. Our efforts in supporting expanded capital investment program, give us comfort that we deliver on our new even more ambitious environmental targets.

We also continued to make strong progress on our plans to mitigate climate risk at our production facilities with the establishment of a Permafrost monitoring center in Norilsk as well as position the company for success in a lower-carbon energy future on a global scale. Nornickel is perhaps uniquely positioned as a major mining house to contribute to the greatest existential challenge of the 21st century, namely global warming and its environmental consequences. Our metal basket is critical to support the global transformation to a net zero world and our core growth projects aim to deliver additional volumes of nickel, PCMs and copper to the market.

Despite the geopolitical challenges and uncertainties we face, our strategic goal remains the same: to navigate Nornickel to the premier league of the future green economy and to becoming a leader in sustainability. I would like to thank the Board, Management and all employees across the world for their dedication and hard work in these endeavours.

SERGEY BATEKHIN

Deputy Chairman of the Board of Directors
MMC Norilsk Nickel

PRESIDENT'S LETTER

DEAR SHAREHOLDERS,

2021 was yet another challenging year for Nornickel; however, the coordinated efforts of our big team helped us cope with every challenge.

OPERATIONAL AND FINANCIAL PERFORMANCE

The two underground mines and Norilsk concentrator have been successfully restored to their full capacity after industrial incidents. Amid the global economic recovery after the 2020's COVID-driven recession, the demand for our metals increased rapidly in 2021, which had a favourable impact on our financial performance. Driven by higher prices of all metals in our basket, in 2021, the Company's revenue was up by 15% year-on-year to USD 17.9 billion, and EBITDA increased by almost 40% to USD 10.5 billion.

CAPEX increased 60% year-on-year to a record USD 2.8 billion, which was fully in line with management guidance. We significantly increased investments in modernisation and upgrade of equipment and other fixed assets including energy infrastructure with a focus on industrial safety and energy efficiency. Nornickel also continued delivering on its SO2 reduction programme in Norilsk. Investment in this project tripled in 2021 to more than USD 500 million.

ENVIRONMENTAL PROTECTION, CLIMATE CHANGE AND OCCUPATIONAL HEALTH

Last June, we approved a new environmental and climate change strategy for the next 10 years. It aims to significantly improve Nornickel's environmental performance. The strategy was developed in close consultation with stakeholders using the results of a benchmarking audit of key environmental goals; it covers six main aspects of environmental impact: climate change, air, water, tailings and waste management, soils, and biodiversity. I would also like to emphasise that the new strategy is more than just a statement: it defines 20 specific environmental goals, including reduction of SO2 emissions, compliance with TCFD principles and implementation of the Global Tailings Standard principles.

Revenue increased
15% y-o-y
to USD 17.9 bn

EBITDA increased
40% y-o-y
to USD 10.5 bn

ENVIRONMENTAL PROTECTION, CLIMATE CHANGE AND OCCUPATIONAL HEALTH

This strategy has already started to deliver tangible results. Following the shutdown of the smelting and metallurgical shops on the Kola Peninsula, SO_2 emissions in the area decreased by 78% from 2020 and by over 90% as compared to 2015, exceeding our initial targets. In Norilsk, SO2 emissions were down 14% year-on-year. After the completion of Phase 1 of the Sulphur Project in Norilsk – and we plan to finish it before the end of this year – we expect SO_2 emissions across the Norilsk Division to decrease by 45% next year from a 2015 baseline.

Last year, we also continued our clean-up programme in response to the environmental incident at CHPP-3 in Norilsk. Major efforts were put into remediating contaminated and disturbed land and restoring biodiversity in the area. All of these steps were taken in close cooperation with the scientific community. We used the insights gained by RAS scientists during another stage of the Great Norilsk Expedition both to assess and plan next steps in our spill clean-up programme and to develop recommendations on deploying environmental protection solutions at industrial enterprises across the Russian Arctic.

In terms of climate action, Nornickel is currently positioned in the bottom quartile of the CO_2 emission intensity curve among all global nickel producers and has the lowest greenhouse gas emissions in absolute terms across all three scopes among major mining and metals companies, since renewable sources account for a significant portion of its power generation mix, with the rest coming from natural gas, the cleanest fossil fuel. At the same time, the Sulphur Project implementation and production growth are set to drive additional energy consumption and will therefore call for compensatory measures. The medium-term decarbonisation programme implies a reduction in Scope 1 and 2 CO_2 emissions from operations to 7.7 mln t by 2028, while emission intensity will decline by 37% to 5 tonnes per tonne of nickel equivalent.

Fatal accidents at our enterprises were caused by gross violations of safety rules. We believe that fatalities are absolutely unacceptable, so we have developed a programme that should help us achieve accident-free operations, and we hope it will soon deliver its first results.

In 2021, the Company significantly increased its social investments, which exceeded USD 1 billion, mainly by making a provision for the long-term housing and social infrastructure renovation programme for Norilsk until 2035.

SO_2 emissions from the Kola Division decreased

by 78% y-o-y

SO_2 emissions from the Norilsk Division decreased

by 14% y-o-y

CAPEX PROGRAMME

Last year, we reviewed our long-term investment programme for 2021–2030, increasing it to USD 35 billion. We will allocate over USD 6 billion to environmental projects and over USD 8 billion to energy infrastructure development, including accelerated upgrade of renewable assets and high-voltage power lines, as well as new natural gas production and transportation projects. Maintenance CAPEX (capital repairs and the purchase of new equipment) will account for USD 2 billion of additional long-term investments.

The Company increased its proven and probable ore reserves by nearly 600 mln t through the launch of the Technology Breakthrough 1.0 programme relying on advanced resource management and estimation tools. Nornickel also raised its 2030 long-term metal production outlook: the output of nickel and copper is expected to grow by 25%–35% and platinum group metals by 50%–60%. We plan to boost the capacity of our key downstream assets accordingly, including Talnakh and Norilsk Concentrators, Nadezhda Plant, the nickel refining facilities at Norilsk Nickel Harjavalta, and the copper refining facilities at Kola MMC.

The Company is also looking at opportunities to gain a foothold in the battery materials market through research projects and partnerships to ensure deeper integration throughout the production chain for EV batteries.

SOCIAL RESPONSIBILITY

The development of Nornickel's regions of operation is one of the Company's priorities. In early 2021, Nornickel signed a quadripartite agreement on the social and economic development of Norilsk, which envisages the renovation of housing, the upgrade and overhaul of local utilities and engineering infrastructure, the creation of a comfortable and safe urban environment and the relocation of Norilsk and Dudinka residents to other regions with a milder climate. Under the programme, RUB 120 billion will be allocated for these purposes until 2035, including RUB 81.3 billion provided by Nornickel.

In 2021, we also boosted support for the indigenous peoples of Taimyr by allocated extra RUB 100 million to financing a five-year programme aimed at protecting ancestral lands and supporting traditional activities of indigenous peoples of the North.

Just as important was the opening of a healthcare centre in Norilsk – one of the five that Nornickel plans to launch in the Norilsk Industrial District and Dudinka over the next few years as part of a programme to drive a major improvement in the quality of healthcare for local communities across our footprint.

In conclusion, I would like to thank all colleagues, contractors and customers who helped us overcome the challenges of 2021. I am confident that together we will deliver on all our long-term goals.

VLADIMIR POTANIN

President,
Chairman of the Management Board
MMC Norilsk Nickel

IMPLEMENTING THE ENVIRONMENTALLY FRIENDLY GROWTH STRATEGY

SULPHUR PROJECT 2.0

2021

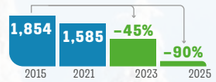
Kola Division
The programme is completed.

SO₂ emissions (kt)

–90%
reduction achieved

Norilsk Division
The programme has entered the active construction phase.

SO₂ emissions (kt)



–90% reduction targeted by 2025

For more details, see p. 24

PRODUCTION GROWTH AND COMPREHENSIVE INFRASTRUCTURE UPGRADES

2021

Investment decisions were made to develop long-term production configuration

Key strategic projects are on track

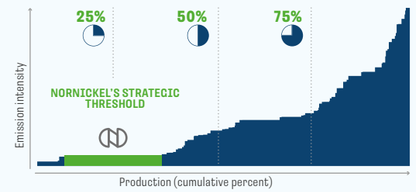
A new area for strategic consideration: vertical integration into the battery materials production chain

For more details, see p. 26

CLIMATE ACTION

2030 ambition: to remain a global industry leader positioned in the bottom quartile of the GHG intensity curve

Emission intensity curve for nickel
(t of CO_2 equivalent / t of Ni equivalent)



Strategic ambitions for metal production[2]

Ni	Cu	Pt Pd
Growth (kt)	Growth (kt)	Growth (t)
+25%–35%	+25%–35%	+50%–60%
210 (2017) → 260–280 (2030+)	398 (2017) → 500–540 (2030+)	105 (2017) → 160–170 (2030+)

1 Norilsk Industrial District.

2 Metals produced from our own feedstock (including metals in semi-products for sale), excluding production at the Bystrinsky project and Nkomati.

MORE GREEN METALS...

NORNICKEL IMPLEMENTS THE ENVIRONMENTALLY FRIENDLY GROWTH STRATEGY THAT NOT ONLY LAYS OUT LONG-TERM METAL PRODUCTION AND CAPITAL INVESTMENT TARGETS BUT ALSO SETS OUT CONCRETE ACTION PLANS TO REDUCE THE COMPANY'S ENVIRONMENTAL FOOTPRINT IN ITS REGIONS OF OPERATION.

...FOR A GREENER FUTURE

EXPANDED INVESTMENT CYCLE

2021

The long-term investment programme was updated

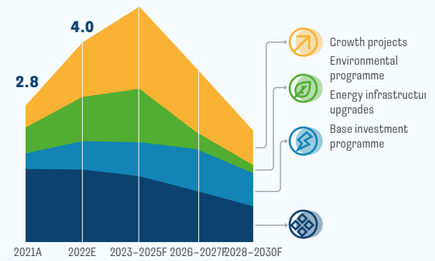
Capital project scopes were adjusted

Systematic efforts were continued to build capital construction capabilities

For more details, see p. 30

STRATEGIC AMBITIONS
INVESTMENT PROGRAMME

CAPEX (USD bn)



For more details, see p. 31

Sulphur Project 2.0

ENVIRONMENTAL ROADMAP

KOLA DIVISION

SMELTING SHOP
Shut down in December 2020

METALLURGICAL SHOP
Shut down in March 2021

Nikel
Monchegorsk

DECEMBER 2020

Smelting shop in Nikel shut down

- Complete elimination of cross-border emissions

MARCH 2021:

Copper refining line in Monchegorsk shut down

- Significant air quality improvement in Monchegorsk
- 90% reduction in sulphur dioxide emissions from Kola MMC in 2021 (vs 2015)
- Construction of a new copper refining line based on modern environmentally-friendly technology
- Production flows redirected to the Norilsk Division, with an option of partial sales to third parties

NORILSK DIVISION

NADEZHDA METALLURGICAL PLANT
Norilsk
COPPER PLANT
NICKEL PLANT
Shut down in 2016

NADEZHDA METALLURGICAL PLANT:

FLAGSHIP PROJECT

Construction of furnace gas recovery facilities, a sulphuric acid neutralisation line and associated infrastructure:

- All key contracts signed
- Piling, steel works and gypsum storage dam raising are in progress
- The project provides for gas recovery following an expansion of the smelting shop's capacity (construction of the 3rd furnace)

COPPER PLANT

The project aims to recover 99%–99.5% of SO_2 (in line with global best practice) and implies the construction of a continuous converting complex and an acid neutralisation line:

- Phase 1: gas cleaning unit retrofit – in progress
- Phase 2: basic engineering / design completed
- FID taken in June 2021, construction to commence in 2022

2021	In progress 2023	In progress 2025	Strategic aspiration 2030+
Shutdown of an obsolete copper refining line on the Kola Peninsula	Launch of the Sulphur Project 2.0 at Nadezhda Plant to recover furnace gases	Launch of the Sulphur Project 2.0 at Copper Plant to recover furnace and converter gases	Recovery of low-sulphur gases (including converter gases) at Nadezhda Plant
Metallurgical shop shut down on 20 March 2021.			

Reduction in total SO_2 emissions at the Kola and Norilsk Divisions[1]

1 From a 2015 baseline.

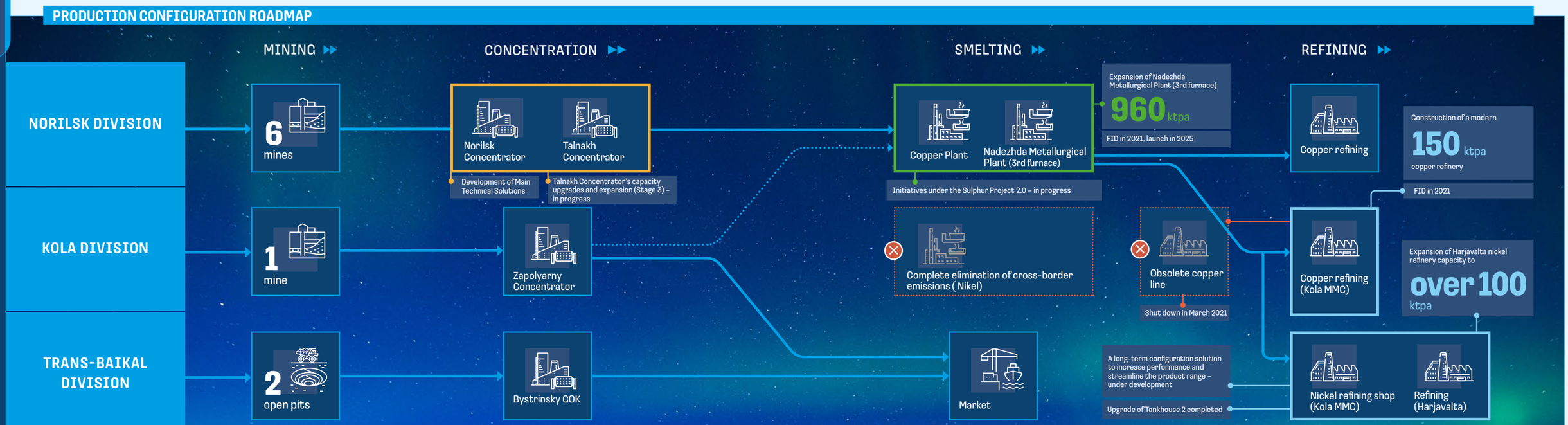
2021	2023	2025	2030+
–90% (10x)	–45% (2x)	–90% (10x)	–95% (20x+)

COMPREHENSIVE SOLUTION TO A LEGACY PROBLEM OF SULPHUR DIOXIDE EMISSIONS

Investment
USD
4.1–4.3
bn

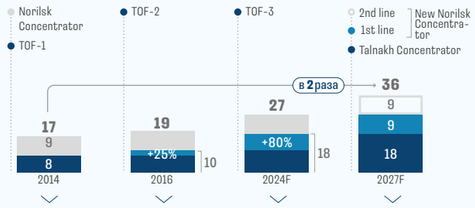
Production growth and comprehensive infrastructure upgrades

PRODUCTION CONFIGURATION ROADMAP



CONCENTRATOR CAPACITY UPGRADES

Concentration capacity (Mtpa)



Talnakh Concentrator upgrades

Phase 1:

Increased and optimised operating rate

Improved nickel recovery rate (+1%)

Upgraded facilities

Phase 2:

Capacity increased to 10.2 Mtpa

New technology adopted

Phase 3:

Under construction

Target capacity: 18 Mtpa

Improved recovery rate (+4%–7%)

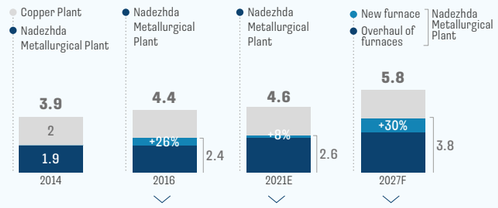
New Norilsk Concentrator

Targeted capacity addition: up to 18 Mtpa

New production facility based on proven modern technology

SMELTING CAPACITY UPGRADES

Smelting facilities throughput (Mtpa)



Nadezhda Metallurgical Plant

Phase 1

Upgrade of flash smelting furnaces to expand throughput to 2.4 Mtpa

Smelting, concentrate drying and filtering facilities upgraded

Phase 2

Debottlenecking initiatives

Throughput increased to 2.6 Mtpa

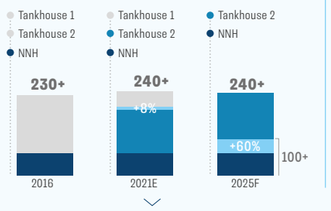
Maintenance of flash smelting furnaces at Nadezhda Metallurgical Plant in 2022–2024

3rd furnace at Nadezhda Metallurgical Plant

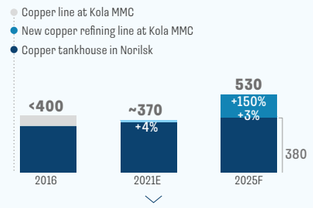
Continuous converting complex at Copper Plant

REFINING CAPACITY UPGRADES AND EXPANSION

Nickel refining (ktpa)



Copper refining (ktpa)



Kola Division

Tankhouse 2: Technological upgrade and capacity expansion

Harjavalta (NNH) capacity expansion to 100+ ktpa of high-quality nickel products

Kola Division

Obsolete copper line in Monchegorsk shut down (March 2021)

Construction of a new 150 ktpa copper refining line using the roasting, leaching and electrowinning technology

Norilsk Division

Incremental capacity expansion of the copper tankhouse in Norilsk

HARJAVALTA NICKEL REFINERY: EXPANSION

Project overview

- Capacity expansion to boost the output of high-quality nickel products
- Capturing operational synergies from existing infrastructures

Project rationale

The decision to increase capacity is driven by a growing European market demand for the Company's high-quality battery materials with the industry's lowest carbon footprint

Project timeline

2023: Phase 1

75 kt Ni[1]

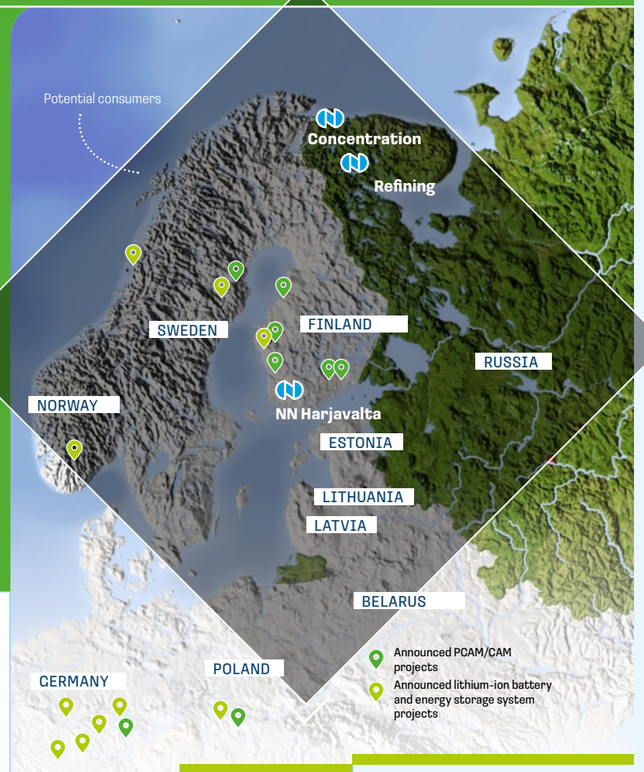
2026: Phase 2

>100 kt Ni[1]

1 Total capacity

BATTERY MATERIALS VALUE CHAIN

THE IMPLEMENTATION OF A NEW HIGH-POTENTIAL STRATEGIC PROJECT WILL DRIVE THE COMPANY'S INTEGRATION INTO EUROPE'S BOOMING BATTERY SECTOR



NORNICKEL'S PLANS:

Boost nickel product output to serve the emerging ecosystem of battery materials production in Finland

Consider different requirements of potential customers with a view to establishing a foothold in the European battery materials market

Expand Nornickel's capabilities through research and partnerships to promote integrated solutions for the future battery supply chain

Conventional products

- Nickel sulphate
- Briquettes
- Nickel powder
- Carbonyl powder
- Cut cathodes
- Cobalt products

High-quality product offering for the battery sector

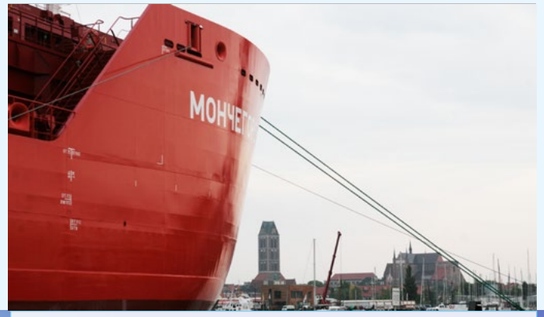
Customised offering tailored to the needs of prospective battery materials producers

Further integration into the value chain

Precursors and cathode materials

Black mass production and processing

COMPREHENSIVE INFRASTRUCTURE UPGRADES



ENERGY

Expanded and accelerated energy infrastructure upgrades

Programme expansion objective:

Accelerated replacement of obsolete equipment and increased long-term reliability to ensure uninterrupted power supply to the Norilsk Industrial District, taking into account the long-term production growth programme

Contribution to decarbonisation and energy efficiency

Reinforced emphasis on higher capacity of the new generating units at CHPPs and HPPs and comprehensive energy loss reduction throughout the electricity value chain

GAS PRODUCTION AND TRANSPORTATION

- Construction of a new 70+ km gas and gas condensate pipeline (Pelyatkinskoye gas condensate field – Messoyakhskoye gas field)
- Upgrade of 150+ km of gas and gas condensate pipelines
- Construction and commissioning of new wells at the Pelyatkinskoye gas condensate field

HEAT AND WATER SUPPLY NETWORKS

- Accelerated replacement of 110-kV and 220-kV power lines (over 1,000 km)
- Upgrades of heat and water supply networks

COMBINED HEAT AND POWER PLANTS

- Replacement of generating units at CHPP-1, CHPP-2 and CHPP-3
- Construction of two new units at CHPP-3

HYDROPOWER PLANTS

- Upgrade of all seven hydraulic turbines at Ust-Khantayskaya HPP was completed. CO_2 savings exceeded 300 Ktpa
- The upgrade of Kureyskaya HPP is scheduled for 2023–2030, targeting capacity expansion and efficiency improvement resulting in CO_2 emission reduction

LOGISTICS

Logistics Infrastructure Development Programme

Programme rationale

- Growing shipments of construction equipment and raw materials as the investment programme is entering its active phase
- Accelerated pace of production equipment modernisation
- Expansion of Northern Sea Route operations and increased freight volumes for major investment projects in the Russian Arctic

Major projects

- A 50% throughput increase at Dudinka port (the Gateway to Taimyr)
- Construction of a new LNC dual-fuel icebreaker – innovative environmentally friendly and more efficient vessel type for the Russian Arctic
- All harbour cranes at Dudinka port to be upgraded by 2027

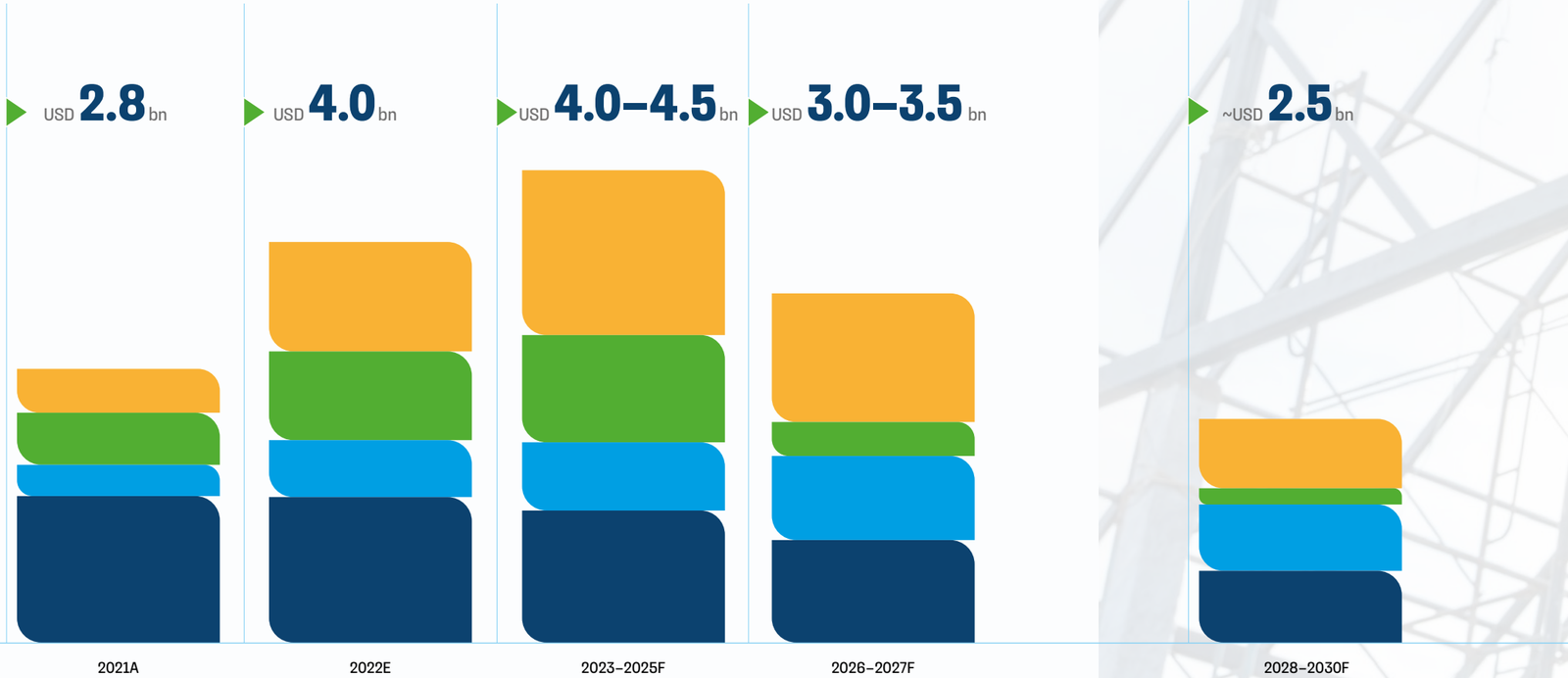
Investment
USD 8 bn

Expanded investment cycle

CAPEX

(USD BN)

- GROWTH PROJECTS
- ENERGY INFRASTRUCTURE UPGRADES
- ENVIRONMENTAL PROGRAMME
- BASE INVESTMENT PROGRAMME



CONSTRUCTION COST INFLATION FOR ONGOING INVESTMENT PROJECTS

ACCELERATION AND EXPANSION OF INFRASTRUCTURE UPGRADES: ENERGY AND LOGISTICS

COMPREHENSIVE UPGRADES OF PRODUCTION ASSETS, ENVIRONMENTAL PROGRAMME EXPANSION

DEVELOPING CAPABILITIES TO DELIVER THE LONG-TERM CAPITAL CONSTRUCTION INVESTMENT PROGRAMME

CONTRACTORS

- Doubling of the number of contractors in Norilsk
- 2020–2021: mobilisation started by several major construction companies
- Independent construction supervision services rolled out at several key projects

INFRASTRUCTURE

- Logistics debottlenecking programme under way, targeting a 1.5x throughput increase
- 300+ pieces of new construction equipment to be purchased in 2022
- 2022–2023: expansion of contractor housing facilities / accommodation in rotation camps to over 11,000 beds (+3,000 beds)

INTERNAL CAPABILITIES

- Development of in-house design resources (Cipronickel Institute: more than 1,000 experts in engineering and design)
- Improvement of project design and management tools (3D/BIM, value/cost engineering)
- Establishment of a dedicated organisation, NN Development (responsible for implementing major growth projects)
- Headcount of PMOs and support and control functions to exceed 2,900 employees in 2022–2023 (vs 1,235 in 2019)

KEY STRATEGIC PROJECTS

South Cluster

Location: Norilsk Division, Norilsk industrial District, Krasnoyarsk Region

Project description: in 2017, the South Cluster was spun off as a separate legal entity Medvezhy Ruchey, a wholly-owned subsidiary of the Norilsk Division. The South Cluster includes the Norilsk-1 deposit with disseminated ore reserves of over 140 mln t, Zapolyarny Mine (open-pit and underground mining), Norilsk Concentrator, and two tailings storage facilities: No. 1 and Lebyazhye.

THE PROJECT AIMS TO RAMP UP ANNUAL ORE PRODUCTION TO 9 MTPA BY 2027 BY EXPANDING THE PIT AT THE FIRST STAGE AND BY UNDERGROUND MINING AT THE SECOND STAGE. INVESTMENTS TOTALLED USD 304 MILLION (RUB 22.3 BILLION) IN 2021.

PROJECT IMPLEMENTATION STAGES

2021
- Development striping completed
- Positive opinion of the Main Department of State Expertise (GCE) secured
- Tendering for the construction of major facilities completed
- Contracts for the construction of major facilities signed

2022–2023
- Plans to complete the construction of the open pit (Stages 2 and 3) and the underground mine (Stage 2)

Ore production schedule

Period	2022	2023	2024
Ore output, mln t	2–3	3–4	5–6

2027 mining targets

- Ore output: **9 mln t**
- PGMs: **750–850 koz**
- Ni: **over 13 kt**
- Cu: **over 20 kt**

Bystrinsky GOK

The Company owns 50.01% in CRK Bystrinskoye (Bystrinsky GOK).

Location: Cazimuro-Zavodsky District, Zabaykalsky Region

Project overview: Bystrinsky GOK is Nornickel's greenfield project, which includes an open pit mine at the Bystrinskoye deposit, a mining and processing plant (GOK) with all associated infrastructure including a power line and the 227-km Borzya–Cazimursky Zavod railway line (Nornickel 25%, the government 75%), as well as a rotation camp. Bystrinsky GOK came online in 2019 and ramped up to design capacity in 2020. The project's EBITDA for 2021 was USD 1,076 million (2020: USD 717 million).

Operational highlights

Item	2021	2022П
Ore processing, mln t	10.5	10.5
Copper in concentrate, kt	67.8	64-68
Gold in concentrate, koz	258	225–245

Proven and probable ore reserves:
281 mln t, with
copper content **~0.6%**,
iron in magnetite ore **~14.9%**,
gold **~0.63 g/t**.

Concentrator capacity upgrades

TOF-3 PROJECT

Location: Talnakh Concentrator, Norilsk Division, Norilsk industrial District, Krasnoyarsk Region

Project overview: upgrade of Talnakh Concentrator (TOF) includes three stages:

- TOF-1 (completed in 2015): equipment upgrade, resulting in a 1% increase in nickel recovery
- TOF-2 (completed in 2018): new mills installed; the concentrator capacity increased to 10.2 Mtpa; the first stage of the tailings storage facility launched
- TOF-3 (under construction; scheduled for completion in 2023; ramp-up to design capacity by 2024): plans to increase capacity to 18 Mtpa (with a 4%–7% increase in recovery), build the second stage of the tailings storage facility, increase the capacity of ore products storage to 190 million m3. Investments into TOF-3 will total RUB 74.8 billion (more than USD 1 billion). In 2021, RUB 12.3 billion (USD 167 million) were spent, including investment in the construction of the tailing dump's 2nd Stage

MAIN STAGES OF THE TOF-3 PROJECT

2021:
- A construction and installation contract with a general contractor and an equipment supply contract concluded

2022:
- Planned completion of the detailed design phase
- Conveyor equipment delivery

2023-2024:
- Planned delivery and installation of equipment
- Completion of construction and installation, startup and commissioning

NOF PROJECT

Location: Norilsk Concentrator, Norilsk Division, Norilsk Industrial District, Krasnoyarsk Region

Project overview: construction of a new concentrator to process disseminated ores with a throughput capacity of up to 18 Mtpa of ore to replace the existing Norilsk Concentrator. The new concentrator will meet all industrial safety requirements while ensuring uninterrupted operations. The construction is planned to be carried out in two stages and completed in 2026–2027:

- Stage 1: startup of the first section with a capacity of 9 Mtpa of ore
- Stage 2: startup of the second section for the co-processing of disseminated ores from Talnakh and ores from the South Cluster and Maslovskoye deposit, with a total capacity of 9 Mtpa of ore

MAIN STAGES OF THE PROJECT

2021:
- Engineering surveys completed

2022–2023:
- Planned development of Main Technical Solutions and design documents
- Construction of a dormitory
- Procurement of equipment

Smelting capacity upgrades

Location: Nadezhda Metallurgical Plant, Norilsk Division, Norilsk Industrial District, Krasnoyarsk Region

Project overview: upgrade of smelting facilities at Nadezhda Metallurgical Plant to boost output and have spare capacity.

Nadezhda Metallurgical Plant facilities will be upgraded in three stages:

- Stage 1 (completed in 2016): flash smelting furnaces upgraded to boost output to 2.4 Mtpa
- Stage 2 (completed in 2021): output increased to 2.6 Mtpa
- Stage 3 (under construction, scheduled for completion by 2025) includes the construction of a third furnace with a capacity of 960 ktpa, to be integrated into the Sulphur Project 2.0 The Sulphur Project 2.0 includes gas capture, sulphur dioxide recovery and sulphuric acid production for subsequent neutralisation with limestone
- Investments into the furnace project will total RUB 105.5 billion (about USD 1.4 billion), including RUB 1.8 billion (USD 24 million) in 2021.

PROJECT IMPLEMENTATION STAGES

2021:
- Engineering and cost-estimate documentation completed
- Positive opinion of state environmental review secured
- Manufacturers of core equipment selected

2022–2025:
- Plans to obtain a positive opinion of the Main Department of State Expertise
- Obtaining a construction permit
- Contractor selection and construction and installation phases
- Detailed design
- Equipment and material delivery

Refining capacity upgrades

Location: Kola Division, Monchegorsk, Murmansk Region

Project overview: a project to build a new copper refining facility including a new roasting, leaching and electrowinning line with a capacity of 150 ktpa of copper. Startup is scheduled for 2025, with investments in the project totalling about RUB 107 billion (USD 1.4 billion), including RUB 1.1 billion (USD 15 million) in 2021.

PROJECT IMPLEMENTATION STAGES

2021:
- EP contracts for engineering, equipment supply and on-site services concluded
- Contracts for engineering surveys and dismantling concluded

2022:
- Plans to conclude C contracts for construction and installation
- Execution of EP contracts

Sulphur Project in the Norilsk Division

Location: Norilsk Division, Norilsk industrial District, Krasnoyarsk Region

Project overview: The Sulphur Project 2.0 in the Norilsk Division is the largest environmental project in Russia aimed at gradual reduction of sulphur dioxide emissions in the Norilsk Industrial District by 90% from a 2015 baseline. Investments in the project will total about USD 4.1–4.3 billion between 2019 and 2025. A total of RUB 39 billion (USD 526 million) were invested in the project in 2021. The project is implemented in stages at the Company's two core downstream facilities.

RUB 39 bn were invested in the project in 2021.

NADEZHDA METALLURGICAL PLANT

The project includes the construction of furnace gas recovery facilities, a sulphuric acid neutralisation line, and associated infrastructure, including a gypsum storage facility. The project provides for the recovery of gases from smelting operations, covering the smelting expansion (the third smelting complex project). The expected impact includes a reduction of total SO2 emissions from the Norilsk Division facilities by 45% in 2023 from a 2015 baseline. Total investment is RUB 98.8 billion, including RUB 32.2 billion (USD 438 million) in 2021.

RUB 32.2 bn were invested in the project in 2021.

PROJECT IMPLEMENTATION STAGES

2021:
- Construction and installation contracts concluded
- Four general contractors engaged, almost 2 thousand employees and over 232 items of machinery mobilised
- Core equipment contracted and is in the process of delivery
- Foundations laid, steel structures erected, building walls constructed, and gypsum storage dam built
- Transport corridor provided for the transportation of structures and equipment
- Installation of core equipment (ball mills, sulphuric acid tanks, wet electrostatic precipitators, cooling towers, mixing towers, and pipelines) commenced

2022:
- Plans for the startup and commissioning of the first stage

COPPER PLANT

The Sulphur Project 2.0 at Copper Plant includes several key projects.

Construction of a continuous converting complex and an acid neutralisation line. The expected impact includes a reduction of total SO2 emissions from the Norilsk Division facilities by 90% in 2025 from a 2015 baseline. Investment in the project will total RUB 53.7 billion, including RUB 0.96 billion (USD 13 million) in 2021.

Upgrades of existing and construction of new facilities at Copper Plant to recover SO2 from metallurgical furnace off-gases and produce sulphuric acid, with recovery in excess of 99.5%. In 2021, Main Technical Solutions were developed, engineering surveys completed, a construction contractor selected, an EP contract to supply core equipment and develop design documents signed, and the selection process for a construction contractor is underway. Investment in the project will total RUB 73 billion, including RUB 3.4 billion (USD 47 million) in 2021.

RUB 3.4 bn were invested in the project in 2021.

A KEY INITIATIVE WITHIN THE SULPHUR PROJECT 2.0 IS TO LAUNCH THE NEUTRALISATION OF SULPHURIC ACID PRODUCED AT COPPER PLANT AND STORING 4 MTPA OF THE RESULTING GYPSUM IN A GYPSUM STORAGE FACILITY.

To accomplish this, survey and engineering activities began in 2021, the Main Technical Solutions were developed, and public consultations were held. Investment in the project will total RUB 51 billion, including RUB 193 million (USD 3 million) in 2021.

Sulphur Project in the Kola Division

Location: Kola Division, Murmansk Region

Project overview: The Sulphur Project 2.0 in the Kola Division was completed in 2021. The copper refining facility in Monchegorsk was shut down in March 2021 and smelting shop in Nickel town was shut down in December 2020, reducing sulphur dioxide emissions from Kola MMC by 78% in 2021 compared to 2020 and 90% in 2021 compared to a 2015 baseline.

Reducing SO_2 emissions from Kola MMC

by 78% y-o-y

by 90% 2021 vs 2015

Energy infrastructure upgrades

RUB 23.2 billion

(USD 316 million) were invested in 2021.

Nornickel operates its own energy assets, which comprise four natural gas fields, three combined heat and power (CHP) plants (CHPP-1, CHPP-2, and CHPP-3), two hydropower plants (Ust-Khantayskaya HPP and Kureyskaya HPP), as well as gas pipelines and power lines. Electricity is generated from renewable (hydropower) and non-renewable (natural gas) sources.

Location: Norilsk Industrial District, Krasnoyarsk Region

Project description: investment in energy infrastructure to replace obsolete HPP turbines and CHPP units, and retrofit key elements of the gas transmission system and power lines. These initiatives will markedly extend the service life of our key infrastructure facilities, enhance the reliability of our energy and gas supply, increase the amount of renewable energy generated and provide for lower energy losses. Investments in energy assets planned for 2021–2030 will exceed RUB 600 billion (more than USD 8 billion). RUB 23.2 billion (USD 316 million) were invested in 2021.

COMBINED HEAT AND POWER PLANTS

- Replacement of generating units at CHPP-1, CHPP-2, and CHPP-3 (2022–2029)
- Construction of two new units at CHPP-3 (scheduled for completion at the end of 2025)

HYDROPOWER PLANTS

- Upgrade of all seven hydropower units at the Ust-Khantayskaya HPP (completed in 2021)
- Upgrade of the Kureyskaya HPP to expand installed capacity, improve efficiency, and reduce emissions from CHP plants by increasing the share of hydropower generation (2023–2030)

GAS PRODUCTION AND TRANSPORTATION

- Construction of 70+ km of a new pipeline along the Pelyatkinskoye gas condensate field – Messoyakhskoye gas field route (scheduled for completion at the end of 2025)
- Upgrade of 150+ km of gas and gas-condensate pipelines (scheduled for completion at the end of 2028)
- Construction and commissioning of new wells at the Pelyatkinskoye gas condensate field (starting in 2025)

UTILITIES

- Accelerated replacement of 110-kV and 220-kV power lines (over 1,000 km)
- Upgrades of heating and water supply networks

COMMODITY MARKETS

No. 1 globally in palladium production

No. 1 globally in high-grade nickel production

No. 4 globally in platinum production

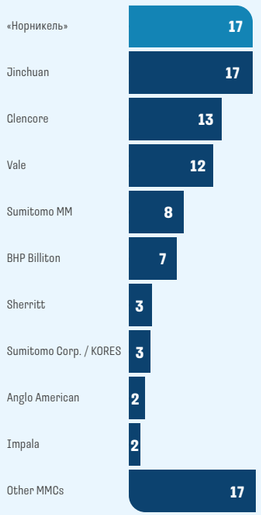
No. 5 globally in rhodium production

No. 12 globally in copper mine production

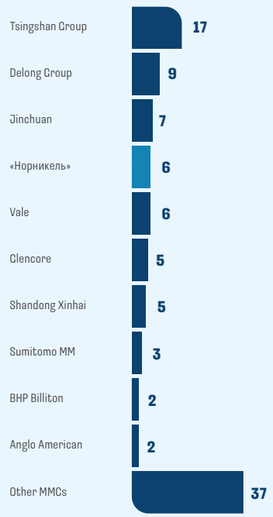
Nornickel retains leadership in the global industry.

NICKEL (Ni)

No. 1 in high-grade nickel production (%)



No. 4 in primary nickel production (%)

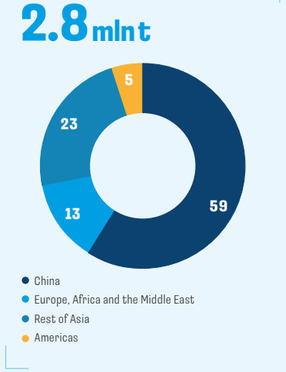


Sources: producer reports, Company analysis as of 5 March 2022.

Key trends in the nickel market

In 2021, the nickel market moved into a deficit of 159 kt, or 6% of annual consumption (compared to a surplus of 89 kt in 2020). This was due to a strong recovery in stainless steel smelting and a high demand from the battery sector amid slow ramp-up in Indonesia's nickel pig iron (NPI) production and lower output of nickel metal due to production constraints.

Primary nickel consumption by region (%)



Source: Company data

Early in 2021, the nickel price was growing steadily, hitting a seven-year high of USD 20,000/t at the end of February. The growth came on the back of market optimism about the pace of global economic recovery, the dollar weakening as the new Biden administration announced a USD 1.9 trillion stimulus package, as well as industrial incidents in Norilsk, affecting the metal supply on the market.

In early March, China's Tsingshan announced plans to convert low grade nickel (NPI) into nickel matte for subsequent battery production, resulting in a price drop of more than 20% to USD 16,000/t. In April, the nickel price was consolidating between USD 16,000/t and USD 16,500/t, but grew to USD 18,000/t in May on the back of non-ferrous metal rally.

In early June, the nickel price stood at USD 18,000/t, but news that Russia was going to impose temporary duties on base metals exports and Indonesia was considering restrictions on the construction of new NPI and ferronickel plants caused the London Metal Exchange (LME) nickel price to reach a five-month high of USD 20,000/t at the end of July.

In August, increased price volatility was caused by concerns over the spread of the COVID Delta variant potentially hitting global economic recovery. A month later, despite pessimistic comments from the US Federal Reserve, the nickel price surged to a new seven-year high of USD 20,400/t on 10 September, as strong market fundamentals and falling LME stocks increased speculative demand. However, the Evergrande's debt crisis and widespread power outages in China eventually sent the price to below USD 18,000/t in early October – the lowest level since June.

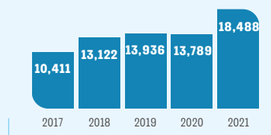
The LME Week demonstrated market optimism and triggered a price rally amid bullish sentiments among traders and concerns over nickel supply due to a number of reasons from Vale's reduced production guidance to suspension of Onça Puma's ferronickel production in Brazil to unfavourable weather in the Philippines affecting nickel ore mining volumes in Q4. The price increase was also due to fundamental factors: the nickel market deficit, dwindling LME stocks, high market premiums on all forms and in various markets, opening of the arbitrage between the Shanghai Futures Exchange (SHFE) and LME, and significant backwardation. As a result, the LME nickel price topped USD 21,000/t at the end of November, hovering around this level for the remainder of the year despite significant volatility.

The LME nickel price averaged USD 18,488/t in 2021, up 34% from the 2020 average of USD 13,789/t.

The LME nickel price averaged in 2021

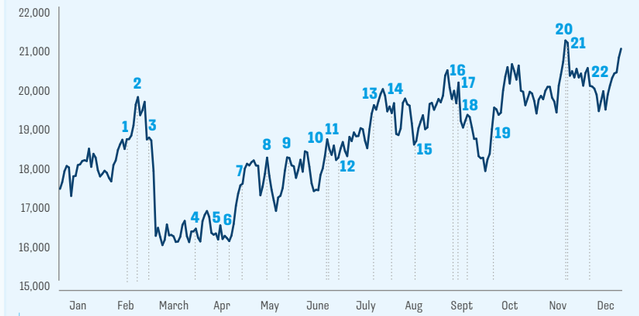
18,488 USD/t

Average annual nickel prices (USD/t)



Source: London Metal Exchange (cash settlement)

LME nickel price in 2021 (USD/t)



Source: London Metal Exchange

1. Industrial incidents in Norilsk
2. Nickel price hits a seven-year high
3. Tsinghan announces plans to supply nickel matte to Chinese battery material makers
4. Ambatovy resumes production following a 12-month closure
5. The Philippines lifts moratorium on new mines
6. LME non-ferrous metals prices surge amid record-high copper and iron ore prices
7. Start of LME inventories' drawdown
8. Startup of the first high-pressure acid leaching (HPAL) project in Indonesia
9. Strike starts at Vale's Sudbury operation
10. Indonesian government announces plans to limit construction of NPI and ferronickel plants
11. Temporary taxes on base metals exports in Russia from 1 August
12. Opening of SHFE/LME arbitrage, available for most of the second half of the year
13. Indonesia bans entry of foreign workers, slowing down the construction of NPI plants
14. End of the strike at Vale's Sudbury operation
15. LME slips into persistent backwardation for the remainder of the year
16. Indonesia considers export tax on products with <70% Ni content
17. Debt crisis of the Chinese developer Evergrande
18. Start of the power crunch in China
19. Bullish market sentiment after the LME Week
20. New seven-year high on market tightness
21. Massive spread of the Omicron strain begins
22. Launch of the first project to convert NPI to nickel matte in Indonesia

Market Balance

Primary nickel consumption surged in 2021 by a record 17% y-o-y to 2.85 mln t. Falling stainless steel production in China (–1% y-o-y) caused by the energy crisis is offset by smelter production growth in Indonesia (+90%) and strong demand for battery-grade nickel (+73%) on the back of healthy sales of electric vehicles (EV). Other consumption segments (apart from stainless steel and batteries) grew by 9% on the back of economic recovery from the acute phase of the coronavirus pandemic and inventory restocking across the entire value added chain.

Primary nickel production totalled 2.69 mln t in 2021 (+7% y-o-y). Our production guidance was sharply revised down vs the start of 2021, as new Indonesian NPI capacity was slower to come on stream than initially expected amid the COVID-related constraints at Tsingshan's facilities and Delong's projects. This was accompanied by falling nickel metal production caused by a strike at Vale's Sudbury operation and incidents in Norilsk, as well as lower ferronickel production due to production curtailments at the Koniambo in New Caledonia and Doniambo projects and high energy prices impacting Kosovo's Ferronikeli.

As a result, the market plunged into a major deficit of 159 kt in 2021 amid a strong demand recovery and slow production growth. This led to a shortage of metal available for spot buying, which was reflected in dwindling exchange inventories, high market premiums for all forms of metal, opening of the arbitrage between SHFE and LME, and a significant backwardation of the forward curve..

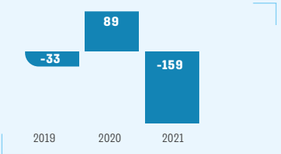
In 2021, total nickel inventories of LME and SHFE dropped by 60%, or 158 kt, to 107 kt at the year end. This major outflow of inventories was caused by a metal shortage as market participants rushed to buy metal from exchange warehouses amid a nickel market deficit. LME-approved warehouses in Malaysia, Singapore, and Taiwan saw the largest outflows in the second half of the year. Nickel briquette inventories decreased more than others, largely due to the fact the nickel briquettes can be dissolved to produce nickel sulphate used as a raw material to produce batteries for the EV sector.

Market premiums (markup on the metal price for buying a particular form in a particular location) for all forms of nickel soared by more than 50% in all regions amid high consumer demand and limited supply, and for some products by about 700%. Logistical issues (high freight costs, container shortages, difficulties in securing vessel space, major sea-routes disruptions) also put upward pressure on premiums. Major shortages of nickel briquettes as well as other small shapes (rondelles, shot, etc.) persist amid strong demand from the battery sector and restocking across the value chain.

Also in the second half of the year, the arbitrage between SHFE and LME (difference in contract value between the stock exchanges which allows buying an asset at one exchange for resale at the other) remained open for most of the period, indicating a consistently high demand for nickel in China and contributing to the reallocation of metal to the Chinese market.

In 2021, backwardation (a situation on the futures market where spot contract prices, i.e. contracts with immediate delivery, are higher than forward contract prices, i.e. contracts with delivery at a future date) put an extra pressure on the nickel market since mid-August, hitting USD 200/t and compounding the effects of steadily declining stocks and rising premiums. This trend reflects the persistent supply tightness and robust demand for spot metal.

Nickel production and consumption balance (kt)



Source: Company data

Primary nickel production totalled in 2021

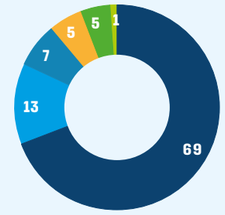
2.69 mln t

+7% y-o-y

IN 2021, BACKWARDATION PUT AN EXTRA PRESSURE ON THE NICKEL MARKET SINCE MID-AUGUST, HITTING USD 200/T AND COMPOUNDING THE EFFECTS OF STEADILY DECLINING STOCKS AND RISING PREMIUMS.

Consumption

Nickel consumption by industry in 2021 (kt)



Stainless steel	1,972
Batteries	369
Alloys and superalloys	198
Electroplating	148
Special steels	136
Other industries	28

Source: Company data

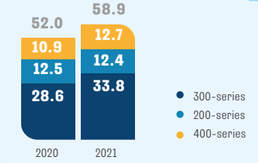
Stainless steel production continues to be the key driver of nickel consumption (about 70% of total consumption) in 2021. Adding nickel as an alloying element to stabilise the austenite structure enhances steel's corrosion resistance, high-temperature creep resistance, weldability, ductility, and resistance to aggressive environments.

The 300-series stainless steel is the most widespread grade (about 60% of global steel output) and offers a higher nickel content, mainly from 8% to 12%. Therefore, nickel consumption is primarily driven by the output of this particular grade. This non-magnetic steel series has high corrosion resistance, strength and flexibility, can be easily processed using different methods, which makes it the most versatile type of steel, driving its wide use in the construction, food, chemical, transport, energy, and other industries.

The 200-series steel features low nickel content (about 1%–2%, although it can be as low as 4% in some cases) due to manganese alloying. Compared to the 300-series steel, it is more susceptible to surface corrosion and does not have comparable high-temperature creep resistance and resilience, but its lower cost makes it widely used in the production of consumer goods, such as household appliances.

Ferritic and martensitic stainless steels (400-series) typically do not contain nickel. Their key properties include an increased content of chromium and low content of carbon, making it highly flexible and ductile. Its main applications include the automotive industry, in particular car exhaust systems, as well as the manufacture of cutlery, kitchenware, shipping container frames, interior architectural design elements, and razor blades.

Stainless steel production by eries (mln t)



Sources: Eurofer, ISSF, USGS, SMR, METI, TSIIA, Company data

Stainless steel production uses almost all types of nickel feed (except for some special products, such as nickel powder and compounds). Since the quality of nickel used has almost no effect on stainless steel quality, steelmakers primarily use cheaper low-grade nickel such as NPI, ferronickel, and nickel oxide. As a result, the share of high-grade nickel used in stainless steel production has decreased in recent years.

In 2021, global stainless steel output grew 13% to 59 mln t amid a strong post-pandemic recovery in demand, while the output of 300-series nickel-intensive steel increased by 18% to 34 mln t. The highest steel production growth rates were seen in Indonesia (up 86% y-o-y), Japan (18%), North America (16%), and Europe (14%), while Indonesia and China were the leaders for production growth in absolute terms (2 mln t each).

About 60% of the total stainless steel output is concentrated in China. In 1H 2021, China's stainless steel production increased significantly by 25% y-o-y, driven by the economic stimulus programme launched by the Chinese government in 2020 in an attempt to help the country's business activity recover after the acute phase of the COVID-19 pandemic. However, in 2H 2021, China's stainless steel production slowed down due to power shortages caused by both coal deficit and power outages organised to meet the CO2 emissions target, as well as by lower supplies of ferrochromium from South Africa due to logistical constraints. As a result, in the second half of the year, stainless steel output fell by 9% y-o-y, while total steel production in 2021 only rose by 7%. Despite the higher steel output, primary nickel consumption in China's stainless steel sector dropped 1% to 1.2 mln t amid the increased use of recyclables.

In 2021, stainless steel output in Indonesia almost doubled to 5 mln t driven by the commissioning of new facilities by China's Tsingshan and Delong, which are already integrated with their NPI operations, resulting in significantly lower production costs. China is the largest importer of Indonesian stainless steel.

In 2021, stainless steel production in Europe grew by 14% to 7 mln t. The recovery that started in 2H 2020, following the pandemic-related disruptions in stainless steel supply and demand, accelerated in 2021 as market participants continued restocking amid the recovery in business activity. Lead times at European mills were increased, and order books are extending now up into Q3 2022 in some cases. This recovery in demand, coupled with low inventories, import restrictions under protectionist trade policies, and the rising cost of raw materials, logistics and energy, has led to a twofold surge in stainless steel prices in Europe. In this market context, major European manufacturers showed record financial performance in 2021.

Just like in Europe, the stainless steel industry in the United States has seen a strong rebound starting in Q4 2020, supported by increased end use demand from the industrial machinery, appliances, construction, and automotive industries, driving stainless steel output up by 15% to 2.5 mln t.

Supported by the global growth of stainless steel output, primary nickel consumption in this sector increased by 12%, or 218 kt, in 2021. This growth was partially offset by a stronger NPI output (up 17% or 186 kt), while the production of other low-grade nickel (ferronickel, nickel oxide, and utility nickel) decreased by 17 kt in total. As a result, consumption of high-grade nickel in stainless steel production, sluggish in recent years, grew by 23% to 263 kt driven by the shortage of low-grade nickel units due to slower than expected commissioning of new NPI production capacities in Indonesia. Nevertheless, NPI supply is expected to grow in the coming years, putting further significant pressure on high-grade nickel consumption by the stainless steel sector.

The battery industry uses nickel as a key element in the production of cathode precursors for batteries. In 2021, nickel consumption in this sector increased by 73% to 369 kt. Lithium-ion batteries (Li-ion) are the key type of batteries because of their high energy storage capacity and long life cycle.

Growth in lithium-ion battery production is primarily driven by road transport electrification. In 2021, sales of electric vehicles (plug-in HEVs and battery electric vehicles) more than doubled to 6.5 million units, growing at a CAGR of over 50% between 2015 and 2021. The impetus for transport electrification comes from government incentives, more stringent environmental regulations, improved battery performance, and lower production costs of battery cells.

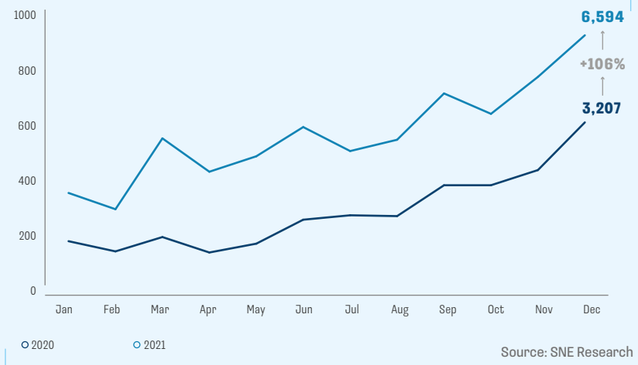
The global electrification race continues to gather pace as an increasing number of battery-related investments have been announced in the last year in China, Europe and North America. Global car manufacturers have also set targets for EV sales by 2030 and have earmarked a total of over USD 500 billion so far to invest in EV production.

In recent years, China has been one of the most important growth hubs for EV manufacturing. Electric vehicle sales grew 2.5 times in 2021 to 3.5 million units even despite the planned reduction in subsidies. China aims to increase EV sales to 20% of total vehicle sales by 2025 and to 50% by 2035. Initiatives to stimulate transport electrification, including mandatory requirements for large carmakers to manufacture electric vehicles, will also work towards these targets.

In Europe, the drive for building a local supply chain continues to be propelled by public policy and legislation. In July 2021, the EC unveiled its Fit for 55 climate package containing legislative initiatives for achieving the goals of the Green Deal, among which there is a provision that all new cars registered as of 2035 should be zero-emission. In addition, member states will be required to install charging and hydrogen refuelling points at regular intervals on major highways (every 60 km for electric charging and every 150 km for hydrogen refuelling).

In anticipation of stronger demand, the EU is building a battery production chain, with the announced total capacity of key manufacturers (Tesla, Volkswagen, Northvolt, LG Energy Solution, FREYR, Samsung SDI, etc.) estimated at about 1 TWh by 2030, which is equivalent to the annual consumption of over 800 kt of nickel.

Global sales of electric vehicles in 2021



Source: SNE Research

The pace of electrification initiatives has recently accelerated in North America, too. On the policy side, in August 2021, President Biden signed an executive order, which sets a target for half of all cars sold in the country to be zero-emission vehicles by 2030. This paradigm shift to an electric future is also underlined by the Bipartisan Infrastructure Deal, which will provide funding of USD 7.5 billion for building a nationwide EV charging network and USD 3 billion as a grant programme to support the development of the North American battery industry.

Amid this "green tidal wave", some American carmakers have started partnering with the battery cell makers to build gigafactories meeting their future requirements. These collaborations include GM and LG Energy Solution, Ford and SK Innovation, Stellantis and LG Energy Solution, Stellantis and Samsung SDI. While a year ago, there were only eight existing and announced plants in North America with Tesla leading the way, today, there are around 20 new and expansion projects in the US and Canada with the expected total capacity of over 750 GWh by 2030.

Considering the significant influx of the end of life batteries in the next decade as well as massive demand for raw materials by the gigafactories, battery recycling is becoming a key legislative priority in the West. The EU is currently adopting a new Battery Regulation to create a legal framework for a circular economy in batteries and make certain recycled contents (for Ni, 4% as of 2030 and 12% as of 2035) mandatory for battery producers, inter alia. At the same time, the US Bipartisan Infrastructure Deal authorises a USD 3 billion grant programme for the development of the domestic and North American battery manufacturing and recycling facilities. Increasingly, battery recyclers and carmakers seek to cooperate to form closed loop systems.

Currently, there are several key types of lithium-ion batteries available depending on the cathode materials used: LCO (lithium, cobalt oxide), LFP (lithium, iron, phosphate), NCM (nickel, cobalt, manganese), and NCA (nickel, cobalt, aluminium).

LCO batteries are principally confined to mobile electronics. The small size of the market, high cobalt prices and low energy density of LCO batteries prevent them from being used in EVs, but other types of batteries are widely used in the sector.

LFP batteries are a cheaper alternative to nickel-containing NCMs and NCAs. Therefore, LFP batteries cost 10%–20% less on average than NCM 5:3:2. Tesla has recently announced that it is shifting to cheaper LFP batteries globally, reaffirming its last year's strategic move to resort to the use of cheap components only to deliver the lower-cost models. Mercedes has also claimed to switch to less powerful LFP batteries for its electric models in the lower price segment from 2024.

However, LFP batteries suffer from a number of serious drawbacks, such as lower energy density, longer charging time, higher self-discharging rate, poor performance in low temperatures, and limited recyclability. They significantly limit the potential for the LFP batteries' deployment in the long-range, high-tier EVs, which have to use the more advanced nickel-intensive NCM 8:1:1 and NCA chemistries.

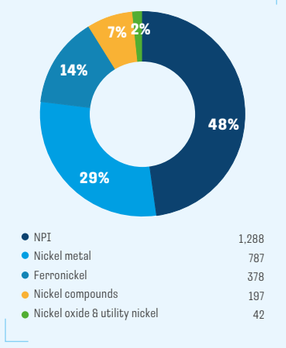
The dominating technologies include nickel-containing NCM and NCA batteries, owing to their higher specific energy and energy density, which increases drive range. Growing nickel consumption in batteries is driven by a higher average nickel content in the cathode material caused by the need to replace expensive cobalt units and increase energy density. In comparison to 2015, when NCM 1:1:1 (with a nickel mass fraction of 20% of the total cathode mass, which is equivalent to about 25 kg of nickel per battery electric vehicle on average) accounted for the lion's share of compounds in cathode materials, 2021 saw nickel-intensive compounds – NCM 5:2:3, NCM 6:2:2 and NCM 8:1:1 (with a nickel share exceeding 50%, about 50 kg per EV) – take the lead. Going forward, conversion to NCMA (nickel, cobalt, manganese, and aluminium) and NCM 9:0.5:0.5 with a higher content of nickel is expected.

The growing popularity of electric and hybrid cars, along with the evolution of cathode technology towards nickel-intensive types add to the tailwinds for significant growth in primary nickel consumption by the industry in the longer run. In our base case scenario, we estimate the nickel consumption in batteries to reach 1.5 mln t of nickel by 2030, or 30% of total primary nickel demand (compared to 13% in 2021), which may require further revisions given the continuous introduction of more ambitious carbon neutrality goals, subsidies-driven electrification, and cost optimisation of battery cell production.

In 2021, nickel consumption in other industries (alloys, electroplating, special steels) increased by 9% or 41 kt amid the gradual recovery of business activity after the acute phase of the COVID-19 pandemic with steady strong demand from end users in the automotive, transport engineering, construction, and oil & gas industries.

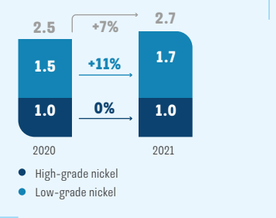
Production

Primary nickel production by industry in 2021 (kt)



Source: Company data

Primary nickel production (mln t)



Source: Company data

Global primary nickel production can be roughly divided into high-grade and low-grade nickel production.

High-grade nickel is produced in the form of nickel cathodes, briquettes, carbonyl shot and powder, rondelles, as well as chemical compounds, both from sulphide and from more common and available lateritic raw materials. 2021's main producers of high-grade nickel were Nornickel, Jinchuan, Clencore, Vale, Sumitomo Metal Mining, and BHP.

Low-grade nickel includes NPI, ferronickel, nickel oxide, and utility nickel, which are produced from lateritic raw materials only. In 2021, the key producers of low-grade nickel were Chinese and Indonesian NPI smelters, as well as the largest ferronickel producers: POSCO, Anglo American, Eramet, South32, Solway, etc.

In 2021, many producers were affected by production restrictions due to the coronavirus pandemic. Nonetheless, primary nickel production in 2021 grew by 167 kt, or 7%, y-o-y to 2.69 mln t, led by higher NPI output in Indonesia. This was accompanied by falling nickel metal production caused by a strike at Vale's Sudbury operation and temporary suspension of production in Norilsk as well as lower ferronickel output at the Koniambo and Doniambo projects in New Caledonia due to production curtailments and high energy prices impacting Kosovo's Ferronikeli.

Production of high-grade nickel decreased marginally by 2 kt to 984 kt in 2021.

Production of nickel metal slipped 6% y-o-y to 787 kt in 2021. Operational issues, labour strikes, and the coronavirus pandemic prevented producers from increasing output to pre-pandemic levels. For example, Vale's production in Canada suffered from a strike at its Sudbury operation. Nornickel's production was affected by temporary suspension of production at the Norilsk Concentrator and flooding of the Oktyabrsky and Taimyrsky Mines, while Clencore reduced production at the Murrin Murrin site in Australia due to prolonged repairs. BHP's nickel production was impacted by scheduled maintenance at its smelting shop, refinery, and concentrators. BHP's nickel metal production also decreased on the back of the switch from nickel briquettes to nickel sulphate crystals production.

On the other hand, the Ambatovy plant in Madagascar ramped up to planned capacity following a year-long closure, and Anglo American delivered strong performance following the restart of its Anglo Convertor Plant (ACP) Phase A unit in South Africa.

Production of nickel compounds, including nickel sulphate from primary sources (excluding sulphate produced by high-grade nickel dissolution), increased by 35% y-o-y to 197 kt in 2021 on the back of robust EV sales and solid nickel demand from the battery sector.

Nickel sulphate can be produced from a variety of raw materials by different processes: directly from nickel intermediates such as mixed hydroxide precipitate (MHP), mixed sulphide precipitate (MSP), nickel matte, and crude nickel sulphate (copper chain product) or by dissolving high-grade nickel metal (as nickel briquettes or powder) or from recycled materials.

In 2021, nickel metal dissolution volumes (this source of feedstock is used to compensate for lacking nickel units) more than doubled due to the shortage of nickel intermediates and delays in launching HPAL projects, which produce MHP for export to China, and NPI-to-nickel matte conversion capacities in Indonesia, amid exceptionally strong demand from battery manufacturers remains extremely high. This was one of the main reasons for a major outflow of exchange stocks from LME-approved warehouses in Asia.

Given the growing importance of ESG as well as the global ambition to reach carbon neutrality, Nornickel started producing carbon-neutral nickel in 2021. Production of nickel with a neutral carbon footprint was enabled by efforts to reduce GHG emissions (CO_2) across all stages of production from ore mining to beneficiation and refining to finished products. The Company's products boast one of the lowest carbon footprints in the industry with a fully transparent production chain.

Low-grade nickel output grew by 11%, or 169 kt, to 1,708 kt.

Indonesian NPI production was the main driver of low-grade nickel supply growth in 2021; however its growth rates fell significantly short of expectations due to slower commissioning of new capacity, restricted entry of workers due to the coronavirus pandemic, and the conversion of some furnaces to converter matte production. Overall, we estimate the total 2021 NPI production in Indonesia at 862 kt (+46% y-o-y).

China's NPI production continued to decline, dropping 17% y-o-y to 426 kt in 2021. The decline was caused by significantly lower ore inventories due to the robust NPI demand in 2020, lower nickel content in ores imported from the Philippines, falling imports from New Caledonia, and power curtailments in China in the second half of the year.

Ferronickel output in 2021 remained almost unchanged at 378 kt (–1% y-o-y) mainly because of Clencore's Koniambo project operating only one production line out of two due to technical issues and the production cuts at Tagaung Taung's operation in Myanmar due to a military coup. Eramet's Doniambo in New Caledonia production declined as the mine and ferronickel plant were affected by the COVID-related disruptions. Brazilian Onça Puma hasn't yet reached its design capacity because of operational challenges, extended maintenance and a short-term license suspension, while the Creece-based Larco has been gradually reducing its ferronickel output for a few years as it balances on the verge of bankruptcy. Also, production at NewCo Ferronikeli in Kosovo was suspended indefinitely due to high electricity prices.

On the other hand, Colombia's Cerro Matoso facility returned to planned production volumes after an overhaul, while the Falcondo mine in the Dominican Republic increased the output closer to its nameplate capacity. Japan's Pamco was also recovering after the 2020 output cuts.

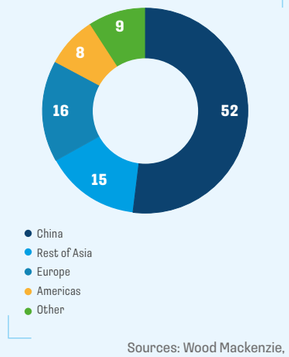
NPI production (kt)

Source: Company data

COPPER (Cu)

№ 12 in the copper mining industry (%)

Refined copper consumption by region in 2021 (%)



Sources: Wood Mackenzie, producer reports, Company analysis

Key trends in the copper market

In 2021, the global economy continued to recover from the coronavirus pandemic. Whereas China, which was the first to emerge from the most acute phase of the pandemic, showed its biggest recovery progress in 2H 2020, the other leaders of the global economy (US, Europe) rebounded mostly in 2021. These factors as well as growing investments in renewable energy and transport electrification increased the global consumption of refined copper by 4%, while its supply was constrained by the volume of copper in transit due to logistics disruptions. This, as well as growing speculative interest in the metal that can become a pillar of green energy, supported the continued copper rally which began in 2020 and resulted in new all-time highs.

After a moderate correction in January, copper price continued to grow, hitting USD 9,600/t at the end of February on the back of faster than expected global economic recovery after the strictest phase of the lockdown and amid growing investor expectations around green economy, which relies on copper as its vital material.

Trade union protests in Chile and Peru, which created risks for metal supply, and a new, tougher policy on scrap imports in China, which led to a higher consumption of refined copper in the country, also contributed to growth in copper exchange prices.

After a consolidation in March, the price rally intensified in April–May 2021 amid dwindling exchange inventories, higher speculative interest, and announcements of US and Chinese infrastructure development plans. By mid-May, the copper price hit a record high of USD 10,725/t.

However, mid-year sales of metal from China's state reserves, a stronger US dollar, and concerns over the new, Delta variant of COVID-19 pushed prices back to around USD 9,000–9,500/t, where they hovered until early October.

A new rally followed early in the fourth quarter, fuelled by fears of rising inflation, production disruptions in Latin America, logistical problems that stretched the supply chain and increased volumes of stranded metal in transit, energy crisis in China, as well as all-time low global inventories. Speculative investor activity also played a large role in the new price surge. As a result, prices grew close to USD 10,700/t by mid-October. A moderate correction in November–December pushed prices down to about USD 9,700/t.

Warehouse inventories of the Shanghai Futures Exchange, London Metal Exchange, and New York Mercantile Exchange hit record lows in 2021. Over the year, LME copper inventories decreased by 19 kt to 89 kt; SHFE stocks by 48 kt to 38 kt; and NYMEX inventories by 9 kt to 69 kt. Total global exchange inventories of copper shrank by 76 kt to 189 kt.

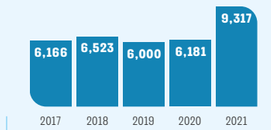
In 2021, LME copper price averaged at USD 9,317/t vs USD 6,181/t in 2020 (+51%).

The LME copper price averaged in 2021

9,317 USD/t

+51% in 2020

Average annual copper prices (USD/t)



Source: London Metal Exchange

LME copper price in 2021 (USD/t)

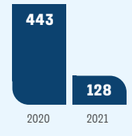
1. End of the Lunar New Year holidays in China, full recovery in production, lifting of COVID-19 restrictions
2. Stagnating consumption in China
3. Announcements of infrastructure plans in the US and China
4. Copper price hitting an all-time high of USD 10,725/t
5. Sale of metal from China's state reserves, growing fears of a new strain of the coronavirus, and a stronger US dollar
6. Union strikes in Chile and Peru, the power crunch in China, announcements of high premiums by Aurubis and Codelco, and record low global inventories

Market Balance

In the reporting period, copper production increased by 2.5% to 21.5 mln t, while refined copper production increased by 3% to 24.6 mln t. In the same period, global refined copper consumption totalled 24.4 mln t, up 4%, or 0.95 mln t, y-o-y. As a result, the market moved to a marginal surplus of less than 1% of annual consumption, or 128 kt.

It should be noted however that due to stretched supply chains, large quantities of metal became unavailable for consumption, which, along with a higher speculative interest in copper due to greater prominence of renewable energy, resulted in dwindling exchange inventories of copper. In 2021, total exchange inventories dropped by 28% to 189 kt (vs 265 kt at year-end 2020), or at little more than six days of global consumption.

Copper market balance (kt)



Sources: Company data, Wood Mackenzie

Consumption

Thanks to its high electrical and thermal conductivity, ductility and corrosion resistance, copper is widely used in various industries. Up to 75% of refined copper produced globally is used to make electrical conductors, including various types of cable and wire. Key copper-consuming industries include construction, electrical and electronic equipment, power industry, transport, machine building, and the production of various equipment and consumer goods.

24.4 mln t

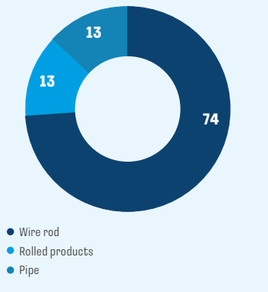
In 2021, global refined copper consumption

+4% 2020 y-o-y

REFINED COPPER CONSUMPTION BY INDUSTRY

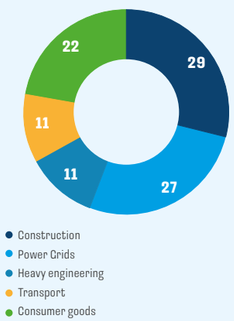
First use (%)

24.4 mln t



End use by industry (%)

30.6 mln t



Sources: Company data, Wood Mackenzie

In 2021, global refined copper consumption totalled 24.4 mln t, up 4%, or 0.95 mln t, y-o-y.

China remained the largest copper consumer globally, accounting for 52% of the total in 2021. Following resurgent copper consumption in the first half of the year, demand for copper plateaued out in China as its economy fully recovered after the strictest phase of the lockdown. Refined copper consumption in China grew by 1% to 12.6 mln t for the full year. Imports of refined copper into China totalled 3.4 mln t, down 24% y-o-y, in 2021. Scrap copper imports increased by 80% to 1.7 mln t, indicating that importers were able to adapt to the new regulatory requirements for quality control of imported recyclables, with high refined copper prices as an extra stimulus. Copper concentrate imports rose by 8% to 23.4 mln t.

Copper demand in other key regions also increased in 2021: consumption in Europe (the Company's key market for copper cathodes) increased by 9%; in North America by 11%; in the Middle East by 0.5%; and in Asia excluding China by 7%. Russia increased its copper consumption by 9%.

Notably, in its primary application – wire production – copper is not replaced with aluminium despite high prices, as aluminium prices also hit multi-year highs.

Production

In 2021, global copper mine output grew by 2.5% to 21.5 mln t on the back of production recovery after the global pandemic as well as the startup of new mines in Peru and the Democratic Republic of the Congo.

In 2021, mining production in Chile, the world's leading producer of copper, declined by 1% y-o-y to 5.75 mln t due to union strikes at some mines. Peru increased its output by 7% to 2.3 mln t.

A 7% growth in Africa's mining production to 2.9 mln t was mainly due to a higher output from mines in the Democratic Republic of the Congo.

China ramped up copper mine production by 5.5% to 1.85 mln t in 2021, while mining production in Indonesia grew 44% to 0.75 mln t.

Production in North America rose by 2% to 2.55 mln t, with US production up by 4%, a marginal growth of 0.1% in Canada and 1% decline in Mexico.

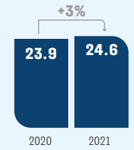
In 2021, global refined copper output rose by 3%, or 0.64 mln t, y-o-y to 24.60 mln t. Most of the key refined copper producers increased their output in 2021: China by 7.0% to 10.0 mln t, the Democratic Republic of the Congo by 10.5% to 1.5 mln t, and the United States by 12.0% to 1.0 mln t. Production in Chile fell by 4.0% to 2.2 mln t; in Japan by 3.0% to 1.5 mln t; and in Russia by 9.0% to 934.0 kt.

In 2021, global refined copper output totalled

24.6 mln t

+3% y-o-y

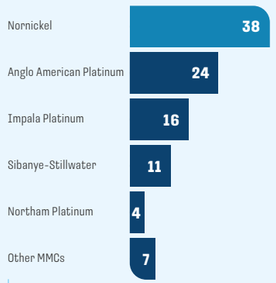
Production of refined copper (mln t)



Sources: Company data, Wood Mackenzie

PALLADIUM (Pd)

№1
in palladium production (%)



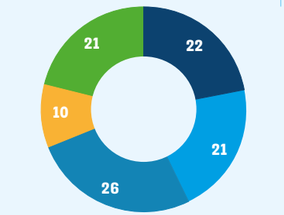
Refined metal output including production from third-party feedstock and production from own feedstock by third parties under tolling agreements.

Sources: producer reports, Company analysis as of 5 March 2022

Key trends in the palladium market

Industrial consumption of palladium by region (%)

309 t



Source: Company data

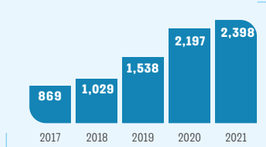
Early in 2021, palladium was trading in the USD 2,300–2,500/oz range, followed by growth which started in mid-March and continued until early May when price hit a new all-time high of USD 2,994/oz. This trend was primarily driven by the recovery in global vehicle production after the strictest phase of the lockdown and expectations of a significant increase in demand for the metal during the year.

The Company's production cuts due to industrial incidents in the first half of the year also supported the price rally, as the market participants were concerned about a potential physical supply shortage.

In mid-2021, palladium price stabilised in the USD 2,500–2,900/oz range; however, a downward trend began in August driven by revised estimates of the automotive industry's recovery pace. Semiconductor shortages forced automakers to cut vehicle production. Chip shortages prevented automakers from producing a total of about 8–9 million vehicles in 2021, equivalent to a consumption of ~25–27 tonnes of palladium. The semiconductor crunch has affected both physical metal buying by consumers and the sentiment of speculative market participants. A low of USD 1,592/oz was hit in mid-September, followed by a rebound to about USD 2,000/oz.

On average, the palladium price increased by 9% y-o-y to USD 2,398/oz in 2021.

Average annual palladium prices (USD/oz)



Source: LBMA

LBMA palladium price in 2021 (USD/oz)

1. Industrial incidents in Norilsk.
2. Nornickel lowers its mining production guidance by 15%–20% due to deferred resumption of operations at its mines.
3. Reports of potential metal shortages coupled with expectations of the automotive industry recovery led to a five-month high in net long speculative positions and the price hitting an all-time high.
4. US vehicle sales in June fall short of expectations. Car dealer inventory shortages and low production trigger a negative trend.
5. Vehicle sales in the European Union plummet by more than 20% amid a shortage of vehicles available for purchase.
6. Automotive industry recovery forecasts by leading analytical publications revised, pushing the recovery further out.
7. Net long speculative positions hit a 12-month low.
8. Growth of palladium imports to China and Hong Kong.
9. Rebound amid inflationary concerns.

Market Balance

Since 2010, there has been a sustained undersupply in the physical palladium market covered by inventories accumulated in previous years The sources of previously accumulated palladium stockpiles include trading companies, financial institutions, government reserves, and consumers' surplus inventories.

In 2021, despite lower consumption compared to pre-pandemic levels, the market was in a small deficit due to a slow recovery in metal supply to 2019 levels.

Consumption decline was driven primarily by a shortage of chips used in the automotive industry and a resulting decrease in metal consumption in the catalytic systems of new vehicles. The automotive industry accounts for over 80% of palladium consumption. Meanwhile, metal consumption in other industries showed a marked recovery growth. 2021 also saw a positive trend in investment demand for palladium from ETF and retail investors.

Palladium production recovery to pre-pandemic levels in 2021 was hampered by temporary production suspension at Nornickel due to industrial incidents, as well as lower secondary palladium production due to a shortage of new vehicles available for purchase and reduced recycling of old vehicles. At the same time, palladium production in South Africa grew significantly, preventing an acute shortage of the metal on the market.

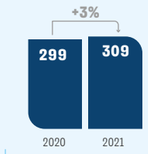
Palladium market balance in 2021 (t)

Production and consumption balance	-2
ETF inflow	1
Change in other inventories	2
Supply and demand balance	-1

Consumption

IN 2021, INDUSTRIAL CONSUMPTION OF PALLADIUM INCREASED BY 10 TONNES (+3%) Y-O-Y TO 309 TONNES.

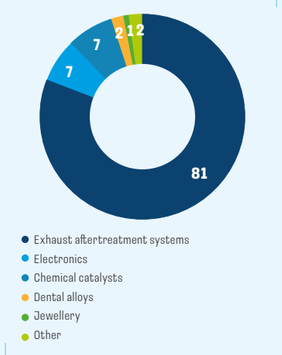
Industrial consumption of palladium in 2020– 2021 (t)



Source: Company data

Palladium consumption in 2021 by industry(%)

309 t



Source: Company data

Automotive industry. Exhaust treatment systems account for the bulk of total palladium consumption. In this sector, palladium is used in catalytic converters which are mandatory for road transport and legally regulated in most countries.

Due to its unique catalytic properties ensuring effective chemical reactions throughout the entire vehicle life cycle, palladium has virtually no alternatives in this sector, except platinum, which is currently used mostly in diesel vehicles and rhodium, which is subject to high price volatility and risk of physical metal shortage due to an already significant share of the automotive industry in rhodium consumption and small market size (annual global production stands at 23 tonnes).

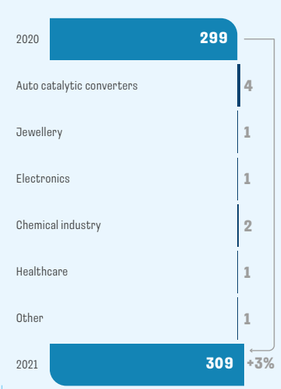
In 2021, palladium consumption in the automotive industry increased by 4 tonnes. The increase was driven by the automotive industry's partial recovery from the pandemic-induced manufacturing constraints. In 2021, a total of 76 million cars were made, up 2% y-o-y. Car production could have recovered much faster had it not been affected by semiconductor shortages, particularly in 2H 2021. Global car production lost a total of 8 to 9 million units because of the shortage of electronic components.

Moreover, demand is further boosted by higher PGM (platinum group metals) loading in autocatalysts. Higher PGM loadings per vehicle were primarily driven by stricter regulations on pollutant emissions. The US continues tightening emission requirements under Tier 3 standard. In China, higher palladium loadings per autocatalyst were driven by tougher environmental requirements of China 6b standard. The Euro-7 standard, which will be announced in 2022 and implemented in 2025, is expected to increase the usage of palladium in cars sold on the European market.

Changes in the fleet mix also boosted palladium consumption among automakers as light diesel vehicles were further replaced with petrol cars and hybrids, which make greater use of palladium-based catalytic converters for exhaust fumes. The market share of diesel cars in Europe (27 EU countries + UK + European Free Trade Association (EFTA) countries) dropped from 35.1% to 21.4% over the year.

Vehicle hybridisation is another trend driving palladium consumption. Production of hybrid-electric vehicles, so called mild, full and plug-in hybrids (PHEVs), increased by 56%, 29% and 79%, respectively. Since hybrids have petrol engines, they mostly use palladium-based catalytic converters. With the same engine displacement as the conventional petrol vehicle, the hybrid has a higher loading of the metal due to more frequent cold starts.

Change in palladium consumption in 2020–2021 by application (t)



Source: Company data

Electronics. In 2021, palladium consumption in the electronics industry increased by 1 tonne to 20 tonnes. In recent years, the use of palladium in multi-layer ceramic capacitors has been in decline, becoming limited to the most sophisticated products with a focus on reliability and performance in harsh environments, such as those in the defence and aerospace industries. Given the metal price inelasticity of demand in these sectors, its consumption is expected to remain flat. Transition to 5G networks and autonomous vehicles should also somewhat offset lower demand elsewhere. Moreover, despite disruptions at electronics assembly facilities due to lockdowns, the work-from-home trend driven by the pandemic bolstered demand for laptops and TV sets.

Chemical industry. In 2021, the use of palladium in chemical catalysts increased by 2 tonnes y-o-y. In the medium term, growing consumption of palladium in the chemical industry will be driven by production capacity additions in China (particularly for caprolactam and monoethylene glycol from coal).

Healthcare. Although demand for palladium from the healthcare sector increased by 1 tonne in 2021 as dental clinics returned to normal operations after the strictest phase of the lockdown, the long-term trend for palladium demand in this industry is negative due to its replacement by alternative composites and products made of gold, which is currently cheaper.

Jewellery. Palladium is used in white gold alloys or in its pure form to make jewellery such as wedding rings. In 2021, palladium consumption in the jewellery industry increased by 1 tonne, edging closer to pre-pandemic levels amid an overall recovery in economic activity. However, it is worth noting that in recent years, demand for palladium in jewellery production has been falling due to palladium overtaking the price of gold.

Investments. Investor demand for palladium increased by 2 tonnes in 2021 on the back of higher demand from exchange-traded funds (ETFs), whose inventories grew by 1 tonne to 19 tonnes. Retail investments into bullion grew by 1 tonne again in the reporting year.

Production

In 2021, primary refined palladium production increased by 12% y-o-y to 217 tonnes.

Production in the Russian Federation, the key producer of palladium, slipped by 7% to 81 tonnes due to a temporary shutdown of the Oktyabrsky and Taimyrsky Mines flooded by groundwater and suspension of operations at the Norilsk Concentrator.

Production in South Africa surged (+33 tonnes) to 90 tonnes in 2021 amid recovery from the nationwide COVID-19 lockdown and the processing of previously accumulated work in progress, primarily by Anglo American Platinum.

Primary palladium output in the United States and Zimbabwe did not change significantly as operations in these regions were less affected by pandemic-related restrictions in 2020.

Primary palladium output in Canada dropped by 3 tonnes, mostly due to a decrease in Vale's output caused by a two-month strike of its employees.

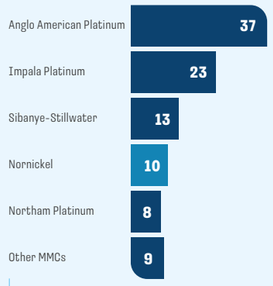
The main sources of recycled palladium supply are scrapped auto catalytic converters, as well as jewellery and electronic scrap. In 2021, recycled output declined by 7 tonnes to 90 tonnes due to COVID-19 restrictions and a drop in new vehicle sales which, in turn, impacted the supply of vehicles for recycling.

Annual primary palladium output (t)

Source: Company data

PLATINUM (Pt)

№ 4
in platinum production (%)



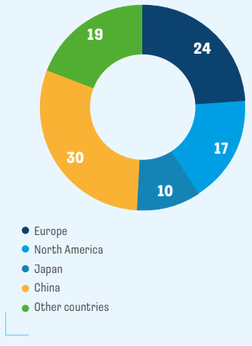
Refined metal output including production from third-party feedstock and production from own feedstock by third parties under tolling agreements.

Sources: producer reports, Company analysis as of 5 March 2022.

Key trends in the platinum market

Platinum consumption by region (%)

224 t

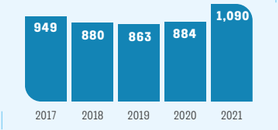


Source: Company data

The platinum price started rising early in the year, hitting a six-year high of over USD 1,300/oz in mid-February in anticipation of automotive market growth and amid the growing prominence of the emerging hydrogen agenda. This was followed by price correction towards the USD 900–1,100/oz range. The lowest price in USD/oz was hit in December, followed by a rebound on growing inflation concerns.

In 2021, average LBMA platinum price grew 23% y-o-y to USD 1,090/oz, much faster than gold, another precious metal with a high investment component. The latter grew by 2% over 2021. The average annual spread between gold and platinum narrowed from 2:1 in 2020 to 1.6:1 in 2021, indicating that investors consider platinum's fundamentals to be more attractive as a metal used in green economy sectors.

Average annual platinum prices (USD/oz)



Source: LBMA

LBMA platinum price in 2021 (USD/oz)

1. Industrial incidents in Norilsk.
2. The highest level of net long speculative positions in 2021.
3. Revision of the Company's production guidance due to incidents in Norilsk.
4. Vehicle sales in the EU plummet by over 20% amid a shortage of vehicles available for purchase.
5. The lowest level of net long speculative positions in 2021.
6. Anglo American Platinum's production report shows accelerated processing of work-in-progress inventories in 2020.
7. Stabilisation due to high inflation.

Market Balance

Despite demand recovery, the platinum market surplus increased in 2021 due to a temporary increase in South African production caused by processing of previously accumulated work-in-progress inventory and investor outflows from ETF funds.

Platinum market balance in 2021 (t)

Production and consumption balance	30
Outflows from ETFs	-7
Change in other inventories (retail investments)	11
Supply and demand balance	26

Consumption

Industrial consumption of platinum in 2021 increased by 27 tonnes (+14%) y-o-y to 224 tonnes.

The automotive industry — is the largest consumer of platinum. Over 30% of platinum in this industry is used to manufacture exhaust gas catalysts for diesel vehicles.

In 2021, platinum consumption by the automotive sector increased substantially (+11 tonnes y-o-y). The increase was driven primarily by the introduction of a new, more stringent environmental standard for trucks (mostly diesel-powered) in China, which led to a significant increase in platinum loadings per vehicle for trucks in China. Global vehicle production recovery after the COVID-19 lockdown also contributed to higher platinum consumption.

We also saw the continued tightening of environmental regulation of road transport in the US, and a new, more stringent European standard Euro-7 is expected to be announced in 2022 and implemented in 2025.

At the same time, demand for platinum from the automotive industry is negatively affected by the gradual decline in diesel vehicle share of European sales (from 35.1% at the end of 2020 to 21.4% at the end of 2021). Diesel cars are outcompeted by hybrid (petrol) and all-electric vehicles. Furthermore, platinum consumption recovery was slowed by a 2% y-o-y decline in global production of light diesel vehicles due to stricter regulation in the European Union, the US and China. The decline was particularly prominent in Europe at 19% y-o-y.

The jewellery industry — is the second largest platinum consumer, accounting for a third of demand for this metal. In 2021, jewellers' demand for platinum rose by 5 tonnes amid a rebound in demand, store reopenings and a resurgence in trade, with growth led by the US market.

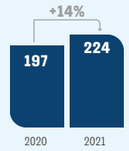
The chemical and petrochemical industries also increased their platinum consumption by 2 tonnes in 2021 on the back of increased usage of platinum catalysts for paraxylene and silicone production in China, as well as growth in oil refining and new gas-to-liquids capacity additions.

In the glass industry, platinum is used to manufacture equipment (bushings) for making glass and optical fibre and optical glass. Demand for the metal from this industry grew by 4 tonnes in 2021 on the back of increased demand for LCD panels and the substitution of rhodium for platinum in the production of bushings for price reasons.

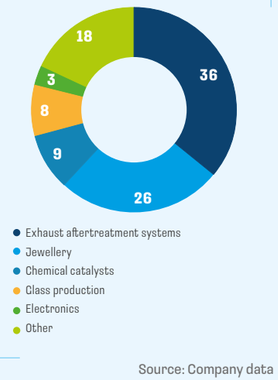
Platinum consumption in the electronics industry, where it is mainly used to produce hard drives for data storage, remained unchanged amid disruptions to operations in Malaysia and other Southeast Asian countries and competition from SSD storage.

Investments. Platinum is widely used as an investment instrument. Physical investments may vary from coins and small bars to investments in physical platinum ETFs. In 2021, demand for platinum bars from retail buyers fell by 7 tonnes to 11 tonnes. Over the year, investments in platinum ETFs also slipped by 7 tonnes. Lower investor interest may be due to profit taking amid a significant increase in metal prices in 2021.

Platinum consumption in 2021 (t)

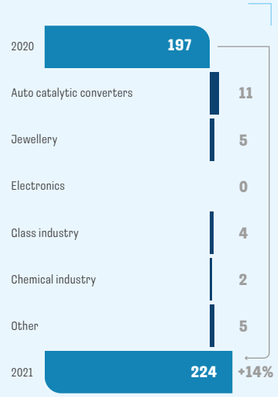


Platinum consumption in 2021 by industry



Source: Company data

Changes in platinum consumption by application (t)



Source: Company data

Production

Global production of primary refined platinum grew by 49 tonnes y-o-y to 201 tonnes in 2021.

In the reporting period, South Africa, the key producer of platinum, increased output by 53 tonnes through selling of work-in-progress inventories accumulated in 2020 and steady growth in primary production following employee vaccination and return of mines and processing plants to normal operations.

Platinum production in the Russian Federation decreased by 2 tonnes due to a temporary shutdown of the Oktyabrsky and Taimyrsky Mines flooded by groundwater and suspension of operations at the Norilsk Concentrator. Production in Zimbabwe remained at the 2020 level, while North American production fell by 2 tonnes.

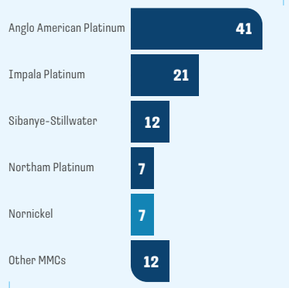
Spent exhaust gas catalysts and jewellery scrap are the key sources of recycled platinum. Secondary production was flat at 53 tonnes in 2021.

Annual primary platinum output (t)

Source: Company data

RHODIUM (Rh)

№ 5
in rhodium production (%)

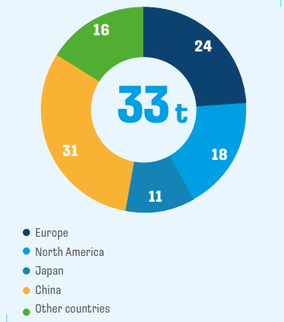


Refined metal output including production from third-party feedstock and production from own feedstock by third parties under tolling agreements

Sources: producer reports, Company analysis as of 5 March 2022

Key trends in the rhodium market

Rhodium consumption by region (%)



Source: Company data

Despite being highly volatile, rhodium prices rose significantly over 2021, reaching a high of USD 28,000/oz in April on the back of strong demand from automakers, growing production following a period of strict pandemic restrictions and concerns over Russian supply after incidents in Norilsk. Amid growing supply from South Africa, where Anglo American Platinum started selling work-in-progress inventories accumulated in 2020, and an acute shortage of semiconductors towards the second half of 2022, price then started to fall, hitting a low of USD 9,500/oz in September and hovering around the USD 13,500/oz mark since then.

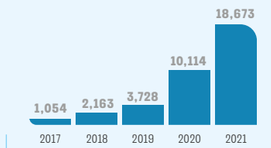
Rhodium prices in 2021 averaged at USD 18,673/oz, up 85% from the 2020 average of USD 10,114/oz.

The rhodium price averaged in 2021

18,673 USD/oz

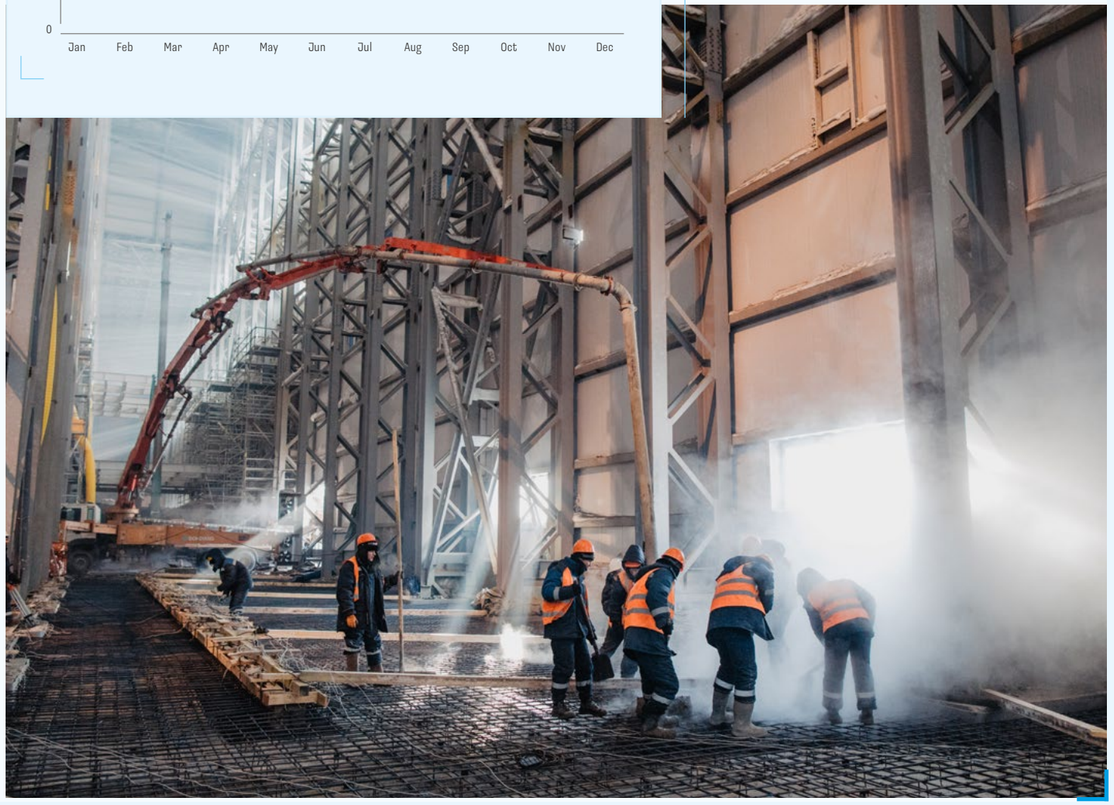
+85% from the 2020

Average annual rhodium prices (USD/oz)



Source: Platts NY Dealers

Rhodium price in 2021 (USD/oz)



Market Balance

In 2021, the rhodium market moved into a surplus (5 tonnes), primarily due to a large amount of work-in-progress accumulated by Anglo American Platinum in 2020.

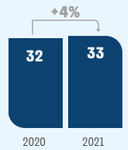
Rhodium market balance in 2021 (t)

Production and consumption balance	5

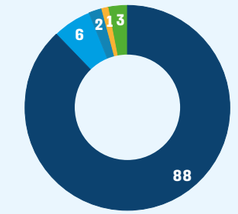
Consumption

Industrial consumption of rhodium increased by 1 tonne (+4%) y-o-y to 33 tonnes in 2021.

Rhodium consumption in 2021 (t)

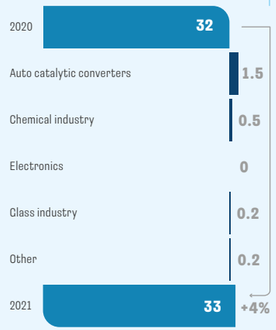


Rhodium consumption in 2021 by industry



Source: Company data

Changes in rhodium consumption by application (t)



Source: Company data

Automotive industry. At 85% of total consumption, the automotive industry is the key consumer of rhodium, using the metal's unique chemical properties for exhaust emission control in catalytic converters which are mandatory for road transport. Rhodium is considered the best catalyst for nitrogen oxide removal in petrol engines.

In 2021, rhodium consumption by the automotive industry grew by 1.5 tonnes (+6%) to 29 tonnes. The biggest driver of demand growth was restoration of the car market and stricter regulation of vehicle emissions, leading to higher rhodium loadings per vehicle.

Consumption of rhodium in the chemical industry decreased marginally due to its replacement with palladium in nitric acid catalytic gauzes.

Another sector where rhodium consumption plunged in 2021 was the glass industry. Rhodium is used to make bushings for glass melting. In 2021, the industry's demand for rhodium decreased marginally due to its replacement with cheaper platinum. However, due to an overall recovery in economic activity and the launch of new glass projects, the overall change in demand was insignificant.

Consumption in electronics and other industries remained almost flat.

Production

Global production of primary refined rhodium increased by 11 tonnes y-o-y to 28 tonnes in 2021. In the reporting period, South Africa, the key rhodium producer, increased its output by 11 tonnes on the back of production recovery from a nationwide lockdown and the release of work in progress accumulated in 2020 by Anglo American Platinum. Rhodium production by the Russian Federation remained flat year-on-year despite the production incidents in Norilsk. Rhodium output in the North America and other regions also remained broadly flat.

Used exhaust gas catalysts are the main source of recycled rhodium. In 2021, secondary production declined by 0.5 tonnes to 10 tonnes due to COVID-19 restrictions and a drop in new vehicle sales which, in turn, impacted the supply of vehicles for recycling.

Primary rhodium production (t)

Source: Company data

BUSINESS OVERVIEW

In 2021, the Company significantly increased capital investments in modernisation and upgrade of equipment and other fixed assets, including energy infrastructure with a focus on industrial safety and energy efficiency:

⇨ Capital investment rose **57%** to USD 2.8 billion

⇨ Investment in the Sulphur Project exceeded **USD 500 million**

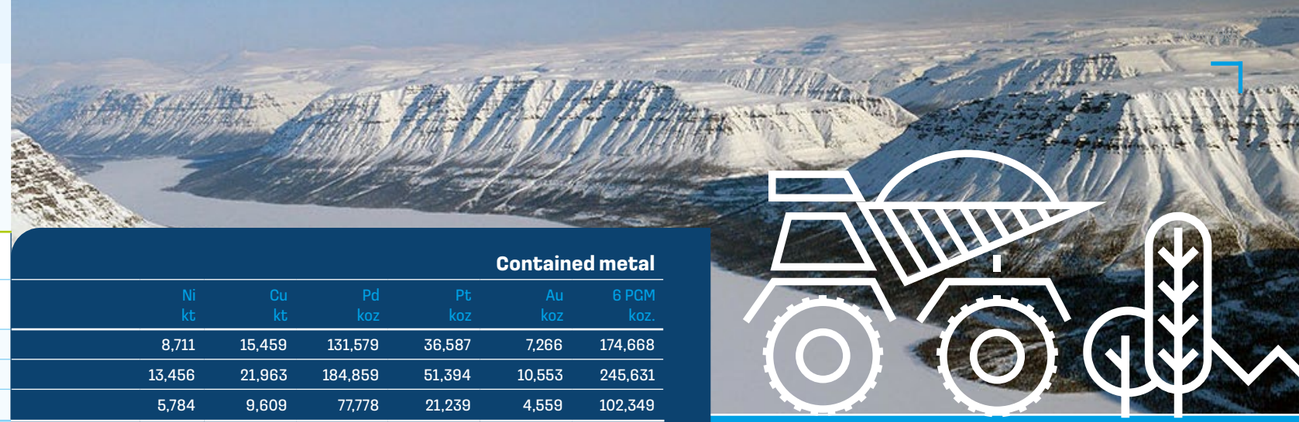
Amid the global economic recovery after the 2020's recession, the global demand for metals was increasing in 2021, which had a positive impact on Nornickel's operational and financial performance.

By the end of 2021, the Company had almost fully restored suspended operations at its mines and the concentrator, meeting production guidance for nickel and copper and exceeding guidance for platinum group metals.

MINERAL RESOURCE BASE

Mineral resources and ore reserves norilsk and kola divisions as of 01.01.2022[1]	Ore mln t	Metal grade Ni %	Cu %	Pd g/t	Pt g/t	Au g/t	6PGM g/t	Contained metal Ni kt	Cu kt	Pd koz	Pt koz	Au koz	6 PGM koz.
Total proven and probable reserves	1,293	0.67	1.20	3.16	0.88	0.17	4.20	8,711	15,459	131,579	36,587	7,266	174,668
Total proven and probable reserves	1,824	0.74	1.20	3.15	0.88	0.18	4.19	13,456	21,963	184,859	51,394	10,553	245,631
Total inferred resources	995	0.58	0.97	2.43	0.66	0.14	3.20	5,784	9,609	77,778	21,239	4,559	102,349
NORILSK DIVISION													
Proven and probable reserves	1,219	0.68	1.25	3.36	0.93	0.18	4.45	8,247	15,229	131,511	36,542	7,245	174,554
Proven reserves													
Talnakh ore field, including	656	0.63	1.24	3.10	0.83	0.18	4.06	4,143	8,146	65,333	17,471	3,816	85,633
rich	55	2.68	2.97	5.59	1.16	0.15	7.31	1,477	1,638	9,905	2,058	262	12,969
cuprous	62	0.75	2.57	6.51	1.71	0.40	8.33	464	1,584	12,894	3,383	793	16,494
disseminated	539	0.41	0.91	2.45	0.69	0.16	3.24	2,202	4,924	42,534	12,031	2,760	56,171
Norilsk-1 deposit (disseminated ore)	39	0.25	0.34	3.21	1.23	0.13	4.71	99	134	4,072	1,559	169	5,974
Probable reserves													
Talnakh ore field, including	419	0.90	1.59	3.96	1.05	0.21	5.20	3,775	6,677	53,356	14,119	2,895	70,035
rich	76	2.75	3.73	7.38	1.68	0.32	9.55	2,101	2,852	18,113	4,126	784	23,447
cuprous	51	0.70	2.59	5.93	1.55	0.39	7.57	359	1,333	9,800	2,569	649	12,513
disseminated	291	0.45	0.86	2.72	0.79	0.16	3.64	1,315	2,492	25,442	7,424	1,461	34,075
Norilsk-1 deposit (disseminated ore)	104	0.22	0.26	2.61	1.01	0.11	3.85	229	271	8,750	3,394	366	12,912
Measured and indicated resources	1,514	0.75	1.38	3.79	1.05	0.21	5.03	11,323	20,923	184,388	51,093	10,381	244,801
Talnakh ore field, including	1,368	0.80	1.49	3.83	1.02	0.22	5.03	10,914	20,419	168,462	44,948	9,717	221,349
rich	119	3.43	4.33	8.62	1.81	0.31	11.14	4,073	5,136	32,893	6,919	1,171	42,502
cuprous	113	0.90	3.08	7.64	2.02	0.48	9.80	1,017	3,489	27,804	7,353	1,750	35,677
disseminated	1,136	0.51	1.04	2.95	0.84	0.19	3.92	5,825	11,793	107,765	30,676	6,796	143,170
Norilsk-1 deposit (disseminated ore)	147	0.28	0.34	3.38	1.30	0.14	4.97	409	504	15,926	6,145	664	23,453
Inferred resources	854	0.57	1.07	2.83	0.77	0.16	3.72	4,897	9,172	77,603	21,123	4,502	102,043
Talnakh ore field	842	0.58	1.08	2.82	0.76	0.16	3.69	4,868	9,134	76,231	20,581	4,451	100,002
rich	47	3.17	5.06	9.69	2.03	0.49	12.26	1,489	2,377	14,627	3,064	740	18,508
cuprous	68	0.67	2.11	5.45	1.45	0.35	7.05	457	1,442	11,951	3,181	761	15,462
disseminated	727	0.40	0.73	2.12	0.61	0.13	2.83	2,922	5,315	49,653	14,337	2,950	66,032
Norilsk-1 deposit (disseminated ore)	12	0.25	0.32	3.55	1.40	0,133	5.29	30	38	1,371	542	51	2,041
KOLA DIVISION (DISSEMINATED ORE)													
Proven and probable reserves	74	0.62	0.31	0.03	0.02	0.01	0.05	464	230	68	45	21	114
Proven ore reserves	37	0.58	0.25	0.03	0.02	0.01	0.05	217	94	34	25	10	60
Probable reserves	37	0.67	0.37	0.03	0.02	0.01	0.05	247	136	34	20	11	54
Measured and indicated resources	310	0.69	0.34	0.05	0.03	0.02	0.08	2,133	1,040	471	301	172	830
Inferred resources	141	0.63	0.31	0.04	0.03	0.01	0.07	887	437	175	116	57	306

1 Data regarding the mineral resources and ore reserves of the deposits of the Taimyr and Kola peninsulas were classified according to the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC code), created by the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists, and the Minerals Council of Australia, subject to the terminology recommended by the Russian Code for Public Reporting of Exploration Results, Mineral Resources, Mineral Reserves (NAEN Code). Proven and probable ore reserves are included in mineral resources. In 2021, SRK Consulting (Russia) completed an estimate of mineral resources and ore reserves using its own methodology.



NORNICKEL BOASTS A UNIQUE MINERAL RESOURCE BASE OF TIER 1 ASSETS IN RUSSIA, ON THE TAIMYR AND KOLA PENINSULAS AND IN THE ZABAYKALSKY REGION. NORNICKEL'S CONTINUED FOCUS ON REPLACING AND EXPANDING ITS RESOURCE BASE IS ESSENTIAL TO ITS LONG-TERM DEVELOPMENT.

>75 years

of resources at the current production rate

Mineral resources and ore reserves zabaykalsky division as of 01.01.2022[1]		Ore mln t	Contained metal			
			Cu mln t	Au mln oz	Ag mln oz	Fe mln t
TOTAL	Proven and probable reserves	281	2	6	28	42
	Measured and indicated resources	274	2	6	32	49
	Inferred resources	61	0.2	1	5	8

In 2021, the Company updated the mineral resource estimate using 3D modelling data, which resulted in an increase of total reserves and resources by 225 mln t.

An updated resource model was also used to estimate the mineral resources of the Bystrinskoye deposit in line with the JORC Code.

Dynamics of reserves and mineral resources

Item[2]	2019	2020	2021
PROVEN AND PROBABLE RESERVES			
Ore, mln t	757	743	1,293
Nickel, mln t	6.7	6.5	8.7
Copper, mln t	11.9	11.6	15.5
PGMs, Moz	120	118	175
MEASURED AND INDICATED RESOURCES			
Ore, mln t	2,193	2,019	1,824
Nickel, mln t	15.2	13.8	13.5
Copper, mln t	23.2	23.0	22.0
PGMs, Moz	260	258	246
INFERRED RESOURCES			
Ore, mln t	933	575	995
Nickel, mln t	7.4	4.5	5.8
Copper, mln t	8.0	7.9	9.6
PGMs, Moz	78	77	102
TOTAL			
Ore, mln t	3,126	2,594	2,819
Nickel, mln t	22.6	18.3	19.2
Copper, mln t	31.2	30.9	31.6
PGMs, Moz	338	335	348

PROVEN AND PROBABLE RESERVES AT GRK BYSTRINSKOYE'S DEPOSIT AT YEAR-END 2021 WERE 281 MLN T, AVERAGE METAL CONTENT: CU – 0.6%, FE IN MAGNETITE CONCENTRATE – 14.9%, AND AU – 0.63 G/T.

Existing deposits

Nornickel is well-positioned to maintain a high level of economic ore reserves given the significant mineral resources within its existing deposits. The depleted proven and probable reserves at the existing mines are replaced through the development of measured, indicated and inferred resources. The Company plans to ramp up its production by tapping into new rich ore deposits and gradually developing disseminated and cuprous ore horizons.

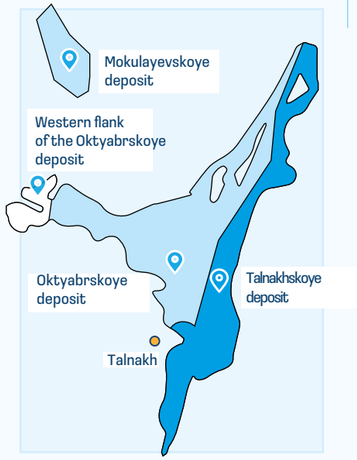
1 In 2021, CSA Global completed an estimate of mineral resources of the Bystrinskoye deposit in line with the JORC Code based on an updated resource model, which reflects both complexity and diversity of the deposit's ore types.

2 Data on mineral resources and ore reserves are based on the JORC Code, excluding GRK Bystrinkoye's deposits. The 2019 data include the Honeymoon Well project.

NORILSK DIVISION

Talnakh Ore Cluster

The Talnakh Ore Cluster is located in the Norilsk Industrial District in the north of the Krasnoyarsk Region, on the right bank of the Norilskaya River. Geologically, the Talnakh Ore Cluster is located on the north-western margin of the Siberian Craton and includes the world's largest Oktyabrskoye and Talnakhskoye copper-nickel deposits. In the early 1960s, multiple deposits of high-grade, cuprous and disseminated ores were discovered within the area. Nornickel is still well supplied with base and noble metals from the uniquely rich and vast resource base of the Talnakh Ore Cluster developed through mining operations of its Norilsk Division. In 2021, SRK Consulting (Russia) developed a methodology for estimating mineral resources and ore reserves and re-estimated the mineral resource base of the Talnakh Ore Cluster using 3D modelling data. With models updated as of 1 January 2022, the mineral resources of all ore types were adjusted to add 232 mln t to the previous estimate, including 11 mln t in rich ores, 38 mln t in cuprous ores and 183 mln t in disseminated ores. Proven and probable reserves increased by 452 mln t due to new mining project launches and the development of design documents.



Reserves and resources

Item	2019	2020	2021
PROVEN AND PROBABLE RESERVES			
Ore, mln t	631	623	1,108
Nickel, mln t	6.0	5.9	8.0
Copper, mln t	11.4	11.2	15.0
PGMs, Moz	112	110	158
MEASURED AND INDICATED RESOURCES			
Ore, mln t	1,554	1,546	1,368
Nickel, mln t	11.3	11.2	10.9
Copper, mln t	21.6	21.4	20.4
PGMs, Moz	234	232	221
INFERRED RESOURCES			
Ore, mln t	437	433	842
Nickel, mln t	3.7	3.6	4.9
Copper, mln t	7.6	7.5	9.1
PGMs, Moz	78	76	100
TOTAL			
Ore, mln t	1,991	1,979	2,210
Nickel, mln t	15.0	14.8	15.8
Copper, mln t	29.2	28.9	29.5
PGMs, Moz	312	308	321

PROVEN AND PROBABLE RESERVES INCREASED BY 452 MLN T DUE TO NEW MINING PROJECT LAUNCHES AND THE DEVELOPMENT OF DESIGN DOCUMENTS.

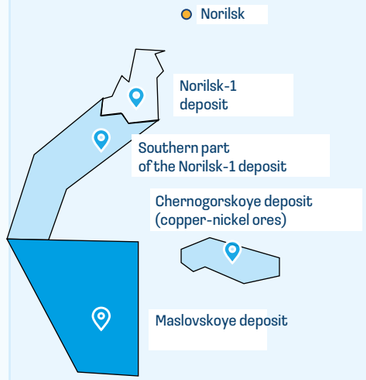
Norilsk Ore Cluster

The Norilsk ore cluster is also located in the Norilsk Industrial District. Brownfields within the NID include the northern part of the Norilsk-1 deposit producing disseminated copper and nickel sulphide ores since the 1930s. In 2020, the resource estimate for deposit was updated against new permanent exploratory standards for open-pit and underground mining. A feasibility study of permanent exploratory standards and a reserve statement for the Norilsk-1 deposit (northern part) were approved by the State Commission for Mineral Reserves of the Russian Ministry of Natural Resources and included into the State Register of Mineral Reserves. In 2021, SRK Consulting completed an estimate of mineral resources and ore reserves. The estimate of the deposit's ore reserves was based on the feasibility study, which drove an increase in proven and probable reserves.

Design documentation providing for the development of the deposit's remaining reserves took into account the additional resource potential not covered by earlier project solutions, enabling us to add 104 mln t of disseminated ore to Nornickel's proven and probable reserves.

To raise additional external investments in brownfield expansion in the northern part of the Norilsk-1 deposit, Nornickel has launched the South Cluster project, which is currently ongoing.

A licence to develop the Norilsk-1 deposit, as well as some of the Polar Division assets, were transferred to Medvezhy Ruchey, a wholly owned subsidiary established specifically to implement the expansion project. Medvezhy Ruchey includes Norilsk Concentrator, an open-pit and an underground mine at Zapolyarny Mine, and tailing dumps No. 1 and Lebyazhye.



Reserves and resources

Item	2019	2020	2021
PROVEN AND PROBABLE RESERVES			
Ore, mln t	42	40	144
Nickel, mln t	0.1	0.1	0.3
Copper, mln t	0.2	0.2	0.4
PGMs, Moz	8	8	19
MEASURED AND INDICATED RESOURCES			
Ore, mln t	145	157	147
Nickel, mln t	0.4	0.4	0.4
Copper, mln t	0.6	0.6	0.5
PGMs, Moz	25	26	23
INFERRED RESOURCES			
Ore, mln t	1	-	12
Nickel, mln t	0,003	-	0.03
Copper, mln t	0,003	-	0.04
PGMs, Moz	0.3	-	2
TOTAL			
Ore, mln t	146	157	159
Nickel, mln t	0.4	0.4	0.4
Copper, mln t	0.6	0.6	0.5
PGMs, Moz	25	26	25

PROVEN AND PROBABLE RESERVES OF OF DISSEMINATED ORE INCREASED BY 104 MLN T DUE TO REVALUATION.

KOLA DIVISION

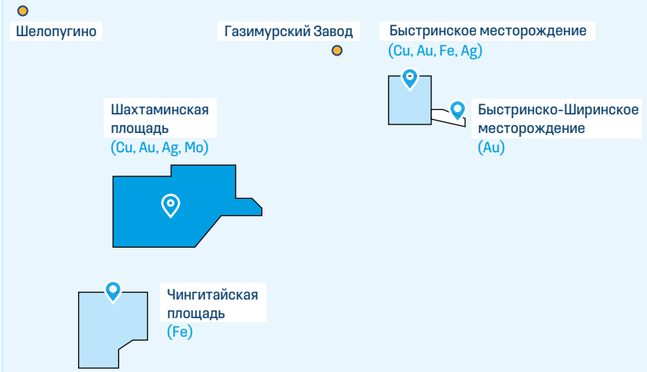
The Kola Division develops deposits located within a 25 km stretch between Nikel and Zapolyarny in the west of the Murmansk Region and grouped into two ore clusters: Western (Kotselvaara and Semiletka deposits) and Eastern (Zhdanovskoye, Zapolyarnoye, Bystrinskoye, Tundrovoye, Sputnik, and Verkhneye deposits). The deposits in the Western and Eastern clusters have been developed since the 1930s and 1960s, respectively.

Reserves and resources

Item	2019	2020	2021
PROVEN AND PROBABLE RESERVES			
Ore, mln t	85	80	74
Nickel, mln t	0.5	0.5	0.5
Copper, mln t	0.3	0.2	0.2
PGMs, Moz	0.1	0.1	0.1
MEASURED AND INDICATED RESOURCES			
Ore, mln t	321	316	310
Nickel, mln t	2.2	2.2	2.1
Copper, mln t	1.1	1.1	1.0
PGMs, Moz	0.8	0.8	0.8
INFERRED RESOURCES			
Ore, mln t	144	142	141
Nickel, mln t	0.9	0.9	0.9
Copper, mln t	0.4	0.4	0.4
PGMs, Moz	0.3	0.3	0.3
TOTAL			
Ore, mln t	465	458	451
Nickel, mln t	3.1	3.1	3.0
Copper, mln t	1.5	1.5	1.4
PGMs, Moz	1.1	1.1	1.1

TRANS-BAIKAL DIVISION

The Trans-Baikal Division develops the Bystrinskoye deposit located 16 km east of Gazlmursky Zavod in the Zabaykalsky Region. Nornickel owns 50.01% of GRK Bystrinskoye which develops gold-iron-copper ores. In 2021, CSA Global completed an estimate of mineral resources of the Bystrinskoye deposit in line with the JORC Code based on an updated resource model, which reflects both complexity and diversity of the deposit's ore types. In 2021, Nornickel obtained an exploration licence to prospect for, and appraise, flanks of the Bystrinskoye deposit.



Reserves and resources

Item	Ore	Copper	Gold	Silver	Iron
Proven and probable reserves	281.3 mln t	1.7 mln t	176 t (5.6 Moz)	870 t (28 Moz)	42.0 mln t
Measured and indicated resources	273.5 mln t	1.9 mln t	182 t (6.4 Moz)	990 t (32 Moz)	48.5 mln t
Inferred resources	60.7 mln t	243 kt	30 t (1 Moz)	163 t (5.2 Moz)	8 mln t

Growth projects

MASLOVSKOYE DEPOSIT

The Maslovskoye deposit is located in the Norilsk Industrial District, 12 km south of Norilsk. Geologically, the deposit is part of the Norilsk Ore Cluster. The Company received the licence to explore and mine the Maslovskoye deposit's platinum-copper-nickel sulphide ores upon its discovery in 2015.

Reserves

A feasibility study of permanent exploratory standards and a reserve statement for the Maslovskoye deposit were approved by the State Commission for Mineral Reserves of the Russian Ministry of Natural Resources and included into the State Register of Mineral Reserves.

B + C1 + C2 mineral reserves

Item	Reserves	Metal grade
Total ore	206.8 mln t	–
Palladium	33,087 koz	5.0 g/t
Platinum	13,040 koz	2.0 g/t
Nickel	711 kt	0.3%
Copper	1,098 kt	0.5%
Cobalt	26 kt	0.01%
Gold	1,268 koz	0.2 g/t

BUGDAINSKOYE DEPOSIT

The Bugdainskoye molybdenum deposit lies in the Alexandrovo-Zavodsky District of the Zabaykalsky Region, 30 km north-west of Alexandrovsky Zavod. Its mineral reserves were included into the State Register of Mineral Reserves in 2007. In 2014, Nornickel halted the development of the Bugdainskoye deposit for three years amid a low-price environment across the global molybdenum market, and in 2017 extended the suspension of operations for another five years, until 31 December 2022.

B + C1 + C2 mineral reserves

Item	Reserves
Ore	813 mln t
Molybdenum	600 kt
Gold	360 koz
Silver	6,221 koz
Lead	41 kt

BYSTRINSKO-SHIRINSKOYE DEPOSIT

The Bystrinsko-Shirinskoye gold ore deposit is located 24 km south-east of Gazimursky Zavod in the Zabaykalsky Region. The licence area shares a boundary with the Bystrinskoye deposit. In 2021, the Company developed the necessary document package to enhance the exploration project design. In 2022, Nornickel will submit a final reserve statement for the site to the government authorities responsible for managing subsoil assets.

DEPOSITS
TALNAKH ORE CLUSTER

To unlock the full potential of its deposits supporting existing operations and determine the best configuration for new operations, Nornickel explores the Talnakh Ore Cluster deposits, ensuring increases in high-grade and cuprous ore reserves.

Eastern flank of the Oktyabrskoye deposit

Surface exploration was conducted in 2020–2021. The project uncovered new high-grade ore zones as well as further defined the boundaries and delivered a detailed geology of the high-grading ore reserves within the Severnaya 3 and Severnaya 4 deposits. The state expert review found the reserve statement compliant with applicable regulations, with the rich ore reserves of these deposits included into the State Register of Mineral Reserves.

Western flank of the Oktyabrskoye deposit

In 2017, Nornickel obtained an exploration licence to prospect for, and appraise, mineral deposits within the western flank of the Oktyabrskoye deposit. The exploration licence area shares a boundary with the already licensed mining area at the Oktyabrskoye copper-nickel ore deposit. In 2021, prospecting for the project was completed. Preliminary estimates of the Zapadny section suggest potential reserve growth of 500 kt in high-grade copper and nickel ores, 2,140 kt in cuprous ores, and 546 kt in disseminated ores. Appraisal phase exploration activities will continue in 2022, to be followed by a state expert review and approval of the reserves by the State Commission for Mineral Reserves.

DEPOSITS
NON-METALLIC MINERAL

Mokulayevskoye deposit

The Mokulayevskoye limestone deposit lies 10 km north-west of the production sites of the Oktyabrsky and Taimyrsky Mines. The mining licence for this limestone deposit was obtained upon its discovery in 2017. In 2018, the State Commission for Mineral Reserves of the Russian Ministry of Natural Resources reviewed the feasibility study of permanent exploratory standards and the reserve statement for the deposit, and included its limestone reserves into the State Register of Mineral Reserves for potential use in cement and lime production and in sulphuric acid neutralisation. The deposit can be developed through open-pit mining.

Its B + C1 + C2 balance reserves of limestone are 135,661 kt.

Building stone (dolomite) reserves at 1.2 million m3 were confirmed by an exploration programme conducted in 2021. The measured reserves will be used to construct in-pit roads to enable the deposit's further development.

Ozero Lesnoye deposit

The deposit is developed within licence area No. 1 of the Ozero Lesnoye deposit located 22 km north of Norilsk. In 2017, Nornickel obtained a survey, exploration and mining licence for the magmatic basalt reserves of the Ozero Lesnoye deposit (licence area No. 2), which is adjacent to licence area No. 1.

Following a review of the 2019 feasibility study of permanent exploratory standards and the reserve statement, the deposit's basalt reserves were included into the State Register of Mineral Reserves for potential use as inert reinforcement for backfill concrete in underground mines. The C1 + C2 balance reserves of basalt are 187,911 thousand m3.

In 2022, Nornickel is planning to update its reserve estimate for the deposit's two licence areas and start working on a single detailed geological study to ensure the continuous production of magmatic basalts from the Ozero Lesnoye deposit.

Gribanovskoye deposit

In 2020, Nornickel obtained an exploration and mining licence upon the discovery of the Gribanovskoye deposit, located on the Yenisey River, 22.5 km south of Dudinka. Exploration phase activities were completed, and a pilot operation was started at the deposit in 2020. A state expert review of the feasibility study of permanent conditions and the reserve statement was conducted in 2021. 87,798 kt of sand reserves used for operational needs were confirmed as C1 + C2 reserves.

Gorozubovskoye deposit

In 2020, following further examination of the deposit's flanks carried out as part of follow-up exploration of the Gorozubovskoye anhydrite deposit, the reserves were reclassified from C2 to C1. As a result, the deposit's reserves were recalculated. A certificate issued by the State Commission for Mineral Reserves confirmed the parameters of updated standards; anhydrite reserves were confirmed as follows: C1 balance reserves at 81,830 kt, C2 balance reserves at 12,484 kt, and A + B + C1 + C2 off-balance reserves at 1,640 kt.

PROMISING
AREAS

Yuzhno-Norilskaya area

The Morongovsky and Yuzhno-Yergalakhsky copper-nickel sulphide ore prospects lie within the Yuzhno-Norilskaya area, located 30 km south of Norilsk. In 2019, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, prospecting drilling was conducted across prospects. A report on the area's potential is to be prepared in 2022 upon the completion of chemical and analytical studies and laboratory tests.

Mikchangdinskaya area

The Neralakhsky, Yuzhno-Neralakhsky, Snezhny, Yuzhno-Ikensky and Medvezhy copper-nickel sulphide ore prospects lie within the Mikchangdinskaya area, located 70 km north-east of Norilsk. Between December 2019 and April 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, prospecting drilling was conducted at prospects identified by geophysical and geochemical prospecting across areal zones, which confirmed that the area has a potential for containing copper-nickel sulphide ores. Prospecting drilling is planned to continue in 2022.

Arylakhskaya area

The Yttakhsky, Samoyedsky and Mastakh-Salinsky copper-nickel sulphide ore prospects lie within the Arylakhskaya area, located 160 km north-east of Norilsk. In May 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, prospecting drilling was started at prospects identified by geophysical and geochemical prospecting across areal zones. Prospecting drilling is planned to continue in 2022.

Alenuyskaya area

The Severo-Alenuysky and Yuzhno-Alenuysky gold-copper porphyry and epithermal gold-quartz mineralisation prospects lie within the Alenuyskaya area, located in the Alexandrovo-Zavodsky Municipal District of the Zabaykalsky Region. In February and March 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2020–2021, the Company conducted geophysical and geochemical prospecting across areal zones and identified drilling targets to confirm the geology.

Mostovskaya area

The Zapadno-Mostovsky and Vostochno-Mostovsky gold-copper porphyry and epithermal gold-quartz mineralisation prospects lie within the Mostovskaya area, located in the Mogochinsky District of the Zabaykalsky Region. In May 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2020–2021, the Company conducted geophysical and geochemical prospecting across areal zones and identified drilling targets to confirm the geology.

Dogyinskaya area

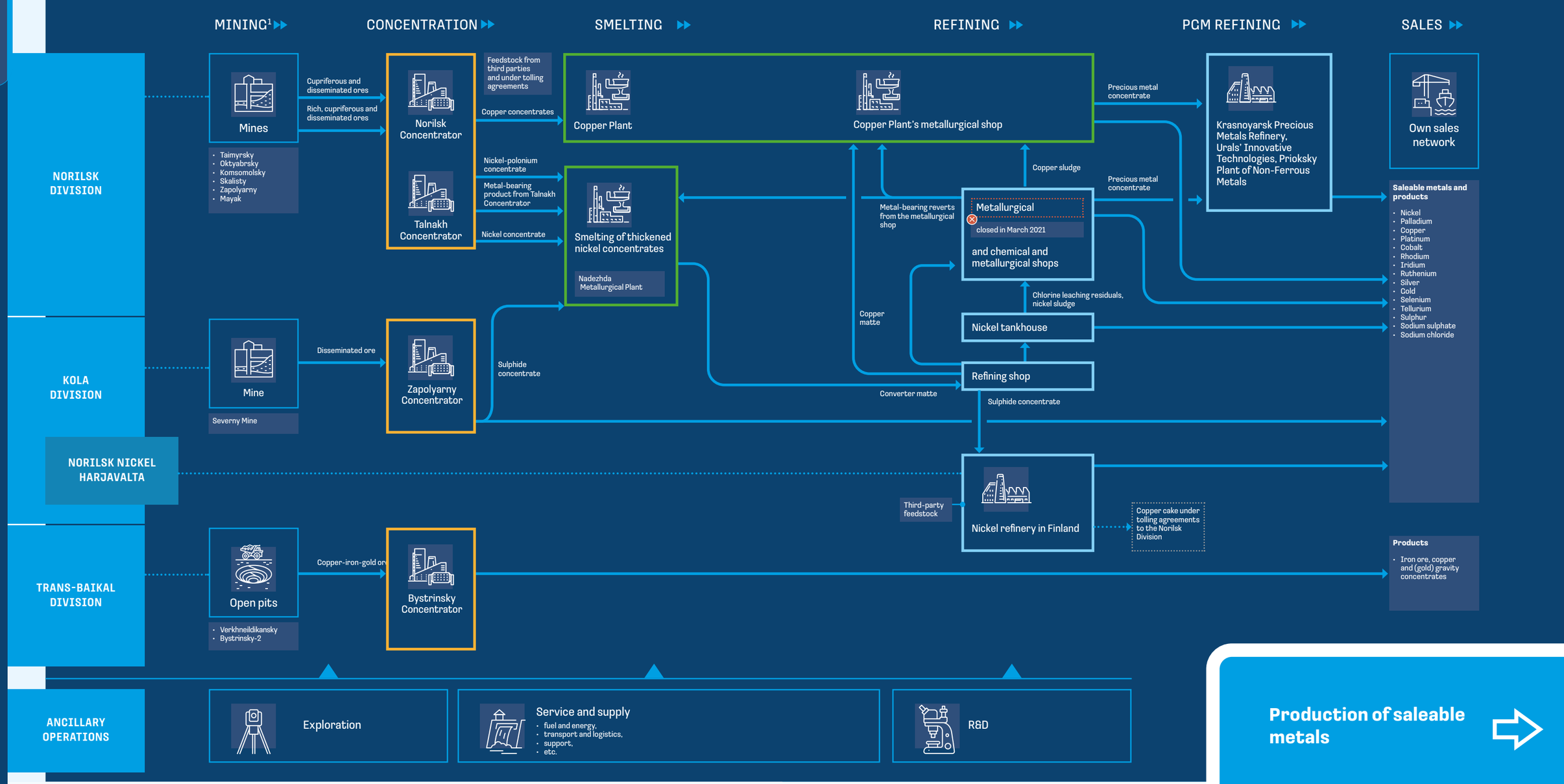
The Severo-Dogyinsky and Yuzhno-Dogyinsky gold-copper porphyry and epithermal gold-quartz mineralisation prospects lie within the Dogyinskaya area, located in the Gazimuro-Zavodsky District of the Zabaykalsky Region. In March and April 2021, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, the Company conducted geophysical and geochemical prospecting across areal zones, to be continued in 2022 to further identify drilling targets to confirm the geology.

Shamyanskaya area

Zapadno-Shamyansky, Tsentralno-Shamyansky and Vostochno-Shamyansky prospecting areas of gold-copper porphyry mineralisation prospects lie within the Shamyanskaya area in the Zabaykalsky District of the Zabaykalsky Region. In September 2021, Nornickel obtained an exploration licence to prospect for, and appraise, deposits at the Zapadno-Shamyansky prospect. Subsoil licenses for the Tsentralno-Shamyansky and Vostochno-Shamyansky prospects are expected to be obtained in 2022.

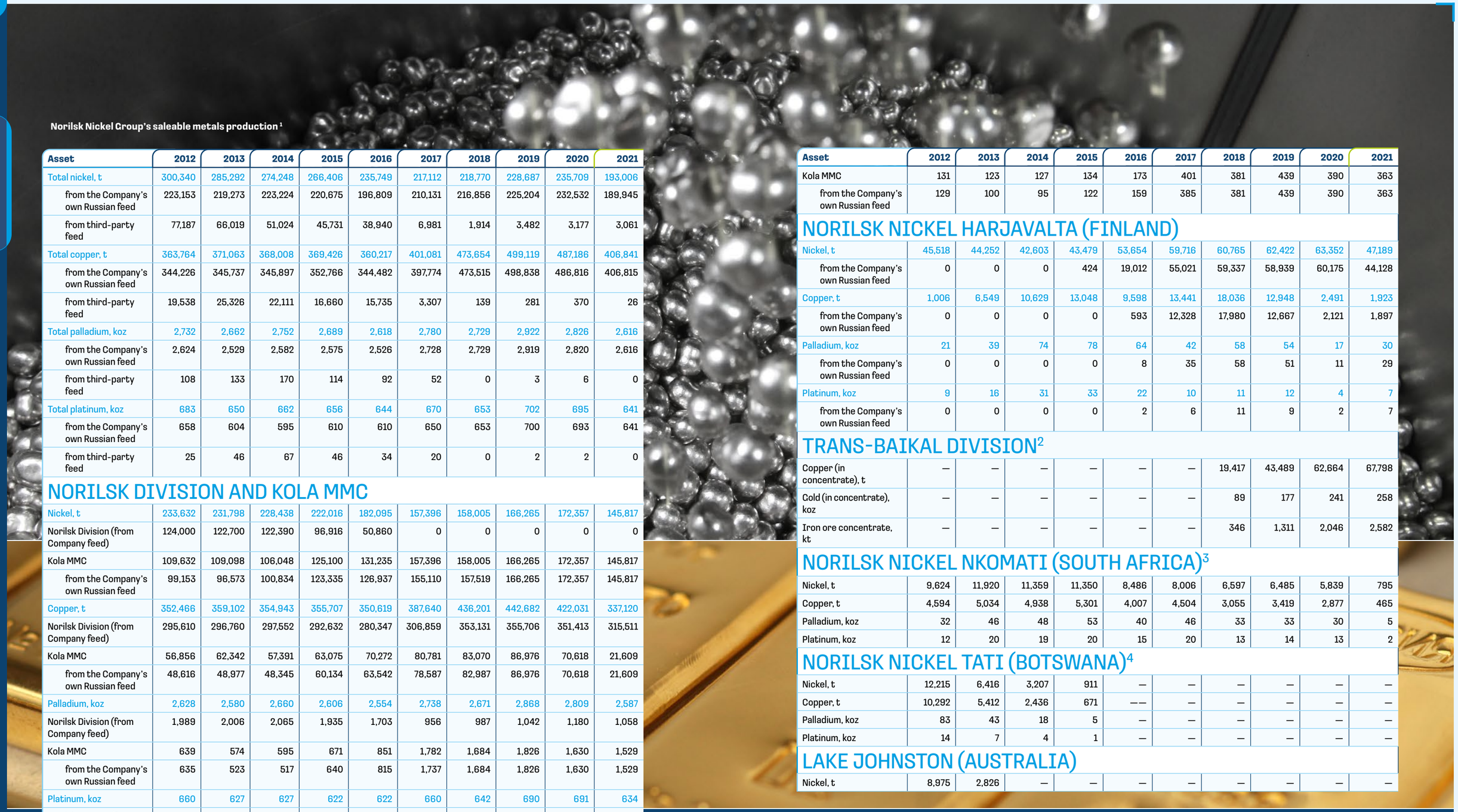
OPERATIONAL PERFORMANCE

PRODUCTION FLOW



Production of saleable metals

1 sulphide copper-nickel and copper-iron-gold ores



Norilsk Nickel Group's saleable metals production [1]

Asset	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total nickel, t	300,340	285,292	274,248	266,406	235,749	217,112	218,770	228,687	235,709	193,006
from the Company's own Russian feed	223,153	219,273	223,224	220,675	196,809	210,131	216,856	225,204	232,532	189,945
from third-party feed	77,187	66,019	51,024	45,731	38,940	6,981	1,914	3,482	3,177	3,061
Total copper, t	363,764	371,063	368,008	369,426	360,217	401,081	473,654	499,119	487,186	406,841
from the Company's own Russian feed	344,226	345,737	345,897	352,766	344,482	397,774	473,515	498,838	486,816	406,815
from third-party feed	19,538	25,326	22,111	16,660	15,735	3,307	139	281	370	26
Total palladium, koz	2,732	2,662	2,752	2,689	2,618	2,780	2,729	2,922	2,826	2,616
from the Company's own Russian feed	2,624	2,529	2,582	2,575	2,526	2,728	2,729	2,919	2,820	2,616
from third-party feed	108	133	170	114	92	52	0	3	6	0
Total platinum, koz	683	650	662	656	644	670	653	702	695	641
from the Company's own Russian feed	658	604	595	610	610	650	653	700	693	641
from third-party feed	25	46	67	46	34	20	0	2	2	0
NORILSK DIVISION AND KOLA MMC										
Nickel, t	233,632	231,798	228,438	222,016	182,095	157,396	158,005	166,265	172,357	145,817
Norilsk Division (from Company feed)	124,000	122,700	122,390	96,916	50,860	0	0	0	0	0
Kola MMC	109,632	109,098	106,048	125,100	131,235	157,396	158,005	166,265	172,357	145,817
from the Company's own Russian feed	99,153	96,573	100,834	123,335	126,937	155,110	157,519	166,265	172,357	145,817
Copper, t	352,466	359,102	354,943	355,707	350,619	387,640	436,201	442,682	422,031	337,120
Norilsk Division (from Company feed)	295,610	296,760	297,552	292,632	280,347	306,859	353,131	355,706	351,413	315,511
Kola MMC	56,856	62,342	57,391	63,075	70,272	80,781	83,070	86,976	70,618	21,609
from the Company's own Russian feed	48,616	48,977	48,345	60,134	63,542	78,587	82,987	86,976	70,618	21,609
Palladium, koz	2,628	2,580	2,660	2,606	2,554	2,738	2,671	2,868	2,809	2,587
Norilsk Division (from Company feed)	1,989	2,006	2,065	1,935	1,703	956	987	1,042	1,180	1,058
Kola MMC	639	574	595	671	851	1,782	1,684	1,826	1,630	1,529
from the Company's own Russian feed	635	523	517	640	815	1,737	1,684	1,826	1,630	1,529
Platinum, koz	660	627	627	622	622	660	642	690	691	634
Norilsk Division (from Company feed)	529	504	500	488	449	259	260	251	302	271

1 Total amounts may vary from the sum of numbers due to arithmetical rounding. The total operating results of Nkomati are not included in the total performance of the Group.

Asset	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Kola MMC	131	123	127	134	173	401	381	439	390	363
from the Company's own Russian feed	129	100	95	122	159	385	381	439	390	363
NORILSK NICKEL HARJAVALTA (FINLAND)										
Nickel, t	45,518	44,252	42,603	43,479	53,654	59,716	60,765	62,422	63,352	47,189
from the Company's own Russian feed	0	0	0	424	19,012	55,021	59,337	58,939	60,175	44,128
Copper, t	1,006	6,549	10,629	13,048	9,598	13,441	18,036	12,948	2,491	1,923
from the Company's own Russian feed	0	0	0	0	593	12,328	17,980	12,667	2,121	1,897
Palladium, koz	21	39	74	78	64	42	58	54	17	30
from the Company's own Russian feed	0	0	0	0	8	35	58	51	11	29
Platinum, koz	9	16	31	33	22	10	11	12	4	7
from the Company's own Russian feed	0	0	0	0	2	6	11	9	2	7
TRANS-BAIKAL DIVISION[2]										
Copper (in concentrate), t	—	—	—	—	—	—	19,417	43,489	62,664	67,798
Gold (in concentrate), koz	—	—	—	—	—	—	89	177	241	258
Iron ore concentrate, kt	—	—	—	—	—	—	346	1,311	2,046	2,582
NORILSK NICKEL NKOMATI (SOUTH AFRICA)[3]										
Nickel, t	9,624	11,920	11,359	11,350	8,486	8,006	6,597	6,485	5,839	795
Copper, t	4,594	5,034	4,938	5,301	4,007	4,504	3,055	3,419	2,877	465
Palladium, koz	32	46	48	53	40	46	33	33	30	5
Platinum, koz	12	20	19	20	15	20	13	14	13	2
NORILSK NICKEL TATI (BOTSWANA)[4]										
Nickel, t	12,215	6,416	3,207	911	—	—	—	—	—	—
Copper, t	10,292	5,412	2,436	671	——	—	—	—	—	—
Palladium, koz	83	43	18	5	—	—	—	—	—	—
Platinum, koz	14	7	4	1	—	—	—	—	—	—
LAKE JOHNSTON (AUSTRALIA)										
Nickel, t	8,975	2,826	—	—	—	—	—	—	—	—

1 The Group owns 50.01% in Bystrinsky COK. The operating results show metals contained in concentrate for sale assuming a 100% ownership by the Group while total operating results include Bystrinsky COK's full performance. Bystrinsky COK was commissioned in 2019.
2 The Company owns 50% in Nkomati. The operating results show metals contained in concentrate for sale assuming a 50% ownership and are not consolidated in the Group's total operating results. In 2019, the Group and African Rainbow Minerals, its partner in the project, decided to close the project, which was eventually put on care and maintenance in Q2 2021 due to termination of operations.
3 The sale of the asset was closed on 2 April 2015.

Group ore output (mln t)

Asset	2019	2020	2021
Assets in Russia (copper-nickel sulphide ores)	**26.3**	**26.5**	**24.62**
Norilsk Division	18.4	18.8	17.5
Kola Division	7.9	7.7	7.2
Assets in Russia (gold-iron-copper ores)	**10.5**	**16.0**	**16.6**
Trans-Baikal Division	10.5	16.0	16.6

Average metal content in mined ore

Asset	2019	2020	2021
NICKEL (%)			
Norilsk Division	1.32	1.30	1.20
Kola Division	0.55	0.53	0.57
COPPER (%)			
Norilsk Division	2.24	2.27	2.09
Kola Division	0.24	0.24	0.25
Trans-Baikal Division	0.60	0.60	0.50
PGMS (g/t)[1]			
Norilsk Division	6.89	6.89	6.69
Kola Division	0.10	0.10	0.29

Metals recovery in concentration (%)

Asset	2019	2020	2021
NICKEL			
Norilsk Division	83.1	84.8	84.3
Kola Division (Kola MMC)	67.9	62.9	67.7
COPPER			
Norilsk Division	95.2	95.1	95.5
Kola Division (Kola MMC)	73.2	71.8	76.8
Trans-Baikal Division	87.7	87.4	86.9
PGMS			
Norilsk Division	85.2	86.4	85.6

1 The PGMs include palladium, platinum, rhodium, ruthenium, and iridium.
2 Metals recovery into bulk concentrate.

Metals recovery in smelting (%)

Asset	2019	2020	2021
NICKEL			
Norilsk Division[1]	94.6	94.1	94.4
Kola Division (Kola MMC)[2]	97.0	96.3	98.3
Kola Division (NN Harjavalta)[2]	97.9	98.2	98.1
COPPER			
Norilsk Division[1]	94.1	94.6	95.1
Kola Division (Kola MMC)[2]	96.5	95.4	99.5
Kola Division (NN Harjavalta)[2]	99.8	99.8	99.8
PGMS			
Norilsk Division[1]	95.8	96.4	96.5
Kola Division (Kola MMC)[2]	91.6	92.9	92.9
Kola Division (NN Harjavalta)[2]	99.8	99.9	99.9

Seleable metals production

Product	2019	2020	2021
GROUP TOTAL			
Nickel, kt	228.7	235.7	193.0
from own feed	225.2	232.5	189.9
Copper, kt	499.1	487.2	406.8
from own feed	498.8	486.8	406.8
Palladium, koz	2,922	2,826	2,616
from own feed	2,919	2,820	2,616
Platinum, koz	702	695	641
from own feed	700	693	641
ASSETS IN RUSSIA			
Nickel, kt	166.3	172.4	145.8
Copper, kt	486.2	484.7	404.9
Palladium, koz	2,868	2,809	2,587
Platinum, koz	690	691	634
NORILSK NICKEL HARJAVALTA (Finland)			
Nickel, kt	62.4	63.4	47.2
Copper, kt	12.9	2.5	1.9
Palladium, koz	54	17	30
Platinum, koz	12	4	7

1 Feedstock to finished products.
2 In refining, converter matte to finished products.

Norilsk Division

The Norilsk Division is the Group's flagship asset boasting a full metals production cycle from ore mining to the shipment of finished products to customers. The Norilsk Division includes the Company's two major production assets – the Polar Division and Medvezhy Ruchey (100% stake), as well as a number of transport and support assets. The Norilsk Division's assets are located on the Russian Taimyr Peninsula – in the Norilsk Industrial District in the north of the Krasnoyarsk Region in the Arctic Circle, and linked to other regions by the Yenisei River, the Northern Sea Route, and by air.

The Norilsk Division operates the largest deposits in the Company's portfolio: Talnakhskoye and Oktyabrskoye, as well as the Norilsk-1 deposit, with a combined annual output of over 17 mln t of copper-nickel sulphide ore.

In 2021, the Norilsk Division accounted for 78% of copper and 41% of PGMs in the Group's total finished products.

MINING PRODUCTION

The Norilsk Division mines copper-nickel sulphide ores of three grades: high-grade ores with a higher content of base and precious metals; cuprous ores with a higher copper content as compared to nickel; and disseminated ores with a lower content of all metals.

The Polar Division of the Norilsk Division develops the Talnakhskoye and Oktyabrskoye deposits through underground mining at the Taimyrsky, Oktyabrsky, Komsomolsky, Skalisty, and Mayak Mines. The mines deploy slicing and room-and-pillar methods with the cut-and-fill system. Stopes are refilled with backfill mixtures, with their composition adjusted in each case depending on technological requirements for mine backfill durability.

The Norilsk-1 deposit is developed by the Zapolyarny Mine (Medvezhy Ruchey – South Cluster project), through open-pit and underground mining. Underground mining is carried out through sublevel (level) caving using front ore passes and self-propelled vehicles.In 2021, total ore production by the Norilsk Division was 17.5 mln t, down 1.4 mln t y-o-y (–7%). High-grade and disseminated ore production decreased by 19% and 3%, respectively, while production of cuprous ores increased by 1%. The year-on-year decrease in production was caused by the temporary suspension of operations at the Oktyabrsky and Taimyrsky Mines due to flooding by groundwater. Both mines have currently resumed their operations in full.

Ore output (mln t)

Deposit/mine, ore type	2019	2020	2021
Total ore	18.42	18.82	17.46
high-grade	7.35	7.48	6.07
cuprous	5.75	5.49	5.55
disseminated	5.32	5.85	5.84
Oktyabrskoye deposit	9.45	9.58	7.39
Oktyabrsky Mine (underground)	5.37	5.34	4.79
high-grade	0.88	0.80	0.58
cuprous	3.38	3.41	3.41
disseminated	1.11	1.13	0.80
Taimyrsky Mine (underground)	4.08	4.24	2.60
high-grade	4.08	4.24	2.60
Talnakhskoye and Oktyabrskoye deposits	7.34	7.55	7.98
Komsomolsky Mine (underground)	4.00	4.25	4.26
high-grade	0.10	0.14	0.35
cuprous	2.28	1.81	1.85
disseminated	1.62	2.30	2.06
Skalisty Mine (underground)	2.34	2.54	2.79
high-grade	2.25	2.27	2.50
cuprous	0.09	0.27	0.29
Mayak Mine (underground)	1.00	0.76	0.93
high-grade	0.04	0.03	0.04
disseminated	0.97	0.73	0.89
Norilsk-1 deposit	1.63	1.69	2.09
Zapolyarny Mine (open-pit/underground)			
disseminated			

SINCE 2020, THE COMPANY HAS BEEN IMPLEMENTING THE TECHNOLOGY BREAKTHROUGH 2.0

Project portfolio aimed at shifting to safe, green and efficient digital operation driven by innovation, big data analytics and unmanned mining technology. Nornickel was the first Russian company to put unmanned autonomous haul trucks into commercial operation at the Skalisty Mine in 2021.

CONCENTRATORS

Talnakh Concentrator

Processes high-grade, cuprous and disseminated ores from the Oktyabrskoye and Talnakhskoye deposits to produce nickel-pyrrhotite and copper concentrates, and metal-bearing products. The key processing stages include crushing, milling, flotation, and thickening.

The resulting thickened concentrates from Talnakh Concentrator and Norilsk Concentrator are transported via slurry pipelines to the metals operations of the Norilsk Division for further processing. In 2021, the Company's concentration facilities processed a total of 16.5 mln t across all types of ore feedstocks.

In 2021, Talnakh Concentrator decreased its ore processing by 7% to 10.1 mln t due to a temporary decline in production caused by the flooding of the Taimyrsky and Oktyabrsky Mines. Recovery of nickel from ore into bulk flotation concentrate, including the output of metal-bearing pyrrhotite product, remained almost flat year-on-year at 87.4% (down 0.5%).

Norilsk Concentrator

Processes all disseminated ores from the Norilsk-1 deposit, cuprous and disseminated ores from the Oktyabrskoye and Talnakhskoye deposits, and low-grade ores from Copper Plant to produce nickel and copper concentrates.
The key processing stages include crushing, milling, flotation, gravity concentration, and thickening.

In 2021, the Norilsk Concentrator reduced its ore processing to 6.4 mln t, down 1.2 mln t y-o-y, as a result of a temporary suspension of processing operations due to an accident. Recovery of nickel from ore into bulk concentrate was 70.0%, down 0.6% y-o-y, due to the concentrator temporarily shifting to processing (crushing) ores from the Talnakhskoye deposit during and after the accident response.

TALNAKH CONCENTRATOR HAS SUCCESSFULLY TESTED THE DIGITAL TWIN OF A FLOTATION OPERATOR

automating
80%
of processes

Its automation algorithms generate recommendations for the ore flotation process in real time to increase metal recovery into concentrate. The project also uses machine vision to monitor ore sizes on several conveyors before it is fed into a semi-autogenous grinding mill, which is essential for optimal grinding control.

Ore processing and nickel recovery

HItem	2019	2020	2021
Ore processing, mln t			
Talnakh Concentrator	10.7	10.9	10.1
Norilsk Concentrator	7.5	7.6	6.4
Nickel recovery, %			
Talnakh Concentrator	85.9	87.9	87.4
Norilsk Concentrator	71.3	70.6	70.0

In 2021, total ore production by the Norilsk Division was
17.46 mln t.

In 2021, the Norilsk Division accounted
for 78% of copper
in the Group's total finished products.

SMELTING

Production chain

The produced concentrates, including steam cured sulphide concentrate, secondary materials, and metal-bearing feed from Kola MMC, are fed into flash smelting furnaces at Nadezhda Metallurgical Plant. Steam cured sulphide concentrate is leached at the hydrometallurgical shop of Nadezhda Metallurgical Plant from products with low metal content, such as Talnakh Concentrator's metal-bearing products, products from Nadezhda Metallurgical Plant's tailings facility, and concentrates from tailings ponds. The matte produced in flash smelting furnaces is then converted into high-grade converter matte.

Copper Plant processes all of the copper concentrate from the Company's concentrators and also a copper cake with Norilsk Nickel Harjavalta to obtain copper cathodes, elemental sulphur, and sulphuric acid for the operational needs of the Norilsk Division.

Copper Plant's metallurgical shop recycles sludge from the copper tankhouses of Copper Plant and Kola MMC to produce precious metal concentrates, commercial selenium, and tellurium.

The precious metals produced by the Norilsk Division are refined at Krastsvetmet and Urals' Innovative Technologies under tolling agreements.

The decrease in copper and PGM output in 2021 was caused by the temporary suspension of operations at Norilsk Concentrator due to an accident, and at two mines due to flooding.

DOWNSTREAM FACILITIES

Nadezhda Metallurgical Plant

Copper Plant

Copper Plant's metallurgical shop

Production volumes

Products	2019	2020	2021
Copper, t	355,706	351,413	315,511
Palladium, koz	1,042	1,180	1,058
Platinum, koz	251	302	271

Products

- Copper cathodes
- Nickel converter matte sent for processing to Kola MMC
- Precious metal concentrates
- Commercial sulphur, selenium
- Tellurium ingots

Kola Division

The Kola Division includes Kola MMC, Nornickel's wholly owned subsidiary. The Kola Division is another key production asset of the Company in Russia, which is located on the Kola Peninsula in the Murmansk Region.

In 2021, Kola MMC accounted for 76%, 5% and 58% of the Group's total nickel, copper, and PGM finished products, respectively.

MINING PRODUCTION

Kola MMC mines disseminated copper-nickel sulphide ores at four deposits: Zhdanovskoye, Zapolyarnoye, Kotselvaara, and Semiletka.

Kola MMC uses various ore mining methods. The Zhdanovskoye and Zapolyarnoye deposits use three mining methods: gravity caving with front ore passes, sublevel caving with room-and-pillar ore removal, and room-and-pillar mining. The Kotselvaara and Semiletka deposits primarily use stoping from sublevel drifts and sublevel caving. Room-and-pillar short-hole and long-hole stoping is also used on a limited scale.

In 2021, Kola MMC produced 7.2 mln t of ore (down 6% y-o-y). The decrease in ore production was due to the fact that the concentrator stopped processing off-balance (sub-economic) ores from the open-pit section to enhance the technical and economic performance in producing sulphide concentrate.

Ore output (mln t)

Deposit/mine	2019	2020	2021
Total ore	7.91	7.65	7.16
Zhdanovskoye deposit:	7.25	7.08	6.55
• Severny Mine (underground section)	6.49	6.43	6.48
• Severny Mine (open-pit section)	0.77	0.65	0.07
Zapolyarnoye deposit:	0.06	0.05	0.03
• Severny section (underground)	0.06	0.05	0.03
Kotselvaara and Semiletka deposits:	0.60	0.52	0.58
• Kaula-Kotselvaara mine (underground)	0.60	0.52	0.58

CONCENTRATION

The concentrator produces nickel sulphide concentrate, which is then sold via third parties or partially shipped to the Norilsk Division for further processing. In 2021, the concentrator processed 7.1 mln t of ore.

Ore processing, (mln t)

Item	2019	2020	2021
Ore processing, mln t	7.60	7.96	7.11

THE CONCENTRATION PLANT SUCCESSFULLY TESTED EXPRESS METHODS TO ASSESS ORE DRESSABILITY BY MEASURING THE ORE'S MAGNETIC PROPERTIES WITH A FERROMETER AND DETERMINING DISSEMINATION, WHICH GOING FORWARD WILL BOOST THE RECOVERY RATES FOR NON-FERROUS METALS.

CONCENTRATION FACILITIES

Zapolyarny Concentrator

SMELTING

In 2021, Kola MMC used only Nornickel's own Russian feedstock in metals production. The decrease in saleable nickel and PGM production was primarily caused by lower supplies of raw materials from the Norilsk Division due to the temporary suspension of operations at the Oktyabrsky and Taimyrsky Mines, and at Norilsk Concentrator. The decrease in saleable copper output was due to the closure of the copper shop in March 2021.

The precious metals produced by the Kola Division are refined at Krastsvetmet and Prioksky Plant of Non-Ferrous Metals under tolling agreements.

Production volumes

Products	2019	2020	2021
Nickel, t	166,265	172,357	145,817
from own Russian feed	166,265	172,357	145,817
Copper, t	86,976	70,618	21,609
from own Russian feed	86,976	70,618	21,609
Palladium, koz	1,826	1,630	1,529
from own Russian feed	1,826	1,630	1,529
Platinum, koz	439	390	363
from own Russian feed	439	390	363

Products:

- Nickel cathodes
- Nickel carbonyl
- Copper cathodes
- Copper concentrate
- Sulphide concentrate from the concentrator
- Electrolytic cobalt
- Cobalt concentrate
- Precious metal concentrates
- Sulphuric acid
- Crushed matte and converter matte for Haijavalta

NORNICKEL SUCCESSFULLY TESTED THE CHEMICAL AND METALLURCICAL SHOP EQUIPMENT TO PERFORM EXPRESS ANALYSIS OF REUSED WATER FOR RHODIUM CONTENT. THE COMPANY ALSO DEPLOYED ULTRA M PRO BY DISTRAN, A DEVICE TO DETECT GAS LEAKS, WHICH REDUCES MECHANICAL ENERGY LOSSES IN PROCESS PIPELINES AND UTILITIES.

Norilsk Nickel Harjavalta (Finland)

Norilsk Nickel Haijavalta located in Haijavalta, Finland, is Nornickel's wholly owned subsidiary, acquired by the Group in 2007. The Haijavalta is apart of the Kola Duvision and processes Nornickel's Russian feedstock and nickel-bearing raw materials sourced from third-party suppliers.

Founded in 1959, it is Finland's only nickel refinery and one of the largest nickel producers in Europe. Harjavalta's capacity is 66 ktpa of nickel products.

The facility uses sulphuric acid leaching with metal recovery rates above 98%, which is a best practice in the global mining and metals industry.

In 2021, Norilsk Nickel Haijavalta accounted for 24%, 1% and 1% of the Group's total nickel, copper and PGM finished products, respectively.

SMELTING

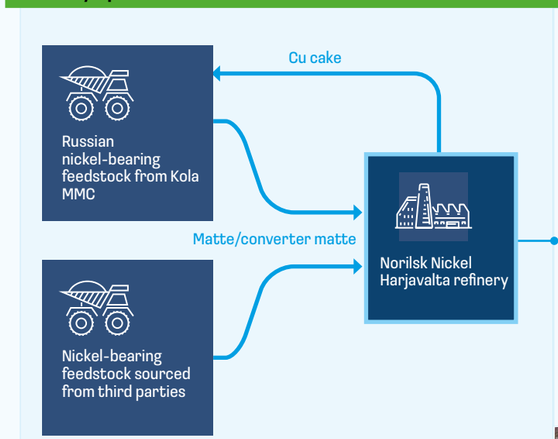
During 2021, Norilsk Nickel Harjavalta mainly processed nickel feed from Kola MMC's refining operations. Third-party feedstocksand nickel salts from other suppliers, were supplied regularly in small amounts throughout 2021. Metal recovery remained high.

In 2021, Norilsk Nickel Harjavalta reduced its nickel production by 26% due to lower supplies of nickel concentrate from Kola MMC. The production of copper in copper cake totalled 1.9 kt, down 23% y-o-y, while the output of saleable palladium and platinum in copper cake increased by 43% y-o-y. The increase was due to increased supplies of crushed converter matte to match operational needs.

Production volumes

Products	2019	2020	2021
Nickel, t	62,422	63,352	47,189
from the Company's own Russian feed	58,939	60,175	44,128
Copper (in copper cake), t	12,948	2,491	1,923
from the Company's own Russian feed	12,667	2,121	1,897
Palladium (in copper cake), koz	54	17	30
from the Company's own Russian feed	51	11	29
Platinum (in copper cake), koz	12	4	7
from the Company's own Russian feed	9	2	7

Facility's process chart



Products:

- Ni:
  - cathodes
  - briquettes
  - salts
  - powders
  - solutions
- Co
  - sulphate
  - solutions
- Cu
  - PGM-bearing copper cake

Trans-Baikal Division

The Trans-Baikal Division includes Bystrinsky GOK, the construction of which was started by Nornickel in 2013 (put into commercial operation in 2019). In 2021, Bystrinsky GOK reached its design capacity. In 2021, the Trans-Baikal Division produced 17% of the Group's total copper output.

17%
In 2021, the Trans-Baikal Division produced 17% of the Group's total copper output

MINING PRODUCTION

Bystrinsky GOK mines gold-iron-copper ores of the Bystrinskoye deposit.

Ore output (mln t)

Mining asset	2019	2020	2021
Total ore	10.49	16.04	16.55
Bystrinskoye deposit:	10.49	16.04	16.55
Verkhne-Ildikansky open-pit mine	8.60	11.57	13.34
Bystrinsky-2 open-pit mine	1.89	4.47	3.21

CONCENTRATION

The facility processes ores of the Bystrinskoye deposit into copper, iron ore and gold concentrates. Its key processing stages include crushing, milling, flotation, thickening, filtration, and end product packaging. The concentrator has two processing lines. In 2021, it processed 10.47 mln t of ore (2019: 9.76 mln t). The increase was due to scheduled ramp-up to design capacity.

Copper and iron ore concentrates are sold via third parties, while gold concentrates are further processed at the Norilsk Division.

Products:

- Copper concentrate
- Gold concentrate
- Iron ore concentrate

Production volumes

Products	2019	2020	2021
Ore processing, mln t	7.50	9.76	10.47
Copper (in copper concentrate), t	43,489	62,663	67,798
copper content in the concentrate, %	25.50	24.65	22.87
Gold (in copper and gold concentrates), koz	177	241	258
gold content in the concentrate, g/t	4,034	3,050	2,627
Iron ore concentrate, kt	1,311	2,047	2,582
iron content in the concentrate, %	64.60	64.22	63.72

A PROJECT TO OPTIMISE FLOTATION PROCESSES USING THE DIGITAL TWIN OF A FLOTATION OPERATOR (TALNAKH CONCENTRATOR) WAS PILOTED AT BYSTRINSKY GOK.

The pilot was rated as successful, and in 2022 we plan to conduct repeat testing of the system using video analytics of the foam layer in flotation cells and measuring metrics such as froth floatation speed, bubble size and foam color in real time.

SALES AND SUPPLY CHAIN

Products

One of the Company's main objectives is to make sure its product range matches the global demand mix for metals now and in the future, which is essential to generating demand for its products.

NICKEL

The main market segment for Nornickel's nickel products remains stainless steel, plating and alloying.

However, in order to prepare the mid-term growth of nickel demand in batteries, Nornickel continues implementing a number of initiatives to enhance and expand its existing product range to support the battery supply chain.

Norilsk Nickel Harjavalta's nickel and cobalt sulphates are considered the industry benchmark and are widely used in battery manufacturing. Norilsk Nickel Harjavalta is uniquely flexible when it comes to making various types of products so it can factor in consumer preferences in developing its product portfolio.

Although the Company already has a wide portfolio of battery materials, it continues to actively engage the battery sector as it expands its product range to match the new requirements for type and quality emerging in the market. The Company developed specialised products for the battery sector based on nickel sulphate solution and plans to further boost the output of nickel products to meet the needs of the emerging ecosystem of battery materials.

Furthermore, the Company has recognized early on that the existing nickel sources will not be able to meet the rising demand of nickel in batteries. Therefore through joint development with an industrial partner, Nornickel designed a competitive process that provides a solution for customers to dissolve nickel and cobalt cathodes thereby ensuring the availability of nickel feedstock for electric vehicles for future projects.

PRECIOUS METALS

The main market segment for its PGM products is and remains the automotive segment and the production of catalysts.

At the same time, Nornickel engages in various initiatives to further promote the use of palladium in future industrial applications.

One of them was The Palladium Challenge - an initiative launched in 2021 and intended to inspire individuals, businesses and academic institutions to invent and design a sustainable use-case that increases the demand for palladium. Furthermore, we have been actively engaging with Russian and international scientific institutions which with our support carry out research to allocate new palladium applications.

Speaking about the future PGM uses, we should name several of those related to the hydrogen economy. Palladium can find important application in hydrogen storage. Moreover, palladium may be a good component in the systems of hydrogen transportation based on the liquefied organic hydrogen carriers (LOHC). In the longer run, palladium may find new applications in electrolysers and fuel cells.

Moreover, palladium may play an important role in hydrogen safety. Among other promising areas where palladium can find its future use, we can name water treatment systems, electric sensors (including those for autonomous vehicles), palladium coatings and alloys in aerospace and electronic applications, energy density enhancing dopings for Li-Ion batteries as well as biofuel catalysis, carbon dioxide capturing devices, cancer drugs and pharmaceutical catalysts and others.

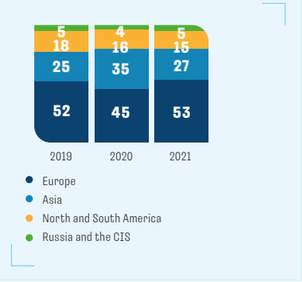
Nornickel together with its partners is working on accelerated adoption of hydrogen technologies and other applications mentioned above to bring closer a cleaner and more sustainable future and ensure the effective energy transition essential to achieve net-zero goals as it was set by the Paris agreement on climate change.

OTHER METALS

Nornickel engages in steady continuous improvement of its quality for its other commodity metals in dialogue with its main industrial customers.

The Company supplies its products to 37 countries around the world, with Europe as the major consumer.

Sales by region (%)



Saleable products

Type of metals	Saleable products	Sales markets						
• Copper cathodes • Intermediate copper products • Nickel cathodes • Nickel carbonyl powder • Nickel shot • Intermediate nickel products • Nickel briquettes • Nickel sulphate crystals • Nickel sulphate solution • Nickel hydroxycarbonate	• Platinum • Palladium • Rhodium • Iridium • Ruthenium • Gold • Cold gravity concentrate • Silver	• Cobalt cathodes • Cobalt sulphate • Cobalt concentrate	Tellurium ingots	Commercial selenium powder	Commercial sulphur	Sodium sulphate	Sulphuric acid	Iron ore concentrate

Sales strategy

Sales, along with production, have traditionally been a key focus area of Nornickel's business.

When it comes to nickel products, the sales strategy focuses on achieving a balance between supplies to stainless steel producers and other industries to secure a stable position in the market.

Electric vehicles and batteries are a priority segment in the nickel consumption structure, as its growth rates suggest that in the long term, it can become the key source of demand for high-grade nickel. Given the Company's wide range of nickel products, high reliability of supply, own global sales platform, and long-term experience of partnering with automakers and chemical companies, Nornickel sees its role as a key element in the development of the electric vehicle market and related value chains. The Company is strongly focused on building long-term relationships with key market participants and considers various forms of cooperation with the battery sector players. Nornickel also conducts research in battery recycling and works on developing integrated solutions for the future battery supply chain.

In the alloys, special steels and electroplating sectors, the Company seeks to maximise the use of its product portfolio advantages and improve product quality to boost its share in high-quality, premium segments.

As the world's largest producer of palladium, the Company follows its strategy of entering into direct long-term contracts with end consumers to sutain strong demand.

Product sales

In 2021, Nornickel once again confirmed its long-standing reputation as a reliable supplier of high-quality products. Every year, the Company conducts customer satisfaction analysis in line with ISO 9001 to get feedback from its customers. Customer feedback is analysed and used to design initiatives to improve product and service quality. The Company is committed to continuous improvement. The integrated index of customer satisfaction with the Company's products and services fully met its target for 2021.

Despite production disruptions in 2021 caused by unforeseen events at the Norilsk Division and notwithstanding the continued logistical issues due to the COVID-19 pandemic, the Company successfully fulfilled all of its obligations to customers without defaulting on any of them. Annual sales for some metals exceeded production volumes due to sales from inventories, which to some extent offset the decrease in planned production.

Demand, as an external driver for product sales, showed mixed trends during 2021. In 2021, the global automotive industry (the main consumer of platinum group metals) fell short of its production targets amid supply disruptions in the market for chips and other components, which, in turn, led to a lower demand for PGMs. Nevertheless, thanks to Nornickel's strategy to develop its own distribution system based on long-term direct relationships with major consumers including automotive companies and PGM processors, the Company delivered on its targets for palladium supply to the industrial consumption sector and ensured the overall efficiency of its product sales.

Nornickel's products are listed on the London Metal Exchange and the Shanghai Futures Exchange.

The Company does not mine or manufacture its products in areas of conflict and/or to finance conflicts. Mining and production comply with human rights policies.

Supply chain

Supply chain management at Nornickel ensures the Group's continuous operation and reliable supplies to customers. Nornickel seeks to work with partners who are committed to occupational safety and environmental protection. The Company also expects its suppliers to follow international best practices and standards in sustainable development and sustainable use of natural and mineral resources, with operations certified through industry initiatives.

Nornickel employs a proprietary multi-tier system to evaluate its suppliers. The criteria for selection, evaluation and re-evaluation of external suppliers have been determined in line with the requirements of ISO 9001:2015 Quality management systems. Nornickel is particularly focused on building relationships with suppliers whose equipment is unique and critical for the stable operation of the Company's production facilities.

Nornickel gives preference to local suppliers to provide social support to its operating regions. Along with saving jobs, this policy supports unique enterprises whose continuous operation is essential to both the well-being of their employees and the social fabric of local communities.

ESG-DRIVEN SUPPLIER SELECTION

Nornickel seeks to create a common information space and set of values with its suppliers. Consideration of ESG factors in supplier selection, combined with the use of advanced equipment and materials, regular pilot tests and operational improvements enable lean resource management and reduce environmental footprint, directly improving the environmental performance of Nornickel's operations.

In 2021, the Company approved its Responsible Sourcing Policy (the "Policy") covering all of the Company's activities related to supplier selection in the supply chain of raw materials, goods, works, and services. The purpose of the Policy is to define the Company's approach to responsible sourcing and declare standards and principles to be followed by the Company and its suppliers.

Together with the Policy, the Company approved the Supplier Code of Conduct (the "Code"), which introduced procedures for responsible selection of suppliers in accordance with ESG requirements in all of Nornickel's supply chains.

Also in the reporting period, the Company began developing a due diligence management system (DDMS) for its supply chains focused on identifying potential risks affecting the sustainability of business processes in supply chains as well as minimising the following risks:

- Violation of human rights and freedoms
- Support for non-state armed groups
- Illegal control of mines and raw material transportation
- Corruption and bribery
- Misinformation across the supply chain from ore mining to product delivery to consumers

The Policy and the Code are the key tools of the DDMS. A number of new DDMS tools are planned to be developed and deployed in 2022. The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and a five-step model for risk-based due diligence on supply chains provide a methodological framework for developing the DDMS.

The DDMS ensures compliance with the following requirements and guidelines:

- London Metal Exchange responsible sourcing policy
- Standards and principles of leading sustainable development initiatives in the industry: ICMM, IRMA, RMI, and JDDS
- Requirements of the Company's clients

As part of the DDMS implementation, the Company held training events for its employees and began assigning roles and developing a roadmap for the Code implementation.

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TfS, RSBN and RMI audits as well as a number of customer-requested audits were conducted in 2021. Audits of the production sites of Nornickel's divisions and PGM product processors included evaluation of all ESG aspects: environmental, social and corporate governance. The auditors also made recommendations on engaging contractors on compliance with the Company's policies.

TFS, RSBN AND RMI AUDITS AS WELL AS A NUMBER OF CUSTOMER-REQUESTED AUDITS WERE CONDUCTED IN 2021.

For example, the TfS audit verified that the employees of Nornickel and contractors outside the Group were not paid below the living wage. The verification identified violations on the part of some contractors, followed by improvement notices to the non-compliant contractors.

In 2021, the Company delivered a series of trainings for its internal suppliers on sustainability standards for responsible supply chains (OECD, JDDS). A total of 80 employees of the Company have been trained.

The DDMS will enable the identification of all supply chain participants which, provided they comply with the Policy and the Code, will improve decision making and strengthen the Company's position on the global market.

The Company's model master agreement with contractors now includes a separate clause on ESG compliance with the following provisions:

- Zero tolerance for discrimination and retaliation
- Requirements for working conditions and remuneration and prevention of child and forced labour
- Environmental protection requirements
- Anti-corruption
- Compliance with the UN Global Compact

Given the risk of potential negative environmental impact of cargo in transit, the master agreement sets explicit requirements for cargo packaging. Goods to be shipped must meet the cargo standards and requirements of GOST 26653-2015 Preparation of general cargoes for transportation and GOST 15846-2002 Production for transportation to the areas of the Far North and similar regions. Packaging, labelling, transportation and storage. Mandatory requirements are established for the transport containers and product packaging that should ensure cargo integrity during multiple transshipments and transportation to the Far North.

Environmental impact is assessed throughout the life cycle of procured products: production, transport, storage, use, and disposal. Nornickel requires its contractors to have a functioning environmental management system in place and to ensure that all services and products delivered by them comply with local environmental laws.

PROCUREMENT

The main objective of procurement at Nornickel is to facilitate the timely and full satisfaction of its needs in required products supplied to the specified quality and reliability standards at acceptable price, as well as maximising the value for money spent on such products.

Nornickel's procurement process is certified to international standards ISO 9001 and ISO 14001. Uniform procedures apply to both centralised procurement for Nornickel and to independent procurement by the Head Office units, the Company's branches and the Group enterprises. Depending on the budgeted cost, procurement can follow a tendering, simple or simplified procedure. Procurement procedures may involve collective procurement bodies at various levels, such as the tender committee, tender commissions of the Head Office, procurement and tender commissions of branches and Group companies.

Nornickel has in place category procurement policies outlining unified binding principles and approaches to procurement of specific categories to mitigate operational and financial risks, cut costs, reduce working capital requirements, and add reliability and cadence to the supply flow. A total of 45 category procurement policies were in place at Nornickel at the end of 2021, including four new policies approved in 2021. In 2021, about 58% of inventories were purchased for Nornickel's core operations under the category procurement policies.

ENERGY ASSETS

The Company boasts its own energy resource base comprised of four hydrocarbon fields.

Nornickel's key production facilities are located in the Arctic Circle, operating in sub-zero temperatures for about eight months of the year. It is therefore critical for the Group to supply energy not only to its production enterprises but also to infrastructure facilities and communities in its regions of operation.

Norilskgazprom produces gas and gas condensate from the Pelyatkinskoye, Yuzhno-Soleninskoye and Severo-Soleninskoye gas condensate fields, as well as the Messoyakhskoye gas field.

- Start of production: 1969
- Gas reserves: 253.2 bcm
- Gas condensate reserves: 4,697 kt

Norilsktransgaz transports natural gas and gas condensate from fields to consumers. The length of its gas and condensate pipelines totals 1,639 km. The pipelines were commissioned from 1969.

Taimyr Fuel Company is a strategic supplier of light and heavy oil products to the Far North, performing important commercial and social functions as well as exporting gas condensate to European consumers. The company's operations span vast areas of Russia, including the Norilsk Industrial District, the cities of Krasnoyarsk and Dudinka, and the Murmansk and Chita

2,927 Mcm
natural gas production[1]

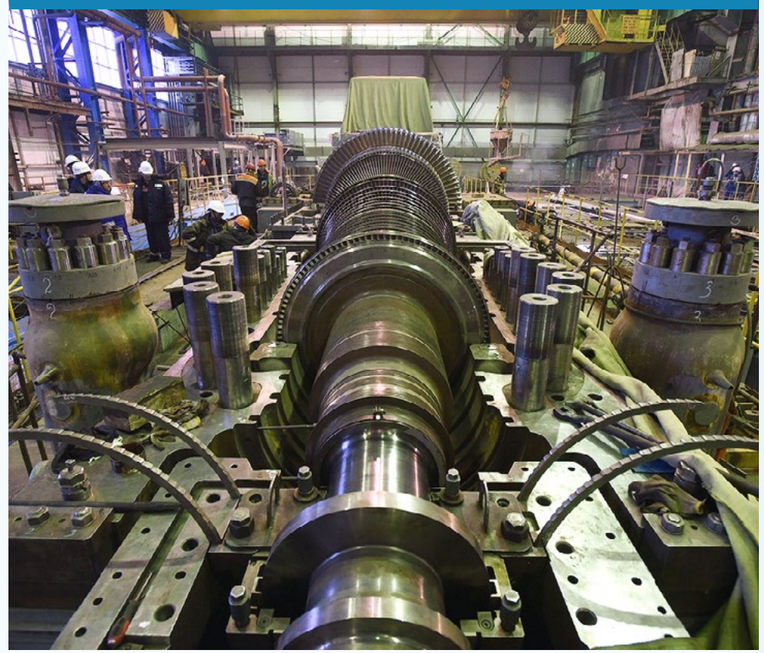
102 kt
gas condensate production

47%
electricity generated from renewable sources in Group

Production volume[1]

Product	2019	2020	2021
Natural gas (Mcm)	2,804	2,728	2,927
Cas condensate (kt)	92	98	102

IN 2021, GROUP'S MAIN FUEL AND ENERGY ASSETS IN THE NORILSK INDUSTRIAL DISTRICT WERE SPUN OFF AS THE ENERGY DIVISION AS PART OF THE GROUP'S MANAGEMENT SYSTEM OPTIMISATION EFFORT.



1 Gas condensate production figures include production losses (carryover with separation gas).

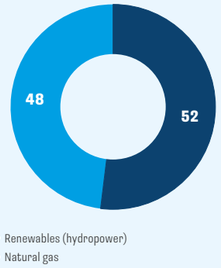
Regions. Taimyr Fuel Company supplies petroleum products to mining, exploration, and transport companies and municipal enterprises. Its key consumers are the Norilsk Nickel Group enterprises.

About 85 kt of AI-92 and AI-95 petrol, diesel and jet fuel as well as almost 2 kt of various oils were delivered to the port of Dudinka between June and October 2021.

This year, regular deliveries of petroleum products to Taimyr will continue during the winter season as well, for the first time ever. Taimyr Fuel Company transitioned to year-round delivery last year, as Nornickel launched a comprehensive programme to upgrade its tank farm facilities.

NTEK is an electricity and heat generation, transmission and distribution company. Energy is generated from both renewable (hydropower) and non-renewable (natural gas) sources. NTEK supplies electricity, heat, and water to Norilsk households as well as all industrial and commercial consumers in the Norilsk Industrial District. The local electricity grid is operationally and geographically isolated from the national grid (the Unified Energy System of Russia), which means stricter reliability requirements. NTEK operates five generating facilities: three thermal power plants with a total installed capacity of 1,115 MW and two hydropower plants with a total installed capacity of 1,111 MW. The total installed capacity of all plants is 2,226 MW.

NTEC's power generation mix in the Norilsk Industrial District in 2021
(%)



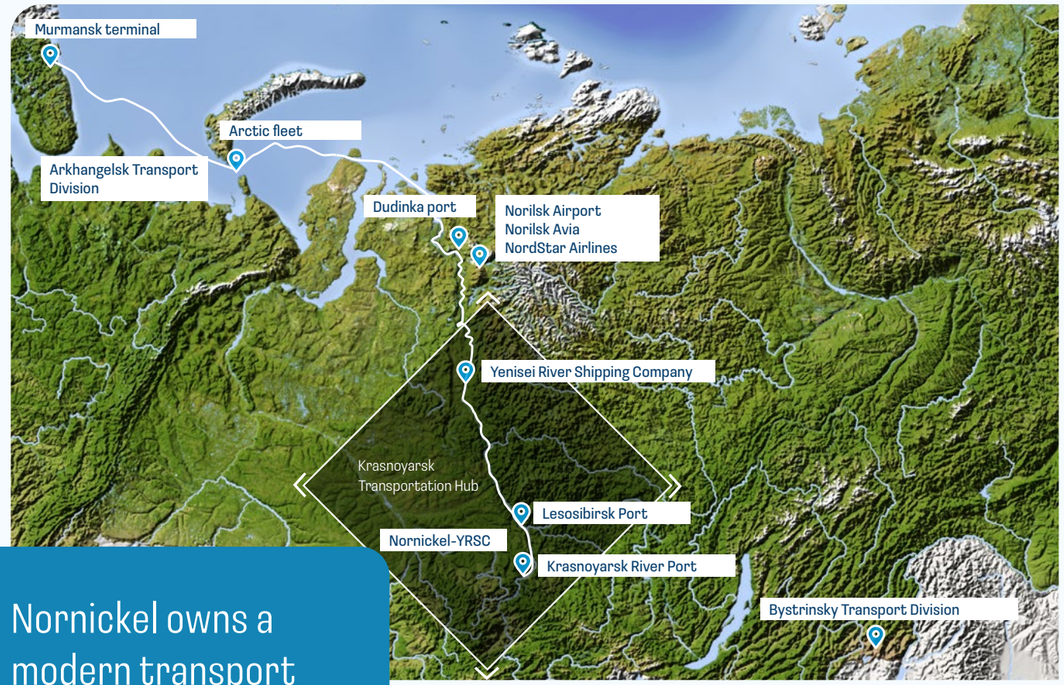
Ust-Khantayskaya and Kureyskaya HPPs are Nornickel's two renewable electricity generation facilities. In 2021, the share of renewables in total electricity generation stood at 47% for the Group and 52% for the Norilsk Industrial District.

Nornickel's investment programme includes a number of large-scale priority projects to boost the share of renewables such as hydropower, capture fuel and energy savings, and improve the reliability of energy and gas supplies.

THE COMPANY'S KEY PROJECTS TO IMPROVE EQUIPMENT RELIABILITY AND ENERGY EFFICIENCY AND TO BOOST OUTPUT INCLUDE:

- replacement of seven hydropower units at the Ust-Khantayskaya HPP (the last hydroelectric unit was replaced in 2021, the project is completed)
- replacement of generating units at CHPP-2 and CHPP-3 in Norilsk
- upgrade of emergency diesel fuel tanks at Norilsk CHPP-1, CHPP-2, CHPP-3, Dudinka boiler house, Ust-Khantayskaya HPP, and Kureyskaya HPP
- upgrade of electric power networks
- upgrade of heat and water pipelines
- construction of a new water withdrawal facilities on the Norilskaya River
- upgrade of the Norilsk heat and water lines
- construction of stormwater and industrial wastewater treatment facilities
- upgrade of trunk and distribution gas pipeline systems;
- upgrade and development of utility infrastructure in Tukhard
- construction of five new gas wells at the Pelyatkinskoye gas condensate field
- comprehensive upgrade of the Norilsk, Dudinka, and Kayerkan tank farms.

TRANSPORT ASSETS



Nornickel's transport and logistics assets cover the full range of transport and freight forwarding services.

Nornickel owns a modern transport infrastructure capable of handling most challenging freight logistics tasks and ensuring continuity and sustainability of operations of Group enterprises.

Asset summary:

- Arc7 Arctic fleet (five dry cargo vessels and one tanker), two port icebreakers (Dudinka and Avraami Zavenyagin)
- 627 vessels of the river fleet (198 self-propelled and 429 towed vessels), including the active core fleet of 425 vessels (129 self-propelled and 296 towed vessels)
- rail car and locomotive fleet – 118 container flatcars, two shunting vehicle, one shunting tractor, and one 2M62 diesel locomotive
- aircraft fleet – 20 Mi-8 helicopters, 10 planes, and Norilsk Airport, ensuring smooth air connectivity for the Norilsk Industrial District

Sea freight shipping services

Nornickel has a unique Arctic fleet comprising five dry cargo vessels and one Yenisei heavy ice-class tanker (Arc7 as per the classification of the Russian Maritime Register of Shipping). The vessels are capable of breaking through Arctic ice up to 1.5 m thick without icebreaker support.

Nornickel's dry cargo fleet provides year-round freight shipping services between Dudinka, Murmansk, Arkhangelsk, Rotterdam, and Hamburg sea ports while also serving other destinations. In 2021, 70 voyages were made from Dudinka (2020: 66), including two direct voyages to European ports (2020: 9).

In 2021, the Company also shipped liquid cargo, including by its own tanker Yenisei, including export supplies of gas condensate from the Pelyatkinskoye field to European ports, oil product deliveries to the Norilsk Industrial District, and commercial voyages to other destinations.

The Polar Transport Division and Dudinka port are the key industrial facilities of the city port of Dudinka, accessible by both sea and river vessels.

Located in the Far North, the Dudinka port is the world's only port that gets flooded every year during the spring thaw. From November to May, its water area and the Yenisei River freeze over. At this period, the Dudinka port handles only sea vessels using icebreakers to de-ice the berths and provide support during manoeuvring and mooring operations. In May and June, during the flooding, the service is suspended to be resumed for sea and river vessels when ice flows pass and the water level goes down.

The Dudinka port transships cargoes destined for the Taimyr Peninsula, including goods for local residents (except for perishables and mail). In summer, river vessels deliver equipment and materials (sand, round timber, clinker, etc.) for process needs from Krasnoyarsk and Lesosibirsk. Sulphur shipments are directed both via the Yenisei River and via sea routes. Converter matte and metal products are shipped by sea from Dudinka throughout the year.

The Polar Transport Division operates its own fleet of port service vessels which includes a river-class icebreaker, towboats, motorboats, a bunker barge, and a floating crane. To reduce its environmental footprint, the division runs programmes to cut fuel consumption and prevent pollution of the Dudinka and Yenisei Rivers, while also investing in bioresource management (e.g., releasing fry).

The year-round ice-free sea port of Murmansk is home to Nornickel's **Murmansk Transport Division.**

The Murmansk Transport Division's key functions:

- Shipment of Nornickel's finished metal products to European ports
- Receipt of converter matte from Dudinka and its shipment by rail to Kola MMC
- Shipment of empty containers, equipment and materials to Dudinka

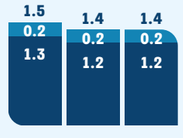
In addition to sea transportation, the Murmansk Transport Division is focused on freight forwarding, transshipment and storage of cargoes, and rail transportation between Murmansk and Monchegorsk.

The division's shipping department complies with international maritime conventions by ensuring environmentally friendly and safe sea transportation, with the vessels undergoing regular scheduled repairs and safety inspections. In addition, in 2019, the Murmansk Transport Division's Information Security Management System was certified to ISO/IEC 27001:2013.

The Arkhangelsk Transport Division is based in Arkhangelsk. The division provides smooth year-round transshipment services for Nornickel's cargo via the Arkhangelsk sea port, which is conveniently linked to other Russian and foreign regions by road, air and rail.

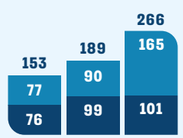
The Krasnoyarsk Transport Division is based in Krasnoyarsk. The division is responsible for transportation and forwarding of Nornickel's cargoes and for carriage of precious metal concentrates.

Dry cargo transportation by Nornickel's fleet[1] (mln t)



1 Except metal products

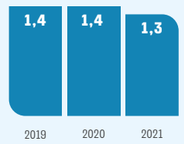
Liquid cargo shipments[2] (kt)



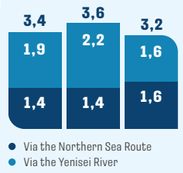
2 Oil products were transported by sea

THE VESSELS ARE CAPABLE OF BREAKING THROUGH ARCTIC ICE UP TO 1.5 M THICK WITHOUT ICEBREAKER SUPPORT.

Cargo traffic at the Murmansk terminal (mln t)



Cargo traffic at the Dudinka port (mln t)



In 2019, **Nornickel-YRSC** was established to coordinate operations of the Krasnoyarsk port and Yenisei River Shipping Company, which operate a strictly seasonal service due to the Yenisei River getting frozen in winter. When ice flows pass, the Group uses the ports to transship Nornickel's cargoes to Dudinka, including crushed stone, clinker, materials, equipment, and socially significant cargoes (as part of the Northern Deliveries programme).

Yenisei River Shipping Company carries the bulk of the Group's and third-party cargoes shipped on the Yenisei River. The company owns over 600 river vessels, including self-propelled and towed ones. The fleet operates in the Yenisei, Angara, Nizhnyaya Tunguska and Podkamennaya Tunguska Rivers, and their largest tributaries.

Krasnoyarsk River Port is one of the largest ports in the Yenisei basin. The port transships cargoes delivered by road, rail and water, provides storage services, and transports cargoes using private railway lines. The port has three operating areas – Yenisei, Zlobino and Peschanka.

Lesosibirsk Port is located 40 km downstream of the point of confluence of the Angara and Yenisei Rivers and downstream of the hard-to-navigate rapids. This secures the delivery of Nornickel's cargoes at times of low water on the Yenisei and the use of fully loaded ships. The port's unique benefits:

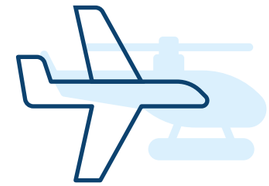
- The only dedicated port on the Yenisei River capable of handling explosives with a storage option
- Offers year-round service (rail-to-road and road-to-rail cargo transshipment services in between navigation periods)
- Has access to the federal Baikal Highway (M53) via the Krasnoyarsk–Yeniseisk Highway
- A railway to Achinsk links Lesosibirsk to the Trans-Siberian Railway

The Bystrinsky Transport Division was established in 2017 to support shipments of finished products from Bystrinsky GOK and handle its inventories. The Bystrinsky Transport Division provides maintenance services for the 227-km Naryn (Borzya)–Gazimursky Zavod private railway line built through a public-private partnership.

The Company's transport and logistics subsidiaries and units are fully environmentally permitted and compliant with applicable environmental regulations, namely:

- Air pollutant emissions from mobile sources do not exceed the maximum allowable levels
- Marine fuels are purchased from suppliers that have all required documents confirming fuel quality. The quality of fuel is verified by an independent laboratory
- Onboard wastewater treatment plants are subject to annual certification to prevent pollution and contamination of water bodies and marine environment
- Oily water is transferred to specialist contractors at sea ports

Aviation assets



Norilsk Avia serves the transport needs of local communities in the Norilsk and Taimyrsky Dolgano-Nenetsky Districts of the Krasnoyarsk Region. The air carrier has its own fleet of 20 helicopters and provides air services related to the operations of the Norilsk Nickel Group, emergency medical flights, search and rescue operations, and local passenger traffic.

NordStar Airlines is an aviation project that has been steadily growing since its establishment in 2008. At the beginning of 2021, the airline's fleet consisted of ten Boeing 737 and five ATR 42-500 aircraft. With the five ATR 42-500 aircraft retired between May and July 2021, the airline's fleet was comprised of ten aircraft at the end of 2021. NordStar Airlines is a major air carrier in the Siberian Federal District and the anchor airline of Norilsk Airport. The air carrier's annual passenger traffic is in excess of one million people. The airline's current route network covers over 30 cities in Russia and the CIS.

Norilsk Airport is located 36 km away from Norilsk. It plays an essential role in ensuring the region's transport accessibility as it connects the north of the Krasnoyarsk Region with other parts of Russia. In 2020, the Company finished renovating the airfield complex and airport infrastructure through a public-private partnership. The renovated Norilsk Airport now meets all current regulatory requirements, offering higher quality and safety standards and ensuring reliable and consistent passenger and freight transport services.

FINANCIAL PERFORMANCE (MD&A)

FY2021 HIGHLIGHTS

Consolidated revenue increased 15% y-o-y to USD 17.9 billion owing to higher metal prices and sale of palladium from the inventories accumulated in 2020, which have positively offset production losses caused by industrial incidents in 1H21;

Oktyabrsky mine returned to its full production capacity in the middle of May, while the Taimyrsky mine and Norilsk concentrator – in December 2021;

EBITDA increased 37% y-o-y to USD 10.5 billion due to higher revenue, of which Bystrinsky GOK (Chita project) contributed USD1.1 billion, EBITDA margin amounted to 59%;

Social expenses doubled to just over USD 1 billion mostly as result of provisions related to the agreements on social and economic development of the city of Norilsk and the Krasnoyarsk region;

CAPEX increased 57% y-o-y to a record USD 2.8 billion driven by growth of investments into key strategic projects, including over USD 500 mln in Sulfur Programme 2.0, which was in active construction phase, and 3- and 4-fold, respectively, increase in investments in South Cluster and Talnakh Concentrator Phase-3 expansion. Expenditures on capitalised repairs, improvement of industrial safety and modernization of core assets were up more than 40% exceeding USD 800 mln;

Net working capital was up y-o-y to USD 1.3 billion driven mostly by increase in metal inventories on the back higher MET and changes in income tax payables;

Free cash flow decreased 34% y-o-y to USD 4.4 billion driven by the reimbursement of the environmental damages in the amount of USD 2 billion and increased capital expenditures;

Net debt was almost flat y-o-y at USD 4.9 billion with net debt/EBITDA ratio of 0.5x as of December 31, 2021. Interest expenses decreased 38% due to efficient management of debt portfolio resulting in a record low average annual interest rate of 2.8%;

In October 2021, the Company successfully placed a 5-year USD 500 mln Eurobond with a coupon rate of 2.80% marking the lowest ever spread to the benchmark in the history of Nornickel's public offerings;

On December 27, 2021, EGM approved the interim dividend for the 9 months of 2021 in the amount of RUB 1,523.17 per ordinary share (approximately 20.81 at the RUB/USD exchange rate set by the Russian Central Bank as of the EGM date) for the total amount of RUB 232.84 bn (approximately USD 3.05 bn)

Key corporate highlights USD million (unless stated otherwise)

Index	2021	2020	Change
Revenue	17,852	15,545	15%
EBITDA[1]	10,512	7,651	37%
EBITDA margin	59%	49%	10 п. п.
Net profit	6,974	3,634	92%
Capital expenditures	2,764	1,760	57%
Free cash flow[2]	4,404	6,640	–34%
Normalized net working capital[2,3]	1,269	712	78%
Net debt[2]	4,914	4,705	4%
Net debt, normalized for the purpose of dividend calculation[4]	4,902	3,469	41%
Net debt/12M EBITDA	0.5x	0.6x	–0.1x
Net debt/12M EBITDA for dividends calculation	0.5x	0.5x	–0.0x
Dividends paid per share (USD)[5]	13.9	26.3	–47%

Key segmental highlights [6] USD million (unless stated otherwise)

Index	2021	2020	Change
Revenue	**17,852**	**15,545**	**15%**
GMK Group	11,836	12,700	–7%
South cluster	767	694	11%
KGMK Group	9,893	8,926	11%
NN Harjavalta	1,493	1,308	14%
GRK Bystrinskoye	1,346	1,004	34%
Other mining	28	137	–80%
Other non-metallurgical	1,533	1,387	11%
Eliminations	–9,044	–10,611	–15%
EBITDA	**10,512**	**7,651**	**37%**
GMK Group	5,456	6,171	–12%
South cluster	397	407	–2%
KGMK Group	3,758	1,757	2x
NN Harjavalta	59	70	–16%
GRK Bystrinskoye	1,076	717	50%
Other mining	–16	–14	14%
Other non-metallurgical	11	31	–65
Eliminations	716	–556	н.п.
Unallocated	–945	–932	1%
EBITDA margin	**59%**	**49%**	**10 p.p.**
GMK Group	46%	49%	(3 p.p.)
South cluster	52%	59%	(7 p.p.)
KGMK Group	38%	20%	18 p.p.
NN Harjavalta	4%	5%	(1 p.p.)
GRK Bystrinskoye	80%	71%	9 p.p.
Other mining	–57%	–10%	(47 p.p.)
Other non-metallurgical	1%	2%	(1 p.p.)

1 A non-IFRS measure, for the calculation see the notes below.
2 A non-IFRS measure, for the calculation see an analytical review document («Data book») available in conjunction with Consolidated IFRS Financial Results on the Company's web site.
3 Paid during the current period
4 Normalized on interim dividends (at the rate of the Board of Directors meeting date) and bank deposits with maturity of more than 90 days
5 Normalized on receivables from the registrar on transfer of dividends to shareholders
6 Segments are defined in the consolidated financial statements

In August 2020, in order to improve management efficiency it was decided to establish Norilsk, Kola and Trans-Baikal divisions. Norilsk division includes GMK Group, South Cluster and a number of companies from "Other non-metallurgical segment". Kola division includes KGMK Group and NN Harjavalta, as well as a number of companies from "Other non-metallurgical segment". Trans-Baikal division includes the GRK Bystrinskoye segment, as well as a number of companies from "Other mining" and "Other non-metallurgical" segments.

In 2021, revenue of GMK Group segment decreased 7% to USD 11,836 million primarily due to the decrease of revenue from selling matte to Kola MMC as well as lower copper sales volumes due to the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator, that was partly offset positively by higher realized metal prices.

Revenue of South cluster segment increased 11% to USD 767 million primarily driven by higher realized prices of semi-products delivered to GMK Group that was partly negatively offset by lower sales volumes due to the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

Revenue of KGMK Group segment increased 11% to USD 9,893 million primarily owing to higher realized metal prices, that was partly negatively offset by lower sales volumes due to the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

Revenue of GRK Bystrinskoye segment increased 34% to USD 1,346 million primarily driven by higher copper and iron prices.

Revenue of Other mining segment decreased 80% to USD 28 million owing to lower sales volumes of semi-products following the termination of Nkomati's operations in 1H2021.

Revenue of Other non-metallurgical segment increased 11% to USD 1,533 million primarily due to increase in revenue from other sales, that was partly offset negatively by lower sales volumes of semi-products following the termination of Nkomati's operations in 1H2021.

In 2021, EBITDA of GMK Group segment decreased 12% to USD 5,456 million primarily owing to lower revenue, as well as higher social expenses and higher cash operating costs due to higher mineral extraction tax and temporarily re-introduced export duties, which were partly positively offset by the lower expenses on environmental provisions.

EBITDA of South cluster segment decreased 2% to USD 397 million due to the increase in mineral extraction tax in 2021, which was partly positively offset by higher revenue.

EBITDA of KGMK Group segment increased 2 times to USD 3,758 million primarily owing to higher revenue and higher margin on matte processing, following the revision of a purchase price formula, that was partly negatively offset by temporary re-introduced export duties.

EBITDA of NN Harjavalta decreased 16% to USD 59 million owing to lower sales volumes due to the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

EBITDA of GRK Bystrinskoye segment increased 50% to USD 1,076 million primarily due to higher revenue.

EBITDA of Other mining segment decreased by USD 2 million to a negative USD 16 million.

EBITDA of Other non-metallurgical segment decreased by USD 20 million and amounted to USD 11 million.

EBITDA of Unallocated segment decreased by USD 13 million and amounted to a negative USD 945 million.

Sales volume and revenue

Index	2021	2020	Change
Metal sales			
Group			
Nickel, thousand tons[1]	200	221	–10%
from own Russian feed	174	198	–12%
from 3d parties feed	3	3	0%
in semi-products[2]	23	20	15%
Copper, thousand tons[1]	383	500	–23%
from own Russian feed	308	427	–28%
in semi-products[2]	75	73	3%
Palladium, koz[1]	2,687	2,634	2%
from own Russian feed	2,656	2,604	2%
in semi-products[2]	31	30	3%
Platinum, koz[1]	628	689	–9%
from own Russian feed	621	684	–9%
in semi-products[2]	7	5	40%
Rhodium, koz[1]	53	58	–9%
from own Russian feed	51	56	–9%
in semi-products[2]	2	2	0%
Cobalt, thousand tons[1]	5	6	–17%
from own Russian feed	4	5	–20%
in semi-products[2]	1	1	0%
Gold, koz[1]	370	386	–4%
from own Russian feed	191	192	–1%
in semi-products[2]	179	194	–8%
Average realized prices of refined metals produced by the Group			
Metal			
Nickel (USD per tonne)	18,528	13,916	33%
Copper (USD per tonne)	9,322	6,221	50%
Palladium (USD per oz)	2,388	2,176	10%
Platinum (USD per oz)	1,088	882	23%
Rhodium (USD per oz)	19,946	12,056	65%
Cobalt (USD per tonne)	39,857	30,745	30%
Gold (USD per oz)	1,804	1,764	2%
Revenue, USD million[3]			
Nickel	3,627	3,144	15%
including semi-products	345	342	1%
Copper	3,789	3,078	23
including semi-products	607	424	43%
Palladium	6,665	6,365	5
including semi-products	69	147	–53%
Platinum	685	622	10%
including semi-products	10	19	–47%
Rhodium	1,056	682	55
including semi-products	28	6	5x
Gold	654	676	–3%
including semi-products	309	336	–8%
Other metals	627	410	53%
including semi-products	391	224	75%
Revenue from metal sales	**17,103**	**14,977**	**14%**
Revenue from other sales	749	568	32%
Total revenue	17,852	15,545	15%

1 All information is reported on the 100% basis, excluding sales of refined metals purchased from third parties and semi-products purchased from Nkomati.
2 Metal volumes represent metals contained in semi-products.
3 Includes metals and semi-products purchased from third parties and Nkomati.

Revenue

NICKEL

Nickel sales accounted for 21% of the Group's total metal revenue in 2021.

In 2021, nickel revenue increased 15% (or +USD 483 million) to USD 3,627 million. The increase was primarily driven by higher realized nickel price (+USD 958 million), which was partially offset negatively by lower sales volume (-USD 478 million).

The average realized price of refined nickel increased 33% from USD 13,916 per tonne in 2020 to USD 18,528 per tonne in 2021.

Sales volume of refined nickel produced from the Company's own Russian feed, decreased 12% (or -24 thousand tonnes) to 174 thousand tonnes owing the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

Sales volume of refined nickel produced from third-party feed remained unchanged at 3 thousand tonnes.

In 2021, sales of nickel in semi-products increased 1% to USD 345 million primarily due to an increase in the sales volume of semi-products following the shut down of a smelter at Kola MMC, which was almost fully negatively offset by lower sales volume of semi-products produced by Nkomati.

In 2021, revenue from the resale of nickel purchased from third parties amounted to USD 3 million.

COPPER

In 2021, copper sales accounted for 22% of the Group's total metal sales, increasing 1 p.p y-o-y. Copper revenue increased 23% (or +USD 711 million) to USD 3,789 million. The increase was primarily driven by higher realized copper price (+USD 1,528 million), which was partly offset negatively by lower sales volume (-USD 1,122 million).

The average realized price of refined copper increased 50% from USD 6,221 per tonne in 2020 to USD 9,322 per tonne in 2021.

Physical volume of refined copper sales from the Company's own Russian feed decreased 28% (or -119 thousand tonnes) to 308 thousand tonnes primarily driven by the temporary suspension of operations at Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

Revenue from copper in semi-products in 2021 increased 43% to USD 607 million driven by higher copper price.

In 2021, revenue from the resale of copper purchased from third parties amounted to USD 305 million.

PALLADIUM

In 2021, palladium accounted for 39% of the Group's total metal revenue, down by 3 p.p. y-o-y. Palladium revenue increased 5% (or +USD 300 million) to USD 6,665 million due to higher realized price (+USD 544 million) and increase in sales volume (+USD 56 million).

The average realized price of refined palladium increased 10% from USD 2,176 per troy ounce in 2020 to USD 2,388 per troy ounce in 2021.

Physical volume of refined palladium sales from the Company's own Russian feed increased 2% (or +52 thousand troy ounces) to 2,656 thousand troy ounces in 2021. The increase in sales volume was driven by the sale of metal from the stock accumulated in 2020, that more than offset by the negative impact from the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

Revenue of palladium in semi-products decreased 53% to USD 69 million in 2021 primarily due to lower sales volume of semi-products produced by Nkomati.

In 2021, revenue from the resale of palladium purchased from third parties amounted to USD 253 million (vs USD 553 million in 2020).

PLATINUM

In 2021, platinum sales increased 10% (or +USD 63 million) to USD 685 million. Platinum remained unchanged at 4% of the Group's total metal revenue. The increase in realized platinum price (+USD 141 million) was partly negatively offset by the decline in sales volume (-USD 78 million).

Physical volume of refined platinum sales from the Company's own Russian feed decreased 9% (or -63 thousand troy ounces) to 621 thousand troy ounces in 2021 due to the negative impact from the temporary suspension of Oktyabrsky and Taimyrsky mines and Norilsk Concentrator.

Revenue of platinum in semi-products in 2021 decreased 47% to USD 10 million primarily due to lower sales volume of semi-products produced by Nkomati.

RHODIUM

In 2021, revenue from rhodium increased 55% (or +USD 374 million) due to the higher realized price.

Revenue from the resale of rhodium purchased from third parties amounted to USD 14 million in 2021.

GOLD

In 2021, revenue from gold declined 3% (or -USD 22 million) primarily due to lower realized volume of semi-products produced by Bystrinsky project.

OTHER METALS

In 2021, revenue from other metals increased 53% (or +USD 217 million) to USD 627 million primarily driven by higher revenue from iron ore concentrate on the back of higher realized price.

Other Sales

In 2021, other sales increased 32% (or +USD 181 million) to USD 749 million primarily due to an increase of air transportation services following the lift of travel restrictions related to the COVID-19 pandemic and higher oil products sales.

In 2021, other sales increase **32%**

Cost of Sales

COST OF METAL SALES

In 2021, the cost of metal sales increased 12% (or +USD 557 million) to USD 5,057 million, driven by the following factors:

- Increase in cash operating costs by 25% (or +USD 988 million);
- Comparative effect of change in metal inventories y-o-y leading to the cost of metal sales reduction by USD 429 million.

CASH OPERATING COSTS

In 2021, total cash operating costs increased 25% (or +USD 988 million) to USD 4,874 million mainly due to the introduction of temporary Nickel and Copper export custom duties in 2H2021 (+USD 442 million) and increase in mineral extraction tax and other levies in real terms (+USD 379 million).

Inflationary growth of cash operating costs (+USD 159 million) was partly positively offset by Russian rouble depreciation against USD (-USD 40 million).

Cost of metal sales (USD million)

Index	2021	2020	Change
Labour	1,406	1,307	8%
Materials and supplies	715	731	–2%
Mineral extraction tax and other levies	627	248	3x
Purchases of refined metals for resale	581	482	21%
Export custom duties	442	–	100%
Third party services	410	276	49%
Transportation expenses	130	90	44%
Fuel	122	109	12%
Electricity and heat energy	118	151	–22%
Purchases of raw materials and semi-products	95	298	–68%
Sundry costs	228	194	18%
Total cash operating costs	**4,874**	**3,886**	**25%**
Depreciation and amortisation	843	845	0%
Increase in metal inventories	–660	–231	3x
Total	5,057	4,500	12%

Labour

In 2021, labour costs increased 8% (or USD +99 million) to USD 1,406 million amounting to 29% of the Group's total cash operating costs driven by the following factors:

- **-USD 28 million** – positive effect of the Russian rouble depreciation against US dollar;
- **+USD 77 million** - indexation of salaries and wages in line with the terms of collective bargaining agreement;
- **+USD 37 million** – increase in headcount in Norilsk industrial region.

Materials and supplies

In 2021, expenses for materials and supplies decreased 2% (or USD 16 million) to USD 715 million driven by the following factors:

- **USD 2 million** - positive effect of the Russian rouble depreciation against US dollar;
- **-USD 32 million** – lower consumption of materials due to termination of Nkomati's operations;
- **+USD 18 million** – inflation of materials and supplies prices.

Mineral extraction tax and other levies

In 2021, mineral extraction tax and other levies increased 3 times (or USD 379 million) to USD 627 million driven by the following factors:

- **-USD 4 million** - positive effect of the Russian rouble depreciation against US dollar;
- **+USD 383 million** – primarily due to the increase of mineral extraction tax in 2021.

Purchases of refined metals for resale

In 2021, purchases of refined metals for resale increased 21% (or USD 99 million) to USD 581 million owing to the purchases of copper in order to cover production losses caused by the temporary suspension of two mines and the Norilsk Concentrator, which was partly offset negatively by lower purchases of palladium.

Export custom duties

In 2021, export custom duties amounted to USD 442 million due to introduction of temporary Nickel and Copper export custom duties by the Government of the Russian Federation, which were effective from August until December 2021.

Third-party services

In 2021, cost of third-party services increased 49% (or USD 134 million) to USD 410 million mainly driven by:

- **+USD 121 million** – increase in repairs and mining-related services;
- **+USD 13 million** – price inflation of third-party services.

Transportation expenses

In 2021, transportation expenses increased 44% (or USD 40 million) to USD 130 million driven by the following factors:

- **–USD 1 million** - positive effect of the Russian rouble depreciation against US dollar;
- **+USD 7 million** – price inflation of expenses;
- **+USD 34 million** – primarily increase in transportation expenses in Norilsk industrial region related to higher volumes of services purchased as part of the program targeting improvement of industrial safety of production facilities.

Fuel

In 2021, fuel expenses increased 12% (or USD 13 million) to USD 122 million driven by the following factors:

- **–USD 2 million** - positive effect of the Russian rouble depreciation against US dollar;
- **-USD 12 million** – due to the shutdown of smelting and metallurgical workshops at Kola MMC;
- **+USD 33 million** – price inflation of fuel.

Electricity and heat energy

In 2021, electricity and heat energy expenses decreased 22% (or USD 33 million) to USD 118 million driven by the following:

- **-USD 1 million** - positive effect of the Russian rouble depreciation against US dollar;
- **-USD 35 million** - cost decrease primarily related to the shutdown of smelting and metallurgical workshops at Kola MMC and termination of Nkomati's operations.
- **+USD 3 million** – price inflation of fuel.

Purchases of raw materials and semi-products

In 2021, purchases of raw materials and semi-products decreased 68% (or USD 203 million) to USD 95 million due to cessation of third-party copper concentrate consumption and termination of Nkomati's operations.

Sundry costs

In 2021, sundry costs increased 18% (or +USD 34 million) to USD 228 million mostly due to increase in clean-up expenses in Norilsk industrial region and also due to price inflation and growth of security and industrial safety expenses.

Depreciation and amortisation

In 2021, depreciation and amortisation expenses were unchanged compared to 2020 and amounted to USD 843 million.

Increase in metal inventories

Comparative effect of change in metal inventory amounted to -USD 429 million resulting in a respective decrease of cost of metal sales primarily due to increase in the cost of work in progress and finished goods following the changes in legislation in 2021 (increase in MET and introduction of temporary export custom duties).

Cost of other sales

In 2021, cost of other sales increased by USD 189 million to USD 753 million primarily due to increase of air transportation services following the lift of restrictions related to the COVID-19 pandemic and higher oil products sales.

USD 189 million
cost of other sales increased

Selling and distribution expenses

Selling and distribution expenses (USD million)

Index	2021	2020	Change (%)
Transportation expenses	81	72	13%
Marketing expenses	48	44	9%
Staff costs	19	19	0%
Other	36	32	13%
Total	184	167	10%

In 2021, selling and distribution expenses increased 10% (or +USD 17 million) to USD 184 million primarily due to increase in transportation expenses (+USD 9 million).

General and administrative expenses

General and administrative expenses (USD million)

Index	2021	2020	Change
Staff costs	577	529	9%
Third party services	191	142	35%
Depreciation and amortisation	83	67	24%
Taxes other than mineral extraction tax and income tax	76	69	10%
Transportation expenses	18	18	0%
Other	44	44	0%
Total	989	869	14%

In 2021, general and administrative expenses increased 14% (or USD 120 million) to USD 989 million. Positive effect of the Russian rouble depreciation amounted to -USD 16 million. Changes of the general and administrative expenses in real terms were primarily driven by the following factors:

- **+USD 58 million** – increase in staff costs, including salaries indexation and one-off payments related to management bonuses.
- **+USD 52 million** – increase of third-party services primarily related to the IT security and consulting services related to the ESG strategy implementation.

Staff costs increased **by 9%** including due to wage indexation

Third party services cost increased **by 35%** due to IT security and ESG strategy implementation

Other operating expenses

Other operating expenses, NET (USD million)

Index	2021	2020	Change (%)
Social expenses	1,031	500	2x
Environmental provisions	176	2,242	–92%
Expenses on industrial incidents response	69	–	100%
Change in other provisions	–3	24	n.a
Change in provision on production facilities shut down	–3	–10	–70%
Other, net	15	–19	n.a
Total	1,285	2,737	–53%

In 2021, other operating expenses, net decreased by USD 1,452 million to USD 1,285 million driven by the following factors:

- **-USD 2,066 million** – primarily due to the high base effect of 2020, when environmental provision related to the liquidation of diesel fuel leak at the industrial site of the Heat and Power Plant № 3 of Norilsk and compensation for environmental damages was recognised;
- **+USD 531 million** – increase in social expenses provisions related to agreements on socio-economic development of Norilsk and Krasnoyarsk region;
- **+USD 69 million** - expenses on industrial incidents response in 2021.

Finance costs

Finance costs, NET (USD million)

Index	2021	2020	Change (%)
Interest expense, net of amounts capitalised	225	364	–38%
Changes in fair value of other non-current and other current liabilities	66	262	–75%
Unwinding of discount on provisions and payables	59	61	–3%
Interest expense on lease liabilities	15	12	25%
Fair value (gain)/loss on the cross-currency interest rate swap contracts	–68	182	n.a
Other, net	–18	–2	9x
Total	279	879	–68%

In 2021, finance costs, net declined 68% y-o-y to USD 279 million primarily driven by the following factors:

- **–USD 250 million** – income from a change in the fair value of cross-currency interest rate swaps in 2021, primarily due to the expiration of several instruments with final settlements falling into the period of temporary appreciation of the Russian ruble against the US dollar compared to the exchange rate at the beginning of 2021, compared to the loss from a change in the fair value in 2020.
- **–USD 196 million** –comparative effect of change in the fair value of put option in relation to transactions with the owners of non-controlling interests of Bystrinsky GOK, which expired on 31.12.2021.
- **–USD 139 million** – a 38% decrease in the interest expense, net of amounts capitalized, due to the effective debt portfolio management despite a 6% increase of the gross debt (proactive refinancing of some liabilities on more competitive terms), which, in turn, was achieved due to the following activities:
  - full redemption of a USD 1 billion Eurobond bearing a coupon rate of 5.55% per annum in October 2020 and full early repayment of a RUB 60 billion term loan with an interest rate of 8.3% per annum in November 2020;
  - full early repayment of RUB 15 billion exchange-traded ruble bonds bearing a coupon rate of 11.6% per annum in February 2021 (on the date of the early redemption at the discretion of the issuer stipulated in the issuance documentation);
  - in September 2020 and in October 2021 the Company successfully priced two five-year Eurobond issues in the amount of USD 500 million each with a coupon rate of 2.55% and 2.80%, respectively;
  - in 2021, a number of maturing bilateral facilities totaling US$725mm were successfully refinanced at similar or better pricing terms.

Income tax expense

In 2021, income tax expense increased by USD 1 366 million driven mostly by the increase of profit before tax.

The effective income tax rate in 2021 of 24.9% was above the Russian statutory tax rate of 20%, which was primarily driven by the income tax provision related to the compensation of environmental damages as well as recognition of non-deductible social expenses.

The breakdown of the income tax expense (USD million)

Index	2021	2020	Change
Current income tax expense	1,695	1,685	1%
Deferred tax expense/(benefit)	616	–740	n.a.
Total income tax expense	2,311	945	2x

The breakdown of the current income tax expense by tax jurisdictions (USD million)

Index	2021	2020	Change (%)
Russian Federation	1,668	1,648	1%
Finland	5	11	–55%
Rest of the world	22	26	–15%
Total	1,695	1,685	1%

EBITDA

EBITDA (USD million)

Index	2021	2020	Change (%)
Operating profit	9,536	6,400	49%
Depreciation and amortisation	928	943	–2%
Impairment of non-financial assets, net	48	308	–84%
EBITDA	**10,512**	**7,651**	**37%**
EBITDA margin	**59%**	**49%**	**10 п. п.**

In 2021, EBITDA increased 37% (or +USD 2,861 million) to a USD 10,512 million primarily due to higher revenue.

Statement of cash flows

Statement of cash flows (USD million)

Index	2021	2020	Change
Cash generated from operations before changes in working capital and income tax	**11,479**	**10,254**	**12%**
Movements in working capital	–2,226	–662	3x
Income tax paid	–2,211	–1,304	70%
Net cash generated from operating activities	**7,042**	**8,288**	**–15%**
Capital expenditure	–2,764	–1,760	57%
Other investing activities	126	112	13%
Net cash used in investing activities	**–2,638**	**–1,648**	**60%**
Free cash flow	**4,404**	**6,640**	**–34%**
Interest paid	–315	–510	–38%
Other financing activities	–3,732	–3,822	–2%
Net cash used in financing activities	**–4,047**	**–4,332**	**–7%**
Effects of foreign exchange differences on balances of cash and cash equivalents	–1	99	n.a.
Net increase in cash and cash equivalents	**356**	**2,407**	**–85%**

In 2021, free cash flow decreased 34% to USD 4.4 billion following the decrease of cash generated from operating activities and increase in cash used in investing activities.

In 2021, net cash generated from operating activities decreased 15% to USD 7.0 billion. Settlement of environmental obligations and increase in income tax payments were partly positively offset by higher metal revenue.

In 2021, net cash used in investing activities increased 60% to USD 2.6 billion primarily driven by a 57% capital expenditures increase to USD 2.8 billion.

Reconciliation of the net working capital changes between the balance sheet and cash flow statement(USD million)

Index	2021	2020
Change of the net working capital in the balance sheet	**–557**	**273**
Foreign exchange differences	15	–290
Change in income tax payable	524	–359
Change of long term components of working capital included in CFS	–56	–95
Provisions	–2,145	–186
Other changes	–7	–5
Change of working capital per cash flow	**–2,226**	**–662**

Capital investments breakdown by project (USD million)

Index	2021	2020	Change (%)
Polar Division, including:	843	665	27%
Skalisty mine	95	109	–13%
Taymirsky mine	38	97	–61%
Komsomolsky mine	32	51	–37%
Oktyabrsky mine	10	16	–38%
Talnakh Concentrator	167	38	4x
Other Polar Division project	501	354	42%
Kola MMC	205	155	32%
Sulfur project	526	154	3x
South cluster	304	114	3x
Energy and gas infrastructure modernization	316	219	44%
Chita (Bystrinsky) project	62	98	–37%
Other production projects	490	344	42%
Other non-production assets	18	11	64%
Total	2,764	1,760	57%

In 2021, CAPEX increased 57% (or USD 1,004 million) to a record USD 2,764 million driven by growth of investments in key strategic projects. Sulfur Programme that entered its active phase recorded over USD 500 million of CAPEX, while investments in South Cluster and Talnakh Concentrator expansion increased 3- and 4-fold, respectively. Expenditures on capital repairs, improvement of industrial safety and modernization of core assets were up more than 40% exceeding USD 800 million.

Debt and liquidity management

Debt and liquidity (USD million)

Index	As of 31 December 2021	As of 31 December 2020	Change	
			USD million	%
Non-current loans and borrowings	8,616	9,622	–1,006	–10%
Current loans and borrowings	1,610	12	1,598	100%
Lease liabilities	235	262	–27	–10%
Total debt	**10,461**	**9,896**	**565**	**6%**
Cash and cash equivalents	5,547	5,191	356	7%
Net debt	**4,914**	**4,705**	**209**	**4%**
Net debt /12M EBITDA	0.5x	0.6x	–0.1x	

As of December 31, 2021, the Company's total debt increased 6% compared to December 31, 2020 and amounted to USD 10,461 million. The increase was primary driven by the new US$500mm five-year Eurobond successfully priced in October 2021 with the purpose to increase the available liquidity cushion for the scheduled 2022 debt repayments. Current loans and borrowings as of December 31, 2021 increased by USD 1,598 million as compared to December 31, 2020, primarily due to the two Eurobonds totaling USD 1,500 million maturing in April and October 2022 becoming a short-term liability as of December 31, 2021. Current loans and borrowings are fully covered by the balance sheet liquidity and available limits under committed credit lines.

The Company's Net debt as of December 31, 2021 increased 4% compared to December 31, 2020 due to the increase in total debt.

Despite the Net debt increase, Net debt / 12M EBITDA as at the end of 2021 decreased by 0.1x compared to December 31, 2020 and amounted to 0.5x.

As of December 31, 2021, the Company was assigned investment grade credit ratings from all three international rating agencies Fitch, Moody's and S&P Global, and Russian rating agency "Expert RA".

SUSTAINABLE DEVELOPMENT

In 2021, the Company approved its Environmental and Climate Change Strategy, which primarily focuses on reducing its adverse impacts on the environment and local communities while improving equipment reliability and mitigating physical risks from climate change.

- On the climate action front, the Company's key goal is to maintain its leadership in the global nickel industry on absolute greenhouse gas emission reductions (Scope 1 and 2), as well as to stay in the bottom quartile of the emissions curve.

The Company intends to move towards carbon neutrality so as to maintain its competitive edge in the global market in the longer range.

ENVIRONMENTAL PROTECTION AND CLIMATE CHANGE

Environmental and Climate Change Strategy

In 2021, the Company's Board of Directors approved the Environmental and Climate Change Strategy.

In 2021, the Company's Board of Directors approved the Environmental and Climate Change Strategy (the "Strategy"), which primarily focuses on improving the quality of the environment and environmental safety.

The Strategy identifies 20 long-term environmental and climate change goals across the key areas such as climate, air, water, waste (including tailings storage), soils, and biodiversity. A comprehensive plan was developed to drive measurable and achievable results in a move that will support the implementation of the Strategy and progress towards its goals. All Nornickel enterprises are expected to start implementing the plan in 2022.

Nornickel focused on developing modern, efficient, environmentally friendly production with strategic priorities including sustainable development and unlocking the Company's potential in the medium and long term, taking into account the expanded environmental and climate agenda.

TARGETS TO 2028:

Reduce absolute greenhouse gas emissions (Scope 1 and 2) from production operations to

7.7 mln t of CO_2 equivalent

Reduce the intensity of greenhouse gas emissions (Scope 1 and 2) from production operations

by 37%

Nornickel's Environmental and Climate Change Strategy

- CLIMATE CHANGE
- AIR
- WATER
- TAILINGS & WASTE
- LAND
- BIODIVERSITY

Key initiatives contributing towards these goals include the consistent delivery of the Sulphur Project (aimed at dramatic reduction of sulphur dioxide emissions in the Norilsk Industrial District and complete elimination of emissions along the Russian border on the Kola Peninsula), water recycling and reuse, waste reuse, remediation of legacy pollution, land restoration, monitoring of industrial assets, and biodiversity conservation.

Our climate action plan is primarily focused on mitigating physical risks from climate factors all while improving energy efficiency, promoting green technology and upgrading our facilities to set the Company on the path to carbon neutrality and long-term competitiveness of its products.

Integral parts of the Strategy's execution include deploying new management processes, providing reporting, joining associations and making changes to meet the requirements of international sustainability standards such as ICMM, IRMA, TCFD reporting standards, and CHC Protocol, as well as implementing the principles of the Global Tailings Standard and disclosing information in line with EITI requirements.

To support the effective implementation of the Strategy and improve risk management, the Company updates its environmental and climate change management framework: dedicated units have been created at the corporate level to focus on sustainable development, the environment, occupational health and safety, human resources, and social policies, with all Nornickel employees involved in the transformation process.

ENVIRONMENTAL MANAGEMENT SYSTEM

In 2021, the Environmental Management System[1] (EMS) continued to operate as part of the Corporate integrated Quality and Environmental Management System (CIMS), providing an opportunity to align environmental and quality management efforts with initiatives in other areas. This approach improves both overall and environmental performance of the Company.

SYSTEM AUDIT

Certificate
ISO 14001-2015

Certified assets

- MMC Norilsk Nickel
  - Head Office
  - Polar Division
  - Polar Transport Division
  - Murmansk Transport Division
- Kola MMC
- Norilsk Nickel Harjavalta

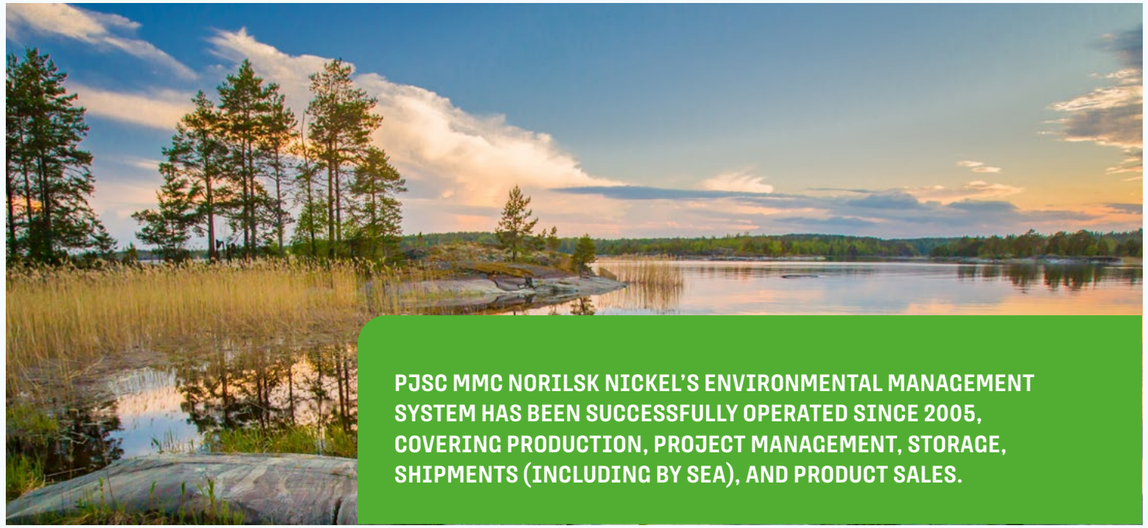
Auditor
Bureau Veritas Certification

At the end of 2021,
43%
of Group companies (by headcount) were certified to ISO 14001-2015, an international environmental standard.

In line with ISO 14001:2015, the Company confirms the EMS compliance with the standard by engaging Bureau Veritas Certification (BVC) to conduct surveillance audits once a year and recertification audits every three years. From March to April 2021, BVC auditors conducted a recertification audit of the Company's environmental management system. The auditors concluded that the Company successfully demonstrated that it had deployed and was maintaining and continuously improving its corporate integrated quality and environmental management system, as well as confirmed its compliance with ISO 14001:2015, and issued a certificate of compliance for another (sixth) certification period. The first surveillance audit (for the sixth certification period) was conducted in November 2021 to evaluate the effectiveness of the Company's existing environmental management system and verify its compliance with ISO 14001:2015. The auditors concluded that, in general, the Company's corporate integrated quality and environmental management system met the requirements of ISO 14001:2015 and renewed its certificate of compliance. Among other things, the auditors praised the Company's Environmental Policy, which was updated in 2021 and demonstrates the leadership of the Company's top management in addressing environmental matters.

ENVIRONMENTAL SAFETY

To improve environmental safety, the Company has set up an Ecological Monitoring Centre, primarily focusing on building a monitoring framework to detect anomalies in operations that may cause environmental incidents, accidents or emergencies. Timely detection of such threats can prevent incidents or ensure a rapid response to mitigate their negative environmental impact.



PJSC MMC NORILSK NICKEL'S ENVIRONMENTAL MANAGEMENT SYSTEM HAS BEEN SUCCESSFULLY OPERATED SINCE 2005, COVERING PRODUCTION, PROJECT MANAGEMENT, STORAGE, SHIPMENTS (INCLUDING BY SEA), AND PRODUCT SALES.

AS PART OF THESE EFFORTS, THE CENTRE:

- conducts lookahead environmental safety audits, with 30 such audits conducted in 2021 and 124 corrective activities subsequently completed as a result to mitigate potential negative environmental impacts and risks
- conducts on-site drills to improve preparedness for response to environmental accidents and emergencies, with 12 such on-site drills conducted in 2021
- establishes control over compliance with the requirements and instructions of state authorities, as well as the Group's internal requirements aimed at reducing negative environmental impacts and risks.

1 PJSC MMC NORILSK NICKEL's Environmental Management System has been successfully operated since 2005, covering production, project management, storage, shipments (including by sea), and product sales.

Climate change

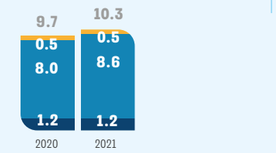
Nornickel's Board of Directors considers the Company's climate change strategy as a matter of priority and is responsible for its review and approval.

GHG EMISSIONS

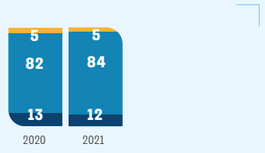
In 2021, GHG emissions (Scope 1 and 2) totalled about 10.3 mln t. Greenhouse gas emissions increased in 2021 primarily due to the inclusion of emissions from the Group's non-production enterprises in the corporate emissions inventory, changes in production processes, and an abnormally cold winter in the Norilsk and Kola Divisions.

The decision to include non-production enterprises in the GHG inventory was driven by the stocktaking the GHG sources and preparation for amendments to Russian climate laws.

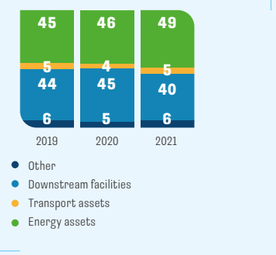
GHG emissions Scope 1&2 (mln t of CO_2 equivalent)[1]



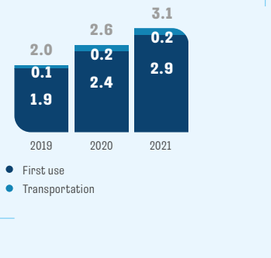
GHG emissions Scope 1&2 (%)



Sources of GHG Scope 1 (%)



Scope 3 downstream GHG (mln t)



TARGETS TO 2028:

- Reduce absolute greenhouse gas emissions (Scope 1 and 2) from production operations to 7.7 mln t of CO2 equivalent with a 30%–40% increase in metal output from 2017
- Reduce the intensity of greenhouse gas emissions (Scope 1 and 2) from production operations by 37% to 5 t of CO2 equivalent per tonne of Ni equivalent
- Increase low-carbon energy usage
- Manage climate-related risks by building resilience strategies and helping communities in the Norilsk Industrial District and the Murmansk Region embrace energy efficient, low-carbon technologies
- Support the economy's low-carbon transition, foster innovation, scale new solutions, and encourage climate action dialogue within and across industries

Nornickel's key production facilities are located in the Norilsk Industrial District, in the Arctic Circle, and operate in sub-zero temperatures for about eight months of the year. Since the Norilsk Industrial District is isolated from the federal energy infrastructure, Nornickel generates electricity and heat locally at its own generating facilities (100% owned by the Group). As a result, the bulk of GHG emissions comes from the Company's energy assets. At the same time, as Nornickel is the only producer of electricity and heat in the Norilsk Industrial District, the Company also fully meets the demand for energy resources and heat from social infrastructure facilities and the local population. The share of GHG emissions generated by infrastructure facilities and households in Nornickel's regions of operation is on average 11% of total Scope 1 and 2 GHG emissions.

In 2021, the Company continued to quantify indirect GHG emissions (Scope 3) from its product sales in accordance with the GHG Protocol, including emissions associated with product transportation from the Company's production assets to the customer and first use of the product.

In 2021, these emissions totalled 3.1 mln t of CO2 equivalent for the Nornickel, up 18% y-o-y. The increase was primarily driven by stronger sales of Bystrinsky GOK's iron ore concentrate used to produce steel, which is a highly carbon-intensive process. Iron ore concentrate accounts for 83% of the Company's total Scope 3 downstream emissions.

PERMAFROST MONITORING

The key risk entailed by global climate change for the Northern climatic zone covering the Norilsk Industrial District includes permafrost thawing, which can significantly reduce permafrost bearing capacity. To minimise the risks associated with global temperature changes, as well as to improve forecasting for preventing the negative impact of higher soil temperatures on buildings and structures, the Company has taken a range of measures under its Risk Management Policy. In particular, Nornickel engaged in monitoring and controlling risks associated with global climate change, launching, among other things, the deployment of a building and structure monitoring system in the Norilsk Industrial District. The building and structure monitoring programme aims to equip them with an array of sensors, which will feed real-time data to the main control centre. In total, the programme is planned to install sensors across some 1,500 facilities in the Norilsk Industrial District. Key activities implemented in 2021:

- Creation of an information and diagnostic system for monitoring buildings and structures, which will process both automatically and manually collected data
- Automated monitoring of foundation soil temperature and foundation deformations across 165 facilities (Phase 1 deployment of the building and structure monitoring system, including using satellite interferometry technology provided by Sovzond)
- Pilot installation of strain gauges at one of the facilities to monitor the stress strain behaviour of large-span structures

Phase 2 deployment will connect 55 production facilities of NTEC and 5 tailings storage facilities of the Norilsk Division to the monitoring system before 2024.

1 GHG emissions were calculated as per the GHG Protocol Guidelines. Estimates of greenhouse gas emissions for the Group included the following greenhouse gases: direct emissions of carbon oxide (CO_2) – 9.7 mln t, nitrogen oxide (N_2O) – 13 kt, and methane (CH_4) – 140 kt, mostly from gas transportation.

RENEWABLES AND ENERGY EFFICIENCY

Since its inception in 1935, the Company has been developing in a harsh climate, given that its largest production asset, the Norilsk Division, is located within the Norilsk Industrial District in the Arctic Circle. As such, this remote region has never been connected to Russia's energy and transport infrastructure. Therefore, the Company has historically been self-sufficient in building its operations, including in terms of electricity/energy generation and transmission. Natural gas and renewable sources (hydropower) are the core low-carbon sources for energy generation. Diesel fuel, fuel oil, petrol, and jet fuel are used by Nornickel's transport assets. Use of high-carbon fuel by energy assets is minimised. Only small amounts of coal are used in certain production processes.

The Company's key renewable energy source is hydropower generated by the Group's Ust-Khantayskaya and Kureyskaya HPPs. In 2021, the share of renewables in total electricity generation stood at 47% for the Group and 52% for the Norilsk Industrial District.

The use of other renewables, such as solar and geothermal energy, is impracticable as Nornickel's core production assets are located in the Arctic Circle in the Norilsk Industrial District, in harsh climatic conditions. The Company is also evaluating the available options for constructing wind farms.

Overall, the Group's own energy assets (including Kola MMC and other assets that mainly purchase electricity from third parties) generate about 83.2% of total electricity consumed by the Group. The Group also supplies electricity and heat to external consumers, primarily local social infrastructure and communities in the Norilsk Industrial District.

Climate impact on the use of renewables in the Arctic Circle

Air temperatures stay below freezing point for **about eight months** a year

Polar nights and twilights last for **more than 100 days**

On average, there are **no more than 70** sunny days per year

Permafrost is **300 to 500 metres** deep

Energy generation and consumption by the Group (TJ)[1]

No.	Item	2017	2018	2019	2020	2021
1	Fuel consumption by the Company[2]	156,569	148,910	144,772	141,237	151,235
	Natural gas	134,709	129,335	125,329	122,216	130,867
	Diesel fuel and fuel oil	15,221	13,788	13,535	13,939[3]	15,097
	Petrol and jet fuel	5,178	4,127	3,820	2,902	3,715
	Coal[4]	1,460	1,660	2,087	2,180	1,557
2	Electricity and heat from own renewable sources (HPPs)	12,414	14,877	15,058	15,310	14,586
3	Electricity and heat purchased from third parties	10,483	10,931	11,331	11,200	10,891
4	Sales of electricity and heat to third parties	19,503	18,926	18,766	17,254	19,974
5	**Total consumption of electricity and fuel (1 + 2 + 3 – 4)**	**159,962**	**155,792**	**152,395**	**150,493**	**156,738**

1 For a detailed breakdown of the Group's energy consumption by company, please see the 2021 Sustainability Report.

2 Including the fuel used to generate electricity for Norilsk.

3 Including the diesel fuel spill in May 2020.

4 Coal is only used in production processes, with Kola MMC accounting for 60% of total consumption, CRK Bystrinskoye 20%, the Polar Division 9%, Norilsk Production Support Complex 5%, and other subsidiaries 6%.

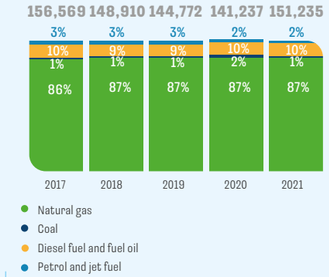
The year-on-year increase in fuel consumption was primarily driven by higher gas consumption by NTEC enterprises due to a colder winter, as well as higher diesel fuel consumption by NTEC enterprises due to the burning of separated fuel collected as part of the emergency response at CHPP-3 in order to empty tanks for technical diagnostics.

The Group attaches great importance to improving the energy efficiency of its existing and future production sites, focusing on keeping GHG emissions within the declared targets under its comprehensive environmental programme.

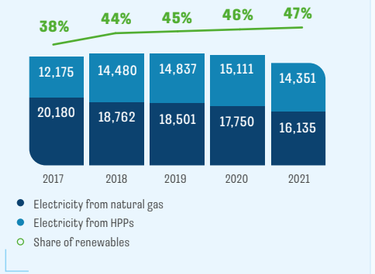
The programme provides for investing close to USD 8 billion in upgrading and boosting the safety of the Company's energy infrastructure in 2021–2030. The investments will cover a wide range of projects related to equipment replacement at thermal and hydropower plants, and upgrade of fuel tank storage facilities, power grids and gas pipelines.

Fuel equivalent savings in 2021 totalled 23,574 t of fuel equivalent, and 4,902 thousand kWh of electricity, with 41 energy saving initiatives implemented.

Fuel consumption (TJ)



Electricity consumption (TJ)



Air

High sulphur dioxide emissions from the smelting of sulphide concentrates with high sulphur content are a key environmental issue for the Company.

Nornickel's strategic plan is to transform the Company into an environmentally clean and safe business by implementing Sulphur Project 2.0 across the Norilsk and Kola Divisions.

SULPHUR PROJECT 2.0 AT THE NORILSK DIVISION

Sulphur Project 2.0 at the Norilsk Division is expected to reduce sulphur dioxide emissions in the Norilsk Industrial District by 45% in 2023 and by 90% in 2025 (from a 2015 baseline). The project is implemented in phases at Nornickel's two core downstream facilities: Nadezhda Metallurgical Plant (completion date: 2023) and Copper Plant (2025).

In 2020–2021, a complete set of design documents was developed for the Nadezhda Metallurgical Plant site, with some of the process equipment manufactured and delivered to Norilsk. A large amount of construction and installation work was completed (excavation and concrete work, installation of metal structures, fences, core process equipment and pipelines, construction of overhead power lines and the gypsum storage facility dam, preparation of a transport corridor for transporting large and heavy equipment, etc.).

SO_2 emissions from the Kola Division decreased
by 78% y-o-y

SO_2 emissions from the Norilsk Division decreased
14% y-o-y

For the Copper Plant site, the necessary design documents were developed (operating procedures, basic engineering, and other design documentation) with the necessary expert reviews completed.

SULPHUR PROJECT 2.0 IN THE KOLA DIVISION

Following the closure of the smelting shop in Nikel in 2020 and the metallurgical shop in Monchegorsk in 2021, the total sulphur dioxide emissions by the Kola Division in 2021 were down 78% y-o-y and 90% from a 2015 baseline, exceeding the Company's strategic target of an 85% cut.

In 2021, the Group's pollutant emissions totalled 1.6 mln t, down 16% y-o-y. The decrease in emissions was primarily driven by lower processing volumes at the Norilsk Division due to constraints at Norilsk Concentrator and the temporary shutdown of flooded mines, as well as due to the scheduled closure of the metallurgical shop at the Kola Division in March 2021.

ENVIRONMENTAL MONITORING OF AIR

In 2021, the Company signed an agreement with the Russian Environmental Operator to pilot an automated air monitoring system at its enterprises and in residential areas of Norilsk. A network of 16 small-size sensors to monitor air quality was deployed across various districts of Norilsk in autumn. Their operation will be continuously supported by Edinstvo. Currently, a data collection and transmission system is in the pre-commissioning and testing phase to make data publicly available. As part of the Clean Air federal project, three Rosgidromet observation stations were also installed in the Tsentralny District of Norilsk in September 2021 to continuously obtain air quality and meteorological data.

The project will select the best technology solutions for transmitting air quality data online, with the tested principles and solutions to be subsequently rolled out to other cities participating in the Clean Air federal project within the Ecology national project. A hardware/software solution for online monitoring of SO2 emissions was also installed at the Kola Division in Monchegorsk.

TARGET:

improve air quality (reduce SO2 and other pollutant emissions) in the regions of operation.

KEY NEXT STEPS:

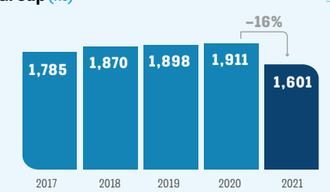
deliver Sulphur Project 2.0 and other air emission reduction projects.

Air pollutant emissions across the Group (kt)

Item	2017	2018	2019	2020	2021
Across the Norilsk Nickel Group	**1,847**	**1,927**	**1,953**	**1,968**	**1,647**
Sulphur dioxide (SO_2)	1,785	1,870	1,898	1,911	1,601
Nitrogen oxide (NO_x)	11	11	10	10	11
Particulate matter	14	15	13	15	9
Other pollutants	36	31	31	31	25
Norilsk Division	**1,705**	**1,789**	**1,819**	**1,858**	**1,604**
Sulphur dioxide (SO_2)	1,676	1,765	1,799	1,837	1,585
Nitrogen oxide (NO_x)	2	1	1	1	1
Particulate matter	6	6	4	4	5
Other pollutants	22	18	16	16	13
Kola Division	**122**	**117**	**111**	**83**	**20**
Sulphur dioxide (SO_2)	109	105	99	73	16
Nitrogen oxide (NO_x)	1	2	2	2	2
Particulate matter	7	8	7	6	1
Other pollutants	5	3	3	2	1
Trans-Baikal Division	**–**	**–**	**3**	**5**	**3**
Sulphur dioxide (SO_2)	–	–	0	1	0
Nitrogen oxide (NO_x)	–	–	0	0	0
Particulate matter	–	–	2	3	2
Other pollutants	–	–	1	2	1
Other	**20**	**20**	**20**	**22**	**20**
Sulphur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxide (NO_x)	9	9	8	7	9
Particulate matter	1	1	0	2	0
Other pollutants	10	10	12	12	11

In 2021, total Group air pollutant emissions decreased
by 16% y-o-y

Sulphur dioxide emissions across the Group (kt)



Water

Targets: maintain the recycled water ratio and reduce pollution; continue providing clear water to local communities.

Key next steps: develop solutions for treatment of mine and industrial wastewater, build and operate new treatment facilities, deploy new technical solutions, remediate pollution from environmental accidents in line with the Great Norilsk Expedition recommendations.

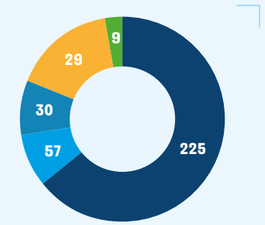
The Company's major production assets are located in regions with sufficient water resources. In 2021, as in previous years, no shortage of water was reported as enterprises and households were supplied with sufficient amounts of water. In general, the Company is extremely careful about its use of fresh water and strictly compiles with restrictions applicable to industrial water withdrawal. The Company is committed to sustainable use of water resources and prevention of water body pollution.

Nornickel's key production facilities use closed water circuits to keep water withdrawal on a relatively low level. Furthermore, the Company never withdraws water from protected natural areas. In 2021, 85% of all water used by the Company was recycled or reused. This water was mostly withdrawn from surface and underground water bodies, in addition to third-party wastewater and natural water inflow. Natural water inflow and meltwater accounted for 15% of the total water withdrawal in 2021. All facilities using water have programmes in place to monitor water bodies and water protection areas.

Water consumption and discharge

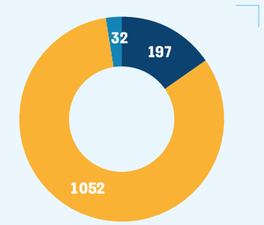
WATER WITHDRAWAL

351 Mcm:



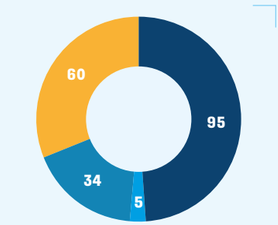
CONSUMPTION

1.281 Mcm:



WASTEWATER DISCHARGE

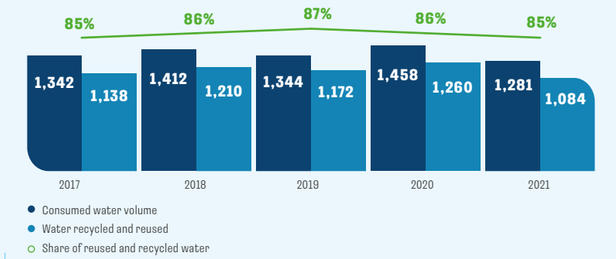
194 Mcm:



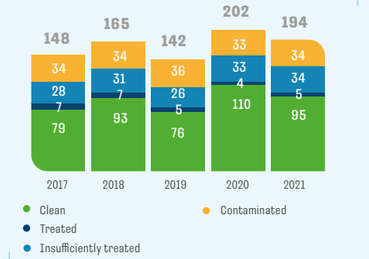
Wastewater discharge into water bodies also does not exceed the approved limits or have any material impact on biodiversity of water bodies and related habitats.

In 2021, the mass of pollutant discharges decreased by **3% y-o-y.**

Water consumption (Mcm)



Wastewater discharge (Mcm)



WATER RISK MANAGEMENT

The Company's ongoing procedures to assess the risks of its impact on water resources include:

- wastewater inventory
- monitoring of wastewater discharge volume and quality at discharge sites
- observation of surface water bodies at control points upstream and downstream of discharge sites
- investments in improving the performance of water treatment systems and building new systems
- monitoring of wastewater treatment processes at treatment facilities and implementation of organisational and technical measures to improve treatment effectiveness.

ENVIRONMENTAL PROJECTS ACCOUNT FOR 30% OF THE TOTAL NUMBER OF INNOVATIVE INITIATIVES IN THE COMPANY'S PORTFOLIO, INCLUDING:

- digital monitoring of the quality of wastewater discharge for compliance with legal requirements for water management, taking into account the development of a system for collecting, analysing and visualising data from Automated Laboratories
- setting up an electronic system for recording the results of operational environmental control across all aspects of the Company's environmental impact, including automated reporting and generation of declarations, etc.
- monitoring of waste storage facilities using a quadcopter, including to prevent risks related to unauthorised waste disposal.

Tailing dumps and waste

Targets: maintain the safe operation of tailings storage facilities and minimise the environmental impact of mineral and non-mineral waste.

Key next steps: build a mass balance model for waste management and prepare for implementing the principles of the Global Industry Standard on Tailings Management.

WASTE

The Company reuses most of its industrial waste in its own operations as approximately 99% of the waste generated are nonhazardous. This is mostly waste from the mining and smelting operations, including rock and overburden, tailings, and metallurgical slags. Ore extraction waste is used as backfill for underground workings and open pits, road fill, or for tailings dam reinforcement. The increase in generation of hazard classes IV and V waste was driven by a ramp-up in production operations and in construction and dismantling work.

Waste generation by hazard class (kt)

Hazard class	2017	2018	2019	2020	2021
V	30,722	29,517	35,300	144,052	154,923
IV	1,190	1,191	1,115	1,175	1,487
III	12	15	5	7	5.6
II	2.4	1.1	0.03	0.05	0.05
I	0.1	0.1	0.04	0.04	0.04
Total	31,926	30,725	36,420	145,234	156,416

TAILINGS

Nornickel currently operates six tailings storage facilities: four in the Norilsk Division, taking tailings from Talnakh and Norilsk Concentrators and Nadezhda Metallurgical Plant; one at Kola MMC, storing tailings from Zapolyarny Concentrator; and Bystrinsky GOK tailings storage facility.

Despite the fact that all tailings storage facilities operated by the Company are located at a significant distance from production facilities and communities, Nornickel recognises tailings storage facilities as higher-risk assets with significant potential environmental and social impacts. The Company ensures the safe operation of its tailings storage facilities, regularly monitors the condition of hydraulic structures and inspects discharge sites, as well as adjacent areas.

IN 2021, THE COMPANY ADOPTED A TAILINGS MANAGEMENT POLICY FOCUSED ON THE FOLLOWING GOALS:

- Responsibly manage tailings storage facilities and recycle as much mineral processing waste as possible
- Ensure safety and mitigate risks throughout the life cycle of tailings storage facilities, and seek to reduce the risks of emergencies to zero
- Disclose information on the safe operation of tailings storage facilities

Biodiversity

In 2021, the Company planned extensive baseline biodiversity surveys, covering exploration, mining, production, transport, logistics, and energy facilities of the Norilsk, Kola, Trans-Baikal and Energy Divisions. The Siberian Branch of the Russian Academy of Sciences (RAS), which oversees this effort, was commissioned to conduct the surveys.

Its researchers will help to accomplish the following key survey tasks:

- Delineate the areas where ecosystem biodiversity is affected by the Company and establish the ecosystems' exposure to anthropogenic impact
- Study and assess the current state of biodiversity inside and outside the adversely affected areas
- Establish biodiversity composition in the disturbed areas, as well as in areas outside those that are adversely affected
- Identify the indicator species for the local environment (ecosystem), as well as protected species in the survey area
- Identify adverse impacts and threats to biodiversity from the Company's production facilities
- Classify habitat areas into natural, altered and critical habitat categories
-

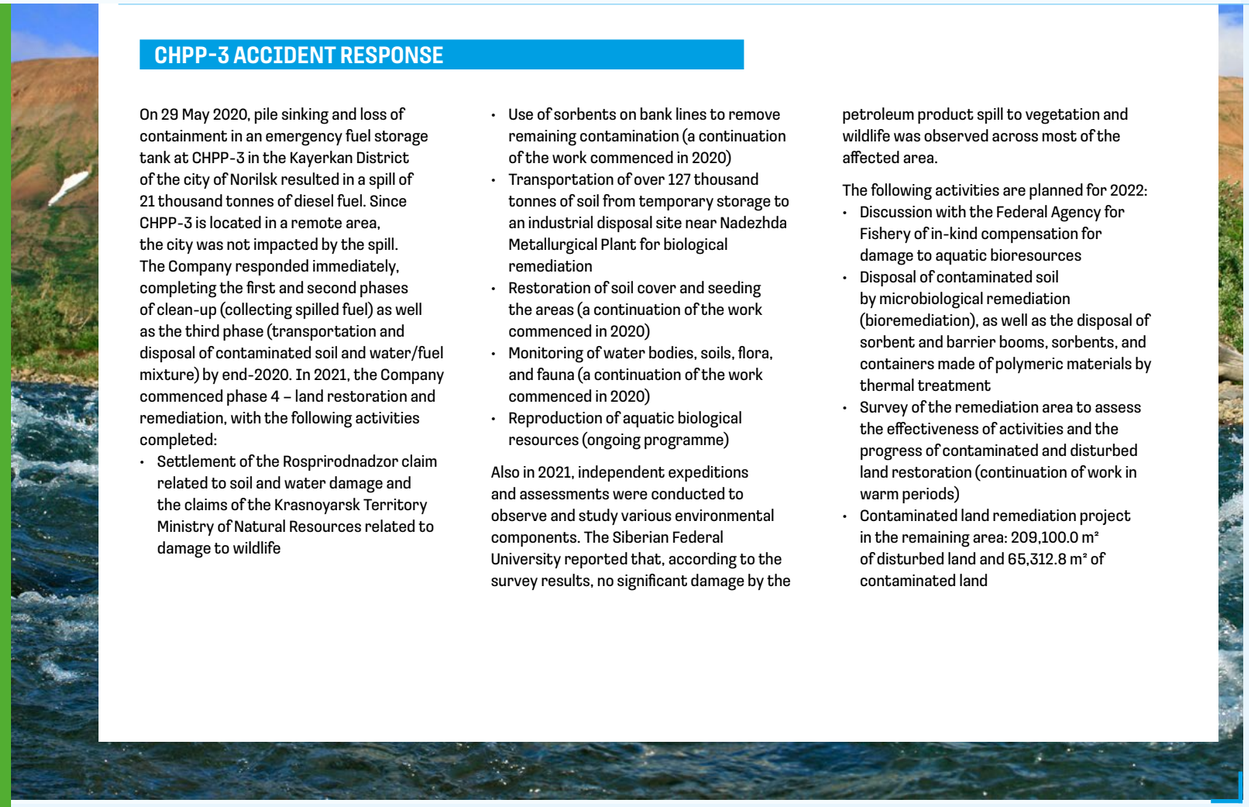
The data from the surveys will provide a basis for building a biodiversity impact management system and identifying specific divisional-level targets to measure the common ambition to achieve the overall goal of no net loss of biodiversity. The system will also lay the foundation for developing divisional biodiversity conservation and monitoring programmes and targeted programmes for cooperation with agencies managing protected areas.

TARGET:

manage impacts on biodiversity.

PLANNED ACTIVITIES:

- develop and deploy a biodiversity impact management system,
- restore biodiversity disturbed by the NTEC accident which damaged the environment,
- develop divisional biodiversity conservation and monitoring programmes,
- and update programmes to support nature reserves.



CHPP-3 ACCIDENT RESPONSE

On 29 May 2020, pile sinking and loss of containment in an emergency fuel storage tank at CHPP-3 in the Kayerkan District of the city of Norilsk resulted in a spill of 21 thousand tonnes of diesel fuel. Since CHPP-3 is located in a remote area, the city was not impacted by the spill. The Company responded immediately, completing the first and second phases of clean-up (collecting spilled fuel) as well as the third phase (transportation and disposal of contaminated soil and water/fuel mixture) by end-2020. In 2021, the Company commenced phase 4 – land restoration and remediation, with the following activities completed:

- Settlement of the Rosprirodnadzor claim related to soil and water damage and the claims of the Krasnoyarsk Territory Ministry of Natural Resources related to damage to wildlife
- Use of sorbents on bank lines to remove remaining contamination (a continuation of the work commenced in 2020)
- Transportation of over 127 thousand tonnes of soil from temporary storage to an industrial disposal site near Nadezhda Metallurgical Plant for biological remediation
- Restoration of soil cover and seeding the areas (a continuation of the work commenced in 2020)
- Monitoring of water bodies, soils, flora, and fauna (a continuation of the work commenced in 2020)
- Reproduction of aquatic biological resources (ongoing programme)

Also in 2021, independent expeditions and assessments were conducted to observe and study various environmental components. The Siberian Federal University reported that, according to the survey results, no significant damage by the petroleum product spill to vegetation and wildlife was observed across most of the affected area.

The following activities are planned for 2022:

- Discussion with the Federal Agency for Fishery of in-kind compensation for damage to aquatic bioresources
- Disposal of contaminated soil by microbiological remediation (bioremediation), as well as the disposal of sorbent and barrier booms, sorbents, and containers made of polymeric materials by thermal treatment
- Survey of the remediation area to assess the effectiveness of activities and the progress of contaminated and disturbed land restoration (continuation of work in warm periods)
- Contaminated land remediation project in the remaining area: 209,100.0 m² of disturbed land and 65,312.8 m³ of contaminated land

GREAT NORILSK EXPEDITION 2021

In 2021, as part of the Great Norilsk Expedition 2021 in Taimyr, scientists from 11 research institutions of the RAS Siberian Branch thoroughly assessed the condition of water bodies and soils on the peninsula for several months. Overall, the three stages of the 2021 expedition covered more than 100 sites, taking over 1 thousand samples weighing about 800 kg in total.

Over a four-month period, the experts observed changes in the total content and composition of hydrocarbons in water samples. The 2021 detailed study of the spill's consequences covered all watercourses in the survey area: the Bezymianny (Nadezhdinsky) Stream, the Norilskaya, Daldykan and Ambarnaya Rivers, Pyasino Lake, the Pyasina River, as well as reference areas – Melkoe and Lama Lakes, the Boganida River and the adjacent plateau. The surveys also covered soils in all floodplains, as well as zoo- and biodiversity.

Ichthyological research was an important focus area of the Great Norilsk Expedition 2021. The research benefited from active contribution of indigenous peoples of the North, who helped the RAS Siberian Branch scientists with sampling in northern areas.

Laboratory work was carried out by various scientific institutes of the RAS Siberian Branch in Novosibirsk, Barnaul, Tomsk, Krasnoyarsk, Norilsk, and Yakutsk, using advanced equipment to study the collected samples.

KEY FINDINGS OF THE GREAT NORILSK EXPEDITION 2021

- Boom defences proved to be effective
- Remediation efforts proved to be effective
- Overall impact of the diesel fuel oil spill on the ecosystem has shown a decline
- The ecosystem was confirmed to be capable of significant self-restoration when biological products based on strains of hydrocarbon-oxidising microorganisms were used

> "Nornickel demonstrates its ever increasing commitment to being a responsible user of natural resources and conducts detailed studies of its operating regions. This systematic engagement with academia, which offers superior research capabilities and numerous cases of their successful combination, can be hailed as a role model for all major natural resource users in Russia."

ACADEMICIAN VALENTIN PARMON,

President of the Siberian Branch of the Russian Academy of Sciences, Research Supervisor of the Great Norilsk Expedition

CLEAN-UP OF LEGACY POLLUTION

Nornickel's ongoing programme to clean up areas and address legacy pollution, including abandoned building demolition and scrap metal collection and recycling, is a separate and a very important focus of the Company's Environmental Strategy.

In 2021, a total of 1 million m2 were cleaned:
- in the between-pipe spaces of the trunk pipeline networks
- on the premises of combined heat and power plants Nos. 1 and 3
- on some sections of the Company's mines in Talnakh.

Other work completed:
- Collection and disposal of stainless steel and other scrap metal (over 37 kt)
- 247 kt of construction waste removed
- 87 dilapidated buildings dismantled

The goal is to dismantle unused facilities and clean up the areas:

467 abandoned buildings and structures

>1.3 mln t of industrial waste

>2 mln t of rubbish

>600 kt of scrap metal

COOPERATION WITH NATURE RESERVES

There are no nature reserves in the proximity of Nornickel's operations. In the Murmansk Region, the Pasvik and the Lapland nature reserves are 10 to 15 km away from the Kola Division production facilities. In the Krasnoyarsk Region, the boundaries of the Putoransky Nature Reserve buffer zone are at a distance of 80 to 100 km from the Norilsk Division production sites.

Nevertheless, the Company has been supporting nature reserves for over 10 years now, in line with its long-term strategy to maintain biodiversity in its regions of operation and to preserve the unique Arctic nature.

2021 saw the launch of the Zatundra project for the integrated development of a unique area located in the Arctic Circle, near Norilsk. Plans are in place to establish the necessary tourist infrastructure for the development of nature tourism in one of the most spectacular and remote places in Siberia – on the basalt Putorana Plateau – over the next five years (between 2021 and 2026). The project involves building the tourist village hub of Kanchul Bay, which will have a total accommodation capacity of 605 rooms, as well as related utilities and amenities. This will be supplemented by an extensive network of campsites for 600 pitches, hiking trails and paddling routes for nature and expedition tourism. Plans include the construction of necessary supporting infrastructure. The tourist infrastructure will be located outside the Putoransky Nature Reserve, with accommodation sites used as starting points for various tourist routes throughout the Taymyrsky District, including visits to the Putoransky Nature Reserve.

The Kola Division also helps to develop and implement further measures to protect rare animal species. In particular, in 2021, the Lapland Nature Reserve launched the Let's Save Reindeer Together project, supported by the Company under its World of New Opportunities corporate charitable programme. The project aims to protect the wild reindeer, a species listed in the Red Data Book of Russia due to poaching. The Lapland Nature Reserve is the only place in Northern Europe with a wild reindeer population as large as some 1 thousand.

The Pasvik Nature Reserve's ongoing environmental monitoring programme covering the Kola Division's footprint and the reserve's adjacent areas has been running since 2006. The shutdown of smelting operations in Nikel has expanded the scope of monitoring activities, with Pasvik environmental scientists expected to assess the restoration of terrestrial and aquatic ecosystems in the Pechenga District on a larger scale over the coming decades. The focus will be on the ongoing ecosystem changes: overgrowing of wasteland and new plant and animal species found in the district and in areas adjacent to the former industrial site. Another focus of the monitoring programme is studying the composition of atmospheric precipitation. This effort will build on the research conducted at the Pasvik Nature Reserve between 2009 and 2014 under the International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests). This research has now been resumed, with monitoring capabilities enhanced through camera trap data. Pasvik scientists have already used camera traps before, but now they will also be installed near Nikel and Zapolyarny. New vegetation growth on wasteland will also be studied.

The Tourist Routes of the Pechenga District project commenced in the spring of 2021. Two natural monuments have been made accessible to visitors: access to a waterfall on the Shuonijoki River and a cedar forest in the Nikel forestry. Infrastructure in these places has been completely renewed.

In the Zabaykalsky Region, the Company supports the development of research and technical capabilities of the Urumkansky Nature Reserve.

1 mln m2 of the territory was cleared in 2021

87 dilapidated buildings were dismantled

HUMAN RESOURCES

One of the Company's focus areas is to nurture corporate culture aimed at boosting employee performance and commitment to take responsibility for delivering results.

Nornickel views its employees as its key asset and invests in their professional and personal development while creating an environment promoting employee performance and engagement.

The Company makes sure all employees enjoy equal rights and treatment regardless of gender, age, race, nationality, and origin. Nornickel provides all its employees with the same opportunities to unlock their potential, and promotes them solely on the basis of professional competencies. Respect for each employee and their rights lies at the heart of Nornickel's business. The Company does not use child or forced labour.

IN 2020, NORNICKEL CO-FOUNDED WOMEN IN MINING RUSSIA, A PROJECT TO SUPPORT WOMEN'S DEVELOPMENT IN THE MINING INDUSTRY.

In 2021, **56 female employees** of Nornickel submitted applications to participate in the all-Russian contest Talented Woman in the Extractive Industry, with 11 of them short-listed and three winning the contest.

Awards and industry recognition

IN 2021, NORNICKEL SHOWED STRONG PERFORMANCE IN BEST EMPLOYER RANKINGS:

- Best employer in the metals and mining industry among students, graduates and professionals according to Universum and Randstad Award
- Best employer in the metals industry among students of leading higher education institutions (HEI) according to the Best Company Award ranking by Changellenge, as well as the 2nd place in the Power of Growth category, reflecting steady growth of interest from students in business programmes
- Best employer in the metals industry, as well as 14th best employer for its target audience in Future Today's ranking based on a survey of Russian university students
- 16th place (out of more than 600 companies) among the largest companies in the national employer ranking by HeadHunter and RBC
- Silver in Forbes' ranking of Russia's best employers (top 50 out of 104 participating companies), gold in the Employees and Society category, and platinum in the Corporate Governance category.

PREVENTING THE SPREAD OF COVID-19

In 2021, the Company continued supporting healthcare facilities and local businesses. A major programme was completed to monitor and promote employee vaccination, with regular PCR testing, vaccine procurement, mobile vaccination sites (including in remote areas), extra days off after vaccination, and gifts for the vaccinated.

During the coronavirus pandemic, the Company was making supplementary payments in addition to temporary disability benefits in case of post-vaccination adverse reactions, as well as to employees who had to self-isolate and were unable to perform their duties. In some of its operating regions, the Company reimbursed taxi fares to employees commuting to work.

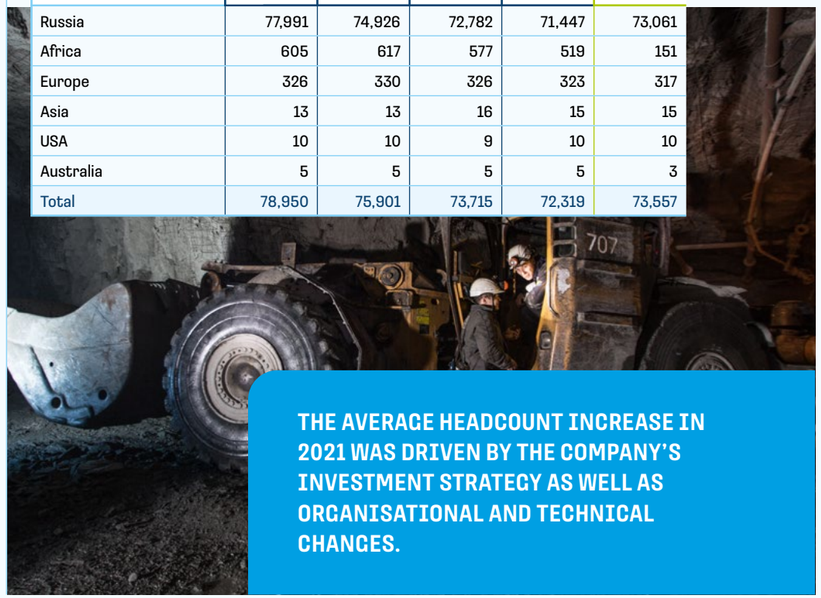
On average, 69% of Nornickel employees have received at least a first vaccine. At many enterprises, including large companies such as NTEC and Kola MMC, over 80% of the workforce has been vaccinated. Overall, it can be said that the Company's operations have adapted to the pandemic.

Staff composition

In 2021, the Group's average headcount was 73,557 employees, of which 99% were employed by its Russian companies. Nornickel is among the main employers in the Norilsk Industrial District and Kola Peninsula, employing 67% and 16% of the regional workforce, respectively. Local population accounts for 99.8% of the headcount.

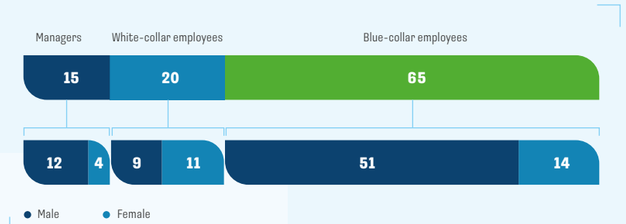
The Group's average headcount (people)

Location	2017	2018	2019	2020	2021
Russia	77,991	74,926	72,782	71,447	73,061
Africa	605	617	577	519	151
Europe	326	330	326	323	317
Asia	13	13	16	15	15
USA	10	10	9	10	10
Australia	5	5	5	5	3
Total	78,950	75,901	73,715	72,319	73,557

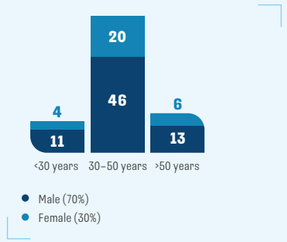


THE AVERAGE HEADCOUNT INCREASE IN 2021 WAS DRIVEN BY THE COMPANY'S INVESTMENT STRATEGY AS WELL AS ORGANISATIONAL AND TECHNICAL CHANGES.

Headcount by category (%)[1]



Headcount by age and gender (%)[1]



1 Russian operations.

Recruitment

PARTNERSHIPS WITH UNIVERSITIES

To spark the interest of young people in professions of mining and metallurgical engineers and the industry on the whole, the Company has launched programmes for undergraduate and graduate students of Russian industry-related universities.

The Company focuses on training and upskilling students majoring in professions that are highly valued at Nornickel. For example, our standard format of the Conquerors of the North educational programme moved online and became available to a wider audience of students from Russian universities involved in the industry.

In 2021, 2,080 students applied for the programme, of which 1,360 passed screening and were invited to join, with 590 completing the programme.

The Conquerors of the North online academy has served as a tremendous library of knowledge for students. The participants listened to 30 video lectures and did a case study to consolidate their knowledge. Nornickel was the first Russian mining company to engage undergraduates and graduates in addressing real business challenges and promptly move the programme online in response to the pandemic spread in Russia.

In 2021, an online apprenticeship programme was run remotely for the Head Office in Moscow. The best graduates of the leading Moscow universities took part in the programme.

The Company continues to support talented students from industry-related universities, with Nornickel's corporate scholarship awarded to 72 students in 2021.

ENGAGEMENT

Nornickel goes through the engagement management cycle every year to maintain an environment conducive to integration.

This cycle includes three phases:
- "Let Everyone Be Heard. What Do You Think?" survey
- Analysing the survey findings
- Developing and implementing resulting solutions

In 2021, the engagement index grew by 2 p.p. y-o-y to 56%, in particular in the following categories:
- Conditions for success: +4 p.p.
- The higher score was due to improved workplace amenities, equipment upgrades and renovation projects
- Rewards and recognition: +2 p.p.
- Pay satisfaction grew 5 p.p. y-o-y
- Career opportunities: +4 p.p.

Also, the score on the perceptions of top management metric was out of the risk zone for the first time in four years, with the score on the environmental awareness metric gradually improving.

The survey includes focus group polling among 73 thousand employees from 32 Nornickel enterprises. In 2021, 46.8 thousand employees were covered by the survey, up 10% y-o-y.

All governance levels, from units of individual entitles to the Group as a whole, are involved in both survey data analysis and the development and implementation of improvements.

Development programmes and trainings

The Company provides great opportunities for accessible training, paying particular attention to using advanced technologies for various employee categories. More than 24 thousand employees are active users of the Nornickel Academy corporate education platform, which constantly expands its remote learning opportunities.

Over 150 training courses are now publicly available on the Nornickel Academy platform. The catalogue features courses on the following subjects:
- Me and the Company
- Professional development
- Personal development
- Managing people and processes

The most popular courses in 2021 were the ones developing management and digital skills, as well as job-specific courses and mandatory trainings and briefings. Over 5.3 thousand employees completed training courses to develop their management skills.

The Fundamentals of Non-ferrous Metallurgy course was developed in 2021 for Nornickel specialists with non-metallurgical backgrounds, completed by over 700 employees.

More than 2 thousand people took courses themed around Digitalisation and Information Technology on the Nornickel Academy platform in 2021. The most popular course was Digital Literacy, which was developed under the Digital Nornickel programme to summarise in an accessible way which digital solutions, technologies and tools are currently available on the market, which have been implemented in Nornickel, and which anyone can use in their daily work. A total of 46.7 thousand people completed the course by the end of 2021.

Overall, 115.5 thousand person-events were held as part of training and retraining programmes, covering 52.2 thousand employees. A total of 5,058 thousand person-hours of training were delivered to 21.7 thousand employees in corporate training centres (41.6 thousand person-events). As restrictions imposed in Russia precluded face-to-face training, the Company actively used remote learning formats for its employees (75.3 thousand person-events).

LEADERSHIP DEVELOPMENT

The Company maintains its focus on the development of management skills among its leaders. A corporate development programme for top 100 managers, as well as high-potential managers, selected by HR committees, has been in place for four years now. The programme was delivered in a hybrid format during 2021, with a total of 22 managers trained. The programme leverages the project-based approach, whereby participants are involved in designing real-life projects to develop specific business areas for the Company. Each training module included theory, presentations by speakers, project work on group assignments, and plenary discussions of the group work results.

On the Path to Efficiency programme has set a good example in fostering a digital learning culture. It includes five modules aimed at improving the management skills of middle management:

- Results-based management ("Manage!")
- Labour productivity ("Improve!")
- Effective communications ("Negotiate!")
- Financial management ("Analyse!")
- Team management ("Interact!")

In 2021, management training under the 360-Degree Management programme was continued, with 360-degree assessment of managers' skills.

The programme focused on the development of corporate and management skills. Participants could select training topics themselves based on their assessment results and development areas highlighted in their individual development plans. Training was offered on six topics:

- HR management
- Execution management
- Corporate skills development
- Communications
- Systems thinking
- Partner relations

A total of 139 managers were trained.

Supervisor School, a new training programme for line managers, was launched in 2021, with 72 supervisors trained. Participants who completed feedback questionnaires rated the programme at 9.6 on a 10-point scale.

ASSISTANCE PROGRAMME

Since the Company's production sites are located in remote areas, Nornickel actively sources staff for its production facilities from other regions of Russia. The Assistance programme helps new hires adapt to their new environment and settle into their new communities on the Taimyr Peninsula. The programme targets not only highly qualified specialists and managers but also young talent and workers with hard-to-find skills. Today, it covers 1,587 of Nornickel employees, including 758 new participants, who joined in 2021. With this programme, the Company seeks to provide the participants with comfortable living conditions and reimburse them for relocation and resettlement costs.

1,587 employees
were participants assistance programme

In 2021, the Company's expenses for the socialpackage amounted
USD 142 mln

USD 2.0 thousand
was the average monthly salary of employees

Employee evaluation and remuneration

Nornickel's remuneration framework is linked to key performance indicators (KPIs) for different job grades. KPIs include social responsibility, occupational safety, environmental safety, operational efficiency, and capital management metrics, with due consideration of cross-functional interests. In 2021, more than 13 thousand employees of the Group were assessed against their KPIs.

KPI setting is driven by the Company's well-established principles of balance, regularity, KPI achievement validation, decomposition, and ambition, as well as the SMART criteria. Cascading is one of the tools used in KPI setting: a manager breaks down their KPI into components and cascades them to subordinates. Therefore, when each employee meets their KPI targets, their superiors' KPIs are also achieved.

The KPI framework is instrumental in streamlining performance evaluation criteria and enabling managers and employees to align the current year's priorities with the Company's strategy and link an employee's pay to their performance.

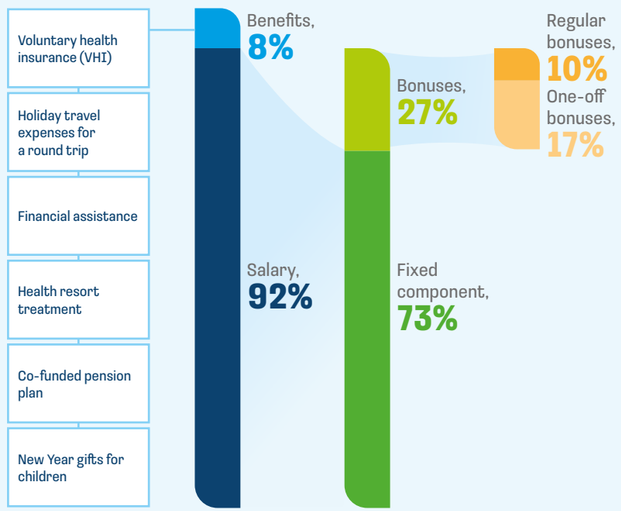
The Company has a procedure in place for evaluating the performance of the Head Office employees and, separately, of Group company managers. In 2020, a new incentive system was introduced for all employees of project management offices (PMOs): project bonuses and traditional annual bonus were replaced with a project completion bonus. Bonuses are paid for the achievement of key project parameters and are aimed at motivating and retaining key project employees until project completion. In 2021, the project bonus system was used to evaluate the performance of 1,045 employees in the Group's project management offices.

The performance evaluation process is supplemented with an automated 360-degree assessment procedure run at 28 Group enterprises. In 2021, the 360-degree assessment covered almost 2.4 thousand managers at all levels, including top management. Following the assessment, employees receive feedback from their superiors, discuss further development areas with them and build their individual development plans for the year.

In addition to remote learning opportunities offered by the Nornickel Academy platform, employees who develop individual development plans based on the 360-degree assessment results can benefit from access to the corporate electronic library and take training on the 360-Degree Management programme.

The Company's compensation package comprises salary and benefits. The salary consists of fixed and variable components, with the latter linked to the Company's operational performance and achievement of relevant KPIs.

Compensation package across the Group's Russian enterprises



The benefits package includes the following benefits and compensations:

- Voluntary health insurance and major accident insurance coverage
- Discounted tours for health resort treatment and recreation of employees and their families
- Reimbursements of holiday travel expenses for a round trip and baggage fees for employees and their families living in the Far North and territories equated thereto
- One-off financial assistance to employees experiencing major life events or in difficult life situations
- Complementary corporate pension plan
- Other types of social benefits under the existing collective bargaining agreements and local regulations

Nornickel's annual employee benefit expenses

Expenses	2017	2018	2019	2020	2021
Total (USD mln)	123	128	147	99	142
Cost per employee (USD thousand)	1.6	1.7	2.0	1.4	1.9

Nornickel employees' salary levels depend on the work complexity, individual expertise and skills, and their personal contribution to the Company's performance. The Company prohibits any discrimination by setting or changing wages based on gender, age, race, nationality, origin or religion. Its compensation policy is based on the principles of internal equity, external competitiveness and performance rewards.

The Company makes regular reviews of pay levels and trends, as well as the cost of living – both the nation-wide averages and the average figures for each of its operating regions, with wage indexation done annually based on the review results. The Company constantly evaluates its pay levels to make sure they are not below the established living wage. Monitoring results suggest that all employees at the Company are paid above the minimum living wage in the Company's operating regions.

Minimum living wage in Nornickel's operating regions

Region	RUB thousand	USD
Norilsk Industrial District (NID)	33.3	452
Murmansk Region	29.4	399
Moscow and other regions of Russia	20.6	280
Krasnoyarsk Region (excluding NID)	20.5	278
Zabaykalsky Region	19.2	261

Average monthly salaries of Nornickel employees[1]

Currency	2017	2018	2019	2020	2021
USD[2]	1,784	1,780	1,835	1,827	1,970
RUB thousand	104	112	119	132	145

ADDITIONAL EMPLOYEE INCENTIVES

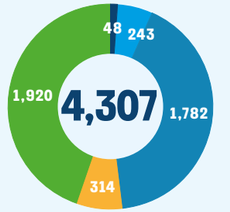
Nornickel's Award Policy is closely linked to its values and strategic priorities. The Company rewards its employees for outstanding professional achievements and contribution, innovations that drive growth and add value, efforts going beyond formal agreements with Nornickel, and contribution to overall performance of the business.

There are several levels of awards and incentives. Nornickel welcomes recognition of its employees by the state, as well as by government agencies and regional and municipal authorities and nominates those who achieved outstanding results in operations and management and made a significant contribution to production development.

Corporate incentives are Company-level awards.

Resolutions on corporate incentives are passed by the President of the Company. There are also internal incentives, which are initiated and awarded to employees on behalf of the enterprise where they work.

Employee awards in 2021 (ps)



1 Russian enterprises.

2 Based on the average annual RUB/USD exchange rate given at the end of the Report.

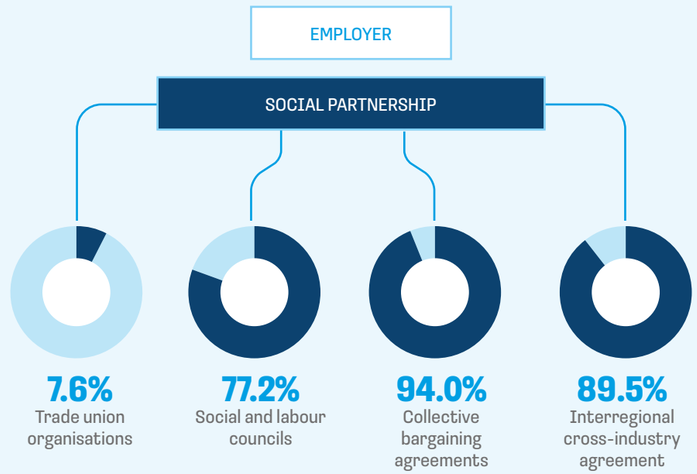
Social partnership

The Group enterprises have in place a social partnership framework aimed at aligning the interests of employees and employers in the regulation of social and labour relations. Nornickel meets all its obligations under the Labour Code of the Russian Federation, collective bargaining agreements, and joint resolutions.

Key tasks of employee representatives in a social partnership are to protect employees' rights and interests when negotiating collective bargaining agreements, signing or amending a collective bargaining agreement, overseeing its performance, and resolving labour disputes.

Within the current social partnership framework, employee representatives are involved in resolving issues relating to the regulation of social and labour relations, conducting special assessments of working conditions and implementing measures to prevent work-related injuries and occupational diseases. The view of employee representatives is taken into account when adopting local regulations on social and labour relations, compensation, work hours, labour standards, provision of guarantees and allowances, occupational health, etc.

Social partnership framework



TRADE UNION ORGANISATIONS

The Group has 58 primary trade union organisations united into local trade union organisations of the Norilsk Industrial District and Murmansk Region, which are part of the Trade Union of MMC Norilsk Nickel Employees, an interregional public organisation.

The trade unions of transport and logistics divisions are members of the Yenisey Basin Trade Union of Russia's Water Transport Workers, headquartered in Krasnoyarsk.

In 2021, trade unions contributed to:

- additional social support for current and former employees during the COVID-19 pandemic
- harmonising the types of financial assistance provided to employees of the Group enterprises and their family members

- additional social support for employees with disabilities
- increased reimbursement levels for relocation costs of employees terminating their employment (for Group enterprises located in the Far North and parts of the Krasnoyarsk Region territories equated thereto)
- collective bargaining on a three-year extension and amendment of interregional cross-industry agreement with copper and nickel producers and production support providers for 2019–2022.

A total of 7.6% of employees of the Group's Russian entities were members of trade unions as at year-end 2021.

SOCIAL AND LABOUR COUNCILS

Group enterprises in the Norilsk Industrial District and in the Murmansk Region established social and labour councils back in 2006 to represent the interests of all employees within the framework of social partnership at the local level. Social and labour councils are authorised to raise matters relating to health resort treatment, recreation and leisure programmes for employees, disease prevention, catering and workplace arrangements, and provision of personal protective equipment.

In 2021, the percentage of employees represented by social and labour councils was 77.2% of the total headcount across the Group's Russian enterprises.

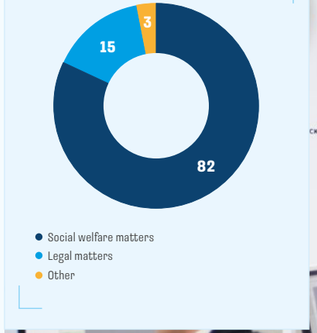
64 thousand queries
were received in offices for operational, social and labor matters

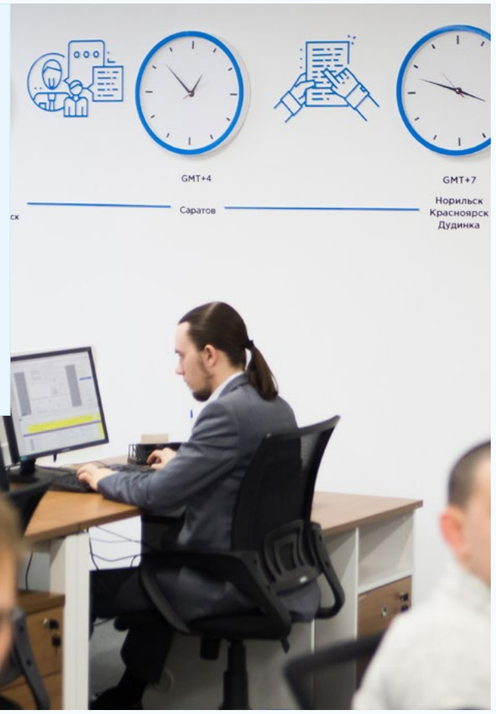
OFFICES FOR OPERATIONAL, SOCIAL AND LABOUR MATTERS

In addition to the Corporate Trust Line speak-up programme, the Group set up offices for operational, social and labour matters back in 2003. They are primarily tasked with response to employee queries, follow-up, and prompt resolution of conflicts. On a regular basis, the offices monitor social environment across operations, enabling timely responses to reported issues.

Queries submitted to offices are reviewed by relevant specialists or are forwarded to functional or production units depending on the issue raised in the query. The offices control turnaround time and quality of responses. When handling complaints, the offices adhere to the principle that precludes sending complaints to the managers whose actions are being challenged. In 2021, Group enterprises in the Norilsk Industrial District operated 25 offices which received over 64 thousand queries and requests from employees (81%), former employees (18%) and other individuals (1%).

Main topics of queries and requests (%)





COLLECTIVE BARGAINING AGREEMENTS

Collective bargaining agreements at the Group's Russian enterprises comply with the applicable laws and adequately reflect employee expectations.

In 2021, the Group enterprises extended for another three years four collective bargaining agreements which historically provided one of the industry's best benefits packages. Every year, Nornickel reimburses holiday travel expenses for employees and their families, offers medical insurance, health and recreation programmes, complementary corporate pension plan, and develops housing and professional training programmes.

At present, all collective bargaining agreements of the Group's Russian enterprises are based on unified approaches to regulating social and labour relations within the social partnership framework. In 2021, collective bargaining agreements covered 94% of employees.

Collective bargaining commissions continuously monitor the performance of obligations under collective bargaining agreements by the parties. The Group enterprises have also set up labour dispute commissions, social benefits commissions/committees, social insurance commissions, occupational safety commissions/committees, social and labour relations commissions, etc. No breaches of collective bargaining agreements and no strikes or mass layoffs were recorded across the Group enterprises in 2020.

INTERREGIONAL CROSS-INDUSTRY AGREEMENT

Collective bargaining in 2019 led to the conclusion of an interregional cross-industry agreement for copper and nickel producers and production support providers for 2019–2022. The agreement governs social and labour relations and defines uniform corporate approaches to compensation, provision of guarantees, allowances and benefits to employees, work and rest hours, occupational health, and other matters.

In December 2021, the agreement was extended for 2022–2025 with a number of amendments. Currently, the Association of Employers comprises 22 entities. The agreement covers 89.5% of employees of the Group enterprises.

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Collective bargaining agreements covered
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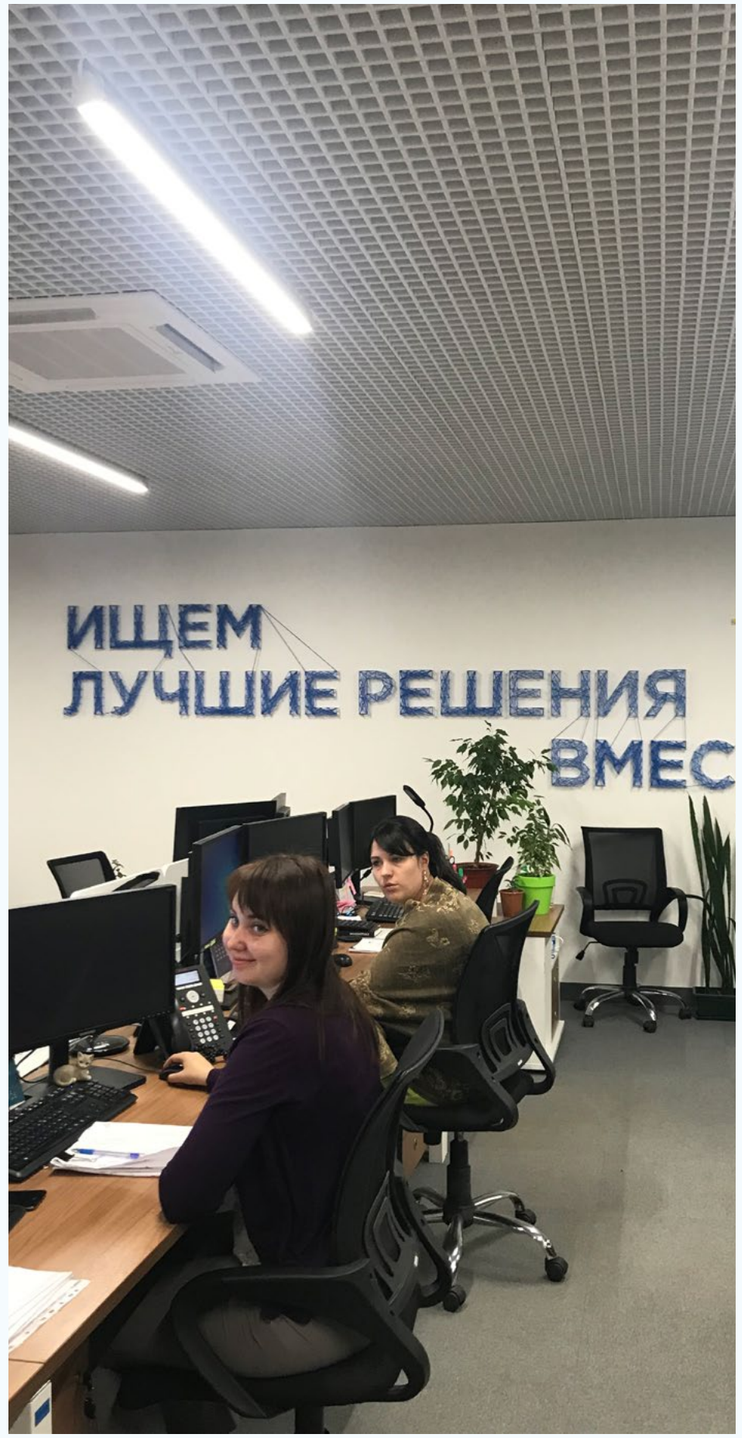


HEALTH AND SAFETY

In 2021, Nornickel continued to pursue its Health and Safety Strategy, covering the period until 2025.

Strategic goals:

ZERO WORK-RELATED FATALITIES
zero-tolerance policy on work-related fatalities

REDUCTION OF INJURY RATES
reducing lost time injuries

THE HEALTH AND SAFETY
of our people as well as the mitigation of ore mining and processing risks are a top priority in Nornickel's operations

Key performance indicators

20%
in team KPIs of all employees

This metric is driven by total recordable injuries (TRI) rate.

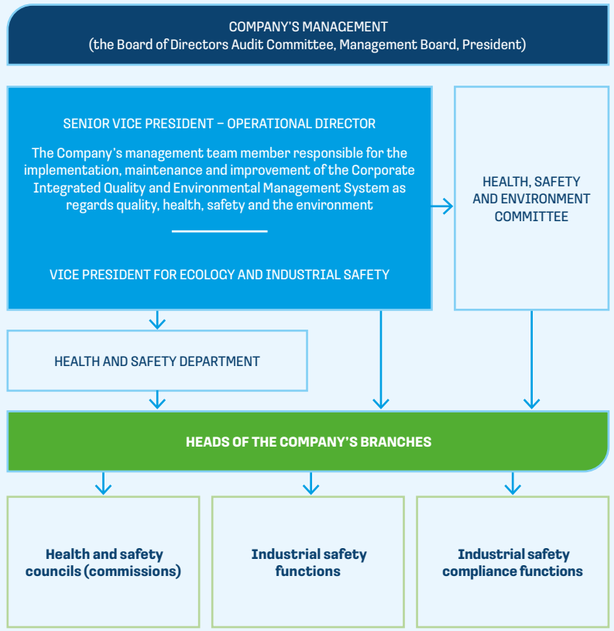
GOAL:
reduce TRI to 20% below the minimum level achieved between 2013 and 2020.

12–28%
in individual KPIs of production site managers

Failure to prevent a fatality blocks performance bonuses.

GOAL:
zero fatalities

Responsibility



The Audit Committee deals with industrial safety matters. The Committee reviews management reports on industrial safety performance every quarter, with management participating in the Committee's meetings providing detailed account of causes of accidents, measures taken to prevent similar accidents in the future and disciplinary actions taken against the employees at fault.

The Company's Health, Safety and Environment Committee, led by the Senior Vice President – Operational Director, is focused on improving performance and accountability in health and safety. The committee meets quarterly at various production sites of the Group to discuss improvements to industrial safety management, including:

- analysis of the circumstances and causes of severe and fatal work-related injuries
- status of measures planned and implemented to prevent similar injuries across the Company's enterprises
- programmes of organisational and technical measures to improve health and safety.

Remuneration payable to all heads of production units is linked to their industrial safety performance. They are personally responsible for the life and health of each of their subordinates. In addition, team KPIs for all employees include injury rate reduction across the Group enterprises (20% of the team KPIs). Industrial safety metrics weigh between 12% and 28% in individual KPIs of production site managers. Failure to prevent a fatality blocks performance bonuses.

The Company's major challenges in 2021 were an accident at Norilsk Concentrator resulting in multiple fatalities and the flooding of the Oktyabrsky and Taimyrsky Mines.

While taking full responsibility for the incidents, the Company's management took immediate measures to identify the causes and mitigate the negative consequences:

- Data on conclusions presented in industrial safety reviews of technical devices, buildings and structures across the Group companies were analysed for completeness and reliability
- The primary, secondary and fine crushing units of Norilsk Concentrator's crushing shop and related disseminated ore processing operations were temporarily suspended
- Targeted inspections of safe working arrangements, issuance of work permits for hazardous work, completeness of, and compliance with, safety measures specified in work execution plans and process sheets in the Company's units were carried out
- Risks were reassessed and additional adjustments were made to procedures covering equipment repair, maintenance and operation, as well as personnel movement around the premises and to work areas
- Targeted inspections were arranged to eliminate defects in, and damage to, buildings and structures, identified in conclusions presented in industrial safety reviews

The Company provided financial assistance to the victims' families. A comprehensive action plan was also developed to eliminate and minimise the impact of mine flooding.

PERSONAL COMMITMENTS OF MANAGERS

The Group has in place the corporate standard Demonstrable Commitment by Managers to Health and Safety. In line with the standard, managers make personal health and safety commitments for each year, including personal and group meetings with employees at production units, participation in audits of the occupational health management system, as well as Engineers and Technicians Days conducted with line managers (pre-shift briefings, workplace visits, discussions and recommendations to managers). Performance against personal commitments is included in each manager's individual KPIs.

Regular sessions, chaired by production unit heads, are held with employees to build a strong workplace safety culture.

Certifications and audits

In 2021, surveillance audits confirmed compliance of the occupational health and safety management systems of MMC Norilsk Nickel facilities (Head Office, Polar Division, Polar Transport Division, Murmansk Transport Division) with ISO 45001:2018 international standard. The certification body Bureau Veritas Certification noted a high level of maturity and development of the occupational health and safety management system and confirmed the system's compliance with the standard.

The Group's production units are regularly audited for compliance with applicable health and safety requirements. A total of 53 audits took place in 2021 in accordance with the approved schedule, with production site managers and their deputies also involved in the audits.

Certificate	ISO 45001	GOST 12.0.230–2007 (interstate standard identical to ILO-OSH 2001)
Certified assets	• MMC Norilsk Nickel • Kola MMC • Pechengastroy • Norilsk Nickel Harjavalta	• Norilsknickelremont
Auditor	Bureau Veritas Certification	Voluntary certification system Standard-Certifica by Isomax

As at the end of 2021, **59%** of the Group companies had health and safety certification.

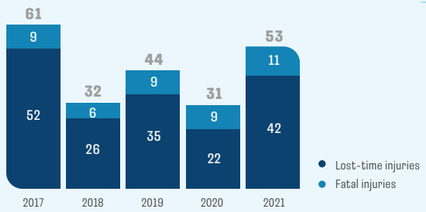
Injury rates

Unfortunately, the number of lost-time injuries almost doubled in 2021 (from 22 to 42 incidents), with the number of fatalities also growing (from 9 to 11 incidents).

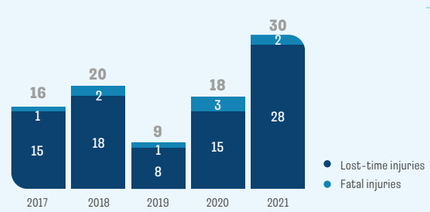
Most fatalities took place at the Norilsk Division in underground mining operations, which prompted the establishment of a cross-functional expert team of managers at the Polar Division to improve the underground mining safety processes. As a result, an action plan was developed to improve workplace safety. In a separate accident, a walkway collapsed at Norilsk Concentrator in 2021, which sadly resulted in the death of three of our employees. To eliminate the risk of similar incidents in the future, the Company has implemented a series of organisational changes within the Norilsk Division, put in place a building and structure monitoring system, and made a number of improvements to the industrial facility supervision function and its inspection and examination processes, as well as the process of implementing instructions resulting from industrial safety reviews.

All accidents were thoroughly investigated, with the resulting reports submitted to the Board of Directors, and action plans developed to eliminate their root causes. Nornickel's management reinforces the Group's commitment to achieving zero work-related fatalities and sees fatality-free operations as its strategic priority. The Company continues to implement dedicated programmes to prevent and avoid accidents and work-related injuries. A comprehensive review of industrial safety standards and requirements has been scheduled for 2022 to prioritise focus areas for preventing safety breaches that may result in fatalities or serious injuries.

Work-related injuries across the Group



Contractors' work-related injuries



Item (per 1 mln hours worked)	2017	2018	2019	2020	2021
FIFR	0.08	0.05	0.08	0.08	0.10
LTIFR	0.44	0.23	0.32	0.21	0.38

Main causes of fatalities across the Group

Item	2017	2018	2019	2020	2021
Fall from height	0	1	1	0	1
Falling objects	1	0	0	2	0
Moving objects/parts	1	0	2	1	3
Rock fall	0	1	0	2	2
Road traffic accident (RTA)	0	1	0	0	0
Electrocution	1	0	0	3	1
Exposure to extreme temperatures	0	0	1	0	0
Explosion	4	0	1	0	0
Other	2	3	4	1	4
Total	9	6	9	9	11

The Company has developed and implemented a special standard which allows choosing a contractor meeting its H&S standards as early as at the selection stage. Regular meetings with contractors enable coordinated joint actions to support the achievement of set goals while ensuring safety compliance.

Prior to the commencement of any work, contractor employees are required to receive induction and targeted briefings on occupational health. The standard provides for fines where a contractor's non-compliance with the H&S standards has been identified by the customer through a regular audit.

In 2021, Nornickel regularly monitored its contractors' compliance with the H&S requirements, including through joint inspections of compliance with work safety requirements and meetings of health and safety councils (committees) involving contractor representatives.

Engagement with organisations representing employees

The Group's collective bargaining agreements have separate health and safety sections. The obligations and commitments of the parties in relation to health and safety are also included in the interregional cross-industry agreement for copper and nickel producers and production support providers.

The Company and most of its subsidiaries have joint health and safety committees made up of management, employee and trade union representatives.

Industrial safety compliance and breach prevention

The Company has a zero-tolerance approach to unsafe behaviours, as prevention of safety breaches plays a critical role in reducing injuries and accidents.

The Company's H&S corporate standards also apply to its contractors. Nornickel's production enterprises have process-, job- and operation-specific regulations and guidelines in place containing dedicated industrial safety sections.

Thus, workers with on-site production experience of less than three years wear special red helmets with the word "Caution" on them and protective clothing with "Caution" badges that make them stand out.

The Company has developed the Control, Management, Safety Automated System (CMS AS) which is being gradually rolled out across the Company's assets. The CMS AS is a SAP EHSM-based information system designed to collect, process, record and analyse health and safety data. The use of the CMS AS as a single centralised management mechanism drives the quality and efficiency of H&S processes, ensuring a unified approach to the H&S procedure compliance and reporting.

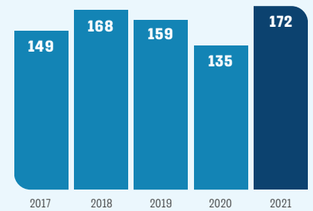
Nornickel has developed and put in place an H&S compliance monitoring system featuring multi-tier control with ad-hoc, targeted and comprehensive H&S inspections. The first tier control involves the line manager (aided by designated members of the occupational health team) and focuses primarily on workplace set-up. The second and higher control tiers involve special H&S commissions with representatives of management and employees.

In addition to the above prevention and control initiatives, the Company conducts regular behavioural audits in accordance with the approved schedule. The prevention and control team has identified and disciplined over 12 thousand non-compliant employees, including by partially or completely stripping them of their bonuses.

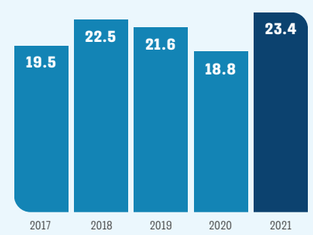
Nornickel's absolute priority in safety during 2021 was its programme to set up regular open risk dialogues between line managers and workers. The programme is a true cross-functional effort that involves HR, H&S and production management teams. This initiative has proved to be successful: a pool of mentors has been formed from among H&S team members, with over 3.3 thousand line managers taking training and 77% of managers certified and now delivering briefings in the new, dialogue format.

- In 2021, a personal protective equipment (PPE) compliance detection system based on video analytics came online at three Nornickel facilities. The next steps are to roll out this system to other production sites and expand its functionality to include detecting unsafe operations and movement routes and areas for staff and machinery, in addition to PPE compliance detection.
- A prototype hardware/software solution using video analytics to detect staff in an unsafe area and send a beam to display a floor sign with a warning message was developed at the converter matte casting section of Nadezhda Metallurgical Plant.
- Furthermore, the Company has teamed up with Hovermap to develop a smart mobile scanning solution to support staff evacuation from unsafe areas.

Expenses for improving working conditions and labour protection (USD mln)



Cost per employee (USD thousand)



PERSONAL PROTECTIVE EQUIPMENT

Employees are provided with safety clothing, footwear and other personal protective equipment to mitigate the adverse impact of work-related harm. Employees working in contaminated conditions are provided with free-of-charge wash-off and decontaminating agents. In 2021, the Nornickel purchased personal protective equipment worth over RUB 3 billion (USD 41 million).

EMPLOYEE TRAINING

The Company is committed to ensuring its people have all the necessary knowledge, skills and capabilities to perform their duties in a safe and responsible manner.

Training starts immediately after an employee is hired, with an induction safety briefing and subsequent on-the-job briefings. Briefings are then repeated regularly in accordance with the existing corporate programmes. There are also interactive training courses for employees in key positions. In 2021, 38,253 Group employees were covered by these trainings and briefings, including 489 workers' representatives and trade union members. All Group employees also regularly take online industrial safety trainings and final tests.

Furthermore, TOT Consulting and the facilities of the Norilsk and Kola Divisions have continued to implement the Pre-shift Briefing: Safety Dialogue project to provide line managers with hands-on skills delivering pre-shift briefings.

Prevention of occupational diseases

The Company promotes disease prevention and healthy lifestyle among its staff to minimise the risk of occupational diseases, with management focused on communicating to all employees the importance of complying with occupational safety requirements and protecting one's own health. Nornickel also seeks to introduce meaningful occupational health initiatives taking into account both workplace and individual risk factors.

The Company offers its staff regular disease prevention screening in line with recommendations from the healthcare authorities. Employees undergo mandatory pre-employment, regular and ad-hoc medical examinations at the Company's expense. Special medical examinations at occupational pathology centres are provided to employees exposed to hazardous substances.

Production enterprises have dedicated medical aid posts to perform pre-shift health checks and provide medical assistance on request during working hours.

Employees working in harmful or hazardous conditions receive free food, milk and other products for therapeutic and preventive nutrition to improve health and prevent occupational diseases.

Item	2017	2018	2019	2020	2021
Occupational diseases	361	318	290	235	213

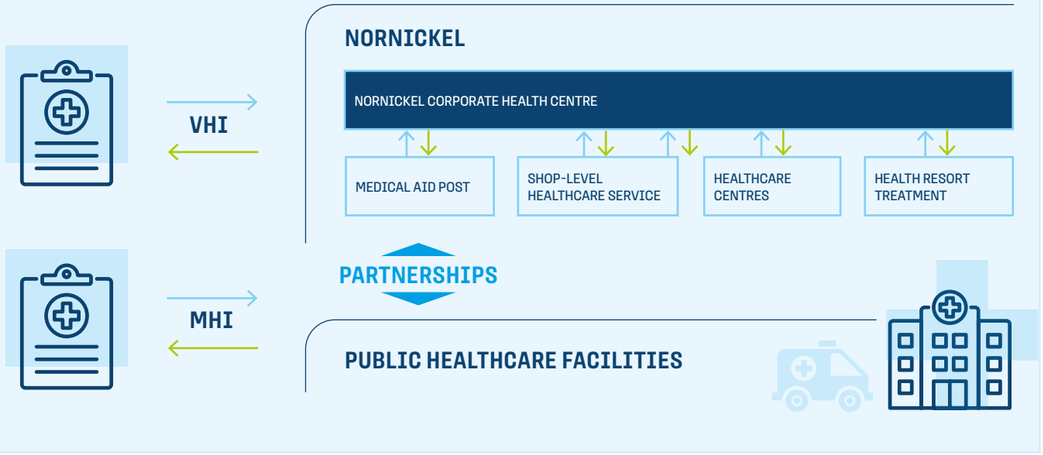
CORPORATE HEALTHCARE

The Company has launched a corporate healthcare project to deploy commercial healthcare facilities in the region, thus reducing peak loads on the public healthcare system, and to set up shop-level healthcare services at its enterprises to prevent diseases. The corporate healthcare development will allow Nornickel employees to enjoy a wide range of quality medical care and timely medical aid services.

The first of the Company's six healthcare centres was opened in late December 2021 in Norilsk, with four more centres planned to be opened shortly in the Norilsk Industrial District (in Norilsk, Kayerkan, Talnakh, and Dudinka), and one centre for the Kola Division (in Monchegorsk). These healthcare centres will provide both employees and their families with healthcare services under the VHI programme.

SO_2 emissions in Norilsk have decreased by 30%–35% over the period since the Nickel Plant shutdown in 2016. According to the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor), the total number of newly diagnosed cases decreased by 23% (in 2020, from a 2016 baseline), with disorders of blood and blood-forming organs, including the immune system, falling by 48%, respiratory diseases by over 11%, and cardiovascular diseases 23%.

Nornickel's medical care framework



SOCIAL STRATEGY

Nornickel is playing an important role in the Russian economy. Due to its geography and financial strength, the Company has a strong impact on the social and economic life in the regions in which it operates.

With its enterprises located mostly in single-industry towns, Nornickel seeks to foster a favourable social climate and comfortable urban environment, providing its employees and their family members with ample opportunities for creative pursuits and self-fulfilment.

The core principle behind this social contribution is a partnership involving all stakeholders in the development and implementation of social programmes based on the balance of interests, cooperation and social consensus.

The harsh climate faced by Nornickel employees in life and at work, the remoteness of the Company's key industrial facilities, and the increasing competition for human capital across the industry call for a highly effective, human-centred social policy that would promote Nornickel's reputation as an employer of choice.

> USD 1 bn
were cosial expenses

USD 161 mln
were social expenses for employees

Social programmes for employees

- HOUSING PROGRAMMES
- HEALTH IMPROVEMENT PROGRAMMES
- PENSION PLANS
- SPORTS PROGRAMMES

Social programmes for employees

HEALTH IMPROVEMENT PROGRAMMES

Given the harsh climate of the Far North and the difficult working conditions at mining operations, Nornickel has been consistently investing in health programmes for employees and their families. Health improvement and health resort treatment are among the most popular programmes offered by Nornickel as part of its social policy.

In 2021, over 16 thousand employees and their family members benefitted from the recreation and treatment opportunities offered by the corporate Zapolyarye Health Resort in Sochi. About 8 thousand employees spent their holidays at other health resorts, with over 1.3 thousand employees' children visiting children's health resorts. The Company compensates its employees an average of about 86% of the trip voucher cost.

SPORTS PROGRAMMES

Given the harsh climate of the Far North, supporting healthy lifestyle behaviours is a key focus area in the personal development of Nornickel employees. Sports programmes seek to promote a healthy lifestyle, foster team spirit, improve interpersonal communication, and develop corporate culture.

Nornickel pays special attention to corporate competitions, including the employees' popular sports such as hockey, futsal, volleyball, basketball, alpine skiing, snowboarding, and swimming. Family sports contests are yet another focus area. The promotion of amateur sports is one of Nornickel's social policy highlights.

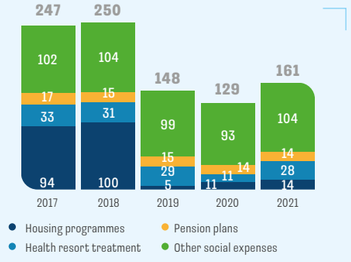
The Night Hockey League with teams made up of Nornickel employees was established to encourage involvement in amateur hockey.

Other activities include regular Spartakiads and various mass sports events held across the Company's footprint and involving not just Nornickel employees and their families but also local residents. In 2021, most of the activities were cancelled and moved online due to the COVID-19 pandemic.

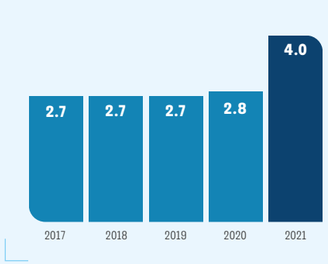
A total of 20 thousand employees participated in sports and recreational activities in 2021. All corporate competitions were broadcast live in 2021, with the total reach exceeding 38 thousand views.

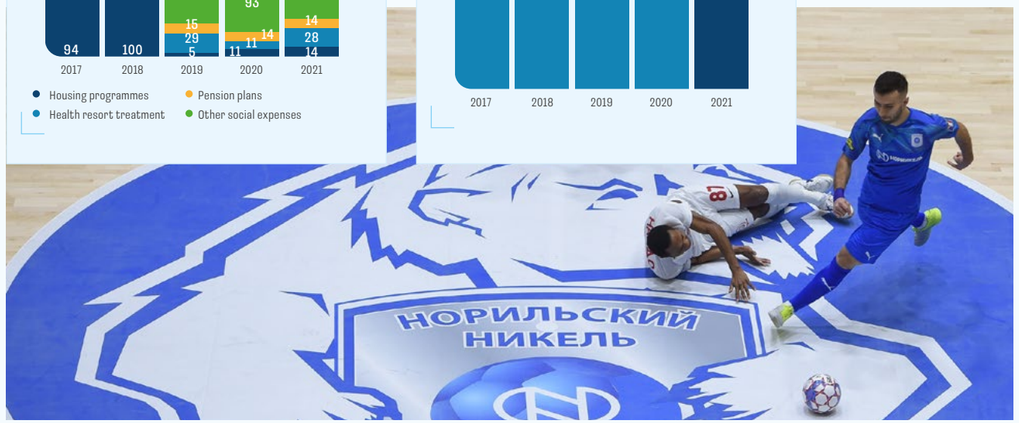
A total of
20 thousand employees
participated in sports and recreational activities

Social expenses for employees (USD mln)



Sports expenses (USD mln)





HOUSING PROGRAMMES

The Company views the implementation of its housing programmes as a smart targeted investment in its human capital. Nornickel currently operates several housing programmes for its employees.

In 2021, Nornickel continued its consolidated housing programme, Our Home/My Home, whose members were able to purchase ready-to-move-in apartments on preferential terms across Russia, usually in the Moscow, Tver or Krasnodar Regions. Each programme member buys an apartment through co-investment: the employer covers up to half the purchase price payable but not more than RUB 3 million (USD 41 thousand), with the rest paid by the employee. The cost of housing is fixed for the entire period of the participation. The property title is registered in the name of the employee only at the end of their participation in the programme; however, the participant may move in immediately after the apartment is purchased. Since the programme launch in 2010, the Company has purchased 3,826 ready-to-move-in apartments.

Also in 2021, Nornickel continued to implement its Your Home housing programme, which was successfully launched in 2019. It will be implemented similarly to the Our Home/My Home programme, except that the title to the apartment will be immediately registered in the name of the employee, though encumbered by a mortgage. The encumbrance is removed from the property once the employee fully repays the debt to the seller. Since the programme launch, the Company has purchased 2,103 ready-to-move-in apartments, with the list of regions extended to Yaroslavl.

Nornickel also operates the Corporate Social Subsidised Loan Programme offering Nornickel employees an interest-free loan to pay the initial instalment and reimbursing a certain percentage of interest paid to the bank on the mortgage loan. Overall, approximately 1 thousand employees have already taken part in the programme.

PENSION PLANS

Nornickel offers its employees private pension plans. Under the Co-Funded Pension Plan, Nornickel and its employees make equal contributions to the plan. The Complementary Corporate Pension Plan provides incentives for pre-retirement employees with considerable job achievements and a long service record at Nornickel enterprises.

Pension plans coverage

Item	2017	2018	2019	2020	2021
CO-FUNDED PENSION PLAN					
Financing (USD mln)	8.6	7.7	7.6	7.2	7.4
Number of participants	15,700	13,916	12,304	11,519	10,776
COMPLEMENTARY CORPORATE PENSION PLAN					
Financing (USD mln)	8.5	6.7	6.1	5.7	5.6
Number of participants	718	545	525	511	455
OTHER PENSION PLANS					
Financing (USD mln)	0.1	0.9	1.0	0.9	0.9
Number of participants	1,118	1,114	1,151	1,064	961

Social investments

SUPPORT FOR INDIGENOUS PEOPLES OF THE NORTH

Nornickel respects the rights and protects the ancestral lands, traditional culture and trades, historical heritage and interests of indigenous peoples within the Company's footprint and delivers on its commitments to enhance and foster good neighbourly relations.

Indigenous peoples of the North, such as Nenets, Dolgans, Nganasans, Evenks, and Enets, currently residing on the Taimyr Peninsula, count over 10 thousand persons.

Nornickel adopted the Indigenous Rights Policy, which defines Nornickel's key related commitments. Nornickel compiles with all applicable international standards and regulations regarding the support for indigenous peoples of the North and recognises the rights of local communities to preserve their traditional lifestyle and indigenous trades. The Company's metals and mining assets are located outside indigenous territories in the Taimyrsky Dolgano-Nenetsky Municipal District, where Nornickel cooperates with the Association of Indigenous Peoples of Taimyr of the Krasnoyarsk Region, Associations of Indigenous Peoples of the North of the Dudinka, Khatanga and Karaul rural settlements, and local indigenous peoples' communities.

In 2021, support for the indigenous peoples of Taimyr experienced a fundamental change. This change was made possible by the signing of a four-party agreement on interaction and cooperation with associations of indigenous peoples of the Russian Federation, the Krasnoyarsk Region, and the Taimyrsky Dolgano-Nenetsky Municipal District in September 2020. The agreement serves as a basis for a five-year programme to promote the social and economic development of Taimyr until 2024, with a total funding of around RUB 2 billion (USD 28 million). The programme outlines over 40 activities across a number of areas such as the development of traditional economic activities, higher processing levels for local communities' product to add more value through building venison, fish and wild plant processing facilities, refrigerator units procurement, purchasing communities' products, construction of an ethnic visit centre with a mini-hotel in the Ust-Avam settlement, assessing the carrying capacity of reindeer pastures in the Avam tundra for the subsequent revival of the reindeer herding industry, assessing the fishing capacity of the Pyasina River tributaries to allocate additional quotas to local communities, life quality improvement in local settlements, housing construction, construction of rural health posts, community centres and sports grounds, and school equipment procurement.

Non-governmental organisations and tribal communities of indigenous peoples of the North were involved in the development of the Programme. Its implementation is monitored by the Indigenous Communities Coordination Council at the Polar Division created at the initiative of indigenous peoples, as well as by the Association of Indigenous Peoples of Taimyr.

The Indigenous Communities Coordination Council was established at the office of the Norilsk Division head to improve the quality of cooperation and better protect the interests of indigenous peoples. The Council is made up of representatives of 19 largest indigenous communities hunting and fishing in the Avam tundra and the Pyasina River basin. Negotiations are currently underway to also include representatives of the Association of Indigenous Peoples of the Khatanga and Karaul rural settlements to represent the respective communities.

The Company pioneered the use of the free, prior and informed consent (FPIC) procedure for indigenous peoples in the Russian Arctic, offering relocation and community development options to indigenous people living in the Tukhard settlement area. The Tukhard residents agreed to join the FPIC procedure if their conditions were met, including the involvement of an elected Council of the settlement's representatives in decision making on relocation, choosing the site for the new settlement, designing its social infrastructure, and selecting the best architectural projects through an architecture contest, as well as in all stages of the relocation programme.

The Tukhard settlement is situated 76 km away from the Arctic port of Dudinka at the base of the Taimyr Peninsula. It was founded in the 1970s as a rotation camp for the Norilskgazprom construction project workers and thus ended up located within the sanitary protection zone of a production enterprise. According to Russian laws, such areas may not be used for permanent residence.

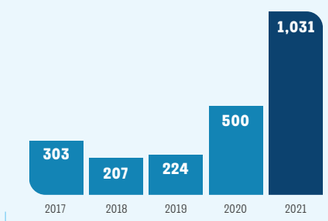
Although the FPIC procedure is not directly stipulated in Russian laws, Nornickel is making a voluntary commitment to international standards, including the standards of the World Bank and the International Finance Corporation that are in line with the UN Declaration on the Rights of Indigenous Peoples.

A good example of how Nornickel helps to preserve national traditions and culture of the indigenous peoples of Taimyr includes celebrations of professional holidays for tundra residents organised and held by the Company on an annual basis: the Reindeer Herder's Day and the Fisherman's Day, with valuable gifts and prizes for participants of national holiday competitions in Taimyr settlements.

In June 2021, Nornickel signed a cooperation agreement with the Kola Sámi Association which represents the interests of the indigenous peoples of the North of the Murmansk Region. The Company supports the Sámi people in developing their culture and preserving their traditional lifestyle, leveraging the best practices tried and tested in Taimyr. In particular, Nornickel will finance a project to create a single Sámi alphabet and the publication of pre-school Sámi language textbooks. The agreement also provides for the establishment of an open-air Sámi presentation museum in Murmansk.

In September 2021, the Company signed an addendum to hold events for the International Decade of Indigenous Languages in the Taimyrsky Dolgano-Nenetsky Municipal District in 2022–2024. The events will include, in particular, a number of linguistic and literary publications, support for newspapers in the languages of indigenous peoples, and preparation of indigenous language textbooks.

Social expenses (USD mln)[1]



1 According to IFRS statements.

FOR NORNICKEL, THESE PROJECTS ARE MUCH MORE THAN JUST SPENDING ITEMS. THESE ARE JOINT INITIATIVES THAT CAN ONLY BE DELIVERED EFFICIENTLY THROUGH ONGOING COLLABORATION AND CLOSE CONTACTS WITH INDIGENOUS COMMUNITIES AND TRIBES, SUPPORTED BY MUTUAL UNDERSTANDING AND REGULAR DIALOGUES DRIVEN BY A SENSE OF INCLUSION.

RUB 2 bn will be the financing of the programme to promote the social and economic development of Taimyr until 2024

Nornickel signed an interaction and cooperation agreement with the Federal Agency for Ethnic Affairs (FAEA). The parties agreed to promote sustainable development, improve the quality of life, protect the ancestral lands, and promote the culture and lifestyles of the indigenous peoples living within the Company's footprint. Nornickel and FAEA also intend to cooperate on promoting the social and economic development of the areas inhabited by the indigenous peoples of the North. Moreover, the positions of all parties will be aligned, and their representatives' requests and suggestions will be taken into account when making decisions and implementing joint projects that affect the interests of indigenous peoples.

In 2021, the Company launched a new grant contest, the World of Taimyr. Its key feature is that it only supports projects in indigenous territories and communities within the Taimyrsky Dolgano-Nenetsky Municipal District. A strong focus is placed on social infrastructure development in the administrative centre of the municipal district. The Taimyr ice arena, the Kaya alpine skiing centre, the Taimyr-Mou ethnic theme park, and the Dudinka Giraffe art object are just a few of the selected new landmarks that appeared in Dudinka through the Company's financial support.

Development of host cities

The Norilsk Development Agency is a regional development institution established in 2017 with support from Nornickel. The Agency was set up to improve social environment and the quality of life in Norilsk, and supports 16 SME investment projects in the service economy, manufacturing and tourism, driving job creation across the region.

In 2020, Nornickel established the Monchegorsk Development Agency jointly with the city administration. In 2020–2021, the team focused on three areas: urban environment, business and investment, and social and cultural projects and tourism.

Urban environment highlights:
- Preparation of a master plan for Monchegorsk development (870 respondents, 4 focus groups and 1 strategy session)
- Development of 2 urban planning concepts, 5 social infrastructure facility concepts and 1 investment project business plan
- Development of a renovation concept for the Sergey Brovtsev Central Park

Business and Investment highlights:
- A strategy session within the project to attract investment in Monchegorsk
- A franchise fair
- Implementation of the Youth Start-Up project

Tourism and social and cultural projects highlights:
- Preparation of the tourism and recreation cluster development strategy for 2021–2024
- Development of the Monchegorsk branding programme
- A contest of tourism projects
- Launch of the ArtArctic art residence, two creative seasons completed
- The Imandra Viking Fest national family festival

Youth programmes

The first City of Endless Inspiration public art festival was held in Norilsk in 2021. Guided by popular artists, its participants created new objects of art for the city. The festival's key message was that we can and should improve the environment we live in, and public art is an excellent tool to do just that. The festival was open for everyone, and the most active participants received prizes. The City of Endless Inspiration festival has married three types of visual art: murals, sculpture and installation art. Over the five days of the event, public art professionals hosted master classes, creating new objects of art in the urban environment together with participants. The festival gathered together over 250 participants and 54 project volunteers, mostly targeting young people aged between 25 and 35.

Since 2014, Nornickel has been holding its **Add Colours to your Town** art contest in its host cities. The main idea of the project is to engage the younger generation in transforming cities through art. Children aged between 4 and 17 and young people aged between 18 and 35 residing in Nornickel's host cities take part in the contest. The project promotes the use of innovative technologies. In 2021, AR effects were created for the existing murals, thus creating the experience of the real and the virtual dimensions combined. The contest highlights: 3 regions; 6 cities and towns (Norilsk, Monchegorsk, Zapolyarny, Nikel, Murmansk, and Chita); over 300 master class participants annually; over 2,400 sketches; and 43 murals based on the young people's sketches.

Environmental online children's camp. During the autumn break, Nornickel supported an online camp for the children from Norilsk, Dudinka, Monchegorsk, Zapolyarny, and Nikel. The camp was set up under the Green Brush national long-term social project for early career guidance for schoolchildren, aimed at fostering green behaviours and safety awareness culture, and promoting engineering professions among schoolchildren. Over 500 schoolchildren aged between 8 and 14 participated in webinars, creative workshops and online quizzes hosted by practicing environmental engineers, geologists, occupational safety specialists, and education experts.

Early career guidance for children. On 1 September each year, the Company provides over 5 thousand first-graders in its host cities with a book presenting the Company's professions in a compelling and informative way. A Book on How Metals Helped Build Cities is a real metallurgy 101 for children, helping them to learn about Nornickel's operations and their parents' trades in an accessible way using vivid and memorable images. Due to the use of QR codes, the information is readily accessible, visual and interactive. While learning about the jobs of the future, a first-grader also starts to think about future career opportunities in their hometown. The most exciting parts of the book, however, are its games which allow the little reader to take a break from the text while also immersing them into the world of professions. As an addition to the book, a five-episode cartoon series titled Professor Nichrome's Lessons was produced for first-graders, widely enjoyed by both children and their teachers. The book and the cartoon will be used in career guidance lessons for elementary school children hosted by both elementary school teachers and guidance counsellors.

16 investment projects
support the Norisk Development Agency

250 participants
took part in the public art festival

SUPPORT FOR LOCAL COMMUNITIES

Nornickel makes a significant contribution to the development of local communities across its footprint and runs voluntary social programmes and projects to build an inclusive and people-friendly environment, protect the environment, and support local communities, both independently and in partnership with municipalities, regional and federal authorities, not-for-profits, NGOs, and professional associations. These programmes and projects address specific regional issues to drive economic growth and improve the local social situation.

The Company has stepped up its contribution to the development of local communities, implementing a range of social programmes and projects to address current and future challenges.

THE AGENCY'S 2021 HIGHLIGHTS:

7 residents
of the Russian Arctic zone received RUB 444 million worth of tax benefits

150 local residents
and 14 urbanists took part in strategy sessions

60 participants
took part in the City Managers project

>100 participants
took part in Norilsk's first business forum

70 entities
active in the tourism cluster, with investment totalling RUB 4.7 billion

RUB 17 million
raised in grants to develop tourism

For more details on the Company's initiatives to support local communities, please see the 2021 Sustainability Report.

CHARITABLE PROGRAMMES

World of New Opportunities programme

Nornickel runs the World of New Opportunities charity programme to provide sustainable development capabilities and opportunities to communities across its regions of operation. The programme aims at developing soft skills in local communities, demonstrating and introducing new social technologies, supporting and encouraging community initiatives, and creating a favourable environment for cross-sector partnerships.

In 2021, the Company's charitable events and projects were held in hybrid formats (online, offline, and phygital), thus making it possible for Nornickel to continue reaching out to target audiences and achieve performance targets during the pandemic.

We Are the City! project

In March 2021, the forum was held in the phygital format in four cities and towns: Norilsk, Chita, Nikel, and Monchegorsk. The forum was themed around Social Reality Transformation and held as a communication and foresight platform to discuss the pandemic consequences, current trends, and the importance of partnership in a post-COVID world. The forum highlights: 1 day, 6 studios, 4 offline platforms, over 500 participants from 33 Russian cities and towns, 20 experts, and countless insights, new contacts and project ideas.

Over 400 Chita residents participated in the We Are the City! urban picnic in September 2021. The event centred around healthy and dynamic lifestyle, sports, outdoor activities, and creative volunteering. The picnic was organised by local activists, participants of the World of New Opportunities charity programme and the Plant of Goodness employee volunteering programme. The available activities included sports grounds (rugby, table football and orienteering), creative workshops, the Silent Dance flash mob, watching and discussing social short films, the #CityCharge challenge, etc. The most active participants of the #CityCharge challenge who walked the most number of steps as recorded by a fitness tracker received gifts with the We Are the City! picnic symbols.

SVET ON online youth forum

The SVET ON youth forum was held online for the second year in a row. In 2021, it brought together online 300 participants aged between 12 and 18 from the Company's regions of operation, discussing youth entrepreneurship trends, ideas for regional volunteering development, engineering, and digital technologies. The forum's highlights and impacts: over 3 thousand views, 30 participating cities and towns, 5 top experts, 4 case studies, 4 forum ambassadors, and 3 podcasts on careers and professional career paths for young people.

>500 participants
from 33 Russian cities and towns took part in the We Are the City! project

5 business ideas
were picked up by projectteams (from 50)

27 thousand people
were invovled in the social programmes

IMAKE engineering marathon

The IMAKE 2021 engineering marathon was held in the hybrid format for more than 1 thousand young inventors, resulting in a new system to engage teenagers and their parents in research and invention activities. The first IMAKE.May Day maker family weekend was held in 2021. For two days, the Fablab locations in Norilsk and Monchegorsk hosted engineering workshops attended by over 150 people. A series of meetups, open urban meetings for Norilsk and Monchegorsk residents, was held for the first time in 2021. Participants (representatives of not-for-profits, teachers, employee volunteers, parents, and young makers) discussed creative engineering development in their cities and mapped related projects and ideas.

International Forum of Innovators

The IN'HUB International Forum of Innovators was launched in November 2021. IN'HUB is an event platform for inventors and innovators: employees of industrial companies, students, postgraduates, schoolchildren, and teen makers. A contest of innovative projects was held in January–February 2022. The results will be announced at the IN'HUB International Forum of Innovators, which will be held on 6–8 October 2022 in Novosibirsk.

Convention of Social Entrepreneurs from the Arctic

The Convention of Social Entrepreneurs from the Arctic was held in December 2021 in Monchegorsk and gathered together 70 offline and over 50 online participants. In 2021, the business convention was centred around Tourism and Creative Industries as Regional Development Drivers. For nine hours, participants and experts of the convention discussed investment attraction tools to develop business projects, and presented cases of successful regional development practices driven by tourism and other projects. The convention highlights: 15 collaborations, 50 business ideas, of which 5 ideas were picked up by project teams, and 13 experts.

Norilsk business forum

The first Norilsk business forum held on 10–11 December was a platform for a constructive dialogue between SMEs, local authorities, the backbone enterprise, not-for-profits, and guest experts and business consultants. The event was organised by the Norilsk Development Agency, sponsored by Nornickel, and held at the Vladimir Mayakovsky Norilsk Polar Drama Theatre, the northernmost theatre in the world.

The investor meetings were themed around regional SME development programmes, preferences for the Arctic zone residents, advisory support for entrepreneurs, economic growth drivers, and business needs in Taimyr. Three round tables were held to discuss promising investment projects and ideas in three focus areas: high-tech entrepreneurship, tourism and creative industries.

The forum's main day agenda was focused on business challenges and opportunities in Taimyr. First, city officials and managers of Nornickel and the Norilsk Development Agency presented long-term development plans for the area and its backbone enterprise to businesspeople, and convincingly dispelled the myth that Norilsk was allegedly planned to be turned into a rotation camp.

The first Norilsk business forum allowed local entrepreneurs to identify promising niches, forge useful business contacts and receive advice from guest experts.

ALL IN ALL, ABOUT 27 THOUSAND PEOPLE FROM ACROSS NORNICKEL'S FOOTPRINT AND BEYOND WERE INVOLVED IN THE SOCIAL PROGRAMMES RUN UNDER THE WORLD OF NEW OPPORTUNITIES CHARITY PROGRAMME IN 2021. THE CHARITABLE PROGRAMME'S WIDER FOOTPRINT IS ONE OF THE BENEFITS OF USING THE ONLINE FORMAT TO HOLD ITS EVENTS.

CORPORATE GOVERNANCE

In 2021, the Company paid particular attention to improving its sustainability and climate change management:

- The Environmental and Climate Change Strategy was approved
- The Sustainable Development and Climate Change Committee was set up
- Five ESG policies were updated, and six new policies were adopted

Maintaining the high quality of corporate governance is Nornickel's absolute priority. Its robust corporate governance system has become one of the Company's key enablers in achieving its strategic goals.

LETTER FROM DEPUTY CHAIRMAN

Nornickel is one of the world's largest metals companies for production, reserves and market capitalisation. In 2021, the Company successfully tackled the challenges that the entire global economy has faced in recent years. To retain its leadership in the market, the Company promptly and efficiently adapted its business processes to the new conditions.

The challenges of the reporting year, especially its first half, repeatedly tested Nornickel's resilience. However, they provided a new perspective on the Company's priorities and its global goal – building safe, cutting-edge and environmentally clean production while ensuring steady business growth. Changes in the governance structure substantially enhanced the previously adopted range of measures to increase the level of responsibility of local managers, improved operations and investments while strengthening industrial safety and environmental risk management practices.

Nornickel's strong sustainable development in the second half of 2021 provides the Company with an optimistic outlook on the achievement of its long-term priorities.

High quality of corporate governance is Nornickel's absolute priority. The Company consistently enhances its corporate standards to reflect the global trends and meet the requirements of regulatory authorities and other stakeholders. This consistent effort makes Nornickel a public Company that respects its shareholders' rights and interests, and maintains a dialogue with the investment community.

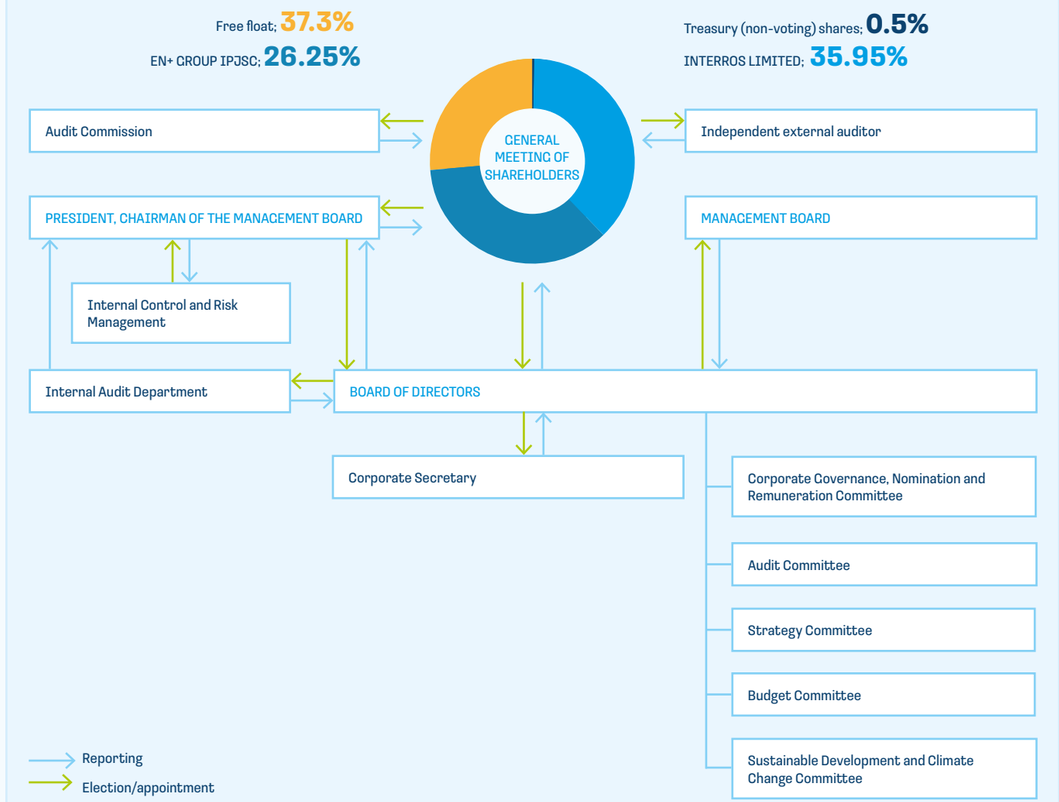
In 2021, the Board of Directors and its committees closely monitored the development across the Company's key business areas. Areas that the Company focused on during the reporting year included major investment projects, social and charity programmes, as well as achievement of corporate industrial safety and environmental objectives.

Its efficient corporate governance system has always been, and still remains, one of Nornickel's key tools to achieve strategic goals. In the upcoming year, the Board of Directors will continue to actively participate in the development of the Company's priority areas in the best interests of its shareholders, as well as to maintain its competitive edge.

SERGEY BATEKHIN

Deputy Chairman
of the Board of Directors
MMC Norilsk Nickel

Corporate governance structure as of 31 December 2021



Key principles

In its corporate governance practice, Nornickel is governed by applicable laws, listing rules, and recommendations of the Corporate Governance Code. Nornickel's corporate governance system is designed to balance the interests of its shareholders, the Board of Directors, management and employees, as well as other stakeholders involved in the Company's activities. The approach, key principles and mechanisms underpinning Nornickel's efforts to build a robust corporate governance system are based on the applicable Russian laws, including the Corporate Governance Code recommended by the Bank of Russia.

Key corporate governance principles

- Strategic management of the Company by the Board of Directors
- Equitable and fair treatment of every shareholder
- Ensuring transparency of information about the Company
- Effective Risk Management and Internal Control Service
- Sustainable development
- Accountability of the Board of Directors and executive bodies to shareholders
- Professionalism and leadership of the Board of Directors

Improvement of corporate governance

In the reporting period, Nornickel continued its efforts to build an effective corporate governance system.

The Company maintained a strong focus on enhancing its sustainable development and climate change management. The Board of Directors approved the Environmental and Climate Change Strategy proposed by the Company's Management Board. The Sustainable Development and Climate Change Committee was established at the Board of Directors' level and is chaired by Gareth Penny, the independent Chairman of the Board of Directors. The Committee comprises five Board members, including four independent directors. The Board of Directors' intention to pay closer attention to sustainability matters, in particular, to environmental protection, was the key reason for the establishment of the new committee.

In 2021, five ESG policies were updated, and six new policies were adopted in line with the requirements of ICMM and IRMA. These policies include the Climate Change Policy, the Position Statement on Water Stewardship, the Tailings Management Policy, the Responsible Sourcing Policy, the Supplier Code of Conduct, as well as the Stakeholder Engagement Policy. In 2021, Nornickel was also able to improve its score from international ESG rating agencies: in particular, the ESG score assigned by MCSI, one of the world's leading ESG rating agencies, was raised to "BB", the Company's ESG score from FTSE4Good was 4.3 (4.0 in 2020), and the score from EcoVadis was increased to 48 (33 in 2020).

To further improve corporate governance and meet the Bank of Russia's recommendations for risk management, internal control and internal audit organisation, Nornickel has developed a new version of the Regulations on the Internal Audit Department, which was approved by the Board of Directors in January 2022. The new version of the Regulations stipulates that the Internal Audit Department is responsible for performing an annual evaluation of the Company's corporate governance and auditing the performance of the corporate sustainability risk management system.

In 2022, the Board of Directors plans to approve the corporate governance evaluation methodology designed to be used Nornickel's Internal Audit Department as part of its regular corporate governance evaluation.

The adoption of these documents ensures the codification of the Company's corporate governance evaluation procedure and demonstrates Nornickel's aspiration to enhance its corporate governance system and fully comply with the Corporate Governance Code.

During the reporting year, the Company implemented a range of transformations to enhance its governance model and support its new division-based structure.

In order to meet the Bank of Russia's recommendations to raise information transparency of the securities market, Nornickel has begun to elaborate approaches to defining materiality criteria for the price sensitive information and events/facts. The codification of the approaches to disclosure of material information and an indicative list of information that qualifies as material in the Company's internal documents allows improving the quality of disclosed information, which is crucial for all stakeholders to make balanced and informed investment decisions.

In 2022, to boost its competitive edge in the domestic and global markets, Nornickel intends to continue its consistent efforts to enhance corporate governance and build an effective disclosure framework that ensures compliance with the principles of transparency and public accessibility in line with applicable laws and global best practices.

The Company implemented a range of transformations to enhance its governance model and support its new division-based structure:

- The Energy Division was set up in July 2021 to enhance performance in governance. The Division is made up of Norilskenergo, a branch of MMC Norilsk Nickel ("Norilskenergo"), and NTEC, Norilskgazprom, Norilsktransgaz, and Taimyr Fuel Company.
- The Company has also introduced the role of Senior Vice President – Operational Director and appointed Sergey Stepanov to this role. He is responsible for coordinating the metals and mining and geological exploration operations. In particular, this role implies supervision over the design and implementation of the respective units' development strategy, and the implementation of the industry investment programme. His responsibility scope also includes supervision and coordination of the environmental policy's design and implementation, and ensuring compliance with environmental and industrial safety regulations. The Senior Vice President – Operational Director's reports include: Vice President for Ecology and Industrial Safety, Production and Technical Department, Mineral Resources Department, Production Investment Department, Industrial Assets Department, and the Transformation PMO of the Operations. Sergey Stepanov also oversees the Company's Polar Division.
- To ensure efficient implementation of Nornickel's critical programmes, the Company introduced the roles of Vice President for Investment Project Management and Vice President for Ecology and Industrial Safety. All these efforts are intended to boost the Company's most important development areas such as investment and capital construction management, as well as industrial safety and environmental programmes.
- The roles of State Secretary – Vice President for Government Relations and Vice President for Federal and Regional Programmes now report to Senior Vice President – Head of HR, Social Policy and Public Relations in order to establish an optimal end-to-end system of strategic communications that will maximise synergies between Nornickel's units, and to improve engagements between the Company, the public and governmental authorities at various levels in addressing social objectives of the business.

Compliance with the Corporate Governance Code

Nornickel's corporate governance standards are based on the principles and recommendations of the Corporate Governance Code, and the Company continues to implement them consistently.

The implementation of the Corporate Governance Code's principles and recommendations by the Company in 2021 was evaluated using a new format recommended by the Bank of Russia's Letter No. IN-06-28/102 dated 27 December 2021.

Nornickel's corporate practices cover most of the Corporate Governance Code's principles and recommendations. For the full 2021 Report on Compliance with the Corporate Governance Code with comments on cases of partial compliance and non-compliance with the Code's principles, please see Appendix to this Annual Report.

Implementation of the Corporate Governance Code principles and recommendations in 2021

Corporate governance principles	Full compliance	Partial compliance	No compliance
Rights and equal opportunities for shareholders in exercising their rights	9	4	–
Board of Directors	28	8	–
Corporate Secretary	2	–	–
Remuneration system for members of the Board of Directors and senior management	6	4	–
Risk management and internal control framework	5	1	–
Company disclosures	4	3	–
Material corporate actions	3	2	–

STAKEHOLDER RELATIONS

To achieve operational excellence and further improve corporate governance, Nornickel focuses on engaging its stakeholders in corporate governance, taking their needs into account when making important decisions.

In February 2021, Nornickel held its traditional dialogue with stakeholders, including employees, governmental authorities, businesses, local communities, environmental organisations, and other experts. The Company annually invites a wide range of experts to a dialogue in order to take into account the opinions of all its stakeholders. Due to the COVID-19 pandemic, this traditional event was moved online for the first time, instead of taking place across the cities within Nornickel's footprint.

A well-built and clear corporate governance system, which is transparent for both Russian and foreign shareholders and investors, as well as active stakeholder engagement directly affect investment decisions and the price of Company securities.

DIALOGUE WITH INVESTORS

Nornickel's senior management maintains an active dialogue with a wide universe of international and Russian investors, seeking to follow global best practices in making mandatory disclosures. To make disclosures more meaningful and comprehensive, Nornickel uses an array of disclosure tools, including press releases, presentations, annual and sustainability reports, issuer reports, corporate action notices, as well as interactive tools. With Nornickel's growth story appealing to international investors as well, the Company provides parallel disclosure both in Russian and in English, the latter via a disclosure service authorised by the UK regulator.

Nornickel's quarterly disclosures via its website include its operating performance reports and financial statements under RAS. Financial statements in accordance with IFRS are released on a semi-annual basis and are followed by webcasts and conference calls with the Group's senior management and one-on-one meetings with analysts. Starting from 2021, issuer reports and lists of affiliates have also been published every six months. Nornickel also holds an annual Capital Markets Day to share its updates on the corporate long-term strategy until 2030, focusing on sustainability and efforts to reduce environmental footprint. To maintain strong investor relations, the Company makes extensive use of various communication tools, including conference speaking opportunities, road shows, site visits for investors, etc.

For more details on investor relations, please see the Shareholder Information chapter of the Investor Relations section of this Annual Report.

1 Information about upcoming events is posted in the IR Calendar on the corporate website.

DIALOGUE WITH EMPLOYEES

The Company regularly runs open online conferences between employees and senior management to identify strengths and weaknesses in communication and improve corporate governance. The COVID-19 pandemic, production upgrades and ambitious investment projects transform the approaches to work, routines, as well as to health, safety, and environmental issues. To retain its leadership in the market, the Company needs to address new challenges, which is almost impossible without employee involvement. During the Nornickel Live annual video conference, Nornickel's vice presidents answered employee questions and spoke about the Company's news and future plans. In October 2021, Nornickel held its Challenges 2021, a 2-hour autumn video conference for managers, where the Company's vice presidents discussed key topics such as operating and living in a fast-paced world. Higher salaries, new work patterns that emerged during the pandemic, changes in attitude towards health, safety and environmental issues are but some topics that were on the agenda of the video conference. The Challenges 2021 conference launched a new series of corporate dialogues, which took place across 40 Nornickel enterprises in October and November. In line with its practice, Nornickel also held autumn and winter 1.5-hour conferences across over 40 enterprises, both offline and online, where top managers spoke to employees about current hot topics, such as enterprises' key highlights, new equipment procurement plans, important coronavirus and vaccination issues, improvement of living conditions, special assessment of working conditions, the corporate social policy opportunities for employees, the Code of Business Ethics, as well as employees' concerns.

DIALOGUE WITH LOCAL AND INTERNATIONAL ORGANISATIONS

During the 11th international forum Arctic: Today and the Future in Saint Petersburg, Nornickel and the Russian Far East and Arctic Development Corporation (FEDC) signed a strategic partnership agreement providing for cooperation in implementing Nornickel's investment projects in the Krasnoyarsk Region, the Zabaykalsky Region and the Murmansk Region. Under the agreement, FEDC will assist the Company in defining support measures for investment, environmental, renewables development, tourism, talent development and supply projects, as well as projects for comprehensive social and economic development within the Company's footprint.

In the reporting year, Nornickel and Russian Platinum launched an operational partnership in the Norilsk Industrial District. The Norilsk Nickel Group enterprises signed a range of service contracts with the Chernogorskaya Mining Company (a Russian Platinum subsidiary) to provide it with energy, transport and logistics services.

Together with the Ministry of Industry and Trade of the Russian Federation and the International Exhibition of Inventions of Geneva, Nornickel co-organised the International Forum of Innovators and the Contest of Inventors IN'HUB 2022, which provides inventors and innovators from over 20 countries with an excellent opportunity to meet large companies and investors, share experiences and start a successful business.

Nornickel signed a cooperation agreement with Financial University under the Government of the Russian Federation. The agreement provides for a joint development and implementation of educational projects, higher education programmes, training and upskilling for Nornickel employees, cooperation in research, and expert and analytical activities to further improve and modernise the education and research processes.

Nornickel signed a cooperation agreement with the Government of the Krasnoyarsk Territory to implement investment projects in the Krasnoyarsk Region. The agreement aims to support businesses that implement investment projects in the region.

Nornickel and the International Chess Federation (Fédération Internationale des Échecs or FIDE) signed a cooperation agreement for 2021–2023, under which the Company will act as FIDE's title sponsor in the global development of children's and youth chess. As part of this cooperation, Nornickel will act as a partner of FIDE's annual world junior championships, FIDE annual world junior under-20 championships, including for girls under 20, as well as a range of other large-scale sports competitions, including World Cup 2021, Women's World Cup 2021, and Chess Olympiad 2022.

In 2021, the Company acted as a partner of the Your Move national student competition. This is one of the largest student competitions in Russia, with about half a million university students from all over the country expected to take part in it. They will have an opportunity to build a team of like-minded people and put their ideas into practice.

Nornickel signed an agreement with the Fund of Polar Research, which brings together a team of researchers to address scientific, social, cultural, educational, and charitable challenges related to the exploration and development of Polar regions. The agreement provides for cooperation in analytical, research and practical activities aimed at tackling global challenges of the Russian Arctic zone.

MMC Norilsk Nickel and the Football Union of Russia signed a cooperation agreement for 2021–2023, under which the Company will act as a partner for the Union's development programmes. The Our Relief talent training programme will be a key cooperation project aimed at creating a system for identifying, training and supporting young football players aspiring to become professionals.

DIALOGUE WITH INDIGENOUS MINORITIES

A department responsible for liaising with indigenous peoples of the North was set up within the Polar Division, and the Indigenous Communities Coordination Council was established.

Nornickel maintains regular relations with indigenous minorities of the Taimyrsky Dolgano-Nenetsky Municipal District, covering all areas of mutual interest and using a comprehensive approach. Due to its dialogue with the Association of Indigenous Peoples of Taimyr, the Company has significantly expanded the scope and improved the format of its engagements with indigenous peoples. Nornickel and the indigenous peoples of Taimyr have launched joint planning processes to develop the infrastructure, trades and economic activities of indigenous communities, and have started to build new industries based on the indigenous way of using natural resources to process products and achieve higher added value, thereby creating conditions for sustainable development of the communities and settlements of the Taimyrsky Dolgano-Nenetsky District.

In 2021, support for the indigenous peoples of Taimyr experienced a fundamental change and was stepped up dramatically. This change was made possible by the signing of a four-party agreement on interaction and cooperation with associations of indigenous peoples of the Russian North, Siberia and the Far East, the Krasnoyarsk Region, and the Taimyrsky Dolgano-Nenetsky Municipal District in September 2020. The agreement served as a basis for a five-year programme to promote the social and economic development of Taimyr until 2024, with a total funding of around RUB 2 billion. The programme outlines over 40 measures and covers traditional economic activities of the indigenous peoples of Taimyr, home construction in local settlements, healthcare, education, culture, sports, and tourism. Public organisations, family communities of indigenous peoples of the North and local community authorities were closely involved in the development of the Programme

In 2021, Nornickel launched a free, prior and informed consent (FPIC) procedure and used it to discuss options for the relocation of Tukhard residents. In 2021, the Company signed partnership and cooperation agreements with the Kola Sámi Association.

For more details on interaction with indigenous peoples of the North, please see the Social Investments section of this Annual Report.

GOVERNMENT RELATIONS

Nornickel interacts with federal legislative and executive authorities, and civil society institutions. Nornickel is represented and promotes its interests in 25 committees, councils, commissions, expert panels, and working groups established by the government in association with the business community, thus supporting socially important projects. Nornickel also actively participates in the work of regional authorities' expert councils within its footprint.

The Company's representatives take part in parliamentary hearings and round table discussions organised by the Federation Council and State Duma of the Federal Assembly of the Russian Federation, Government of the Russian Federation, Russian Union of Industrialists and Entrepreneurs (RSPP), Civic Chamber of the Russian Federation, Chamber of Commerce and Industry of the Russian Federation, the Association of Managers interregional public organisation, etc.

Nornickel's experts engage in draft regulation discussions as part of open government and local councils under federal executive bodies, as well as in anti-corruption due diligence and regulatory impact assessments. This all helps to maintain a constructive dialogue with the government, cut red tape and improve the country's business climate. MMC Norilsk Nickel's representatives are also part of various working groups created by federal executive authorities to help implement the regulatory guillotine mechanism.

MANAGING CONFLICTS OF INTEREST

Nornickel has developed measures to prevent potential conflicts of interest involving shareholders, Board members and senior managers.

The Company's Articles of Association set forth the procedure for approving transactions by shareholders who hold more than 5% of voting shares. Such transactions are only made if approved by Nornickel's Board of Directors by a qualified majority of directors (at least 10 out of 13 votes).

Transactions that are deemed interested-party transactions are regulated by the law on joint stock companies.

In addition, Nornickel's internal documents stipulate that members of the Board of Directors and the Management Board are to refrain from actions that may result in a conflict of interest, and if such a conflict arises, they should promptly inform the Corporate Secretary in writing about such conflict.

If a Board member has a direct or indirect personal interest in a matter reviewed by the Board of Directors, they should inform other members of the Board of Directors before the matter is reviewed or a relevant resolution is passed, and refrain from participating in the review and from voting on the matter.

Nornickel also has in place the Regulations on the Prevention and Management of Conflicts of Interest, covering the Company employees, that outlines, in particular, the methods to identify potential or existing conflicts of interest and ways to resolve them. A Conflict of Interest Commission was set up at the Company's Head Office to enhance the effectiveness of preventing, identifying and resolving conflicts of interest, as well as to develop and improve the corporate culture.

THE COMPANY AND THE FEDERAL TAX SERVICE OF RUSSIA SIGNED RUSSIA'S FIRST ADVANCE PRICING AGREEMENT INVOLVING A FOREIGN TAX AUTHORITY – THE FINNISH TAX ADMINISTRATION. THE AGREEMENT PROVIDES THAT INTERMEDIATE PRODUCTS THAT NORNICKEL EXPORTS TO FINLAND FOR PROCESSING AT ITS OWN HARJAVALTA PLANT ARE PRICED IN LINE WITH INTERNATIONAL PRINCIPLES USING TRANSFER PRICING METHODS. THE AGREEMENT DETAILS KEY TAX METRICS THAT WILL BE APPLIED BOTH BY THE RUSSIAN AND FOREIGN COMPANIES OF THE GROUP.

GENERAL MEETING OF SHAREHOLDERS

The General Meeting of Shareholders is the highest governance body of MMC Norilsk Nickel responsible for making decisions on matters most critical to the Company. A full list of matters within the remit of the General Meeting of Shareholders is detailed in the Company's Articles of Association. Nornickel has in place the Regulations on the General Meeting of Shareholders, detailing the procedures for convening, preparing and holding general meetings.

The notice of a General Meeting of Shareholders is published on Nornickel's website at least 30 calendar days prior to the date of the general meeting.

Except for the cumulative voting to elect members of the Board of Directors, each voting share represents one vote at the General Meeting of Shareholders.

Three General Meetings of Shareholders were held in 2021, and a high level of shareholders' attendance was maintained. The Annual General Meeting of Shareholders during the COVID-19 pandemic was held in absentia using an e-voting service. Each year, more and more shareholders take advantage of this service enabling them to vote regardless of their location. E-voting is available both on the gosuslugi.ru website accessible to general public and via the Shareholder's Personal Account, a dedicated online resource for Nornickel's shareholders. The service is highly reliable and easy to use.

General Meetings of Shareholders held in 2021

19 MAY 2021 — an Annual General Meeting of Shareholders (held in absentia)

- The Meeting approved the Annual Report, annual accounting statements and consolidated financial statements for 2020.
- Profit for the period was distributed, and the resolution on FY 2020 dividend payout was passed.
- A new Board of Directors and Audit Commission were elected; resolutions on remuneration of members of the Board of Directors and the Audit Commission were passed.
- The auditor was approved to audit Nornickel's Russian accounting (financial) statements for 2021, consolidated financial statements for 2021 and interim consolidated financial statements for 1H 2021.
- An interested party transaction (liability insurance of members of the Board of Directors and the Management Board) and related interested party transactions (indemnification of members of the Board of Directors and the Management Board) were approved.

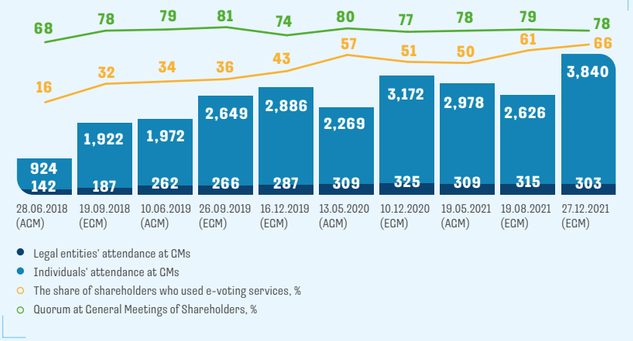
19 AUGUST 2021 — an Extraordinary General Meeting of Shareholders (held in absentia)

- The Meeting resolved to reduce the Company's authorised capital by cancelling the shares repurchased by the Company, and amend the Company's Articles of Association.

27 DECEMBER 2021 — an Extraordinary General Meeting of Shareholders (held in absentia)

- A resolution to pay the 9M 2021 dividend was passed.

Statistics on General Meetings of Shareholders



AGM – Annual General Meeting of Shareholders, EGM – Extraordinary General Meeting of Shareholders.

BOARD OF DIRECTORS

Composition of the Board of Directors

The Board of Directors plays a crucial role in designing and developing the corporate governance system, ensures the protection and exercise of shareholder rights and supervises executive bodies. Guided by the principles of mutual respect and humanism, the Board of Directors sets the fundamental principles of business conduct and is responsible for nurturing Nornickel's business and social culture.

The Board's authority and formation process, as well as the procedure for convening and holding Board meetings are determined by the Articles of Association and Regulations on the Board of Directors.

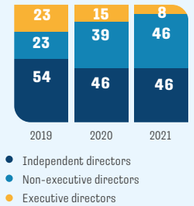
According to Nornickel's Articles of Association, the Board of Directors has 13 members. The current size of the Board of Directors is best aligned with Nornickel's goals and objectives, and its appropriate independence mix ensures that decision making considers the interests of all stakeholders and enhances the quality of managerial decisions. The current Board of Directors comprises six independent directors, which enables highly professional, independent judgements on matters on the agenda.

Following the Annual General Meeting of Shareholders held on 19 May 2021, Nikolay Abramov stepped down from the Board of Directors, and Stanislav Luchitsky was elected to the Board.

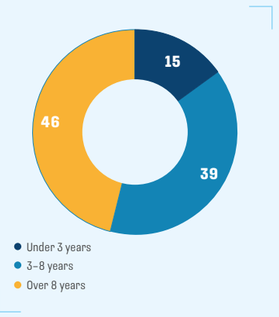
As at 31 December 2021, the Board of Directors had 13 members, including[1]:

- six independent directors[1]: Gareth Peter Penny, Sergey Bratukhin, Sergey Volk, Roger Munnings, Evgeny Shvarts, and Robert Edwards
- six non-executive directors: Sergey Barbashev, Sergey Batekhin, Alexey Bashkirov, Stanislav Luchitsky, Maxim Poletaev, and Vyacheslav Solomin
- one executive director: Marianna Zakharova.

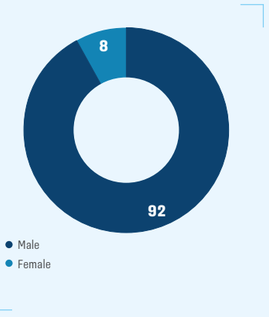
Status of Board members, %



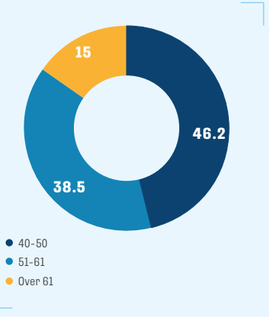
Tenure on the Board of Directors (%)



Board composition by gender (%)



Board composition by age group (%)



1 In March 2022, independent non-executive directors Gareth Penny, Roger Munnings and Robert Edwards stepped down from the Board of Directors.

CHAIRMAN OF THE BOARD OF DIRECTORS

The Chairman of Nornickel's Board of Directors leads the Board of Directors, convenes and chairs its meetings, ensures constructive collaboration between the Board members and corporate management.

Since March 2013, the Board of Directors has been chaired by Careth Peter Penny, who in line with global best practice is an independent director. In June 2021, the Sustainable Development and Climate Change Committee was established under his leadership to review a wide range of matters relating to the Company's sustainable development, including the climate agenda. Careth Penny promotes open discussion at meetings and encourages active involvement of all Board members. Careth Penny's external non-executive directorships enable Nornickel's Board of Directors to better keep abreast of global best practice in corporate governance.

INDEPENDENT DIRECTORS

In line with corporate governance best practice, Nornickel's Board of Directors assesses Board nominees and new members against the independence criteria set out in the Company's Articles of Association and the Listing Rules of PJSC Moscow Exchange (the "independence criteria").

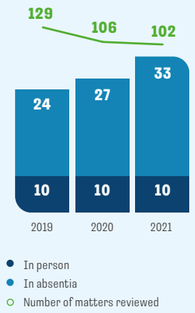
Thus, during 2021, 6 out of the 13 Directors, or 46.2%, were independent.

BOARD OF DIRECTORS' PERFORMANCE

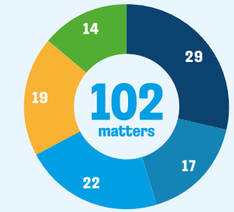
In 2021, Nornickel's Board of Directors held 43 meetings, including 10 meetings in person, and reviewed 102 matters.

At its meetings, the Board focused on environmental matters, analysis of Nornickel's environmental protection strategy, including the Sulphur Project, assessment of the infrastructure, and the impact of climate factors, such as permafrost, on the Company's operations. Particular attention was paid to stakeholder engagement on ESG matters and review of the Company's internal control and risk management, which are critical for the Company's sustainability.

Number of Board meetings



Matters reviewed (%)



The Board's experience and skill mix

Name	Tenure on the Board of Directors	Key skills					
		Strategy	Law and corporate governance	Finance and audit	Metals and mining/ engineering	International economic relations	ESG
Careth Peter Penny	since 2013	+			+	+	+
Sergey Barbashev	since 2011		+				
Sergey Batekhin	since2020			+		+	
Alexey Bashkirov	since 2013	+	+	+		+	
Sergey Bratukhin	since 2013	+	+	+	+		
Sergey Volk	since 2019			+			
Marianna Zakharova	since 2010		+		+		
Roger Munnings	since 2018			+	+		+
Maxim Poletaev	since 2019	+		+			
Vyacheslav Solomin	since 2019			+		+	
Evgeny Shvarts	since 2019	+			+		+
Robert Edwards	since 2013			+	+		+
Stanislav Luchitsky	since 2021	+			+		+
As at 31 December 2021, the average tenure on the Board of Directors was 5.5 years		6	5	8	7	4	5
Nikolay Abramov	2020–2021	+					

Attendance at meetings in 20211[1]

In 2021, attendance at Board meetings was **100%**.

Name	Status	Meetings of the Board of Directors attended/held			Meetings of Board committees attended/held				
		Total	In person	Extramural	Strategy Committee	Budget Committee	Audit Committee	Corporate Governance, Nomination and Remuneretion Committee	Sustainable Development and Climate Change Committee
Careth Peter Penny	Independent Director / Chairman of the Board of Directors / Chairman of the Sustainable Development and Climate Change Committee	43/43	10/10	33/33	10/10	–	–	–	1/1
Sergey Barbashev	Non-executive Director	43/43	10/10	33/33	–	–	–	–	–
Alexey Bashkirov	Non-executive Director	43/43	10/10	33/33	8/10	–	5/9	–	–
Sergey Bratukhin	Independent Director	43/43	10/10	33/33	10/10	4/4	12/12	19/19	–
Sergey Batekhin	Non-executive Director / Chairman of the Budget Committee	43/43	10/10	33/33	2/10	4/4	–	19/19	–
Sergey Volk	Independent Director	43/43	10/10	33/33	–	3/4	–	19/19	–
Marianna Zakharova	Executive Director	43/43	10/10	33/33	–	–	–	–	–
Roger Munnings	Independent Director / Chairman of the Audit Committee	43/43	10/10	33/33	–	4/4	12/12	–	1/1
Maxim Poletaev	Non-executive Director / Chairman of the Strategy Committee	43/43	10/10	33/33	10/10	4/4	–	–	–
Vyacheslav Solomin	Non-executive Director	43/43	10/10	33/33	–	1/4	6/12	—	–
Evgeny Shvarts	Independent Director	43/43	10/10	33/33	–	–	–	19/19	1/1
Robert Edwards	Independent Director / Chairman of the Corporate Governance, Nomination and Remuneration Committee	43/43	10/10	33/33	–	–	12/12	19/19	1/1
Stanislav Luchitsky (from 19 May 2021)	Non-executive Director	19/43	7/10	12/33	8/10	–	–	–	1/1
Nikolay Abramov (until 19 May 2021)	Non-executive Director	14/43	3/10	11/33	2/10	–	–	–	–

1 The attendance by Board members is represented as X/Y, where X is the number of meetings attended by the Director, and Y is the number of meetings held.

PERFORMANCE

EVALUATION OF THE BOARD OF DIRECTORS

As recommended by the Corporate Governance Code, the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors initiated the development of the Performance Evaluation Policy for the Board of Directors, engaging independent consultants.

The Corporate Governance Code recommends that an external organisation (advisor) be engaged regularly, at least once in three years, to conduct an independent evaluation of the Board of Directors' performance. In line with corporate governance best practice and the Company's Performance Evaluation Policy for the Board of Directors, the performance evaluation of the Company's Board of Directors for 2021 was carried out by an external organisation, Limited Liability Company Independent Directors Association Academy (IDA Academy).

The methodology and approaches used in the external performance evaluation of the Board of Directors are driven by international best practice and the Company's needs. Detailed questionnaires were sent out to participants to evaluate the performance of the Board and its Committees, along with the Directors' individual contributions. The results were supplemented by comments and feedback from certain committee heads obtained via one-on-one interviews. Following these activities, IDA Academy prepared a preliminary evaluation report submitted to the members of the Corporate Governance, Nomination and Remuneration Committee and the Corporate Secretary.

The external evaluation confirmed that:

- In 2021 composition of the Board of Directors was well-balanced in terms of directors' qualifications, experience and business skills The qualitative composition of the Board of Directors meets the Company's needs and shareholder interests
- The composition of the Board committees is aligned with the Company's goals and objectives; there is no need to set up additional Board committees
- The Chairman of the Board of Directors organises the Board of Directors' activities in the most efficient way, ensures its communication with other bodies of the Company and facilitates the best performance of assigned duties

However, given the new operating environment the Company has had to navigate in 2022, including the resignation of foreign independent directors and Board Chairman, the performance evaluation resulted in recommendations to keep the same number of independent directors by selecting and electing candidates with the background and skills matching the challenges of operating in a new environment. The Board of Directors intends to focus on: rethinking the strategy and adapting it to the new environment; consolidating the progress already made on sustainability and occupational safety; and returning to formal and informal Board and management meetings in person as COVID-19 restrictions were lifted.

The performance evaluation results helped identify the Board of Directors' focus areas for 2022. In line with international best practice, the Company will continue to run self-assessments of the Board of Directors on an annual basis and external independent evaluations once in three years to ensure the continuous development and improvement of PJSC MMC NORILSK NICKEL's corporate governance practices.

The Board of Directors' activities in 2021 took into account the recommendations issued by the Corporate Governance, Nomination and Remuneration Committee following the review of the Board of Directors' 2020 Performance Report.

At its meeting on 22 April 2022, the Board of Directors reviewed the Work Quality Assessment Report of the Board of Directors in 2021 and the recommendations of the Corporate Governance, Nomination and Remuneration Committee, and acknowledged that the Board of Directors and its committees, as well as the Board Chairman and the Corporate Secretary discharged their duties effectively. During the year, the Board of Directors maintained its focus on major investments. The Strategy Committee reviewed the draft production and long-term investment programmes, progress reports on the Company's major investment projects, implementation status of the IT programme, implementation status of the development concept for the Company's design services, repair and construction services policies, implementation status on the exploration strategy, and progress report on the sales strategy.

Following the recommendations of the Corporate Governance, Nomination and Remuneration Committee to continue the practice of regularly updating Board members about the markets in which the Company operates, the Marketing Committee maintained good communications with the Board of Directors by regularly informing them about the Company's sales activities. The Marketing Committee and the Board's Strategy Committee regularly reviewed matters relating to market overviews, the implementation status of the sales strategy and sales of Nornickel metals.

Amid the pandemic restrictions, the improvement of the Supervisory Function indicator was driven by providing updates on business priorities and the Company's strategy to the Board of Directors and senior management for in-depth analysis as well as through meetings and conference calls.

To reflect stakeholders' opinions and interests in the decision-making process, the Corporate Governance, Nomination and Remuneration Committee continued interacting with the Company's management during 2021 through meetings and conference calls. During 2021, the Committee gave a number of recommendations to improve the Company's KPI system and recommended that the Board of Directors approve a series of internal documents establishing basic principles, obligations and rules for stakeholder engagement, including on ESC matters.

Biographical details of Board members as pf 31 December 2021

For more details on biographies of the Board members, please see the Company's website, and for the biographies of the members who stepped down after the Annual General Meeting of Shareholders, please see the 2020 Annual Report.

In the reporting year, Board members made no transactions with MMC Norilsk Nickel shares, only Abramov N. held them (0.000667%).

Gareth Peter Penny

Chairman of the Board of Directors since 2013 (Independent Director)

Chairman of the Sustainable Development and Climate Change Committee, member of the Strategy Committee of the Board of Directors

Born in: 1962

Nationality: UK

Education

Diocesan College (Bishops) (Cape Town, South Africa); Eton College (UK);

Rhodes Scholar, Master in Philosophy, Politics and Economics, University of Oxford (UK).

Experience in the last five years

since 2019: non-executive chairman of the board of directors of Ninety One plc and Ninety One Ltd

since 2017: member of the board of directors of Amulet Diamond Corp.

2017–2020: non-executive chairman of the board of directors of Edcon Holdings Limited

2016–2018: non-executive chairman of the board of directors of Pangolin Diamonds Corp.

2007–2019: non-executive director at Julius Baer Group Ltd

since 2021: non-executive board chairman at TB SA Acquisition Corp.

Sergey Batekhin

Deputy Chairman of the Board of Directors since 2020 (Non-executive Director)

Chairman of the Budget Committee, member of the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors

Born in: 1965

Nationality: Russian Federation

Education

Degree in Military and Political Translation, Foreign Languages (German and French), assistant translator/interpreter, Red Banner Military Institute of the Ministry of Defence of the USSR, 1987

Degree in Finance and Credit, Economist, Plekhanov Russian Academy of Economics, 1998

Master of Business Administration, Moscow International Higher School of Business MIRBIS, 1998

Post-doctoral degree in Philosophy, International Information Technology Academy, 2002

Speaks French, German, English, and Italian

Experience in the last five years

since 2020: chairman of the supervisory board of the Digital Capital; member of the board of trustees of the Vladimir Potanin Foundation; CEO, chairman of the management board of Interros Holding Company

since 2019: member of the board of directors of Jokerit Hockey Club Oy; chairman of the presidium of the Night Hockey League non-profit amateur hockey foundation

since 2018: member of the board of directors of LLC Kontinental Hockey League

2013–2020: member of the Management Board (2013–2020), Vice President (2015–2016), Senior Vice President – Head of Sales, Commerce and Logistics (2016–2018), Senior Vice President – Head of Sales, Procurement and Innovation (2018–2020) at MMC Norilsk Nickel

Sergey Barbashev

Member of the Board of Directors since 2011 (Non-executive Director)

Born in: 1962

Nationality: Russian Federation

Education

Degree in Law, Moscow Higher School of Militia of the Ministry of Internal Affairs of the USSR, 1988

Experience in the last five years

2018–2021: member of the Management Board, First Vice President – Head of Corporate Security at MMC Norilsk Nickel

since 2016: member of the board of the Endowment Fund for Education and Culture

2016–2018: director at Olderfrey Holdings Ltd

2015–2018: branch director at Olderfrey Holdings Ltd

2011–2019: chairman of the board of directors of Rosa Khutor Ski Resort Development Company

since 2008: member of the board of the Vladimir Potanin Foundation

2008–2018: CEO, chairman of the management board of Interros Holding Company

since 2021: deputy security director at Interros Holding Company

Alexey Bashkirov

Member of the Board of Directors since 2013 (Non-executive Director)

Member of the Audit Committee, member of the Strategy Committee of the Board of Directors

Born in: 1977

Nationality: Russian Federation

Education

Degree in International Economic Relations, Moscow State institute of international Relations (MGIMO University)

Experience in the last five years

since 2016: managing director at Winter Capital Advisors

2018–2020: CEO, chairman of the management board of LLC Interros Holding Company (before 2015: CJSC Interros Holding Company)

Sergey Bratukhin

Chairman of the Board of Directors since 2013 (Independent Director)

Member of the Corporate Governance, Nomination and Remuneration Committee, member of the Strategy Committee, member of the Budget Committee, member of the Audit Committee of the Board of Directors

Born in: 1971

Nationality: Russian Federation

Education

Degree in Engineering, Mendeleev University of Chemical Technology of Russia, 1996

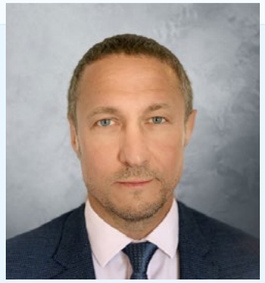
Specialist degree in Banking and Insurance, Financial Academy under the Government of the Russian Federation, 1998

EMBA, Warwick Business School, 2008

Experience in the last five years

since 2020: president of Invest AG

2011–2020: president of CIS Investment Advisers



Sergey Volk

Member of the Board of Directors since 2019 (Independent Director)

Member of the Corporate Governance, Nomination and Remuneration Committee and Budget Committee of the Board of Directors

Born in: 1969

Nationality: Ukraine

Education

Master of Business Administration (majoring in Finance), University of Texas at Austin (USA)

Experience in the last five years

since 2019: member of the board of directors of Fortenova grupa d.d. (Zagreb, Croatia)

since 2018: member of the supervisory board of Mercator d.d. (Ljubljana, Slovenia)

Marianna Zakharova

Member of the Board of Directors since 2010 (Executive Director), member of the Management Board since 2016

Born in: 1976

Nationality: Russian Federation

Education

Peoples' Friendship University of Russia (RUDN):

1998 – Bachelor in Law

2000 – Master in Law

Experience in the last five years

since 2020: member of the board of trustees of the Vladimir Potanin Foundation

since 2015: First Vice President – Head of Corporate Governance, Asset Management and Legal Affairs at MMC Norilsk Nickel

Stanislav Luchitsky

Member of the Board of Directors since 2021 (Non-executive Director)

Member of the of the Strategy Committee, member of the Sustainable Development and Climate Change Committee of the Board of Directors

Born in: 1976

Nationality: Russian Federation

Education

Degree in Non-ferrous Metallurgy, metallurgical engineer, Norilsk Industrial Institute, 1999

Experience in the last five years

since 2021: deputy CEO – head of geology, technology and engineering, member of the management board of STANMIX HOLDING LIMITED; deputy CEO – head of geology, technology and engineering, member of the management board of Russdragmet

2020–2021: deputy CEO – project director at Ozernaya Mining Company

2018–2019: CEO of Arctic Palladium

2014–2018: Head of the Chita PMO at MMC Norilsk Nickel

Roger Llewelyn Munnings

Member of the Board of Directors since 2018 (Independent Director)

Chairman of the Audit Committee, member of the Budget Committee, member of the Sustainable Development and Climate Change Committee of the Board of Directors

Born in: 1950

Nationality: UK

Education

Master in Politics, Philosophy and Economics (Hons), University of Oxford (UK)

Fellow of the Institute of Chartered Accountants in England and Wales

Experience in the last five years

since 2020: member of the board of directors of the Royal Welsh College of Music & Drama

since 2017: director of 3 Lansdown Crescent Limited; member of the Council of National Representatives (UK) at the Association of European Businesses in Russia

since 2015: member of the board of directors of LUKOIL

since 2013: member of the board of trustees of International Business Leaders Forum; trustee at Kino Klassika Foundation; member of the National Council on Corporate Governance non-profit partnership

since 2010: member of the board of directors of Sistema

since 2003: member of the board of directors, chairman of the board of directors of the Russo-British Chamber of Commerce

Maxim Poletaev

Member of the Board of Directors since 2019 (Non-executive Director)

Chairman of the Strategy Committee, member of the Budget Committee of the Board of Directors

Born in: 1971

Nationality: Russian Federation

Education

Degree in Accounting and Business Analysis and Monitoring, Economist, P.G. Demidov Yaroslavl State University, 1993

Experience in the last five years

since 2020: deputy CEO of RUSAL Management

2019–2020: member of the board of directors of United Company RUSAL Plc

since 2019: chairman of the board of directors of Fortenova grupa d.d. (Zagreb, Croatia)

Vyacheslav Solomin

Member of the Board of Directors since 2019 (Non-executive Director)

Member of the Audit Committee of the Board of Directors

Born in: 1975

Nationality: Russian Federation

Education

Degree in International Economics, Economist with English, Far Eastern Federal University

Bachelor of Science, University of Maryland University College

Experience in the last five years

since 2020: executive director, deputy CEO – COO at EN+ Holding ILLC (formerly EN+ Holding Ltd) (director in 2015–2020)

since 2018: director, member of board of directors of UC RUSAL, IPJSC (until 25 September 2020 – UC RUSAL Plc)

2018–2020: executive director at En+ Management

2014–2018: CEO of EuroSibEnergo

since 2011: director at YES Energo Limited

Evgeny Shvarts

Member of the Board of Directors since 2019 (Independent Director)

Member of the Corporate Governance, Nomination and Remuneration Committee, member of the Sustainable Development and Climate Change Committee of the Board of Directors

Born in: 1958

Nationality: Russian Federation

Education

Degree in Zoology and Botany, Lomonosov Moscow State University, 1982

Candidate of Geographical Sciences (Biogeography and Soil Geography), Institute of Geography, Academy of Sciences of the Soviet Union, 1987

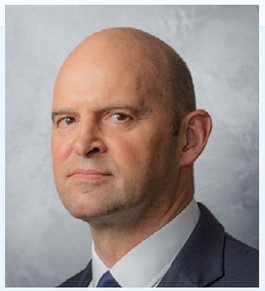
Doctor of Geographical Sciences (Geoecology), Institute of Geography, Russian Academy of Sciences, 2003

Experience in the last five years

since 2021: professor at the National Research University – Higher School of Economics; head of the Centre for Responsible Environmental Management at the Institute of Geography, Russian Academy of Sciences

since 2020: leading researcher at the Department of Physical Geography and Environmental Management Problems of the Institute of Geography, Russian Academy of Sciences; member of board of directors of UC RUSAL, IPJSC (until 25 September 2020 – UC RUSAL Plc)

2007–2019: director for the conservation policy at WWF



Robert Edwards

Member of the Board of Directors since 2013 (Independent Director), Chairman of the Corporate Governance, Nomination and Remuneration Committee, member of the Audit and Sustainable Development Committee

Born in: 1966

Nationality: UK

Education

Degree in Mining Engineering, Camborne School of Mines (UK)

Experience in the last five years

since 2018: member of the Board of Directors of Scriptfert New Zealand Ltd; member of the Board of Directors of Chaarat Gold Holdings Limited

2016: non-executive Chairman of the Board of Directors of Sierra Rutile Limited

2014–2018: non-executive member of the Board of Directors of GB Minerals Ltd

since 2013: head of Highcross Resources Ltd

BOARD COMMITTEES

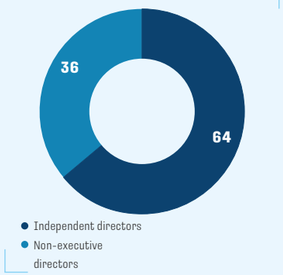
Committees established by Nornickel's Board of Directors are responsible for preliminary review of critical matters and making recommendations to the Board of Directors. To discharge their responsibilities in the effective way, the committees may consult Nornickel's governance bodies and seek opinions from independent external consultants.

From the beginning of the reporting year until the re-election of the Board of Directors on 1 June, the Board of Directors had four committees:
- Strategy Committee
- Budget Committee
- Corporate Governance, Nomination and Remuneration Committee
- Audit and Sustainable Development Committee.

Following the Annual General Meeting of Shareholders and the election of the new Board of Directors, five committees were set up, each consisting of five members:
- Strategy Committee
- Budget Committee
- Corporate Governance, Nomination and Remuneration Committee
- Audit Committee
- Sustainable Development and Climate Change Committee

Members of all committees are appointed by the Board of Directors.

Average proportion of independent directors on the Board committees
(%)



STRATEGY COMMITTEE

Committee members before the Annual General Meeting of Shareholders (19 May 2021)	Committee members after the Annual General Meeting of Shareholders (on 19 May to 31 December 2021)
Maxim Poletaev (Chairman)	Maxim Poletaev (Chairman)
Sergey Batekhin	Alexey Bashkirov
Sergey Bratukhin (Independent Director)	Sergey Bratukhin (Independent Director)
Nikolay Abramov	Stanislav Luchitsky
Gareth Peter Penny (Independent Director)	Gareth Peter Penny (Independent Director)

The Strategy Committee is made up of five directors, two of whom are independent directors (i.e. 40% of the Committee members are independent directors). In 2021, the Committee held seven meetings in person (two of them were held jointly with the Audit Committee of the Board of Directors on 9 March 2021 and 22 April 2021) and three meetings in absentia.

The Strategy Committee assists the Board of Directors by previewing matters related to:
- building a sustainability strategy
- investment planning and structural changes
- engagement with capital markets and government relations.

The Strategy Committee's key areas of focus:
- Supporting Nornickel's Board of Directors in developing, following up and adjusting the corporate strategy
- Recommending updates to the strategy

During 2021, the Strategy Committee made recommendations to the Board of Directors and reviewed the progress and status updates on Nornickel's major investment projects, including Bystrinsky GOK and the Sulphur Project) and prepared reports on the Company's operational performance, the Report on the Property and Business Interruption (Downtime) Insurance Corporate Programme, Progress Report on the IT Programme, including progress on the ERP and Technology Breakthrough programmes and a consolidated progress report on the Company's investment programme, as well as investment plans. The Committee also considered the progress updates on the Company's Fuel and Energy Complex Development Strategy, Sales Strategy projects for precursor and battery production, the joint venture with Russian Platinum, as well as the Company's Exploration Strategy. To inform the Board of Directors on developments in metals markets and on sales-related risks, the Committee reviewed the impact of the COVID-19 pandemic on metals markets and Nornickel's sales.

BUDGET COMMITTEE

Committee members before the Annual General Meeting of Shareholders (19 May 2021)	Committee members after the Annual General Meeting of Shareholders (on 19 May to 31 December 2021)
Sergey Batekhin (Chairman)	Sergey Batekhin (Chairman)
Sergey Bratukhin (Independent Director)	Sergey Bratukhin (Independent Director)
Maxim Poletaev	Maxim Poletaev
Roger Munnings (Independent Director)	Roger Munnings (Independent Director)
Vyacheslav Solomin	Sergey Volk (Independent Director)

Nornickel's Budget Committee is made up of five directors, three of whom are independent directors (i.e. 60% of the Committee members are independent directors).

In 2021, the Budget Committee focused on making recommendations to the Board of Directors to inform decision making on the amount of dividends and on the record date to be suggested by the Board of Directors, and reviewed the Company's financial performance. The Budget Committee also approved and recommended that the Board of Directors approve Nornickel's 2022 budget.

In 2021, the Committee held four meetings.

CORPORATE GOVERNANCE, NOMINATION AND REMUNERATION COMMITTEE

Committee members before the Annual General Meeting of Shareholders (19 May 2021)	Committee members after the Annual General Meeting of Shareholders (on 19 May to 31 December 2021)
Robert Edwards (Chairman, Independent Director)	Robert Edwards (Chairman, Independent Director)
Sergey Batekhin	Sergey Batekhin
Sergey Volk (Independent Director)	Sergey Volk (Independent Director)
Sergey Bratukhin (Independent Director)	Sergey Bratukhin (Independent Director)
Evgeny Shvarts (Independent Director)	Evgeny Shvarts (Independent Director)

The Committee is made up of five directors, four of whom are independent directors, including its Chairman (i.e. 80% of the Committee members are independent directors).

The Corporate Governance, Nomination and Remuneration Committee supports the Board of Directors by:

- evaluating, overseeing and improving Nornickel's corporate governance framework
- ensuring succession planning for Nornickel's Board of Directors and Management Board
- providing incentives, evaluating the performance of Nornickel's Board of Directors, Management Board, President, and Corporate Secretary, and setting relevant remuneration policies
- supervising the development and implementation of Nornickel's information policy.

In 2021, the Committee held 19 meetings, including 14 in absentia and 5 in person.

The Committee made recommendations to the Board of Directors to inform decision making on convening, preparing and holding the Annual and Extraordinary General Meetings of Shareholders, and on matters reserved to the General Meeting of Shareholders (remuneration and reimbursement of expenses of members of the Board of Directors and the Audit Commission, and liability insurance and indemnity for members of the Board of Directors and the Management Board).

The Corporate Governance, Nomination and Remuneration Committee advised the Board of Directors on evaluation of the Board of Directors' performance in 2020. The Committee reviewed the updates on the Human Capital Development Programme, Corporate Social Subsidised Loan Programme and Nornickel's Charitable Policy, and considered the approval of a number of the Company's internal documents. The Committee also considered the annual evaluation of the Board of Directors' performance in 2020, which concluded that the Board of Directors and the Corporate Secretary of Nornickel were effective, and assessed the independence of nominees to the Company's Board of Directors. The Committee gave a recommendation to the Board of Directors to extend the powers of the current Corporate Secretary Pavel Platov for the next three years. Several meetings of the Corporate Governance, Nomination and Remuneration Committee were dedicated to reviewing matters relating to remuneration of Nornickel's key employees.

AUDIT COMMITTEE

Committee members before the Annual General Meeting of Shareholders (19 May 2021)	Committee members after the Annual General Meeting of Shareholders (on 19 May to 31 December 2021)
Roger Munnings (Chairman, Independent Director)	Roger Munnings (Chairman, Independent Director)
Vyacheslav Solomin	Vyacheslav Solomin
Sergey Bratukhin (Independent Director)	Sergey Bratukhin (Independent Director)
Sergey Batekhin	Alexey Bashkirov
Robert Edwards (Independent Director)	Robert Edwards (Independent Director)

On 1 June 2021, at the first in-person meeting of the new Board of Directors elected at the Annual General Meeting of Shareholders on 19 May 2021, the Committee was refreshed and its name was changed (until 1 June 2021: Audit and Sustainability Committee).

The Audit Committee is made up of five directors, three of whom are independent directors, including its Chairman (i.e. 60% of the Committee members are independent directors). On average, Committee members have more than 10 years of experience in finance.

In 2021, the Committee held 12 meetings, including 8 in person and 4 in absentia, with 2 of the in-person meetings held jointly with the Strategy Committee (on 9 March 2021 and 22 April 2021).

The Committee discharges its responsibilities by overseeing:

- financial reporting
- risk management and internal controls
- external and internal audit
- prevention of wrongdoing by Nornickel employees and third parties
- HSE matters.

The Audit Committee plays an important role in enabling controls and accountability, and has become an effective interface between the Board of Directors, Audit Commission, independent auditor, Internal Audit Department, and management of Nornickel.

During 2021, the Audit Committee prepared for the Board of Directors a number of recommendations on the accuracy, completeness and reliability of Nornickel's financial statements, as well as on HSE matters, and approval of the Company's auditors. The Committee also reviewed the results of audit reports by the Internal Audit Department and Internal Control Department and considered them when reviewing the 2020 Sustainability Report, information on the incident at Norilsk Concentrator (action plan to minimise the impact of mine flooding and implement recovery measures), Report on Improvements to Procurement, and Corporate Risk Appetite Statement for 2021.

In 2021, the Audit Committee of the Board of Directors:

- reviewed the annual audit plan and internal audit development plans
- reviewed bonus-related performance targets (KPI scorecards) of the Internal Audit Department Director
- discussed the results of completed audits, including gaps identified and remedial actions designed by management to improve internal controls and minimise risks.

SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE COMMITTEE

Composition of the Committee (on 1 June to 31 December 2021)
Gareth Peter Penny (Chairman, Independent Director)
Roger Munnings (Independent Director)
Robert Edwards (Independent Director)
Stanislav Luchitsky
Evgeny Shvarts (Independent Director)

Members of the Sustainable Development and Climate Change Committee are appointed by Nornickel's Board of Directors. In accordance with its Terms of Reference, the Committee has five members. The Board of Directors, however, may expand the Committee's membership. The Committee is made up of five directors, four of whom are independent directors, including its Chairman (i.e. 80% of the Committee members are independent directors).

The Sustainable Development and Climate Change Committee's key functions:

- Integrating sustainability principles, including climate change, into the Company's activities
- Developing and implementing the Sustainable Development and Climate Change Strategy
- Managing risks and internal controls related to sustainable development and climate change
- Preparing the Company's internal reports and disclosures on sustainable development and climate change
- Overseeing the external audit of the Company's reports and activities related to sustainable development and climate change

In the reporting year, the Committee members discussed a report by Nornickel's management on the Company's sustainable development activities, including environmental protection and climate change monitoring, international certification of the Company's activities and its compliance with international standards on business conduct, social and corporate governance matters. Particular attention was paid to environmental remediation after the diesel fuel spill, carbon-neutral nickel production, integration ICMM and IRMA requirements as part of implementing of the Company's activities. At the meeting, the Committee members also discussed matters related to supporting indigenous peoples of the Far North and studying the impacts of climate warming on permafrost.

Following the discussion, the Committee deemed it expedient to post information about Nornickel's sustainable development / ESG activities and future plans on the Company's website on a regular basis. Members of the Board of Directors and Company management recognised environmental and industrial safety matters as special focus areas, and noted the need to achieve sustainable results in transforming Nornickel's industrial safety culture.

PRESIDENT AND MANAGEMENT BOARD

The President and the Management Board are Nornickel's executive bodies in charge of day-to-day operations. They ensure:

- compliance with resolutions of the Board of Directors and the General Meeting of Shareholders
- implementation of Nornickel's key plans and programmes
- continuous operation of an effective risk management and internal control framework.

President

The President is Nornickel's sole executive body in charge of day-to-day operations. The President is elected by the General Meeting of Shareholders for an indefinite term and acts as Chairman of the Management Board.

The President reports to the Board of Directors and the General Meeting of Shareholders. Since 2015, this position has been held by Vladimir Potanin (Nornickel's CEO in 2012–2015).

Management Board

The Management Board is a collective executive body in charge of Nornickel's day-to-day operations within its scope of authority as set out in the Articles of Association; it ensures the implementation of resolutions passed by the General Meeting of Shareholders and the Board of Directors.

Members of the Management Board are elected by the Board of Directors for an indefinite term. The Board of Directors may at any time terminate the office of any member of the Management Board.

The Management Board had 10 members at the start of 2021, according to the composition approved by the Board of Directors on 13 August 2020. During the reporting year, the composition of the Company's Management Board changed three times:

- On 2 March 2021, the Board of Directors resolved to terminate the office and employment contract of Sergey Dyachenko due to his transfer to another job, and to establish a nine-member Management Board as from 3 March 2021
- On 16 June 2021, the Board of Directors resolved to elect Sergey Stepanov and Evgeny Fedorov to the Management Board effective 17 June 2021, and to establish an 11-member Management Board
- On 28 October 2021, the Board of Directors resolved to terminate the office and employment contract of Sergey Barbashev, effective 29 October 2021, due to his transfer to another job, and to establish a 10-member Management Board effective 30 October 2021

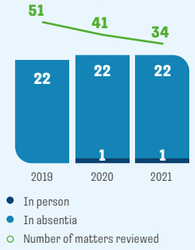
In 2021, the Management Board held 23 meetings, including 22 in absentia and 1 in the form of joint attendance.

Throughout 2021, the Management Board decided to set up an Energy Division and an Investment Sub-Committee for Corporate Services, approved a proposal to amend the Company's Articles of Association, passed resolutions regarding branch directors, reviewed the Company's capital-raising and guarantee transactions, took note of the Company's Risk Appetite Statement for 2021, approved the Environmental and Climate Change Strategy and the 2021 action plan to implement it, the scope of self-evaluation of the internal control system, and the metrics of the Long-Term Remuneration Programme for Key Employees for 2021–2023.

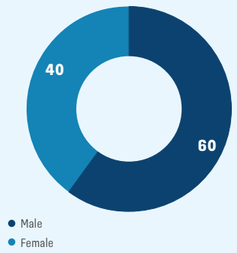
Attendance at meetings in 2021

Name	Tenure on the Management Board	Meetings attended / total number of meetings
Vladimir Potanin	9	23/23
Sergey Barbashev[2] (until 29 October 2021)	3	19/23
Andrei Bougrov	9	23/23
Sergey Stepanov[3] (from 17 June 2021)	1	14/23
Evgeny Fyodorov[3] (from 17 June 2021)	1	14/23
Sergey Dubovitsky	3	23/23
Sergey Dyachenko[1] (until 2 March 2021)	8	3/23
Marianna Zakharova	6	23/23
Larisa Zelkova	9	23/23
Elena Savitskaya	8	23/23
Sergey Malyshev	8	23/23
Nina Plastinina	8	23/23

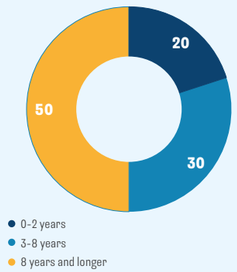
Number of Management Board meetings



Management Board composition by gender (%)



Tenure on the Management Board (%)



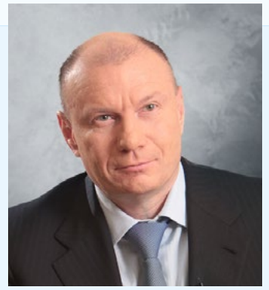
1 Left the Management Board on 2 March 2021 as per the Board of Directors' resolution.
2 Left the Management Board on 29 October 2021 as per the Board of Directors' resolution.
3 Joined the Management Board on 17 June 2021 as per the Board of Directors' resolution .

Biographical details of members of the Management Board[1]

1 Positions are indicated as at the end of 2020.

For more detailed biographies of members of the Management Board, please see the website. Biographical details of previous members of the Management Board are available in the 2020 Annual Report.

In the reporting year, Sergey Stepanov held shares in MMC Norilsk Nickel, representing 0.001599% of the authorized capital.



Vladimir Potanin

Chairman of the Management Board since 2012

President of the Company since 2015 (CEO in 2012–2015)

Born in: 1961

Nationality: Russian Federation

Education

Degree in International Economics, Moscow State Institute of International Relations (MGIMO University)

Experience in the last five years

since 2021: member of the Board of Trustees of the Football Union of Russia

since 2020: Chairman of the Board of Trustees of the Vladimir Potanin Foundation; member of the Board of Trustees of the ROZA Club for Sport Development and Support

since 2018: member of the Board of Trustees of the Russian–American Council for Business Cooperation trade association; member of the Board of Trustees of the Fund for the Conservation and Development of the Solovetsky Archipelago

since 2017: Chairman of the Supervisory Board of the Norilsk Development Agency

since 2016: member of the Board of the Endowment Fund for Education and Culture, Chairman of the Board of Trustees of the Night Hockey League non-profit amateur hockey foundation

since 2013: President of Interros Holding Company

2014–2019: Chairman of the Board of Trustees of the ROZA Club for Sport Development and Support

since 2012: positions at Nornickel: CEO (2012–2015), President (2015–present), Chairman of the Management Board (2012–present)

since 2011: member of the Board of Trustees of the State Hermitage Museum Endowment Fund non-profit organisation and the Moscow Church Construction Foundation

since 2010: member of the Board of Trustees of the Russian Geographical Society all-Russian non-governmental organisation

since 2009: Deputy Chairman of the Board of Trustees of the Russian International Olympic University

2008–2020: member of the Board of the Vladimir Potanin Foundation

since 2007: member of the Board of Trustees of Saint Petersburg State University, Deputy Chairman of the Board of Trustees of MGIMO Endowment Fund

since 2006: Deputy Chairman of the Board of Trustees of MGIMO Endowment Fund, member of the Board of Trustees and member of the Management Board of the Graduate School of Management at Saint Petersburg State University, member of the Bureau of the Board of the Russian Union of industrialists and Entrepreneurs (RSPP)

since 2005: member of the Board of Trustees, member of the Board of the Russian Olympians Foundation non-profit charitable organisation

since 2004: Chairman, member of the Presidium of the National Council on Corporate Governance non-profit partnership

since 2003: Chairman of the Board of Trustees of the State Hermitage Museum

since 2001: member of the Board of Trustees of the Solomon R. Guggenheim Foundation (New York)

since 2000: member of the Bureau of the Board and member of the Management Board of the RSPP

since 1995: member of the Presidium of the international Foundation for the Unity of Orthodox Christian Nations

Andrei Bougrov

Member of the Management Board since 2013

Senior Vice President for Sustainable Development since 2020

Born in: 1952

Nationality: Russian Federation

Education

Degree in International Economic Relations, economist for foreign trade. PhD in Economics, Moscow State Institute of International Relations (MGIMO)

Experience in the last five years

since 2021: member of the RSPP Coordination Council on Sustainable Development, member of the International Advisory Panel of the Asian Infrastructure Investment Bank (AIIB)

since 2020: member of the RSPP Climate Policy and Carbon Regulation Committee

since 2018: member of the Advisory Council of the Russo-British Chamber of Commerce (RBCC) and Chairman of the RSPP Council on Non-Financial Reporting

since 2016: Chairman of the Share Issuers Committee of Moscow Exchange

since 2015: member of the National Council on Corporate Governance non-profit partnership

since 2013: Vice President of the RSPP and LLC Interros Holding Company (until 7 April 2015 – CJSC Interros Holding Company)

since 2006: member of the Management Board of the RSPP

since 2002: member of the Council on Foreign and Defence Policy non-governmental association

since 2002: positions at Nornickel – member of the Board of Directors, Chairman of the Board of Directors (2010–2022), Deputy Chairman of the Board of Directors (2013–2020), Senior Vice President (since 2016)

Sergey Dubovitsky

Member of the Management Board since 2018

Senior Vice President – Head of Strategy and Strategic Projects, Logistics and Procurement since 2020

Born in: 1978

Nationality: Russian Federation

Education

Public Relations Specialist with Foreign Language Skills, Moscow State Institute of International Relations (MGIMO)

Experience in the last five years

since 2021: member of the boards of directors of MPI Nickel Pty Ltd, Norilsk Nickel Africa Pty Ltd and Norilsk Nickel Mauritius, member of the Executive Committee of Nkomati

2019–2020: Vice President – Head of Strategy and Strategic Projects at MMC Norilsk Nickel

2016–2019: Vice President for Strategic Planning at MMC Norilsk Nickel

Marianna Zakharova

Member of the Management Board since 2016

Member of the Board of Directors since 2010

First Vice President – Head of Corporate Governance, Asset Management and Legal Affairs since 2015

Born in: 1976

Nationality: Russian Federation

Education

Peoples' Friendship University of Russia (RUDN University)

1998 – Bachelor in Law

2000 – Master in Law

Experience in the last five years

since 2020: member of the Board of Trustees of the Vladimir Potanin Foundation

Larisa Zelkova

Member of the Management Board since 2013

Senior Vice President – Head of HR, Social Policy and Public Relations

Born in: 1969

Nationality: Russian Federation

Education

Journalist, Literature Editor at a Newspaper, Lomonosov Moscow State University, 1991

Experience in the last five years

since 2020: Chairwoman of the management boards of the Second School centre for community initiatives in the Pechenegsky District and the Monchegorsk Development Agency

since 2019: member of the councils of the endowment funds for the replenishment of the Tretyakov Gallery's collection and development of its small museums at the State Tretyakov Gallery Foundation

since 2017: Chairwoman of the Management Board and member of the Supervisory Board of the Norilsk Development Agency autonomous non-profit organisation

2016–2021: Chairwoman of the Board of Trustees of the Endowment Fund for Education and Culture

since 2015: member of the Board of Trustees of the Russian Academy of Education, member of the Board of Trustees of the Hermitage Foundation UK

since 2014: Chairwoman of the Board of the Vladimir Potanin Foundation

2014–2018: President of the Vladimir Potanin Foundation

2012–2018: member of the Russian Presidential Council for Culture and Art

2011–2020: member of the Board of Directors of Rosa Khutor Ski Resort Development Company

since 2011: Chairwoman of the Management Board of the State Hermitage Museum Endowment Fund

since 2009: member of the Board of Trustees of the Pavlovsk Cymnasium private autonomous non-profit organisation

since 2007: member of the Presidium of MGIMO Endowment Fund

Sergey Malyshev

Member of the Management Board since 2013

Senior Vice President – Chief Financial Officer

Born in: 1969

Nationality: Russian Federation

Education

Mechanical Engineer, degree in Machines and Devices for the Textile and Light Industries, the Kosygin State University of Russia

Economist, degree in Public and Municipal Administration, Institute of Advanced Training at the Russian Presidential Academy of National Economy and Public Administration

Finance Academy under the Government of the Russian Federation, Public and Municipal Administration retraining programme, with the State Attestation Commission certifying the right (compliance with qualification requirements) to carry out professional activities related to public and municipal administration

Experience in the last five years

since 2016: Senior Vice President – Chief Financial Officer at MMC Norilsk Nickel

Nina Plastinina

Member of the Management Board since 2013

Vice President – Head of Internal Control and Risk Management

Born in: 1961

Nationality: Russian Federation

Education

Mechanical Engineer, degree in Chemical Machine and Fixture Building, Moscow Chemical Machine Building Institute

Post-graduate degree in Economics and Production Management, Bauman Moscow State Technical University

Experience in the last five years

since 2013: at Nornickel – Member of the Management Board, Director of the Internal Control Department (2013–2015), Vice President – Head of Internal Audit (2015—2016), Vice President – Head of Internal Control and Risk Management (2016–present)

Elena Savitskaya

Member of the Management Board since 2014

Vice President – Chief of Staff since 2015

Born in: 1972

Nationality: Russian Federation

Education

Psychologist, Psychology Teacher, degree in Psychology, Moscow Pedagogical State University

Experience in the last five years

since 2015: Advisor (part-time) to the President of Interros Holding Company

Sergey Stepanov

Member of the Management Board since 2021

Senior Vice President – Operational Director since 2021

Born in: 1977

Nationality: Russian Federation

Shareholding: 0.001599%

Made no transactions with shares in MMC Norilsk Nickel in the reporting year

Education

Lomonosov Moscow State University: 1998: Bachelor in Economics (with distinction)

2000: Master in Economics (with distinction)

Experience in the last five years

2020–2021: CEO of VSMPO-AVISMA Corporation

2014–2020: CEO of Raspadskaya

2012–2020: Vice President, Head of Evraz's Coal Division

Evgeny Fyodorov

Member of the Management Board since 2021

Vice President for Energy since 2021

Born in: 1978

Nationality: Russian Federation

Education

Economist/Manager, degree in Economics and Enterprise Management, Bauman Moscow State Technical University, 2001

PhD in Economics, Moscow Power Engineering Institute (Technical University), 2003

Experience in the last five years

2018–2020: member of the Board of Directors, Advisor to the CEO of TRUST SM

since 2018: member of the Board of Directors of Unitile Holding

since 2017: member of the Board of Directors, Advisor to the CEO of Rosvodokanal Management Company

CORPORATE SECRETARY

The role of the Corporate Secretary is to ensure compliance with the procedures for the protection of shareholder rights and legitimate interests, as prescribed by applicable laws and Nornickel's internal documents, and to monitor such compliance. According to the Company's Articles of Association, the Corporate Secretary is appointed by the Board of Directors for a three-year term. The Board of Directors may terminate the office of the Corporate Secretary before the end of the term.

The Corporate Secretary's key functions:

- Involvement in preparing and holding the General Meeting of Shareholders
- Preparing and holding meetings of the Board of Directors and its committees
- Contributing to the improvement of Nornickel's corporate governance framework and practice
- Managing the activities of the Secretariat
- Other functions in accordance with Nornickel's internal documents

The Corporate Secretary reports administratively to the President and is accountable to the Board of Directors.

At present, Pavel Platov is Nornickel's Corporate Secretary. In December 2021, the Board of Directors extended Pavel Platov's term as Corporate Secretary by another three years.

Pavel Platov

Corporate Secretary since 2011

Born in: 1975

Nationality: Russian Federation

In the reporting year, he held no shares in MMC Norilsk Nickel and made no transactions with them.

Education

Linguistics University of Nizhny Novgorod

Academy of National Economy under the Government of the Russian Federation

Experience in the last five years

2017–present: Corporate Secretary of MMC Norilsk Nickel (2011–2017: Company Secretary)

REMUNERATION

The Board of Directors directly supervises the remuneration framework at Nornickel. The Corporate Governance, Nomination and Remuneration Committee of the Board of Directors is responsible for:

- developing the Remuneration Policy for Members of the Board of Directors, Members of the Management Board, and the President of Nornickel
- overseeing the implementation and execution of the Policy
- reviewing the Policy on a regular basis.

Nornickel does not issue loans to members of the Board of Directors and the Management Board but encourages them to invest in Nornickel shares.

Remuneration paid to members of Nornickel's governance bodies in 2021 totalled RUB 5.9 billion (USD 80 million)[1].

Directors' remuneration

The Board of Directors' annual remuneration is set out in the Remuneration Policy. By resolution of the General Meeting of Shareholders, members of the Board of Directors are remunerated for their service on the Board of Directors and reimbursed for expenses incurred by them in performing their duties as Board members. Additional benefits for all Board members include liability insurance and reimbursement of losses incurred in connection with their service on the Board of Directors. The Bank of Russia's Corporate Governance Code recommends that companies pay for their directors' liability insurance to be able to recover potential losses through the insurer. Apart from securing stronger commitment from directors, this insurance coverage encourages competent leaders to join the Board.

Directors' remuneration in 2021

Type	2021	
	RUB mln	USD mln
Remuneration for serving on the Board of Directors and Board committees	301	4
Reimbursement	0.1	0.0007
Other	0	0
Total	301	4

1 The amount of remuneration paid does not include the remuneration accrued but not yet paid as of 31 December 2021, as well as insurance premiums and voluntary health insurance (VHI) contributions. Adding the amounts above, remuneration of members of Nornickel's governance bodies for 2021 as per the 2021 consolidated IFRS financial statements totalled RUB 6.7 billion (USD 91 million).

REMUNERATION OF THE CHAIRMAN OF THE BOARD OF DIRECTORS

Remuneration of the Chairman of the Board of Directors differs from the remuneration payable to other non-executive directors, due to the Chairman's enhanced scope of expertise and responsibilities. Subject to a resolution of the General Meeting of Shareholders, the Chairman of the Board of Directors may be entitled to additional remuneration and benefits other than those set out in the Policy. Under the Policy, the annual base remuneration of the Chairman of the Board of Directors is USD 1 million. The Chairman of the Board of Directors is not entitled to any additional remuneration for serving on Board committees.

REMUNERATION OF NON-EXECUTIVE DIRECTORS

All non-executive directors receive equal remuneration. The Policy sets forth the following annual remuneration for non-executive directors:

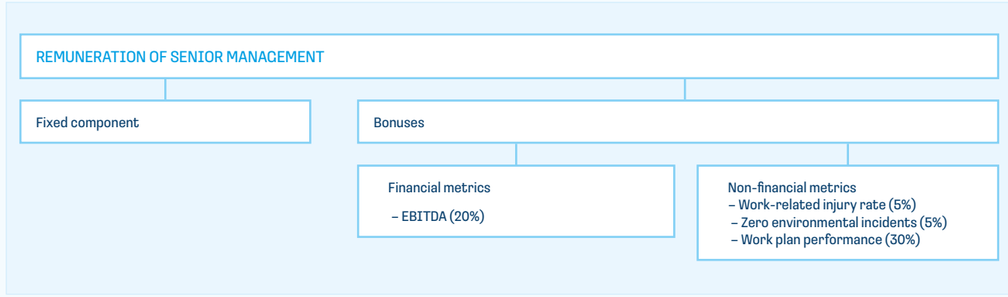
- Base remuneration of USD 120 thousand for Board membership
- Additional remuneration of USD 50 thousand for serving on a Board committee
- Additional remuneration of USD 150 thousand for chairing a Board committee

Non-executive directors are not eligible for any forms of short-term or long-term cash incentives, or non-cash remuneration, including shares (or share-based payments), share options (option agreements), or other non-cash rewards or benefits.

REMUNERATION OF EXECUTIVE DIRECTORS

In line with the approved Policy, executive directors do not receive any additional remuneration for their service on the Board of Directors to avoid any potential conflict of interest.

Management Board's remuneration



KPIs used to assess senior management's performance are aligned to Nornickel's strategic goals. In line with Nornickel's Articles of Association, the remuneration and reimbursement payable to the President and members of the Management Board are determined by the Board of Directors.

Remuneration payable to senior management is comprised of basic salary and bonuses. Bonuses are linked to Nornickel's performance, including both financial (EBITDA) and non-financial metrics (work-related injury rate, zero environmental incidents, and work plan). The variable component of the remuneration payable to members of the Management Board reflects key performance indicators, which are annually updated by the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors. The Board of Directors decides whether to pay the President a performance bonus for the reporting year. In 2021, the Zero Environmental Incidents metric was included in senior management's KPIs with a 5% weight (within all KPIs) and the target of Zero Emergency Incidents.

Management Board's remuneration in 2021

Type	2021	
	RUB mln	USD mln
Remuneration for serving on a governance body	2	0.03
Salary	3,283	45
Bonuses	2,319	31
Other	0	0
Total	5,604	76

CONTROL SYSTEM AND RISK MANAGEMENT

According to the Anti-corruption Ranking of Russian Business 2021 compiled by the Russian Union of Industrialists and Entrepreneurs, the Company received the top rating, A1, reflecting its effective anti-corruption management.

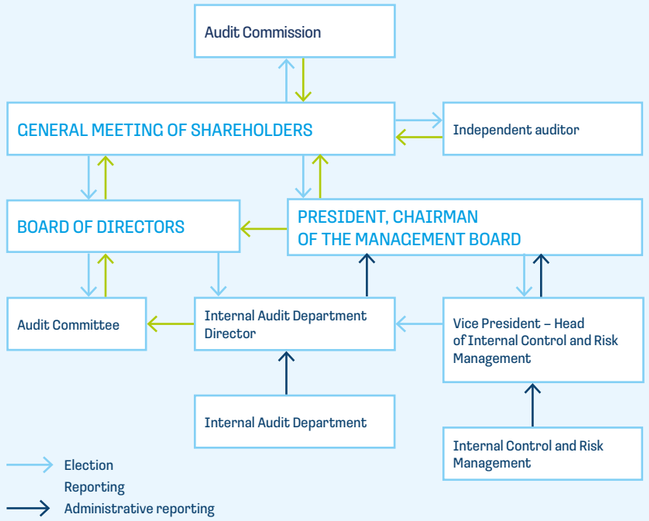
The Company has in place a robust internal control and risk management system covering key business processes and all management levels. The corporate risk management system is particularly focused on climate change risks.

CONTROL SYSTEM

The Company has in place an internal control system covering key business processes and all management levels across the Group. The system comprises the following supervisory bodies:

- Audit Commission
- Audit Committee of the Board of Directors
- Internal Audit Department
- Internal Control and Risk Management, comprising the Internal Control Department, Financial Control Service, Risk Management Service, and the Inspectorate for Monitoring Technical, Production and Environmental Risks

Control flowchart



Audit Commission

AUDIT COMMISSION'S PERFORMANCE

In 2021, the Audit Commission audited Nornickel's business operations for 2020, with the auditors' report presented to the shareholders as part of materials for the Annual General Meeting of Shareholders. Results of the audit of the Company's business operations for 2021 will be reported to the Annual General Meeting of Shareholders in 2022.

The Annual General Meeting of Shareholders held on 19 May 2021 re-elected the incumbent members of the Audit Commission and set total remuneration at RUB 1.8 million per year (before taxes) for each member of Nornickel's Audit Commission who is not an employee of the Company. The above remuneration level is similar to the remuneration rate set for members of the Audit Commission in 2020. Members who are Nornickel employees are not paid remuneration for for their work as part of the Audit Commission.

In 2021, remuneration of the Audit Commission totalled RUB 7.2 million (USD 98 thousand). No bonuses or other rewards were paid.

THE AUDIT COMMISSION IS NORNICKEL'S STANDING INTERNAL CONTROL BODY THAT MONITORS ITS FINANCIAL AND BUSINESS OPERATIONS. THE FIVE MEMBERS OF THE AUDIT COMMISSION ARE ELECTED ANNUALLY AT THE ANNUAL GENERAL MEETING OF SHAREHOLDERS.

Members of the Audit Commission

Name	Primary employment and position as of the end of 2021
Alexey Dzybalov	Analyst, UC RUSAL, IPJSC (until 25 September 2020: United Company RUSAL Plc)
Anna Masalova	Chief Financial Officer, Pizza Restaurants
Georgy Svanidze	Head of the Financial Department, member of the Management Board at Interros Holding Company
Vladimir Shilkov	CEO of AC, CIS investment Advisers, and Orion Property; Deputy Project Manager at the Financial Control Service of MMC Norilsk Nickel
Elena Yanevich	CEO of Interpromleasing

Internal audit

The Internal Audit Department was established to assist the Board of Directors and executive bodies in better managing the Company and improving its financial and business operations through a systematic and consistent approach to the analysis and evaluation of risk management and internal controls as tools providing reasonable assurance that Nornickel will achieve its goals.

The internal Audit Department conducts objective and independent audits to assess the effectiveness of the internal control system and risk management system. Based on the audits, the Department prepares reports and proposals for management on improving internal controls, and monitors the development of remedial action plans.

In order to ensure independence and objectivity, the Internal Audit Department functionally reports to the Board of Directors through the Audit Committee and has an administrative reporting line to Nornickel's President.

In 2021, the Audit Committee of the Board of Directors reviewed the annual audit plan and internal audit development plans; reviewed bonus-related performance targets (KPI scorecards) of the Internal Audit Department Director; discussed the results of completed audits, including gaps identified and corrective actions designed by management to improve internal controls and minimise risks. The Audit Committee commend the work of the Internal Audit Department in the reporting period.

In 2021, the Internal Audit Department performed 20 audits of subsidiaries' operations, corporate governance processes, and IT asset control procedures. The Department also performed an annual performance evaluation of Nornickel's corporate risk management system (CRMS) and internal control system (ICS) for 2021 and concluded that the Company's CRMS and ICS as a whole function effectively, there are some comments. The evaluation results were reviewed at an Audit Committee meeting and a meeting of the Company's Board of Directors.

Based on the recommendations issued during the audits, management developed corrective actions and implemented a total of 263 such actions over FY 2021. The actions included updating regulatory documents, developing new or amending existing control procedures, communicating them to employees, training employees, identifying and assessing risks. The Internal Audit Department continuously monitors the implementation of initiatives developed by management, with the resulting insights on types and number of initiatives regularly reviewed by the Audit Committee.

DIGITALISATION OF INTERNAL AUDIT

In 2021, after the SAP Audit Management information system was implemented at the Head Office, the Internal Audit Department began rolling out the system to seven Group company-level internal control and audit units. The system was piloted in December 2021.

The system's launch delivered a number of benefits and advantages:

- Standardisation of internal audit processes across the Company
- A single information space where all members of the audit teams of the Head Office and other units can collaborate regardless of location
- Generation of analytical reports on audits of the Company's units, as well as consolidated reports on all audits across the Company
- Automated monitoring of the implementation of recommendations across the Company's units

The Internal Audit Department is strongly focused on expanding the use of data analysis tools in audits.

In 2021, the Internal Audit Department leveraged digital data processing methods to perform five IT audits, as well as a working capital control audit and a mining equipment performance monitoring audit.

Internal control

The Internal Control Department regularly monitors the Company's high-risk business processes – procurement and investment activities, capital construction and corporate insurance transactions, as well as the reliability of the existing systems of accounting for metal-bearing products. The Company also continuously monitors compliance with regulatory requirements to combat the unlawful use of insider information and market manipulation, as well as money laundering, terrorist financing, and proliferation financing.

The performance and maturity of internal control system elements are evaluated annually as part of a financial statement audit and internal control system self-evaluation. Reports containing the internal control system evaluation results are reviewed by Nornickel's management and the Audit Committee of the Board of Directors.

The Financial Control Service audits financial and business operations of Nornickel and its subsidiaries to make updates and recommendations for the President and members of the Board of Directors. The Head of the Financial Control Service is appointed by resolution of the Board of Directors.

Corporate Trust Line

Nornickel runs the Corporate Trust Line speak-up programme established within the Internal Control Department to respond promptly to reports of non-compliance, wrongdoing or embezzlement, violation of employees' rights, and breach of ethical standards or rules of conduct by employees. Employees, shareholders, and other stakeholders can report any actual or potential actions that cause or may cause financial or reputational damage to Nornickel. All reports submitted via the line are registered, assigned a unique number, and investigated. The key principles underlying the operation of the Corporate Trust Line include guaranteed anonymity for whistleblowers, and timely and unbiased review of all reports. Nornickel will in no circumstances retaliate against an employee who raises a concern via the Corporate Trust Line, meaning that no disciplinary action or sanction will be taken (dismissal, demotion, forfeiture of bonuses, etc.).

Reports can be submitted via toll-free hotlines at 8,800,700 1941 and 8,800,700 1945, via e-mail at skd@nornik.ru, or via a reporting form on the Nornickel website.

Corporate Trust Line

Report statistics

Indicator	2019	2020	2021
Total number of reports	1,181	1,037	1,243
Total number of reports that triggered investigation	481	451	422
Percentage of corruption reports (%)	0.2 (1 confirmed case)	0 (0 cases)	0 (0 cases)

For more details on report statistics, please see the Sustainability Report.

Anti-corruption

According to the Anti-corruption Ranking of Russian Business 2021 compiled by the Russian Union of Industrialists and Entrepreneurs, Nornickel received the top rating, A1, reflecting the particular attention paid by the Company's management to corruption prevention, as well as effective implementation of relevant measures.

Nornickel compiles with anti-corruption laws of the Russian Federation and other countries in which it operates, as well as with any applicable international laws and Nornickel's internal documents.

Nornickel openly declares its zero tolerance to corruption in any form or manifestation. Members of Nornickel's Board of Directors / Management Board and senior management role model a zero-tolerance approach to corruption in any form or manifestation at all levels across the organisation. Facilitation payments and political contributions to obtain or retain a business advantage are strictly prohibited by Nornickel's policy. Nornickel will not tolerate any retaliation against an employee who reports a concern about suspected corruption, or refuses to offer a bribe, facilitate bribery or take part in any other corrupt activities, even if their refusal to do so results in a lost opportunity or a failure to obtain a business or competitive advantage for Nornickel.

In line with legal requirements and its voluntary commitments, Nornickel actively implements anti-corruption measures:

- Records and monitors entertainment expenses. Nornickel has established uniform requirements for offering and receiving business gifts applicable to all employees, which are set forth in the Regulations on Business Gifts
- Regular anti-corruption due diligence of internal documents ensures that they present no potential for corruption
- We perform annual assessment and quarterly monitoring of corruption risks
- Every two years, Nornickel submits to the Russian Union of Industrialists and Entrepreneurs a Declaration of Compliance with the Anti-corruption Charter of Russian Business to confirm its compliance with anti-corruption requirements

Nornickel regularly trains its employees and involves them in implementing anti-corruption programmes. We run an online anti-corruption training course for all employees, as well as a course on compliance with anti-corruption laws for our HR function. As of the end of 2021, 100% of employees were trained to be familiar with the Group's anti-corruption policies. Over the year, the training on statutory requirements and provisions of corporate anti-corruption regulations covered 9,805 people.

Timely identification and prevention of conflicts of interest are also key to our anti-corruption efforts. In line with the Regulations on the Prevention and Management of Conflicts of Interest, an approved standard reporting form is to be filled by candidates applying for vacant positions at Nornickel.

Nornickel maintains a Preventing and Combating Corruption section on its intranet portal, providing information on its anti-corruption regulations and measures taken to combat and prevent corruption, offer legal education, and promote lawful behaviours among employees.

In 2021, the Internal Audit Department evaluated the Company's anti-corruption performance and proposed the following improvement measures following the audit:

- Define a unified approach to adopting anti-corruption regulations and controls throughout the Group
- Run additional anti-corruption training for employees

Nornickel is also implementing an initiative to identify and rank corruption risks inherent in business processes, as well as develop and implement a methodology for assessing and managing corruption risks. The following actions were taken as part of this initiative:

- The heads of business units within Nornickel's Head Office were surveyed to identify the business processes most prone to corruption
- A draft register of corruption risks was compiled based on the survey findings
- A draft Corruption Risk Management Methodology was developed

In order to mitigate potential risks associated with contractor engagement, Nornickel evaluates business standing, integrity, and solvency of its potential counterparties. To prevent procurement misconduct and maximise value capture through unbiased selection of best proposals, Nornickel's procurement owner, customer, and secretary of a collective procurement body adhere to the following rules:

- Procurement relies on the principle of division of roles
- Commercial proposals submitted by qualified suppliers are compared using objective and measurable criteria approved prior to sending a relevant request for proposal
- The selection results and the winning bidder in the material procurement process are approved by the collective procurement body comprised of representatives from various functions of Nornickel
- A Master Agreement containing an anti-corruption clause is signed with each supplier or updated on an annual basis. The anti-corruption clause outlines the course of action to be taken between the supplier and Nornickel with respect to risks of abuse. Moreover, by signing the Master Agreement, suppliers acknowledge that they have read MMC Norilsk Nickel's Anti-Corruption Policy

Antitrust compliance

An antitrust compliance system in place at the Company since 2017 establishes the processes for the timely prevention, identification, and elimination of causes and conditions facilitating antitrust violations and ensures compliance of the Company and its corporate entities with applicable laws.

Federal Law No. 135-FZ On Protection of Competition dated 26 July 2006 was amended in 2020 to set requirements for internal antitrust compliance regulations of organisations and establish the right of organisations to submit these regulations to the Federal Antimonopoly Service of the Russian Federation and obtain its opinion upon confirmation of compliance. The Company was the first in Russia to use the new statutory procedure to obtain a confirmation of the Federal Antimonopoly Service that its antimonopoly compliance system meets legal requirements, issued on 25 March 2021.

IN 2021, THE FEDERAL ANTIMONOPOLY SERVICE AND/OR ITS TERRITORIAL BODIES DID NOT FIND ANY ANTITRUST VIOLATIONS BY THE COMPANY OR THE GROUP ENTERPRISES; AND NO ADMINISTRATIVE ACTIONS WERE TAKEN AGAINST THE GROUP ENTERPRISES FOR SUCH VIOLATIONS.

Corporate security

Nornickel's corporate security system management is based on a set of programmes to ensure economic, corporate, internal, on-site, transport and information security, as well as the transparency of procurement and contractor selection procedures.

The Company continues to cooperate with the United Nations Interregional Crime and Justice Research institute (UNICRI) and the United Nations Office on Drugs and Crime (UNODC) on matters including the implementation of the UN Economic and Social Council Resolution 2019/23 on combating transnational organised crime, illicit trafficking in precious metals, and illegal mineral extraction.

In September 2021, Nornickel employees and officials from the Ministry of Transport of Russia, federal agencies for various modes of transport, and the regional transport ministries participated in the 10th National Conference on Transport Security and Anti-terrorism Technologies 2021. The conference participants proposed amendments to transport security laws and specific procedures around their enforcement.

In 2021, Nornickel conducted a total of 325 trainings, 41 general and 6 tactical and special drills.

The Company engages external contractors to ensure the safety of its facilities, making sure that contractor activities respect human rights, including those of employees of private security organisations. Respect for human rights is incorporated in the regulations of the Corporate Security Unit.

Information security

PROGRAMMES

Amid the COVID-19 pandemic with some employees still working remotely, the Company is taking extra precautions to ensure the information security of corporate resources and infrastructure. These include more stringent security requirements and controls for remote computers and devices used in audio and video conferencing. Remote work is monitored on a daily basis, with users guides and instructions updated as necessary.

The Company continues implementing its scheduled measures and programmes to protect corporate information systems and automated process control systems (APCSs) across the Group. Nornickel is providing project support for its IT initiatives programme and rolling out security tools to build the target information security architecture.

The Company assessed key information systems (criticality class A) for compliance with approved corporate information security standards.

Key information security rules are summarised in a single document – Cuidelines on Permitted Use of Information Assets. The information security procedures which involve Nornickel employees include:

- identification and classification of data assets
- raising information security awareness
- managing access to data assets
- information security incident management
- assessing IT projects for compliance with information security requirements.

TRAINING AND EDUCATION

New employees are required to take a knowledge test and extra briefing on information security. The Company has also developed and approved the Procedure Rules for Raising Information Security Awareness and has in place annual employee training plans compiled with account for current trends and newly identified risks and cyber threats. All Group employees are trained and tested on information security, on average, once a year. A total of 69 e-learning courses were delivered in 2021, with a total of 10,170 Group employees trained.

CYBER INCIDENT RESPONSE SYSTEM

The Company's Information Security Incident Response Centre uses advanced technical solutions as well as Russian and global best practices in managing cyber defence. Processes and procedures in place to ensure information security continuity in case of emergency are tested regularly, at least once per quarter.

SUSPICIOUS ACTIVITY REPORTING PROCESS

Nornickel improves the corporate information security system through regular drills and tests, including simulations of phishing attacks and other illegal interference with the corporate IT infrastructures. Following the drills, instructions for employees are updated, and the results are included in the quarterly bulletin forwarded to the heads of the Company's units. In addition, the Company uses dedicated newsletters to improve employee awareness about current information security threats and digital hygiene.

Users are required to report any suspicious content or activity via the predetermined communication channels to the corporate Information Security Incident Response Centre, which assesses potential destructive impacts on the Company's information systems and drives the planning and implementation of actions to prevent and/or address any consequences.

CERTIFICATION

In line with ISO/IEC 27001:2013 and international best practices, Nornickel enterprises have been taking consistent efforts to implement and improve the information security management systems (ISMSs). By end-2021, ISMSs were introduced and proved their effectiveness for the following processes:

- Marine freight transportation in the Murmansk Transport Division
- Operational production management, procurement of feedstock and process materials, and monitoring progress against targets in production and shipment of finished products in the Polar Division

To demonstrate compliance with ISO/IEC 27001:2013, Nornickel's information security management systems are audited by an independent certification body on an annual basis. 2021 was the first year in the Company's history when a recertification audit covered the principal corporate ISMS in the Murmansk Transport Division. To verify its compliance with the standard, a repeat full audit was conducted on the division's ISMS for the first time since its launch (in 2017). At the same time, additional tough requirements called for significant improvements across the elements of information security management. Employees involved in the operation of the Murmansk Transport Division's ISMS showed excellent knowledge of information security, and the Company as a whole demonstrated that it can control risks and is prepared for unexpected changes when achieving its goals.

In 2021, Nornickel also expanded the list of sites that have in place a certified ISMS. Specifically, in September 2021, a certification audit of Talnakh Concentrator demonstrated that a unified approach to information security management is used across the Polar Division facilities.

An international certification body conducted a total of four audits at Nornickel in 2021: in addition to the recertification audit of the Murmansk Transport Division's ISMS and the certification audit of Talnakh Concentrator's ISMS, supervisory audits were run at two more sites within the Polar Division to verify the continuous improvement of the ISMS. At Nadezhda Metallurgical Plant and Copper Plant, the auditor satisfied itself that observations raised on the previous audit were followed up and conducted random standard compliance checks.

MURMANSK TRANSPORT DEVISION IS CONFIRMS EFFECTIVENESS THE INFORMATION SECURITY SYSTEM ALREADY FOUR YEARS

MANAGEMENT INVOLVEMENT IN INFORMATION SECURITY

Nornickel's Information Security Policy applies to all employees and includes the engagement boundaries and responsibilities of the Board of Directors and the Management Board in this regard. Their responsibilities include among other things setting up an information security risk management system along with reviewing and approving budgets for relevant programmes and projects.

PARTNERSHIPS AND BEST PRACTICE SHARING

At the national level, the Information Security in Industry Club, an industry association founded by Nornickel in 2017, has been successfully operating for four years now. Information security managers of major Russian industrial holdings are involved in its activities. The club provides a robust platform for sharing best information security practices, experience and expertise in manufacturing industry.

In international information security, Nornickel cooperates with the Security Council of the Russian Federation and the Ministry of Foreign Affairs of the Russian Federation, contributing to the development and discussion of position papers in this area. The Company also participates in the National Association for International Information Security (NAIIS) and cooperates with the International Information Security Research Consortium (IISRC).

The development and international promotion of precious metal supply chain security is an important aspect of the Company's engagement with its business partners: Nornickel participates in dialogues on this issue on international platforms such as the UN Commission on Crime Prevention and Criminal Justice and the Security Committee of the International Platinum Group Metals Association (IPA), and is involved in the activities of the Joint Intergovernmental Committee on Trade and Economic Cooperation Between Russia and South Africa.

Independent audit

An independent auditor for MMC Norilsk Nickel's financial statements is selected through competitive bidding in accordance with the Company's established procedure. The Audit Committee of the Board of Directors reviews the shortlist and makes a recommendation to the Board of Directors on the proposed auditor to be approved by the Annual General Meeting of Shareholders of MMC Norilsk Nickel.

In 2021, the General Meeting of Shareholders approved KPMG as the auditor for MMC Norilsk Nickel's RAS and IFRS financial statements for 2021 on the recommendation of its Board of Directors.

The Audit Committee of the Board of Directors also commended the effective collaboration between the Company's management and KPMG on the 2020 audit of the Group, citing the accelerated publication of consolidated financial statements amid significant restrictions due to COVID-19.

The fee paid to KPMG for its audit and non-audit services in 2021 totalled RUB 335.1 million (USD 4.6 million), net of VAT, with the share of non-audit services accounting for 48% of the total.

To prevent conflict of interest between the audit and non-audit services, KPMG has in place a specific policy covering different types of services they provide to companies, which complies with the requirements of the International Ethics Standards Board for Accountants (IESBA), the Russian Rules for the Independence of Auditors and Audit Organisations, and other applicable standards.

Auditor's fee

Service type	RUB mln, net of VAT	USD mln, net of VAT
Audit and related services	173.5	2.4
Non-audit services	161.6	2.2
Total auditor's fee	335.1	4.6
Share of non-audit services (%)	48	

RISK MANAGEMENT

The existing corporate risk management system is integrated into the Company's business processes and enables effective risk-based decisions at various organisational levels to achieve strategic and operational goals.

Nornickel set the following key risk management objectives:

- Increase the likelihood of achieving the Company's goals
- Improve resource allocation
- Boost Nornickel's investment case and shareholder value

The risk management system is based on the principles and requirements set forth in Russian and international laws, as well as professional standards, including the Corporate Governance Code recommended by the Bank of Russia, GOST R ISO 31000-2019 Risk Management. Principles and Guidelines, COSO ERM Enterprise Risk Management – Integrating with Strategy and Performance, and Recommendations for Public Joint Stock Companies to Organise Risk Management, Internal Controls, Internal Auditing, and the Work of Auditing Committees Under Boards of Directors (Supervisory Boards) (Appendix to the Bank of Russia's Letter No. IN-06-28/143 dated 1 October 2020).

To manage production and infrastructure risks, Nornickel develops, approves and updates business continuity plans which define the following sequence of steps in case of emergency:

- Procedure for interaction between business units in rescuing people, minimising property damage, and ensuring process stability
- Current operations support or recovery plan
- Recovery or restoration plan for affected assets

Risk management system

BOARD OF DIRECTORS

Audit Committee of the Board of Directors

Key functions

- Approve the Corporate Risk Management Policy
- Supervise the building of the risk management system
- Prepare the Corporate Risk Appetite Statement (annually)
- Manage strategic risks on an ongoing basis
- Review and approve the risk management development roadmap and assess its implementation status (annually)
- Review reports on strategic and key risks (annually/quarterly)
- Assess risk management performance at Nornickel (annually)

MANAGEMENT BOARD

Risk Management Committee of the Management Board

Key functions

- Review strategic risks and reports on key risks
- Review materialised risks and lessons learned
- Review risk appetite metrics
- Make decisions related to key risk management
- Review business continuity plans
- Review the strategy and development plans for the Corporate Risk Management System (CRMS) and Internal Control System (ICS)
- Review the performance of dedicated risk management committees within business verticals

RISK MANAGEMENT SERVICE

Key functions

- Develops and updates the risk management methodology
- Prepares reports on Nornickel's Top 20 risks (annually)
- Prepares reports on strategic risks (annually)
- Enhances quantitative risk assessment using simulation modelling tools
- Improves the business continuity management system
- Ensures employee development and training in practical approaches to risk management

RISK OWNERS / HEADS OF BUSINESS UNITS

Key functions

- Day-to-day risk management within the integrated risk management model, including risk identification, analysis, assessment and/or prioritisation, as well as development and execution of response plans and mitigation measures
- Risk-based decision making

INTERNAL AUDIT

Key functions

- Makes independent assessments of the effectiveness of risk management, internal controls and corporate governance (annually)

INTERNAL CONTROL

Key functions

- Methodological support and participation in risk assessment of business processes

2021

In 2021, the Company completed the following projects to develop its risk management system:

- Commencement of pilot operation of a CRC-class system developed as part of a project to automate risk management processes
- Internal follow-up review of key asset risks, with updates and verification
- Establishment of new or continued consistent operation of existing dedicated risk management committees
- Completion of a project to improve risk management integration with budgeting processes
- Quantitative assessment of the cumulative impact of key risks on the Company's 2022 budget, with an analysis of the budget sensitivity to key risks
- Development, testing, and implementation planning of key performance indicators for the risk management process
- Development of an improved approach to risk appetite definition and decomposition with due consideration of ESG metrics
- Development of a target quantitative model to assess equipment failure risks in test environment, and an improved assessment approach for risks that may prevent use of buildings in permafrost environments of the Norilsk Industrial District
- Update of the corporate online course Fundamentals of Risk Management, which is now mandatory for new employees
- Regular quantitative assessment of investment project risks
- Commencement of a project to assess long-term climate-related risks in accordance with the TCFD requirements for a number of critical assets within the Norilsk Division

New emerging risks

New emerging risk management is supported by an existing team of internal risk champions who analyse and assess risks related to all activities of the Company.

New emerging risk management focuses on preventing risk occurrence as well as its potential negative consequences. Controls used by the Company include the implementation of business continuity plans to manage external risks that can have a disastrous impact on the Company's operations and business processes. These controls increase Nornickel's resilience to external shocks.

The Company's strategic risks were updated in 2021. Nornickel sees the following groups of risks as its key risks: aggressive expansion of the Company's investment programme, aging of its production assets, and the mismatch between skills supply on the labour market and the Company's needs in the context of advances in new technology and digitalisation.

1 The Task Force on Climate-related Financial Disclosures

2022

In line with risk management system improvement plans for 2022 and beyond, the following areas have been prioritised:

- External review of the Company's key technical and production risks
- Improvement of the risk management system elements in strategic and operational planning
- Rollout of simulation modelling for investment project risk assessment to the PMO level
- Enhancement of the methodology to analyse, assess and manage various categories and types of risks
- Role-based upskilling of Company employees involved in risk management
- Development of a methodology to consider climate-related factors; continued implementation of a project to assess long-term climate-related risks in accordance with the TCFD methodology

The Audit Committee of the Board of Directors regularly reviewed reports of the Risk Management Service; on 28 October 2021, the Board of Directors heard a report on the Company's key and strategic risks and gave a number of recommendations to the management team.

Insurance

Insurance is an essential tool used to manage risks while protecting the property interests of Nornickel and its shareholders against any unforeseen losses related to operations, including due to external effects.

Nornickel has centralised its insurance function to ensure the consistent implementation of its uniform insurance policy and standards. Nornickel annually approves a comprehensive programme that defines key parameters by insurance type, key business area, and project. Nornickel has implemented a corporate insurance programme that covers assets, equipment failures, and business interruptions across the Group. Nornickel maintains corporate insurance policies with major Russian insurers under the corporate insurance programme, involving an international broker to ensure that Nornickel's risks are underwritten by highly reputable international re-insurers.

Nornickel's freight, construction and installation, aircraft and watercraft insurance programmes are also based on the principle of centralisation. The Group companies, directors and officers carry relevant liability insurance. Nornickel applies industry best practice and leverages insurance market trends to negotiate the best insurance and insured risk management terms.

Climate risks

The Company recognises the need to remain resilient to climate-related risks, including through climate adaptation, target-based GHG emission management, and innovation sourcing to better gear up the business to meet current challenges.

Two categories of climate-related risks have been identified in line with the TCFD recommendations.

1. **Physical.** These risks can manifest themselves as abnormal weather or lasting changes in weather patterns. Physical consequences of climate change for the Company can include permafrost thawing, changes in water levels in water bodies, precipitation amounts, wind loads and other climate risk factors with potentially material adverse impact on operations.
2. **Transition risks** Transition risks (arising from the transition to a low-carbon economy). The Company includes in this category relevant political, regulatory, technology, market and reputational risks.

The corporate risk management system covers climate-related risks. Nornickel's governance bodies review key risk information on a quarterly basis, including on key climate-related risks.

In 2021, the Company's Board of Directors approved a Climate Change Policy, setting forth key commitments and operating principles, including those concerning climate-related risk management.

The management team developed and approved a roadmap for ensuring compliance with the TCFD Guidance, covering 2022 and the first quarter of 2023. The roadmap implementation will enable the integration of climate-related risk management and potential financial impact analysis into the Company's business processes. In 2023, the Company intends to release a public climate report disclosing all material information on the Company's performance and progress on climate change.

As part of physical risk management, the Norilsk Division is establishing a building and structure monitoring system for continuous automated monitoring of permafrost foundation soil temperature and foundation deformations. Also in 2021, climate change in the Norilsk Industrial District was simulated until 2050 for three global climate scenarios put forward by the Intergovernmental Panel on Climate Change. The simulation results will inform further mitigation and adaptation efforts for physical risks.

As part of its greenhouse gas (GHG) management activities in 2021, the Company developed a methodology to calculate the carbon footprint of its six key metals. Also in the reporting year, the Company launched the production of carbon-neutral nickel. This initiative was enabled by efforts to reduce GHG emissions across all stages of production from ore mining to beneficiation and refining to finished products. Carbon footprint was primarily offset through the upgrade of a hydropower plant powering Nornickel's production facilities in the Norilsk Industrial District.

Climate-related risks may offer additional economic benefits to Nornickel due to the changing structure of demand for metals required in a future low-carbon economy. Based on Nornickel's assessment of climate change risks under the International Energy Agency's Sustainable Development Scenario envisaging the temperature rise in 2100 limited to 1.5 °C, the Company expects a positive impact on its product portfolio under this scenario, driven by the development of the electric vehicle sector as well as wider adoption of renewables and hydrogen: a neutral impact on PGMs and a positive impact on non-ferrous metals.

Decarbonisation of the global economy – risk assessment for Nornickel metals

	Ni	PGMs	Cu
Growth of market share of BEVs	↗	↘	↗
Growth of hybrids	↗	↗	↗
Fuel cell electric vehicles	→	↗	→
Growth of renewables / low carbon fuel in power generation	↗	↗	↗
Storage and grid expansion to support the growth of xEVs	↗	→	↗
Net impact	↗	→	↗

Lack of water resources

Water shortages in storage reservoirs of Nornickel's hydropower facilities may result in failure to achieve required water pressures at HPP turbines, leading to lower power output and to drinking water shortages in Norilsk.

Impact on goals: **medium**

Source of risk: **external**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Extreme weather events (droughts) caused by climate change	Efficient delivery of finished products (metals) in line with the production programme. Timely supply of products to consumers. Social responsibility: comfort and safety of people living in Nornickel's regions of operation.	To manage this risk, Nornickel: • implements a closed water circuit to reduce water withdrawal from external sources • carries out regular hydrological observations to forecast water levels in rivers and other water bodies • cooperates with the Federal Service for Hydrometeorology and Environmental Monitoring (Rosgidromet) on setting up permanent hydrological and meteorological monitoring stations in order to improve the accuracy of water level forecasts for major rivers across Nornickel's regions of operation • dredges the Norilskaya River and prepares its production facilities for reducing their energy consumption in case of risk occurrence • refurbished one of its two hydropower plants to increase power output through improving the hydroelectric units' performance.

Permafrost thawing

Loss of bearing capacity by pile foundation beds may lead to deformation and collapse of buildings and structures.

Impact on goals: **medium**

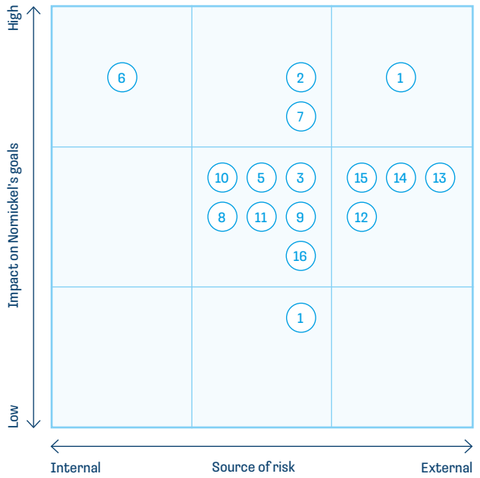
Source of risk: **external**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Climate change, average annual temperature increases over the last 15 to 20 years. Increased depth of seasonal permafrost thawing.	Efficient delivery of finished products (metals) in line with the production programme. Social responsibility: comfort and safety of people living in Nornickel's regions of operation.	To manage this risk, Nornickel: • performs regular monitoring of soil condition under the foundations of buildings and structures built on permafrost • performs geodetic monitoring of the movement of buildings • uses satellite technology to monitor Nornickel's assets and further analyse the data • regularly monitors the condition of Nornickel's buildings and structures via an information system for conducting geotechnical surveys • monitors soil temperature in buildings' foundations • monitors the compliance of its facilities with operational requirements for crawl spaces • takes corrective actions to ensure safe operating conditions for buildings and structures.

Map of Nornickel's material risks with year-on-year changes in 2021

RISK MAP



RISK

1. Price risk (decline in market prices for Nornickel metals)
2. Market risk (lower competitiveness of Nornickel products)
3. Tighter environmental regulations
4. FX risk
5. Investment risk
6. Work-related injury risk
7. Information security risks
8. Technical and production risk
9. Power outages at production and social facilities in the Norilsk Industrial District
10. Compliance risk
11. Social risk
12. Changes in legislation and law enforcement
13. Lack of water resources
14. Permafrost thawing
15. Risk of epidemics
16. Risk of supply chain disruptions

Risk: an impact of uncertainty on the goals (ISO/COST R 31000).

Source of risk: an element which, alone or in combination with other elements, may cause a risk (ISO/COST R 31000).

- Risk increased year-on-year
- Risk decreased year-on-year
- Risk has not changed year-on-year
- New emerging risk

A high-level map of Nornickel's material risks leverages global best practices in risk management. The risk map ranks material risks by impact on the Group's goals and by source.

In 2021, the following previously identified risks materialised:

- An ore rehandling building and the adjoining walkway of the Norilsk Concentrator collapsed during repair
- The Oktyabrsky and Taimyrsky mine operations were suspended due to flooding by natural groundwater

The Norilsk Concentrator implemented a range of initiatives to reinforce the main load-bearing structures of its buildings. It resumed operation using a new crushing arrangement, with two legacy crushing buildings now fully decommissioned.

The concentrator is implementing a project to set up a building and structure monitoring system at its facilities. Another ongoing project is the construction of a new Norilsk Concentrator, implementing a vision for a modern, cost-effective concentrator to process ores and ensuring a reliable production chain.

The Taimyrsky and Oktyabrsky Mines fully completed dewatering and recovery measures. The Company is conducting additional hydrogeological surveys across all of its mines, with underground excavation suspended in the immediate vicinity of potentially water-bearing seams at two enterprises. The hydrogeological model update is expected to be completed in early 2022, with follow-up changes to mining plans. Projects are also advancing to boost drainage capacity.

For more details on additional activities carried out at Norilsk Concentrator to prevent similar events in the future, please see the Health and Safety section of this Annual Report.

KEY RISKS

Nornickel's risks are all inherent to its strategic and operational development and business continuity goals. Key risks have a varying degree of impact on Nornickel's ability to achieve its goals.[1]

Price risk

Potential decrease in sales revenues due to lower prices for Nornickel metals is subject to actual or potential changes in demand and supply in certain metals markets, global macroeconomic trends, and the financial community's appetite for speculative/investment transactions in the commodity markets.

Impact on goals: **high** | Source of risk: **external** | Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Lower demand for metals produced by Nornickel. A slowdown in the global economy in general and in the economies consuming Nornickel metals in particular. Supply and demand imbalance in metals markets.	Enhancing Nornickel's leadership in the nickel and palladium markets	Nornickel is consciously accepting the existing price risk for now. To manage this risk, Nornickel: • continuously monitors and forecasts supply and demand dynamics for key metals • secures feedstock supplies for key consumers through long-term contracts to supply metals in fixed volumes • as a member of the Nickel Institute and the International Platinum Group Metals Association, works with other nickel and PGM producers to maintain and expand the demand for these metals. Should the price risk materialise, Nornickel will consider cutting capital expenditures (revising the investment programme for projects that do not have a material impact on Nornickel's development strategy).

Market risk

Lower competitiveness of Nornickel products in the market may result in their lower liquidity, discounts to the market price and a decrease in Nornickel's income.

Impact on goals: **high** | Source of risk: **mixed** | Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Stricter market requirements on product quality and ESG compliance. Competition from producers of cheaper nickel. More aggressive transport decarbonisation programmes. Changes in consumption patterns for high-tech products. Foreign regulators imposing new foreign trade restrictions that impact Nornickel's activities (tariff and non-tariff regulatory measures).	Enhancing Nornickel's leadership in the nickel and palladium markets	To manage this risk, Nornickel: • monitors and analyses changes in market demands for product quality and ESG compliance • promotes global industrial and investment demand for its metals • monitors the development of transport electrification • searches for new applications and uses for palladium • diversifies its metal product sales across industries and geographies • improves and diversifies its product range • cooperates with industry institutions to maintain access to relevant sales markets for its metals • cooperates with Russian ministries and agencies to prevent/mitigate negative impacts of local or international regulation • implements an ESG road map • seeks partnership opportunities with key producers of lithium-ion batteries for electric vehicles • maintains strategic partnerships with car makers based on guarantees of long-term palladium supplies.

1 In 2022, the Company may face sanctions restrictions on the supply of products, materials and equipment, technology, and licenses, restrictions on cross-border road transit for vehicles and on financial transactions, as well as voluntary restrictions by business partners.

Tighter environmental regulations

Stricter environmental requirements, administrative sanctions, and governmental control over environmental compliance.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Domestic and international focus on environmental protection and sustainability. Extensive changes in environmental laws and regulations. Changes in the regulation and tighter standards for emissions from stationary sources and wastewater discharges into water bodies; changes in the waste permitting framework and waste management regulation. Amendments to the Code of Administrative Offences of the Russian Federation: liability for non-compliance with instructions of state authorities within prescribed time limits, repeat offenses, violations of requirements for preventing and responding to oil and petroleum product spills, non-compliance with requirements for equipping stationary sources of emissions and discharges with automated meters. Stricter procedure for decommissioning hazardous facilities and waste storage facilities, especially regarding the development and expert review of an environmental pollution prevention and response plan. An experiment to use emission allowances run across 12 Russian cities (Federal Law No. 195-FZ dated 26 July 2019), including Norilsk and Krasnoyarsk in 2020–2024.	Compliance by Nornickel and Norilsk Nickel Group corporate entities with the applicable laws, regulatory requirements, corporate standards, and business codes	To manage this risk, Nornickel: • has developed and is implementing a corporate Environmental and Climate Change Strategy • manages environmental risks • implements environmental measures and environmental performance improvement programmes • carries out operational environmental control • provides for its participation in working groups on developing and amending environmental laws • monitors draft laws and regulations • conducts legal reviews of draft laws and regulations to analyse their potential implications for the Company's operations • brings forward draft laws and regulations and proposals to introduce such draft laws and regulations or amend existing ones.

FX risk

US dollar depreciation against the rouble, including due to changes in the Russian economy and the monetary policy of the Bank of Russia, may adversely affect Nornickel's financial performance, as most of its revenues are denominated in US dollars, while most of its operating and investment expenses are denominated in Russian roubles.

Impact on goals: **low**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Increase in Russia's balance of payments, relatively lower imports and positive economic impact from import substitution or export growth, and steadily growing oil exchange prices. Country-specific macroeconomic changes, supported by sovereign credit rating upgrade in particular. Higher appeal of the rouble to non-resident investors on the back of the relevant monetary policy of the Bank of Russia. Lower volatility in financial markets and Russia's stable geopolitical environment, as well as lower volatility across other emerging markets (particularly partner countries in regional and sectoral agreements), making the rouble more attractive to investors and stronger against the US dollar.	Maintaining investment-grade credit ratings. A debt portfolio with a well-balanced profile in terms of maturity, currency composition, and sources of financing.	To manage this risk, Nornickel: • maintains a balanced debt portfolio with USD-denominated borrowings prevailing • implements regulations that limit pricing by contractors for expenditure contracts with prices fixed in foreign currencies • uses derivatives to mitigate its exposure by balancing USD-denominated cash flows from revenues and cash flows from liabilities denominated in currencies other than the US dollar • regularly monitors and analyses open foreign currency positions, operational and transactional currency positions, and evaluates its exposure to the FX risk • where necessary to mitigate its exposure to unfavourable changes in FX rates across open currency positions, uses derivatives that balance the invariably USD-denominated cash flows from revenues and cash flows from liabilities denominated in currencies other than the US dollar.

Investment risk

Risk related to time and budget overruns, and performance targets of Nornickel's major investment projects.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Changes in forecasts of ore volumes, grades and properties resulting from follow-up exploration. Changes in investment project timelines (including due to the pandemic). Further changes to budgets of investment projects. Amendments to project performance targets in the course of implementation.	Strategic goal: growth driven by Tier 1 assets. Developing the mining, concentration and metallurgical assets. Developing the mineral resource base and upgrading core production processes at Nornickel's Tier 1 assets.	To manage this risk, Nornickel: • carries out proactive exploration and updates performance targets and the mining plan (a long-term production plan) based on the progress of its major investment projects developing the mineral resource base • conducts resource, geomechanical and hydrogeological modelling • holds external expert audits of geological data • develops an in-house geological and mining information system • models mining options in geological and mining information systems • as part of the project assurance process, conducts internal (cross-functional) audits of major investment projects at each stage in their life cycle • improves incentives to drive project delivery and build skills and capabilities (including staff certification, identification of improvement areas, and provision of tailored training) • improves project delivery standards, develops tools to digitise technical document management and project controls • promotes the use of pilot units across all technically challenging and unique processing stages.

Work-related injury risk

Failure to comply with Nornickel's health and safety (H&S) rules may result in threats to health and life or temporary suspension of operations, or cause property damage.

Impact on goals: **high**

Source of risk: **internal**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Suboptimal methods of work organisation. Disruptions in technological processes. Exposure to hazards.	Health and safety	Pursuant to the Occupational Health and Safety Policy approved by the Board of Directors, Nornickel: • continuously monitors compliance with H&S requirements • improves the working conditions for its employees and contractors deployed at Nornickel's production facilities, including by implementing new technologies and labour-saving solutions, and enhancing industrial safety at production facilities • provides employees with certified state-of-the-art personal protective equipment • improves the system of stationary gas analysers, provides employees with portable gas analysers • carries out preventive and therapeutic interventions and enforces hygiene protocols to reduce the potential impact of work-related hazards • regularly trains and briefs employees on health and safety, assesses their health and safety performance and conducts corporate workshops, including by deploying special simulator units • enhances methodological support for H&S functions, including through the development and implementation of corporate standards • improves the risk assessment and management framework across Group enterprises as part of the Risk Control project • reviews the competencies of line managers across Nornickel enterprises, develops H&S training programmes, and arranges relevant trainings • holds H&S competitions • communicates the circumstances and causes of accidents to all Nornickel employees, conducts ad-hoc safety briefings • introduces frameworks to manage technical, technological, organisational, and HR changes.

Risk of epidemics

Risk related to the spread of infectious diseases and the subsequent preventive, safety, and response measures.

Impact on goals: **medium**

Source of risk: **external**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Spread of viral infections. Anti-epidemic restrictive measures imposed by federal and regional authorities.	Social responsibility: comfort and safety of people living in Nornickel's regions of operation. Efficient delivery of finished products (metals) in line with the production programme. Timely supply of products to consumers.	Nornickel has implemented a range of measures to mitigate the risk impact, including: • 100% of salaries maintained, with additional compensation for employees working on sites and in offices • work from home for office employees • personal protective equipment, tests, medical devices, sanitiser products, etc. provided to all sites • purchases of medicines and medical equipment (including one automated immunoassay analyser, 940 air sanitisers, 489 non-contact thermometers, and over 324 thousand COVID-19 tests) • assistance in expanding local hospital capacity • support for SMEs • support for local volunteers who help employees requiring regular health monitoring • arrangements for mandatory COVID-19 testing • increased shifts for shift workers in Chita and Norilsk • raising awareness of the need to get vaccinated among employees, providing a fully paid (average daily wage) extra day off after each vaccination (including booster) against the novel coronavirus (COVID-19).

Information security risks

Potential cybercrimes may result in an unauthorised transfer, modification or destruction of data assets, disruption or reduced efficiency of Nornickel's IT services, business, technological, and production processes.

Impact on goals: **high**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Growing external threats. Unfair competition. Rapid development of Nornickel's IT infrastructure and automation of technological and business processes. Unlawful acts by employees and/or third parties. Shift to work from home and hiring remote employees outside Nornickel's regions of operation.	Mitigation of the information security risk and risk of cyberattacks on Nornickel's information systems and automated process control systems	To manage this risk, Nornickel: • ensures compliance with applicable Russian laws and regulations with respect to the protection of personal data, insider information, trade secrets and critical information infrastructure • implements MMC Norilsk Nickel's information Security Policy • categorises data assets and makes information security risk assessments • embeds and monitors compliance with corporate information security standards within information systems and automated process control systems • raises information security awareness among employees • uses technical means to ensure information security of assets and manage access to data assets • ensures information security of the automated process control systems • monitors threats to information security and the use of technical protection means, including vulnerability analysis, penetration testing, cryptographic protection of communication channels, controlled access to removable media, protection from confidential data leaks, and mobile device management • develops an information security framework • sets up and certifies the Company's information security management system • implements measures to ensure safe remote access.

Technical and production risk

Technical, production, or natural phenomena which, once materialised, could have a negative impact on the implementation of the production programme and cause equipment breakdown or result in the need to compensate damage to third parties and the environment.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Harsh natural and climatic conditions, including low temperatures, storm winds, and snow load. Unscheduled stoppages of core equipment caused by fixed assets' wear and tear. Release of explosive gases and flooding of mines. Collapse of buildings or structures. Infrastructure breakdowns.	Efficient delivery of finished products (metals) in line with the production programme	To manage this risk, Nornickel: • ensures proper and safe operation of its assets in line with the requirements of technical documentation, as well as technical rules and regulations as prescribed by local laws across Nornickel's geographic footprint • develops ranking criteria and criticality assessment for the Norilsk Nickel Group's key industrial assets • implements an automated system for managing reliability, efficiency, and production asset risks • ensures timely replacement of fixed assets to consistently achieve production safety targets • regularly monitors the condition of Nornickel's buildings and structures via an information system for conducting geotechnical surveys • uses satellite technology to monitor Nornickel's assets and further analyse the data • implements automated systems to control equipment process flows, uses state-of-the art engineering controls • improves the maintenance and repair system • trains and educates its employees both locally, on site, and centrally, through its corporate training centres • systematically identifies, assesses and monitors technical and production risks, implements a programme of organisational and technical measures to mitigate relevant risks • continuously monitors the industrial asset management system • ensures risk review by collective bodies at all management levels of the Company • develops the technical and production risk management system, including by engaging independent experts to assess the system's performance and completeness of risk data • develops and tests business continuity plans which set out a sequence of actions to be taken by Nornickel's personnel and internal contractors in case of technical and production risk causing maximum damage (these plans are aimed at the earliest resumption of Nornickel's production operations) • engages, on an annual basis, independent surveyors to analyse Nornickel's exposure to disruptions in the production chain and make assessments of related risks • assesses physical climate-related risks. In 2021, insurance was taken out against key technical and production risks as part of the property and business interruption (downtime) insurance programme, with emphasis on best risk management practices in the mining and metals industry.

Power outages

Failure of core equipment at generating facilities and transmission grid facilities may result in power, heat or water shortages at key production and social facilities in the Norilsk Industrial District.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Isolation of the Norilsk Industrial District's power grid from the national grid (Unified Energy System of Russia). Harsh natural and climatic conditions, including low temperatures, storm winds and snow load. Length of power, heat and gas transmission lines. Wear and tear of core production equipment and grid infrastructures.	Efficient delivery of finished products (metals) in line with the production programme. Timely supply of products to consumers. Social responsibility: comfort and safety of people living in Nornickel's regions of operation.	To manage this risk, Nornickel: • operates and maintains generating and mining assets as required by the technical documentation, industry rules and standards, and applicable laws • monitors the technical condition of linear facilities, including with the involvement of external experts • ensures timely construction and launch of transformer facilities, as well as timely replacement of transmission towers • ensures timely retrofits (equipment replacement) of CHPP and HPP power units • ensures timely upgrades and repairs of trunk gas and condensate pipelines and gas distribution networks.

Compliance risk

The risk of legal liability and/or legal sanctions, significant financial losses, suspension of production, revocation/suspension of a licence, loss of reputation, or other adverse effects arising from Nornickel's non-compliance with the applicable laws, regulations, instructions, rules, standards, or codes of conduct.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Discrepancies in rules and regulations. Considerable powers and a high degree of discretion exercised by supervision agencies.	Compliance by Nornickel and its subsidiaries with the applicable laws, regulations, corporate standards, and business codes	To manage this risk, Nornickel: • ensures its compliance with the applicable laws • defends its interests during regulatory inspections and administrative proceedings • uses trial and post-trial remedies to defend its interests • ensures that agreements signed by Nornickel contain clauses safeguarding its interests • implements anti-corruption, anti-money laundering, counter terrorist financing, and counter proliferation financing initiatives • takes actions to prevent unlawful use of insider information and market manipulation • ensures timely and reliable information disclosures as required by the applicable Russian and international laws • has its employees take insider information management and anti-corruption training courses • ensures that all employees receive anti-corruption induction briefing • ensures that the Corporate Trust Line receives and handles reports of corruption, fraud, embezzlement, or other wrongdoing, either planned or committed • ensures evaluation of anti-corruption controls at the Norilsk Nickel Group. In addition, the following internal documents have been developed (updated) and approved: • Business Process Outsourcing Guidelines • MMC Norilsk Nickel's List of Insider Information (new version) • MMC Norilsk Nickel's Internal Control Rules for Preventing, Detecting and Stopping the Unlawful Use of Insider Information and/or Market Manipulation (new version) • MMC Norilsk Nickel's Cuidelines for Identifying, Analysing, Assessing, and Monitoring the Regulatory Risk in Combating the Unlawful Use of Insider Information and Market Manipulation • Procedure for Informing Members of Governance Bodies and the Audit Commission of MMC Norilsk Nickel on Quiet Periods Under Russian Laws and amendments to the Procedure for Informing Managers of MMC Norilsk Nickel on Quiet Periods Under EU Laws and Disclosing Transactions of Such Persons and Persons Closely Related to Them • Regulations on the Procedure for Keeping the List of Insiders of MMC Norilsk Nickel (updated) • Procedure Rules for Interaction Between Units of MMC Norilsk Nickel and Russian Business Units of Norilsk Nickel Group when Disclosing/Providing Information in the Securities Market (updated)

Social risk

Tensions may escalate among the workforce due to the deterioration of social and economic conditions in Nornickel's regions of operation.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Headcount/staff composition optimisation projects. Rejection of Nornickel's values by individual employees and/or third parties. Limited ability to perform annual wage indexation. Dissemination of false and inaccurate information about Nornickel's plans and operations among the Group's employees. Reallocation of funds originally intended for social programmes and charity.	Social responsibility: Partnering with regional and local authorities to develop a social infrastructure that supports a safe and comfortable living environment for local communities Facilitating the employees' professional and cultural development and building up talent pools across Nornickel's regions of operation Implementing long-term charity programmes and projects	To manage this risk, Nornickel: • strictly adheres to the terms and conditions of collective bargaining agreements between the Group companies and their employees (the Group has signed a total of 23 collective bargaining agreements) • actively interacts with regional authorities, municipalities and civil society institutions • fulfils its social obligations under public-private partnership agreements • implements corporate social responsibility programmes and the World of New Opportunities charity programme aimed at supporting and promoting regional civil initiatives, including by indigenous peoples of Taimyr and the Plant of Goodness employee volunteering programme • implements infrastructure projects to support the accelerated development of the service economy and improved living standards across Nornickel's regions of operation through the Norilsk Development Agency, the Second School centre for community initiatives in the Pechengsky District, and the Monchegorsk Development Agency • implements regular sociological monitoring across its operations • surveys Norilsk residents on living standards, employment, migration trends, and general social sentiment to identify major issues • implements social projects and programmes aimed at supporting employees and their families, as well as Nornickel's former employees • maintains dialogues with stakeholders and conducts questionnaire surveys when preparing the Group's public sustainability reports • provides a range of social support measures to redundant staff under Kola MMC's social programmes and develops the Social and Economic Development Strategy of the Pechengsky District

Changes in legislation and law-enforcement practices

Changes in legislation may cause financial damages (extra costs to ensure compliance with stricter requirements, a heavier tax and levy burden, etc.). Changes in law-enforcement and judicial practices, uncertain legal treatment of certain matters may hamper Nornickel's business, entail extra expenses, and delay or raise the cost of its investment projects.

Impact on goals: **medium**

Source of risk: **external**

Year-on-year change in risk: **stable**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Unstable legal environment (including lack of codified/ uniform regulations in various areas). Frequent changes to legislation. Complicated geopolitical situation. Lack of treasury funds (the government needs to boost its tax and other revenues).	Compliance by Nornickel and its subsidiaries with the applicable laws, regulations, corporate standards, and business codes	To manage this risk, Nornickel: • continuously monitors changes in legislation and law-enforcement practices across all of its business areas • conducts legal review of draft laws and regulations as well as relevant amendments • participates in discussions of draft laws and regulations, both publicly and as part of expert groups • engages its employees in relevant professional and specialist training programmes, corporate workshops and conferences • cooperates with government agencies to ensure that new laws and regulations take into account Nornickel's interests.

Risk of supply chain disruptions

Supply chain interruption/disruption within the existing transport and logistics system.

Impact on goals: **medium**

Source of risk: **mixed**

Year-on-year change in risk: **new**

Key risk factors	Impact on Nornickel's development goal and strategy	Mitigation
Challenging natural and climatic conditions in the regions of operation. Limitations of the transport and logistics system. Growing inflation, FX rates, pricing pressure from suppliers, poor planning, spread of COVID-19, and other factors. Breach of contracts by contractors.	Efficient delivery of finished products in line with the production programme. Timely supply of products to consumers.	To manage this risk, Nornickel: • actively engages Russian manufacturers to expand competition • uses long-term agreements/contracts/price lists with fixed optimal prices for materials, equipment and spare parts on terms that are most beneficial for the Company • drafts lists of critical manufacturers of equipment and materials, works to prevent supply disruptions, and monitors suppliers' performance • implements its Logistics Infrastructure Development Programme.

SHAREHOLDER INFORMATION

USD 47.5 bn market capitalisation of the Company as at the end of 2021

11% dividend yield in 2021

In June 2021, the Company completed a share buyback, having repurchased 5,382,079 shares from its shareholders. Once the treasury shares were redeemed, the number of the Company shares totalled 153,654,624.

SHARE CAPITAL

Share buyback

On 27 April 2021, Nornickel's Board of Directors approved a buyback of up to 5,382,865 of the Company's outstanding shares,[1] representing 3.4% of its authorised capital, for RUB 27.780 per share and a total amount of approximately USD 2 billion through a tender offer.

Tender applications from shareholders to sell their shares were accepted from 20 May to 18 June 2021. The number of tendered shares amounted to 64,204,134, exceeding the amount to be repurchased approved by the Board. As a result, the Company repurchased 5,382,079 shares from the shareholders on a pro rata basis.

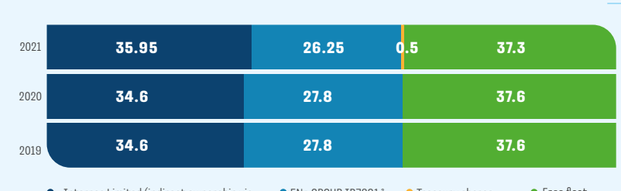
On 19 August 2021, the Company's General Meeting of Shareholders decided to reduce the Company's authorised capital to RUB 153,654,624 by cancelling 4,590,852 repurchased ordinary shares.

On 6 October 2021, the Company duly completed the capital reduction procedure as required by Russian laws and cancelled 4,590,852 treasury shares. The remaining 791,227 repurchased shares remained in the treasury account and were set aside for the employee incentive programme.

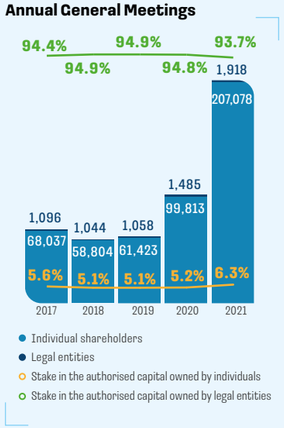
Authorised capital

Following the treasury share cancellation, the Company's authorised capital reduced to 153,654,624 ordinary shares with a par value of RUB 1 each. The Company's Articles of Association were amended on 14 October 2021 to reflect the reduction of the Company's authorised capital. The Articles of Association do not provide for the issuance of preferred shares. All shares in the Company, except for those set aside in its treasury account, are voting shares, with each voting share counted as one vote. Treasury shares do not confer any voting rights, are not included in the vote count and bear no dividends.

Shareholding structure as of calendar year-end (%)



The Company's shareholders at the Annual General Meetings



Change in market capitalisation (USD bn)

USD 47.5 billion

Nornickel's market capitalisation at year-end 2021

-4% year-on-year.

1 In line with Clause 2, Article 72 of Federal Law No. 208-FZ On Joint Stock Companies dated 26 December 1995.

2 Indirect ownership via controlled persons.

SECURITIES

Nornickel shares have been traded in the Russian stock market since 2001. Since 2014, the shares are included on the First Level quotation list of the Moscow Exchange (ticker: GMKN).

American depositary receipts (ADRs)

Represent Nornickel shares were issued in 2001. At the end of 2021, shares are convertible into ADRs at a ratio of 1:10. The number of ADRs traded on stock exchanges is not constant, as depositary receipt holders may convert their securities into shares and vice versa.

NORNICKEL WAS INCLUDED IN KEY RUSSIAN AND A NUMBER OF INTERNATIONAL STOCK INDICES WITH THE FOLLOWING WEIGHTS:

MOEX Russia Index: **6.4%**

MOEX 10 Index: **10.32%**

Blue Chip Index **8.0%**

MSCI Russia Index: **7.02%**

MOEX Metals and Mining Index: **15.79%**

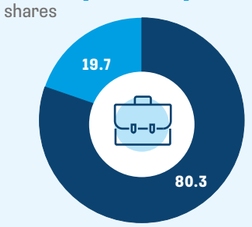
Sustainability Vector Index: **3.23%**

MOEX Broad Market Index: **6.54%**

MSCI Emerging Markets Eastern Europe Index: **4.53%**

Share and ADR split as of 31 December 2021 (%)

153,654,624 shares



Type	Shares (ordinary)	ADRs (10 ADRs = 1 share)
Registered number	1-01-40155-F	n/a
Amount	153,654,624	
Custodian	Registrar IRC – R.O.S.T., nominee holders	The Bank of New York Mellon as depository
ISIN	RU0007288411	US55315J1025
Ticker	GMKN	MNOD, NILSY
Key trading platforms	Moscow Exchange	OTC section of the London Stock Exchange and the US OTC market

MMC Norilsk Nickel shares on the Moscow Exchange

Item	2019	2020	2021
Low, RUB	12,993	15,500	20,902
High, RUB	19,890	24,056	28,082
Year-end price, RUB	19,102	23,696	22,828
Market cap as at the period end, RUB bn	3,022,805	3,749,744	3,507,628

Source: Nornickel's estimates based on closing prices on the stock exchange.

Nornickel share price and MOEX Russia Index in 2021 (%)

MMC Norilsk Nickel ADRs on the London Stock Exchange

Item	2019	2020	2021
Low, USD	18.8	19.5	27.8
High, USD	31.5	35.4	38.2
Year-end price, USD	30.6	31.2	30.9

Source: Nornickel's estimates based on closing prices on the stock exchange

Nornickel ADR price and stock indices in 2021

Source: Bloomberg

For more details on trading performance, please see the Interactive Database section of our website.

REGISTRAR

IRC – R.O.S.T. is the Company's registrar. Shareholders, including those owning shares via nominee holders, can participate in general meetings via e-voting ballots by using the Shareholder's Personal Account service developed by the registrar. To get access to the Personal Account, shareholders need to contact an IRC – R.O.S.T. office. Retail shareholders with a verified Public Services Portal account can access their personal account remotely. The access procedure for the Shareholder's Personal Account is detailed on the registrar's website. Shareholders can also use the Shareholder.online mobile app to remotely attend meetings of shareholders, submit questions, and vote.

Shareholder's Personal Accoun

Shareholder. online

SHAREHOLDER RIGHTS

All shareholders enjoy equal rights and treatment in their relations with Nornickel. Shareholders can exercise other rights as prescribed by the federal laws On Joint Stock Companies and On the Securities Market, as well as other regulations of the Russian Federation.

Bonds

As of the end of 2021, Nornickel held investment-grade credit ratings from all three major international rating agencies and Russia's Expert RA:

Fitch: **BBB–** STABLE

Moody's: **Baa2** NEGATIVE

Standard & Poor's: **BBB–** STABLE

Expert RA: **ruAAA** STABLE

In 2021, Nornickel successfully completed a USD 500 million eurobond issue maturing in 2026 and locked in a 2.80% coupon, the lowest spread ever to mid-swap rates / US Treasury yields for its USD-denominated issues.

As of the end of 2021, Nornickel had six eurobond issues outstanding for a total of USD 4.25 billion and one rouble exchange-traded bond issue for a total of RUB 25 billion.

Rouble bonds

Instrument	Exchange-traded bond, BO-001P-01
Issuer	MMC Norilsk Nickel
ISIN	RU000A100VQ6
Offering date	01.10.2019
Maturity date	24.09.2024
Issue size, RUB bn	25
Coupon rate, %	7.20
Coupon frequency	Every 182 days starting from the offering date

Eurobonds

Instrument	Eurobond 2022 (LPN)	Eurobond 2022 (LPN)	Eurobond 2023 (LPN)	Eurobond 2024 (LPN)	Eurobond 2025 (LPN)	Eurobond 2026 (LPN)
Issuer	MMC Finance D.A.C.					
Offering date	08.06.2017	14.10.2015	11.04.2017	28.10.2019	11.09.2020	27.10.2021
Maturity date	Redeemed early at par on 9 March 2022.	14.10.2022	11.04.2023	28.10.2024	11.09.2025	27.10.2026
Issue size, USD mln	500	1,000	1,000	750	500	500
Coupon rate, %	3,849	6,625	4,100	3,375	2.55	2.80
Coupon dates	8 October / 8 April	14 October / 14 April	11 October / 11 April	28 October / 28 April	11 September / 11 March	27 October / 27 April
Issue rating (F/M/S)	BBB–/ –/ BBB–	BBB–/ Baa2/ BBB–	BBB–/ –/ BBB–	BBB–/ Baa2/ BBB–	BBB–/ Baa2/ –	BBB–/ Baa2/ BBB–

A detailed overview of Nornickel's debt instruments is available in the Investors section of our website.

DIVIDEND POLICY

Regulations on the Dividend Policy

The dividend resolution

The Company's Regulations on the Dividend Policy approved by the Board of Directors seek to ensure the transparency of the mechanism for determining the amount of dividend and the dividend payout procedure.

The dividend resolution is passed at the General Meeting of Shareholders based on recommendations of the Board of Directors. The General Meeting of Shareholders determines the dividend amount and record date, which, as per Russian laws, shall be set no earlier than 10 days before and no later than 20 days after the General Meeting of Shareholders.

Dividends to a nominee shareholder listed on the shareholder register shall be paid within 10 business days, while dividends to other persons listed on the shareholder register shall be paid within 25 business days after the record date.

Dividend yields

1 Earlier dividend history is available at our website.
2 Dividends are paid out to shareholders within three years from the respective dividend resolution date. The dividend payouts are shown as at 31 December 2021 according to IFRS statements.
3 Declared dividend is calculated at the exchange rate of the Bank of Russia as at the date of the General Meeting of Shareholders.
4 On 22 April 2022, the Company's Board of Directors recommended that the Annual General Meeting of Shareholders approve a dividend for FY2021.
5 Recommended dividend to average ADR price in the calendar year.

Dividend report

Individuals/entities whose rights to shares are recorded in the shareholder register are paid dividends by the registrar, IRC – R.O.S.T., upon Nornickel's instruction. Individuals/entities whose rights to shares are recorded by a nominee shareholder are paid dividends via their nominee shareholder.

Any person who has not received the declared dividend due to the fact that their accurate address or banking details were not available to the Company or the registrar as required, or due to any other delays on the part of the creditor, may, in accordance with Clause 9 of Article 42 of Federal Law No. 208-FZ On Joint Stock Companies dated 26 December 1995, request payment of unpaid dividend within three years from the date of the resolution to pay dividends.

DIVIDENDS IN 2021

On 27 December 2021, the Extraordinary General Meeting of Shareholders approved a dividend of RUB 1,523.17 per share for 9M 2021, with the amount of dividend payout totalling close to RUB 232.84 billion (about USD 3.05 billion), to be paid before 18 February 2022.

On 22 April 2022, the Company's Board of Directors recommended that the General Meeting of Shareholders approve a dividend of RUB 1, 166 per share (about USD 15.6 at the Bank of Russia's exchange rate as at the date of the Board meeting) for FY2021.

Dividend history[1]

Period	Declared dividend		Dividends paid[2]	
	RUB mln.	USD mln[3]	RUB mln	USD mln
Total for 2021	411,109	5,577	n/a	n/a
FY[4]	178,722	2,377	n/a	n/a
9M	232,837	3,181	232,842	3,050
Total for 2020	260,246	3,538	259,893	3,532
FY	161,603	2,193	161,603	2,198
9M	98,642	1,346	98,290	1,334
Total for 2019	323,647	4,909	323,482	5,011
FY	88,174	1,201	88,166	1,264
9M	95,595	1,529	95,430	1,567
6M	139,878	2,179	139,886	2,180
Total for 2018	248,214	3,741	247,983	3,827
FY	125,413	1,928	125,298	1,986
6M	122,802	1,813	122,685	1,841
Total for 2017	131,689	2,131	131,546	2,137
FY	96,210	1,524	96,117	1,527
6M	35,479	607	35,429	610

1 Earlier dividend history is available at our website.
2 Dividends are paid out to shareholders within three years from the respective dividend resolution date. The dividend payouts are shown as at 31 December 2021 according to IFRS statements.
3 Declared dividend is calculated at the exchange rate of the Bank of Russia as at the date of the General Meeting of Shareholders.
4 On 22 April 2022, the Company's Board of Directors recommended that the Annual General Meeting of Shareholders approve a dividend for FY2021.
5 Recommended dividend to average ADR price in the calendar year.

Securities taxation

Income from securities is taxable pursuant to the applicable tax laws of the Russian Federation (Chapter 23, Personal Income Tax, and Chapter 25, Corporate Income Tax, of the Russian Tax Code).

TAXATION OF INCOME FROM SECURITIES

Under international double taxation treaties to which the Russian Federation is a party, non-Russia tax residents can claim a reduced rate of withholding tax on Russia source income, or relief from tax in Russia.

To claim these benefits, non-residents need to submit the following confirmations to their Russian tax agent paying the income:

- A confirmation of permanent residence in a state with which the Russian Federation has a double taxation treaty (tax residency certificate)
- A confirmation of the beneficial ownership of (actual right to) the income if the income is received by a foreign organisation or entity without a legal personality
- A confirmation that they meet other conditions for application of a reduced rate, if such conditions (or restrictions) are set forth in the applicable treaty

Should they fail to provide such confirmations by the date of income payment, the tax shall be withheld at the standard rates stipulated by the Russian Tax Code.

DIVIDEND TAX FORMULA[5]

$AT = P * TR * (D_1 - D_2)$, where

AT — amount of tax to be withheld from the income of the recipient of dividends

P — proportion of the dividend amount payable to one recipient to the total dividend amount to be distributed

TR — tax rate stipulated by Subclauses 1–2, Clause 3, Article 284 or Clause 1, Article 224 of the Russian Tax Code

D_1 — dividend amount to be distributed among all recipients

D_2 — dividend amount[6] received by Nornickel, provided that previously this amount was not included in the taxable income

Taxation of income from securities (%)

Shareholder	Income from transactions, %	Interest income, %	Dividend income, %
INDIVIDUALS			
Residents	13/15[1,2]	13/15[2]	13/15[2]
Non-residents	30[1]	30	15
LECAL ENTITIES			
Residents	20[1]	20	13[3]
Non-residents	20[4]	20	15

1 Or 0% if by the selling date the Company shares have been held for more than five years and the requirements for the share of real estate in the Company's assets as outlined in Clause 2, Article 284.2 of the Russian Tax Code have been met. Pursuant to Subclause 1, Clause 1, Article 219.1 of the Russian Tax Code, the taxpayer is eligible for investment tax deductions in the amount of the profits from sales of the Company shares, which have been owned by the taxpayer for over three years.
2 Pursuant to Clause 1 of Article 224 of the Russian Tax Code, a tax rate of 15% applies to income over RUB 5 million for the reporting period.
3 Or 0% if as of the date of the dividend resolution a Russian entity has been owning 50% (and more) of shares (15% and more if the owner is an international holding company) in Nornickel's authorised capital for 365 days (and more).
4 If the income is classified as income of a foreign entity from sources in Russia in accordance with Clause 1, Article 309 of the Russian Tax Code.
5 The formula is not applicable to dividends paid to Russia non-residents.
6 Excluding the dividend amount eligible for a zero tax rate pursuant to Subclauses 1–1.1, Clause 3, Article 284 of the Russian Tax Code.

INVESTOR RELATIONS

Nornickel maintains an active dialogue with a wide universe of Russian and international investors and security analysts. The Company holds regular conference calls and meetings with investors, participates in all major investment conferences, and organises site visits to the Company's production facilities. Twice a year, following semi-annual and annual IFRS statements, conference calls with the Company's senior management are held for a wide range of investors and analysts to discuss current financial and operating results, the situation in commodity markets, status of strategic projects, and progress on sustainability projects. Nornickel also holds an annual Capital Markets Day where its senior management discusses strategic development. In the reporting year, virtual meetings on e-platforms were the key communication channel amid the pandemic and the shift to remote work.

The Company adheres to high international standards of information disclosure and transparency. To make disclosures more meaningful and comprehensive, Nornickel uses an array of disclosure tools, including press releases, presentations, annual and sustainability reports, corporate action notices, as well as interactive tools. Nornickel provides parallel disclosure both in Russian and in English, the latter via a disclosure service authorised by the UK regulator. Materials for investors are available in the Investors section of the Company's website. In view of investors' close attention to sustainability (ESG) and climate change matters, the Company launched the dedicated ESG Highlights section on its website.

INDEPENDENT IR AND INFORMATION DISCLOSURE QUALITY ASSESSMENT

Nornickel shows strong performance in various independent Russian and foreign competitions and studies in disclosure and IR quality. Below is the list of key awards in 2021.

Investors

ESG Highlights

AWARDS AND RECOGNITION

ARC AWARDS

Honors

FOR THE PDF VERSION OF THE ANNUAL REPORT IN THE MINING: FERROUS & NON-FERROUS CATEGORY

MOSCOW EXCHANGE

No. 1

IN THE BEST ANNUAL REPORT AMONG LARGE COMPANIES AND BEST ANNUAL REPORT IN THE METALS AND MINING SECTOR CATEGORIES

No. 2

IN THE BEST SUSTAINABILITY REPORT CATEGORY

No. 3

IN THE BEST DISCLOSURE OF CORPORATE GOVERNANCE INFORMATION IN THE ANNUAL REPORT CATEGORY

CORPORATE & FINANCIAL AWARDS

Silver

IN THE BEST CORPORATE WEBSITE – INTERNATIONAL CATEGORY

Highly commented

BEST ONLINE REPORT — INTERNATIONAL CATEGORY.

REPORTWATCH

«B+»

THE ANNUAL REPORT RANKED 145TH (OUT OF 350 COMPANIES)

EXPERT RA

No. 1

IN THE BEST ANNUAL ENVIRONMENTAL REPORT CATEGORY

No. 2

IN THE BEST INTERACTIVE ANNUAL REPORT DESIGN CATEGORY

No. 3

IN THE BEST SUSTAINABILITY REPORT DESIGN AND BEST ANNUAL REPORT DESIGN CATEGORIES

SURVEY BY INSTITUTIONAL INVESTOR'S 2021 EMERGING EMEA EXECUTIVE TEAM

Ranking of metals and mining companies (27 nominees)

No. 1

IN THE BEST IR TEAM RANKING

No. 2

IN THE MOST HONOURED COMPANIES RANKING

No. 3

IN THE BEST CFOS, BEST IR PROFESSIONALS (VLADIMIR ZHUKOV), AND BEST ESG METRICS RANKINGS

Rankings of Russian companies (52 companies)

No. 3

IN THE BEST IR TEAM RANKING

CONSOLIDATED FINANCIAL STATEMENTS

Index

CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

STATEMENT OF MANAGEMENT'S RESPONSIBILITIES FOR THE PREPARATION AND APPROVAL OF THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

The following statement, which should be read in conjunction with the auditors' responsibility stated in the independent auditors' report set out on pages 2–6, is made with a view to distinguishing the respective responsibilities of management and those of the auditors in relation to the consolidated financial statements of Public Joint Stock Company "Mining and Metallurgical Company "Norilsk Nickel" and its subsidiaries (the "Group").

Management of the Group is responsible for the preparation of the consolidated financial statements that present fairly in all material respects the consolidated financial position of the Group at 31 December 2021, 2020 and 2019 and its consolidated financial performance, comprehensive income, consolidated cash flows and changes in equity for the years ended 31 December 2021, 2020 and 2019, in accordance with International Financial Reporting Standards ("IFRS").

In preparing the consolidated financial statements, management is responsible for:

- selecting suitable accounting principles and applying them consistently;
- making judgements and estimates that are reasonable and prudent;
- stating whether International Financial Reporting Standards have been followed, subject to any material departures disclosed and explained in the Notes to the consolidated financial statements; and
- preparing the consolidated financial statements on a going concern basis, unless it is inappropriate to presume that the Group will continue in business for the foreseeable future.

Management, within its competencies, is also responsible for:

- designing, implementing and maintaining an effective system of internal controls throughout the Group;
- maintaining statutory accounting records in compliance with local legislation and accounting standards in the respective jurisdictions in which the Group operates;
- taking steps to safeguard the assets of the Group; and
- detecting and preventing fraud and other irregularities.

The consolidated financial statements for the years ended 31 December 2021, 2020 and 2019 were approved by:

President

V.O. POTANIN

Senior Vice President – Chief Financial Officer

S.G. MALYSHEV

Moscow, Russia
10 February 2022

Independent Auditors' Report

TO THE SHAREHOLDERS AND BOARD OF DIRECTORS OF PJSC «MINING AND METALLURGICAL COMPANY «NORILSK NICKEL»

Opinion

We have audited the consolidated financial statements of PJSC «Mining and Metallurgical Company «Norilsk Nickel» (the «Company») and its subsidiaries (the «Group»), which comprise the consolidated statements of financial position as at 31 December 2021, 2020 and 2019, the consolidated income statements, the consolidated statements of comprehensive income, changes in equity and cash flows for the years ended 31 December 2021, 2020 and 2019, and notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 December 2021, 2020 and 2019, and its consolidated financial performance and its consolidated cash flows for the years ended 31 December 2021, 2020 and 2019 in accordance with International Financial Reporting Standards (IFRS).

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs).

Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the independence requirements that are relevant to our audit of the consolidated financial statements in the Russian Federation and with the International Ethics Standards Board for Accountants International Code of Ethics for Professional Accountants (including International Independence Standards) (/ESBA Code), and we have fulfilled our other ethical responsibilities in accordance with the requirements in the Russian Federation and the IESBA Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Audited entity: PJSC «Mining and Metallurgical Company 'Norilsk Nicker

Registration number in the Unified State Register of Legal Entities No. 1028400000298.

Independent auditor· JSC «KPMG» a company incorporated under the Laws of the Russian Federation and a member firm of the KPMG global organization of independent member firms. For more detail about the structure of the KPMG global organization please visit home.kpmg/governance

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

ENVIRONMENTAL PROVISIONS

Please refer to the Note 26 in the consolidated financial statements.

The key audit matter	How the matter was addressed in our audit
In May 2020, an incident resulting in contamination of water bodies and land as well as damage to biological resources occurred at the heat and power plant of the Group in Norilsk. As at 31 December 2021 the Group's liabilities related to compensation for the damage caused by the incident amounted USD 259 million within environmental provisions. Given the materiality of the remediation costs and claims filed by the authorities in relation to the incident and inherent uncertainty , this matter required significant judgement including interpretation of laws and regulations. Therefore, we consider the measurement and disclosure of information relating to the environmental provision to be a key audit matter.	Our audit procedures included the following: • We obtained Group's legal counsel's assessment of existing and other potential claims and analysed their interpretation of the relevant laws and regulation; • We involved KPMG legal and environmental experts to gain an understanding of existing and other potential claims; • We reviewed the correspondence with Rosrybolovstvo and analysed the documentation within negotiation process on an amicable agreement between parties; • We inquired management of the Group about next steps regarding further rehabilitation actions and negotiation process on the amicable agreement; • We involved KPMG valuation specialists and environmental experts to assist us in evaluating the methodology used by the Group for measurement of the environmental provisions and analysis of key assumptions in terms of their reasonableness and supportableness; • We compared discount rates to our own assessment of key components of discount rate calculation; • We involved KPMG tax specialists to assess Group's tax position in respect of payments made in 2021 to compensate for the damage caused by the incident. We also considered the appropriateness and completeness of the disclosures relating to environment provisions in the consolidated financial statements.

SOCIAL LIABILITIES

Please refer to the Note 27 in the consolidated financial statements.

The key audit matter	How the matter was addressed in our audit
In 2021, the Group entered into some social programmes in the locations in which it operates. As at 31 December 2021 the Group'ssocial liabilities amounted to USO 791 million. Given the materiality of the social liabilities and judgement exercised for its recognition, we consider the recognition, measurement and disclosure of information relating to the social liabilities to be a key audit matter.	Our audit procedures included the following: • We inquired management of the Group about the process of identification of social commitments; • We assessed management's analysis of criteria for recognition of social liabilities «in relation to identified social commitments including existence of necessary corporate and third parties approvals; • We reviewed existing agreements and supplementary documentation to get understanding on the key terms of social programs the Group is party to; • We analysed scheduled cash flows by comparing amounts and timing of cash outflows to the agreements; • We compared discount rates to our own assessment of key components of discount rate calculation We also considered the appropriateness and completeness of the disclosures relating to social liabilities in the consolidated financial statements.

Other Information

Management is responsible for the other information. The other information comprises the Financial Overview (MD&A) (but does not include the consolidated financial statements and our auditors' report thereon), which we obtained prior to the date of this auditors' report, and the information included in other sections of Annual Report for 2021, which is expected to be made available to us after that date.

Our opinion on the consolidated financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we have obtained prior to the date of this auditors' report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override.of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is:

NATALIA VELICHKO

Principal registration number of the entry in the Register of Auditors and Audit Organizations No. 21906109427, acts on behalf of the audit organization based on the power of attorney No. 82/21 as of 25 May 2021

JSC «KPMG»

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

Moscow, Russia
10 February 2022

CONSOLIDATED INCOME STATEMENT FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

US Dollars million

	Notes	For the year ended 31 December 2021	2020	2019
REVENUE				
Metal sales	7	17,103	14,977	12,851
Other sales		749	568	712
TOTAL REVENUE		17,852	15,545	13,563
Cost of metal sales	8	(5,057)	(4,500)	(4,499)
Cost of other sales		(753)	(564)	(678)
CROSS PROFIT		12,042	10,481	8,386
General and administrative expenses	9	(989)	(869)	(938)
Selling and distribution expenses	10	(184)	(167)	(133)
(Impairment)/reversal of impairment of non-financial assets, net	15	(48)	(308)	24
Other operating expenses, net	11, 26, 27	(1,285)	(2,737)	(303)
OPERATING PROFIT		9,536	6,400	7,036
Foreign exchange (loss)/gain, net		(53)	(1,034)	694
Finance costs, net	12	(279)	(879)	(306)
Disposal of foreign joint operations	21	29	–	–
Gain from disposal of subsidiaries	21	–	19	2
Income from investments	13	52	73	98
PROFIT BEFORE TAX		9,285	4,579	7,524
Income tax expense	14	(2,311)	(945)	(1,558)
PROFIT FOR THE YEAR		6,974	3,634	5,966
Attributable to:				
Shareholders of the parent company		6,512	3,385	5,782
Non-controlling interests	23	462	249	184
		6,974	3,634	5,966
EARNINGS PER SHARE				
Basic and diluted earnings per share attributable to shareholders of the parent company (US Dollars per share)	22	41.9	21.4	36.5

The accompanying notes on pages 256 - 315 form an integral part of the consolidated financial statements

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

US Dollars million

	For the year ended 31 December 2021	2020	2019
PROFIT FOR THE YEAR	6,974	3,634	5,966
OTHER COMPREHENSIVE INCOME/(LOSS)			
ITEMS THAT ARE OR MAY BE RECLASSIFIED TO PROFIT OR LOSS IN SUBSEQUENT PERIODS:			
Reclassification of translation reserve for disposed foreign operations to profit or loss (Note 21)	20	(10)	–
Effect of translation of foreign operations	(2)	1	(4)
Other comprehensive income/(loss) that are or may be reclassified	**18**	**(9)**	**(4)**
ITEMS NOT TO BE RECLASSIFIED TO PROFIT OR LOSS IN SUBSEQUENT PERIODS:			
Effect of translation to presentation currency	80	(690)	488
Other comprehensive income/(loss) not to be reclassified to profit or loss in subsequent periods, net	**80**	**(690)**	**488**
Other comprehensive income/(loss) for the year, net of tax	**98**	**(699)**	**484**
Total comprehensive income for the year, net of tax	**7,072**	**2,935**	**6,450**
Attributable to:			
Shareholders of the parent company	6,618	2,763	6,226
Non-controlling interests	454	172	224
	7,072	2,935	6,450

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AT 31 DECEMBER 2021, 2020 AND 2019

US Dollars million	Notes	At 31 December 2021	2020	2019
ASSETS				
Non-current assets				
Property, plant and equipment	15	12,699	10,762	11,993
Intangible assets		265	222	215
Other financial assets	16	89	81	223
Deferred tax assets	14	167	755	98
Other non-current assets	18	345	327	370
		13,565	12,147	12,899
Current assets				
Inventories	18	3,026	2,192	2,475
Trade and other receivables	19	468	537	362
Advances paid and prepaid expenses		111	79	74
Other financial assets	16	43	58	51
Income tax receivable		203	7	68
Other taxes receivable	17	412	444	644
Cash and cash equivalents	20	5,547	5,191	2,784
Other current assets		60	51	117
		9,870	8,559	6,575
TOTAL ASSETS		23,435	20,706	19,474
EQUITY AND LIABILITIES				
Capital and reserves				
Share capital	22	6	6	6
Share premium		1,218	1,254	1,254
Treasury shares	22	(305)	–	–
Translation reserve		(5,415)	(5,521)	(4,899)
Retained earnings	31	8,184	8,290	7,452
Equity attributable to shareholders of the parent company		**3,688**	**4,029**	**3,813**
Non-controlling interests	23	1,100	646	474
		4,788	4,675	4,287

	Notes	At 31 December 2021	2020	2019
Non-current liabilities				
Loans and borrowings	24	8,616	9,622	8,533
Lease liabilities	25	178	203	180
Provisions	26	894	560	636
Social liabilities	27	633	84	38
Trade and other long-term payables		55	32	37
Derivative financial instruments	30	72	52	–
Deferred tax liabilities	14	73	43	60
Other non-current liabilities	36	43	23	281
		10,564	10,619	9,765
Current liabilities				
Loans and borrowings	24	1,610	12	1,087
Lease liabilities	25	57	59	44
Trade and other payables	28	2,224	1,427	1,706
Dividends payable	31	3,146	47	1,553
Employee benefit obligations	29	417	401	393
Provisions	26	146	2,162	49
Social liabilities	27	158	96	51
Derivative financial instruments	30	15	93	–
Income tax payable		41	358	36
Other taxes payable	17	269	329	503
Other current liabilities	36	–	428	–
		8,083	5,412	5,422
TOTAL LIABILITIES		18,647	16,031	15,187
TOTAL EQUITY AND LIABILITIES		23,435	20,706	19,474

The accompanying notes on pages 256 - 315 form an integral part of the consolidated financial statements

CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

US Dollars million	For the year ended 31 December		
	2021	2020	2019
OPERATING ACTIVITIES			
Profit before tax	**9,285**	**4,579**	**7,524**
Adjustments for:			
Depreciation and amortisation	928	943	911
Impairment/(reversal of impairment) of non-financial assets, net	48	308	(24)
Loss on disposal of property, plant and equipment	35	19	19
Cain from disposals of subsidiaries and foreign joint operations (Note 21)	(29)	(19)	(2)
Change in provisions and allowances	896	2,477	233
Finance costs and income from investments, net	227	806	208
Foreign exchange loss/(gain), net	53	1,034	(694)
Other	36	107	51
	11,479	10,254	8,226
Movements in working capital:			
Inventories	(796)	(119)	48
Trade and other receivables	38	(161)	(122)
Advances paid and prepaid expenses	(30)	(32)	14
Other taxes receivable	31	125	(331)
Employee benefit obligations	34	20	62
Trade and other payables	669	(239)	(247)
Provisions	(2,145)	(186)	(35)
Other taxes payable	(27)	(70)	304
Cash generated from operations	**9,253**	**9,592**	**7,919**
Income tax paid	(2,211)	(1,304)	(1,910)
Net cash generated from operating activities	**7,042**	**8,288**	**6,009**

	For the year ended 31 December		
	2021	2020	2019
INVESTING ACTIVITIES			
Purchase of property, plant and equipment	(2,683)	(1,686)	(1,262)
Purchase of share in associates	(21)	(14)	–
Purchase of intangible assets	(81)	(74)	(62)
Loans issued	(6)	(3)	(3)
Proceeds from repayment of loans issued	43	36	54
Net change in deposits placed (Note 16)	(35)	(4)	78
Proceeds from disposal of property, plant and equipment	12	2	10
Net cash inflow/(outflow) from disposal of subsidiaries and foreign joint operations (Note 21)	49	28	(20)
Interest and other investment income received	84	67	85
Net cash used in investing activities	**(2,638)**	**(1,648)**	**(1,120)**
FINANCING ACTIVITIES			
Proceeds from loans and borrowings (Note 24)	1,000	2,903	3,212
Repayments of loans and borrowings (Note 24)	(415)	(2,552)	(2,163)
Payments of lease liabilities (Note 24)	(55)	(46)	(45)
Dividends paid (Note 31)	(2,198)	(4,165)	(4,166)
Dividends paid to non-controlling interest	–	–	(1)
Net proceeds on exchange of flows under cross-currency interest rate swaps	4	38	37
Interest paid	(315)	(510)	(497)
Acquisition of own shares from shareholders (Note 22)	(2,068)	–	–
Net cash used in financing activities	**(4,047)**	**(4,332)**	**(3,623)**
Net increase in cash and cash equivalents	**357**	**2,308**	**1,266**
Cash and cash equivalents at the beginning of the year (Note 20)	**5,191**	**2,784**	**1,388**
Effects of foreign exchange differences on balances of cash and cash equivalents	(1)	99	130
Cash and cash equivalents at the end of the year (Note 20)	**5,547**	**5,191**	**2,784**

The accompanying notes on pages 256–315 form an integral part of the consolidated financial statements

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

US Dollars million

		Equity attributable to shareholders of the parent company							Equity attributable to shareholders of the parent company	
	Notes	Share capital	Share premium	Treasury shares		Translation reserve	Retained earnings	Total	Non-controlling interests	Total
Balance at 1 January 2019		**6**	**1,254**	**–**		**(5,343)**	**7,306**	**3,223**	**250**	**3,473**
Profit for the year		–	–	–		–	5,782	5,782	184	**5,966**
Other comprehensive income		–	–	–		444	–	444	40	**484**
Total comprehensive income for the year		–	–	–		444	5,782	6,226	224	**6,450**
Dividends	31	–	–	–		–	(5,636)	(5,636)	–	**(5,636)**
Balance at 31 December 2019		**6**	**1,254**	**–**		**(4,899)**	**7,452**	**3,813**	**474**	**4,287**
Profit for the year		–	–	–		–	3,385	3,385	249	**3,634**
Other comprehensive loss		–	–	–		(622)	–	(622)	(77)	**(699)**
Total comprehensive income for the year		–	–	–		(622)	3,385	2,763	172	**2,935**
Dividends	31	–	–	–		–	(2,547)	(2,547)	–	**(2,547)**
Balance at 31 December 2020		**6**	**1,254**	**–**		**(5,521)**	**8,290**	**4,029**	**646**	**4,675**
Profit for the year		–	–	–		–	6,512	6,512	462	**6,974**
Other comprehensive income/(loss)		–	–	–		106	–	106	(8)	**98**
Total comprehensive income for the year		–	–	–		106	6,512	6,618	454	**7,072**
Dividends	31	–	–	–		–	(5,374)	(5,374)	–	**(5,374)**
Other effects related to transactions with non-controlling interest owners	36	–	–	–		–	490	490	–	**490**
Acquisition of own shares from shareholders	22	–	–	(2,075)		–	–	(2,075)	–	**(2,075)**
Cancellation of ordinary shares from treasury stock	22	–	(36)	1,770		–	(1,734)	–	–	**–**
Balance at 31 December 2021		**6**	**1,218**	**(305)**		**(5,415)**	**8,184**	**3,688**	**1,100**	**4,788**

The accompanying notes on pages 256–315 form an integral part of the consolidated financial statements

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEARS ENDED 31 DECEMBER 2021, 2020 AND 2019

US Dollars million

1. GENERAL INFORMATION

Organisation and principal business activities

Public Joint Stock Company "Mining and Metallurgical Company "Norilsk Nickel" (the "Company" or PJSC "MMC "Norilsk Nickel") was incorporated in the Russian Federation on 4 July 1997. The principal activities of the Company and its subsidiaries (the "Group") are exploration, extraction, refining of ore and nonmetallic minerals and sale of base and precious metals produced from ore. Further details regarding the nature of the business and structure of the Group are presented in Note 37.

Major production facilities of the Group are located on Russia's Taimyr and Kola Peninsulas and in the Zabaikalsky Territory, and in Finland.

2. BASIS OF PREPARATION

Statement of compliance

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards ("IFRS").

The entities of the Group maintain their accounting records in accordance with the laws, accounting and reporting regulations of the jurisdictions in which they are incorporated and registered. Accounting principles in certain jurisdictions may differ significantly from those generally accepted under IFRS. Financial statements of such entities have been adjusted to ensure that the consolidated financial statements are presented in accordance with IFRS.

The Group issues a separate set of IFRS consolidated financial statements to comply with the requirements of the Russian Federal Law No 208-FZ On consolidated financial statements ("208-FZ") which was adopted on 27 July 2010.

Basis of measurement

The consolidated financial statements of the Group are prepared on the historical cost basis, except for mark-to-market valuation of certain classes of financial instruments, in accordance with IFRS 9 Financial Instruments.

3. CHANGES IN ACCOUNTING POLICIES

The accounting policies applied in the preparation of these consolidated financial statements are generally consistent with those applied in the preparation of the Group's consolidated financial statements as at and for the years ended 31 December 2020 and 2019.

Adoption of new and revised standards and interpretations during the year ended 31 December 2021

Adoption of amendments to the following Standards did not have material impact on the accounting policies, financial position or financial results of the Group:

Amendments related to interest rate benchmark reform:
- IFRS 4 Insurance Contracts (amended);
- IFRS 7 Financial Instruments: Disclosures (amended);
- IFRS 9 Financial Instruments (amended);
- IFRS 16 Leases (amended);
- IAS 39 Financial Instruments: Recognition and Measurement (amended).

Other amendments:
- IFRS 16 Leases (amended).

Adoption of new and revised standards and interpretations during the year ended 31 December 2020

Adoption of amendments to the following Standards did not have material impact on the accounting policies, financial position or financial results of the Group:
- IFRS 3 Business combinations (amended);
- IFRS 7 Financial Instruments: Disclosures (amended);
- IFRS 9 Financial Instruments (amended);
- IFRS 16 Leases (amended);
- IAS 1 Presentation of Financial Statements (amended);
- IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors (amended);
- IAS 39 Financial Instruments: Recognition and Measurement (amended);
- Revised Conceptual Framework for Financial Reporting.

Adoption of new and revised standards and interpretations during the year ended 31 December 2019

The Group initially adopted IFRS 16 Leases from 1 January 2019 in accordance with the modified retrospective approach.

In accordance with modified retrospective approach as of the date of initial application:
- for leases previously classified as operating lease in line with IAS 17 Leases lease liabilities were recognised at the present value of the remaining lease payments, discounted using the weighted average incremental borrowing rate at that date (at 1 January 2019: 5.55% per annum);
- right-of-use assets were recognised in the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to the respective lease contracts.

On the initial application of IFRS 16 Leases the Group recognised additional lease liabilities (both current and non-current) in the amount of USD 204 million. These leases had been classified as operating lease applying IAS 17 Leases and had not been recognised as lease liabilities before 1 January 2019.

Adoption of amendments to the following Standards did not have material impact on the accounting policies, financial position or financial results of the Group:
- IFRIC 23 Uncertainty over Income Tax Treatments;
- IFRS 9 Financial Instruments (amended);
- IAS 28 Investments in Associates and Joint Ventures (amended);
- IAS 19 Employee Benefits (amended);
- Annual Improvements to IFRSs 2015-2017 Cycle.

Standards and interpretations issued but not yet effective

The Group did not early adopt any standard, interpretation or amendment that had been issued but was not yet effective.

Standards and Interpretations	Effective for annual periods beginning on or after
IAS 16 Property, plant and equipment (amended)	1 January 2022
IAS 37 Provisions, contingent liabilities and contingent assets (amended)	1 January 2022
IAS 41 Agriculture (amended)	1 January 2022
IFRS 1 First-time Adoption of International Financial Reporting Standards (amended)	1 January 2022
IFRS 3 Business Combinations (amended)	1 January 2022
IFRS 9 Financial Instruments (amended)	1 January 2022
IFRS 16 Leases (amended)	1 January 2022
IAS 1 Presentation of financial statements (amended)	1 January 2023
IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors (amended)	1 January 2023
IAS 12 Income Taxes (amended)	1 January 2023
IFRS 17 Insurance Contracts	1 January 2023

Management of the Group plans to adopt all of the above standards and interpretations in the Group's consolidated financial statements for the respective periods. These standards are not expected to have a material impact on the Group in the future reporting periods and on foreseeable future transactions.

Reclassification

At 31 December 2021 management presented social liabilties as a separate item in the consolidated statement of financial position (previously presented in Provisions). Information at 31 December 2020 and 2019 was reclassified to conform with the current period presentation (Notes 26 and 27).

At 31 December 2021 management reassessed classification of certain cost items in cost of other sales, general and administrative expenses, and selling and distribution expenses. Information for the years ended 31 December 2020 and 2019 was reclassified to conform with the current period presentation.

4. SIGNIFICANT ACCOUNTING POLICIES

Basis of consolidation

Subsidiaries

The consolidated financial statements incorporate financial statements of the Company and its subsidiaries, from the date that control effectively commenced until the date that control effectively ceased. Control is achieved where the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Non-controlling interests in net assets (excluding goodwill) of the consolidated subsidiaries are identified separately from the equity of the shareholders of the Company therein. Non-controlling interests include interests at the date of the original business combination and a share of changes in net assets since the date of the business combination. Total comprehensive income must be attributed to the shareholders of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Non-controlling interests may be initially measured either at fair value or at the non-controlling interests' proportionate share of the recognised amounts of the acquiree's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis.

All intra-group balances, transactions and any unrealised profits or losses arising from intra-group transactions are eliminated in full on consolidation.

Changes in the Group's ownership interest in a subsidiary that do not result in the Group losing control are accounted for within equity.

When the Group loses control of a subsidiary it derecognises the assets and liabilities and related equity components of the former subsidiary. Any resulting gain or loss is recognised in the consolidated income statement. Any investment retained in the former subsidiary is measured at its fair value at the date when control is lost.

Joint arrangements

Investments in joint arrangements are classified as either joint operations or joint ventures, depending on the contractual rights and obligations of each investor. The Group recognises in relation to its interest in a joint operation: its assets, including its share of any assets held jointly; its liabilities, including its share of any liabilities incurred jointly; its revenue from the sale of its share of the output arising from the joint operation; its share of the revenue from the sale of the output arising from the joint operation; and its expenses, including its share of any expenses incurred jointly. The Group accounts for its investments in joint ventures using the equity method.

Business combinations

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of fair values of the assets transferred by the Group, undertaken and new liabilities and the equity instruments issued by the Group at the date of acquisition in exchange for control over the acquiree.

Where an investment in a subsidiary, an associate or a joint venture is made, any excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the fair value of the identifiable assets acquired and the liabilities assumed at the acquisition date is recognised as goodwill.

Goodwill in respect of subsidiaries and joint operations is disclosed separately and goodwill relating to associates and joint ventures is included in the carrying value of the investment in associates or joint ventures. Goodwill disclosed separately is reviewed for impairment at least annually. If impairment has occurred, it is recognised in the consolidated income statement during the period in which the circumstances are identified and is not subsequently reversed.

If, after reassessment, the fair value of the identifiable assets acquired and liabilities assumed at the acquisition date exceeds the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree and the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognised in the consolidated income statement immediately as a bargain purchase gain.

Acquisition-related costs are recognised in the consolidated income statement as incurred.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are retrospectively adjusted during the measurement period (a maximum of twelve months from the date of acquisition), or additional assets or liabilities are recognised, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognised at that date.

Functional and presentation currency

The individual financial statements of each Group entity are presented in its functional currency.

The Russian Rouble ("RUB") is the functional currency of the Company, all of its subsidiaries located in the Russian Federation and all foreign subsidiaries of the Group, except for the following subsidiaries operating with a significant degree of autonomy. The functional currency of Norilsk Nickel Harjavalta Oy is US Dollar, and the functional currency of Norilsk Nickel Africa Proprietary Limited and Nkomati Nickel Mine is South African Rand.

The presentation currency of the consolidated financial statements of the Group is US Dollar ("USD"). Using USD as a presentation currency is common practice for global mining companies. In addition, USD is a more relevant presentation currency for international users of the consolidated financial statements of the Group. The Group also issues consolidated financial statements to comply with Federal Law 208-FZ, which use the Russian Rouble as the presentation currency.

Components of the consolidated statement of financial position, consolidated income statement, consolidated statement of cash flows and consolidated statement of changes in equity are translated into presentation currency using the following applicable exchange rates:

Components of consolidated statements	Applicable exchange rates
Assets and liabilities	Period-end rate
Income, expenses and cashflows	Date of underlying transaction or an average approximating exchange rates prevailing at the dates of the transactions
Equity	Historical rates

All exchange differences resulting from translation of the consolidated income statement and consolidated statement of financial position components are recognised as a separate component in other comprehensive income/loss.

Revenue recognition

Metal sales revenue

Revenue from metal sales is recognised at a point of time when control over the asset is transferred to a customer and represents the invoiced value of all metal products shipped to customers, net of value added tax (if any).

Revenue from contracts that are entered into and continue to meet the Group's expected sale requirements designated for that purpose at their inception and are expected to be settled by physical delivery of the goods, is recognised in the consolidated financial statements as and when the goods are delivered. A gain or loss on forward contracts expected to be settled by physical delivery or on a net basis is recognised in revenue and disclosed separately from revenue from contracts with customers.

As a practical expedient, the Group does not adjust the promised amount of consideration for the effects of a significant financing component, if the expected period between when the Group transfers promised goods or a service to a customer and the customer pays for that goods or service is one year or less.

Certain contracts are provisionally priced so that price is not settled until a predetermined future date, as of which the delivery price is settled based on the market price (contracts with quotation period). Revenue from these transactions is initially recognised at the market price at the date of sale. Price adjustments under provisionally priced contracts are recognised in revenue.

Other revenue

Revenue from contracts with customers on sale of goods (other than metals) is recognised at a point of time when control over the asset is transferred to a customer in accordance with the shipping terms specified in the sales agreements.

Revenue from service contracts is recognised over-time when the services are rendered.

Dividend and interest income

Dividend income from investments is recognised when the Group's right to receive payment has been established. Interest income is accrued using the effective interest method.

Leases

The Group assesses at the inception of a contract whether it or its components is, or contains, a lease. The Group recognises a right-of-use asset and a corresponding lease liability, if a lease contract transfers to the lessee the right to control the use of the identified asset for a period of time in exchange for a consideration, except for current leases with the term of 12 months or less. The Group recognises lease payments associated with current leases as an expense on a straight-line basis over the lease term. Land plots lease payments are treated as variable payments, if they are linked to land cadastral value and changes in the latter do not depend on market rental rates. The Group recognises variable lease payments as an expense in the period when the event that triggers those payments occurs.

Right-of-use assets are initially recognised at cost that comprise when applicable:
- the initial amount of the lease liability;
- any lease payments made at or before the lease commencement date;
- any initial direct costs incurred by the lessee;
- an estimate of costs to be incurred by the lessee for retirement of the underlying asset and restoration of the site on which it is located.

Right-of-use assets are subsequently measured at cost less any accumulated depreciation and any accumulated impairment losses, adjusted for any remeasurement of the lease liability. Right-of-use assets are depreciated on a straight-line basis over their estimated economic useful lives or over the term of the lease, if shorter. Right-of-use assets are presented in property, plant and equipment in the consolidated statement of financial position.

Lease liabilities (refer to Note 25) are initially measured at the present value of the lease payments that are not paid at the commencement date and subsequently remeasured to reflect changes to the lease payments. The lease payments are discounted using interest rate implicit in the lease (if that rate can be readily determined) or using Group incremental borrowing rate at the commencement date determined based on lease term and currency of the lease payments.

Finance costs

Finance costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time when the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalisation.

Employee benefits

Remuneration to employees in respect of services rendered during a reporting period is recognised as an expense in that period. Deferred costs under subsidised housing programmes for employees are recognised as other non-current assets and amortised over the certain period of employee participation in the programme (five to ten years). Long-term employee benefit obligations are discounted to present value.

Defined contribution plans

The Group contributes to the following major defined contribution plans:
- Pension Fund of the Russian Federation;
- Mutual accumulated pension plan.

The only obligation of the Group with respect to these and other defined contribution plans is to make specified contributions in the period in which they arise. These contributions are recognised in the consolidated income statement when employees have rendered respective services.

Income tax expense

Income tax expense represents the sum of the current and deferred tax.

Income tax is recognised as an expense or income in the consolidated income statement unless it relates to other items recognised directly in other comprehensive income, in which case the tax is also recognised directly in other comprehensive income. Where current or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

Current tax

Current tax is based on taxable profit for the year. Taxable profit differs from profit before tax as reported in the consolidated income statement because it excludes items of income or expense that are taxable or deductible in other years and it also excludes items that are never taxable or deductible.

Deferred tax

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. As a general rule, deferred tax liabilities are recognised for all taxable temporary differences, and deferred tax assets are recognised for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilised. Deferred tax assets and liabilities are not recognised, if temporary differences arise from goodwill or from the initial recognition of assets and liabilities other than in a business combination which, at the time of the transaction, affects neither taxable profit nor accounting profit.

Deferred tax liabilities are recognised for taxable temporary differences associated with investments in subsidiaries, joint ventures, associates and interests in joint operations, unless the Group is able to control the reversal of the temporary difference, and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognised to the extent that it is probable that there will be sufficient taxable profits against which to utilise the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each reporting date and adjusted to the extent that it is probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

The measurement of deferred tax liabilities and assets reflects the tax consequences of the manner in which the Group expects at the reporting date to recover or settle the carrying amount of its assets and liabilities. Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority.

Property, plant and equipment

Mining assets

Mine development costs are capitalised and comprise expenditures directly related to:
- acquiring mining and exploration licences;
- developing new mines;
- estimating revised content of minerals in the existing ore bodies, which are being developed;
- expanding capacity of a mine.

Mine development costs include directly attributable finance costs capitalised during mine development.

Mine development costs are transferred to mining assets and start to be depreciated when a mine reaches commercial production quantities.

Mining assets are recognised at cost less accumulated depreciation and impairment losses. Mining assets include cost of acquiring and developing mining properties, pre-production expenditure, mine infrastructure, property, plant and equipment that process extracted ore, subsoil use rights, mining and exploration licenses, borrowing costs eligible for capitalisation and discounted value of future decommissioning costs.

Carrying value of mining assets is depreciated over the lesser of their individual economic useful lives on a straight-line basis, or the remaining life of mine based on the amount of the commercial ore reserves on a units of production basis. When determining the life of mine, assumptions valid at the time of estimation may change, in case new information becomes available. Useful lives are in average varying from 1 to 49 years

Non-mining assets

Non-mining assets include metallurgical processing plants, buildings, infrastructure, machinery and equipment and other non-mining assets. Non-mining assets are measured at cost less accumulated depreciation and impairment losses. Non-mining assets may include property, plant and equipment used both in operations directly and to provide social services in the regions where the Group operates.

Non-mining assets are depreciated on a straight-line basis over their economic useful lives.

Depreciation charge is calculated over the following economic useful lives:
- buildings, facilities and infrastructure 2 – 50 years
- machinery, equipment and transport 2 – 31 years
- other non-mining assets 1 – 20 years

Capital construction-in-progress

Capital construction-in-progress comprises costs directly related to construction of buildings, processing plants, infrastructure, machinery and equipment, including:
- advances given for purchases of property, plant and equipment and materials acquired for construction of buildings, processing plants, infrastructure, machinery and equipment;
- irrevocable letters of credit opened for future fixed assets deliveries and secured with deposits placed in banks;
- directly attributable finance costs capitalised during construction.

Depreciation of these assets begins when they are available for use and are in the location and condition necessary for them to be capable of operating in the manner intended by management.

Exploration expenditure

Exploration expenditure, including geophysical, topographical, geological and similar types of expenditure made within research, mining and exploration licences acquired, is capitalised and begins to be amortised over the life of mine, when commercial viability of the project is proved. Otherwise it is expensed in the period in which it is incurred.

Exploration expenditure written-off before development and construction starts is not subsequently capitalised, even if a commercial discovery subsequently occurs.

Intangible assets, excluding goodwill

Intangible assets are recognised at cost less accumulated amortisation and impairment losses. Intangible assets mainly include patents, licences, software and rights to use software and other intangible assets.

Amortisation of patents, licenses and software is charged on a straight-line basis over 1 – 12 years.

Impairment of non-current assets, excluding goodwill

At each reporting date, the Group analyses the triggers of impairment of its non-current assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where it is not practical to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher of fair value less cost to sell or value-in-use. In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or cash-generating unit. If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised in the consolidated income statement immediately.

Where an impairment loss subsequently reversed, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but only to the extent that the increased carrying amount does not exceed the original carrying amount that would have been determined had no impairment loss been recognised in prior periods. A reversal of an impairment loss is recognised in the consolidated income statement.

Inventories

Refined metals

Main jointly produced metals include nickel, copper, palladium, platinum; by-products include cobalt, gold, rhodium, silver and other metals. Main products are measured at the lower of cost of production or net realisable value. The cost of production of main products is determined as total production cost, allocated to each joint product by reference to their relative sales value. The cost of production includes export custom duties incurred before a point of time when control over the asset is transferred to a customer. By-products are initially measured at net realisable value, based on current market prices. These estimates take into consideration fluctuations of price or cost directly relating to events after the reporting date, to the extent that such events confirm conditions existing at the end of the reporting period.

Work-in-process

Work-in-process includes all costs incurred in the normal course of business for producing each product including direct material and direct labour costs and allocation of production overheads, depreciation and amortisation and other costs, given its stage of completion, less allowance for adjustment to net realisable value. The change in the allowance is recognised in the cost of metal sales in the consolidated income statement.

Materials and supplies

Materials and supplies are valued at the weighted average cost less allowance for obsolete and slow-moving items.

Financial assets

Financial assets are recognised when the Group has become a party to the contractual arrangement of the instrument and are initially measured at fair value, plus directly attributable transaction costs, except for those financial assets classified at fair value through profit or loss, which are initially measured at fair value.

Financial assets are classified into the following categories:

- financial assets at amortised cost;
- financial assets at fair value through other comprehensive income;
- financial assets at fair value through profit or loss.

The classification of financial assets depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows and is determined at the time of initial recognition.

Effective interest method

The effective interest method is used for calculating the amortised cost of a financial asset and for allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts (including directly attributable transaction costs and other premiums or discounts) through the expected life of the financial asset, or, where appropriate, a shorter period.

Income is recognised on an effective interest basis for debt instruments other than those financial assets designated at fair value through profit or loss or fair value through other comprehensive income.

Financial assets at amortised cost

A financial asset is measured at amortised cost if it meets both of the following conditions and is not designated at fair value though profit or loss:

- it is held within a business model whose objective is to hold assets to collect contractual cash flows;
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The Group generally classifies cash and cash equivalents, trade and other receivables (excluding trade receivables measured at fair value under provisionally priced contracts), loans issued and bank deposits as financial assets at amortised cost.

Financial assets at fair value through other comprehensive income

A debt instrument is measured at fair value through other comprehensive income if it meets both of the following conditions and is not designated at fair value though profit or loss:

- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets;
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

At initial recognition the Group may make an irrevocable election to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument that is not held for trading. This election is made on an instrument-by-instrument basis.

Financial assets at fair value through profit or loss

All financial assets not classified as measured at amortised cost or at fair value through other comprehensive income are classified by the Group as financial assets at fair value through profit or loss.

Trade receivables under provisionally priced contracts and derivative financial assets are measured at fair value through profit or loss. Trade receivables under provisionally priced contracts are remeasured at each reporting date using the forward price for the period till the price settlement date outlined in the contract.

Impairment of financial assets

The Group recognises an allowance for expected credit losses on a financial asset measured at amortised cost using one of the two methods:

Lifetime expected credit losses	Trade and other receivables Financial assets other than trade and other receivables for which credit risk has increased significantly since initial recognition
12-month expected credit losses since the reporting date	Financial assets other than trade and other receivables at initial recognition Financial assets other than trade and other receivables for which credit risk has not increased significantly since initial recognition

When determining whether the credit risk of the financial asset has increased significantly since initial recognition and when estimating expected credit losses, the Group considers reasonable and supportable information that is relevant and available, including both quantitative and qualitative information and analysis based on the Group's historical experience and forward-looking information.

The Group applies the IFRS 9 Financial Instruments simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for trade receivables. The Group assumes that expected credit loss for all trade and other receivables, which are overdue in excess of 365 days is equal to their carrying amount. To measure the expected credit losses, trade and other receivables that are overdue for less than 365 days are grouped based on the length of the overdue period to which respective expected loss rates are applied. The expected loss rates are based on the historical credit loss experience, adjusted to reflect current and forward-looking information on the ability of the customers to settle the receivables.

When trade and other receivables are considered uncollectible, they are written off against the respective allowance. Changes in the allowance are recognised in the consolidated income statement.

Derecognition of financial assets

The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or if it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for the amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

Financial liabilities

The Group classifies financial liabilities into loans and borrowings, trade and other payables. Such financial liabilities are recognised initially at fair value less any directly attributable transaction costs. Subsequent to initial recognition, these financial liabilities are measured at amortised cost using the effective interest method. Derivative financial liabilities are measured at fair value through profit or loss.

Effective interest method

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash outflows through the expected life of the financial liability, or where appropriate, a shorter period.

Derecognition of financial liabilities

The Group derecognises financial liabilities when, and only when, the Group's obligations are discharged, cancelled or they expire.

Cash and cash equivalents

Cash and cash equivalents comprise cash balances, cash deposits in banks, brokers and other financial institutions and highly liquid investments with original maturities of three months or less and on demand deposits, which are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

Provisions

Provisions are recognised when the Group has a legal or constructive obligation as a result of past events for which it is probable that an outflow of the Group's economic benefits will be required to settle the obligation, and the amount of the obligation can be reliably estimated. If, in the course of discharing an obligation, the Group recognises property, plant and equipment, then this settlement does not result in an outflow of the Group's resources and, therefore, no provision is recognised.

Provisions may be recognized in respect of the Group social, environmental, asset decommissioning or other obligations, and are presented in these consolidated financial statements accordingly. In particular, the Group presents social provisions together with other liabilities related to its social expenditure as a separate item Social Liabilities in the consolidated statement of financial position.

The amount recognised as a provision is the best estimate of the expenditure required to settle the present obligation at the reporting date, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

Decommissioning obligations and environmental provisions

Decommissioning obligations include direct asset decommissioning costs as well as related land restoration costs.

Future decommissioning and other related obligations, discounted to present value, are recognised at the moment when the legal or constructive obligation in relation to such costs arises and the future costs can be reliably estimated. These costs are capitalised as part of the initial cost of the related asset and are depreciated over the useful life of the asset. The unwinding of the discount on decommissioning obligations is included in the consolidated income statement as finance costs. Decommissioning obligations are periodically reviewed in light of current laws and regulations, and adjustments are made as necessary.

Environmental provisions may include expenditure for remediation of the damage to the environment, including land and water bodies clean-up and rehabilitation costs, restoration of biological resources, settlement of legal claims and environmental damages, fines and penalties imposed by government authorities in respect of the environmetal incidents.

5. CRITICAL ACCOUNTING JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

In preparation of the consolidated financial statements the Group's management necessarily make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the reporting date, and the reported amounts of revenues and expenses for the reporting period. Estimates and assumptions do require management judgement based on historical experience, current and expected economic conditions, and all other available information. Actual results may differ from such estimates. Key estimates and assumptions made by the Group's management are disclosed below or elsewhere in the notes to the consolidated financial statements, when applicable.

The most significant areas requiring the use of management estimates and assumptions are as follows:

- useful economic life of property, plant and equipment;
- impairment of non-financial assets;
- decommissioning obligations and environmental provisions;
- income taxes.

Useful economic life of property, plant and equipment

The factors, that may affect the estimation of the life of mine, which determines useful economic life of mining assets, classified within property, plant and equipment, include the following:

- changes in proved and probable ore reserves;
- the grade of ore reserves varying significantly from time to time;
- differences between actual commodity prices and commodity price assumptions used in the estimation and classification of ore reserves;
- unforeseen operational issues at mine sites;
- changes in capital, operating, mining, processing and decommissioning costs, discount rates and foreign exchange rates that could possibly adversely affect the economic viability of ore reserves.

Useful economic lives of non-mining property, plant and equipment are reviewed by management periodically. The review is based on the current condition of the assets and the estimated length of the period during which they will continue to bring economic benefits to the Group.

Impairment of non-financial assets

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible non-financial assets for an indication that these assets may be impaired or that a previously recognised impairment loss may have decreased in full or in part. For the purpose of the impairment test, the assets that do not generate independent cash flows are allocated to an appropriate cash-generating unit. To calculate the value in use, management necessarily applies judgement in allocating assets that do not generate independent cash flows to appropriate cash-generating units, and in estimating the timing and value of the underlying cash flows. Subsequent changes to the assets allocation to cash generating units or the timing of cash flows may affect the carrying value of the respective assets.

Decommissioning obligations and environmental provisions

The Group's mining and exploration activities are subject to various environmental laws and regulations. The Group estimates decommissioning obligations and environmental provisions based on management's understanding of the current legal requirements in the various jurisdictions in which it operates, terms of the license agreements and internally generated engineering estimates. Provisions for decommissioning and land restoration costs are recognised based on discounted present values as soon as the obligations arise.

Environmental provisions are recognised based on the best estimate of the consideration required to settle the environmental obligation at the reporting date, taking into account the risks and uncertainties surrounding the present obligation, including possible compensations under civil lawsuits and costs to be incurred under corresponding ecological and ethnological programmes. Where it is possible to set accurate period of maturity of the environmental obligation, estimation is determined using the present value of cash flows directed to settlement of those obligation, otherwise management uses best estimate of the future cash outflows, which relate to the environmental obligation.

Actual costs incurred in future periods may differ materially from the amounts of the provisions. Additionally, future changes to environmental laws and regulations, life of mine estimates and discount rates, court decisions and government actions may affect the carrying amount of these provisions.

Income taxes

The Group is subject to income taxes in numerous jurisdictions. Significant judgement is required in determining provision for income taxes paid in various jurisdictions, due to the complexity of legislation. There are many transactions and calculations for which the ultimate tax determination is uncertain. The Group recognises provisions for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recognised, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made.

Deferred tax assets are reviewed at each reporting date and adjusted to the extent that it is probable that sufficient taxable income will be available to allow all or part of the deferred tax asset to be utilised. The estimation of that probability includes judgements based on the expected performance.

Various factors are considered to assess the probability of the future utilisation of deferred tax assets, including past operating results, the Group's operational plan, expiration of tax losses carried forward, and tax planning strategies. If actual results differ from these estimates or if these estimates are to be adjusted in future periods, the financial position, results of operations and cash flows of the Group may be affected.

6. SEGMENT INFORMATION

Operating segments are based on internal reports on components of the Group that are regularly reviewed by the Management Board.

Management has determined the following operating segments:

- GMK Group segment includes main mining, processing and metallurgy operations as well as transport services, energy, repair and maintenance services located on Taimyr Peninsula. GMK Group metal sales to external customers include metal volumes produced from semi-products purchased from the South Cluster and GRK Bystrinskoye segments. Intersegment revenue from metal sales includes primarily sale of semi-products to the KGMK Group segment for further processing. GMK Group's other sales to external customers primarily include revenue from energy and utilities services provided on Taimyr Peninsula.
- South Cluster segment includes certain ore mining and processing operations located on Taimyr Peninsula. Intersegment revenue from metal sales includes sale of semi-products to GMK Group for further processing. The South Cluster segment revenue from other sales includes intersegment ore processing services under tolling arrangements provided to the GMK Group segment.
- KGMK Group segment includes ore mining and processing operations, metallurgy operations, energy, and exploration activities located on Kola Peninsula. KGMK Group's metal sales to external customers include metal produced from semi-products purchased from the GMK Group segment. Intersegment revenue from metal sales includes sale of semi-products to GMK Group and NN Harjavalta for further processing. KGMK Group's revenue from other sales includes intersegment metal processing services under tolling arrangements provided to other segments and energy and utilities services provided to external customers on Kola Peninsula.
- NN Harjavalta segment includes refinery operations located in Finland. NN Harjavalta's metal sales to external customers primarily include metal produced from semi-products purchased from the GMK Group and KGMK Group segments.
- GRK Bystrinskoye segment includes ore mining and processing operations located in the Zabaikalsky Territory of the Russian Federation.
- Other mining segment primarily includes a 50% interest of the Group in metal mining and processing joint operations of Nkomati Nickel Mine ("Nkomati"), which was disposed of during the year ended 31 December 2021, as well as certain other mining and exploration activities located in Russia and abroad. The Other mining segment's sales primarily include 50% of the Group in the sales of metal semi-products produced by Nkomati.
- Other non-metallurgical segment includes resale of third-party refined metal products, other trading operations, transport services, supply chain management, energy and utility, research and other activities located in Russia and abroad. The Other non-metallurgical segment also includes resale of 50% of metal semi-products produced by Nkomati. Other sales of the Other non-metallurgical segment primarily include revenue from passenger air transportation, freight transportation services and fuel sales.

Corporate activities of the Group do not represent an operating segment, include primarily the headquarters' general and administrative expenses and treasury operations of the Group and are presented as Unallocated.

The amounts in respect of reportable segments in the disclosure below are stated before intersegment eliminations, excluding:

- balances of intercompany loans and borrowings and interest accruals;
- balances of intercompany investments;
- accrual of intercompany dividends.

Amounts are measured on the same basis as those in the consolidated financial statements.

The following tables present revenue, measure of segment profit or loss (EBITDA) and other segment information from continuing operations regarding the Group's reportable segments for the years ended 31 December 2021, 2020 and 2019, respectively.

For the year ended 31 December 2021	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Eliminations	Total
REVENUE FROM EXTERNAL CUSTOMERS										
Metal sales	6,480	–	7,687		1,106	1,200	28	602	–	17,103
Other sales	188	1	26		7	3	–	524	–	749
INTERSEGMENT REVENUE										
Metal sales	4,852	618	2,179		380	109	–	–	(8,138)	–
Other sales	316	148	1		–	34	–	407	(906)	–
Total revenue	11,836	767	9,893		1,493	1,346	28	1,533	(9,044)	17,852
Segment EBITDA	5,456	397	3,758		59	1,076	(16)	11	716	11,457
Unallocated										(945)
CONSOLIDATED EBITDA										10,512
Depreciation and amortisation										(928)
Impairment of non-financial assets,										
										(48)
Finance costs, net										(279)
Foreign exchange loss, net										(53)
Income from investments and disposal of foreign joint operation										
										81
Profit before tax										9,285
OTHER MATERIAL CASH AND NON-CASH										
Purchase of property, plant and equipment and intangible assets	2,002	304	205		26	62	12	153	–	2,764
Depreciation and amortisation	622	30	84		12	122	1	57	–	928
(Reversal of impairment)/impairment of non-financial assets, net	(101)	–	137		–	2	–	10	–	48
Change in provisions and allowances	760	6	19		–	1	–	–	110	896

For the year ended 31 December 2020	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Eliminations	Total
REVENUE FROM EXTERNAL CUSTOMERS										
Metal sales	5,427	–	6,897		949	897	129	678	–	14,977
Other sales	156	–	27		5	3	8	369	–	568
INTERSEGMENT REVENUE										
Metal sales	6,907	532	2,001		354	98	–	–	(9,892)	–
Other sales	210	162	1		–	6	–	340	(719)	–
Total revenue	12,700	694	8,926		1,308	1,004	137	1,387	(10,611)	15,545
Segment EBITDA	6,171	407	1,757		70	717	(14)	31	(556)	8,583
Unallocated										(932)
CONSOLIDATED EBITDA										7,651
Depreciation and amortisation										(943)
Impairment of non-financial assets, net										(308)
Finance costs, net										(879)
Foreign exchange loss, net										(1,034)
Income from investments and disposal of subsidiaries										92
Profit before tax										4,579
OTHER MATERIAL CASH AND NON-CASH ITEMS										
Purchase of property, plant and equipment and intangible assets	1,275	114	155		17	98	2	99	–	1,760
Depreciation and amortisation	596	28	152		32	110	1	24	–	943
Impairment of non-financial assets, net	43	–	264		–	1	–	–	–	308
Change in provisions and allowances	2,362	–	(14)		–	–	22	1	106	2,477

For the year ended 31 December 2019	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Eliminations	Total
REVENUE TO EXTERNAL CUSTOMERS										
Metal sales	8,208	349	2,271		1,145	182	133	563	–	12,851
Other sales	171	–	36		6	4	–	495	–	712
INTERSEGMENT REVENUE										
Metal sales	5,177	336	608		21	12	–	4	(6,158)	–
Other sales	280	179	200		–	3	–	350	(1,012)	–
Total revenue	13,836	864	3,115		1,172	201	133	1,412	(7,170)	13,563
Segment EBITDA	9,522	475	58		74	349	(31)	31	(1,770)	8,708
Unallocated										(785)
CONSOLIDATED EBITDA										7,923
Depreciation and amortisation										(911)
Reversal of impairment of non-financial assets, net										24
Finance costs, net										(306)
Foreign exchange gain, net										694
Income from investments										100
Profit before tax										7,524
OTHER MATERIAL CASH AND NON-CASH ITEMS										
Purchase of property, plant and equipment and intangible assets	839	76	221		18	103	5	62	–	1,324
Depreciation and amortisation	669	25	104		26	54	1	32	–	911
(Reversal of impairment)/impairment of non-financial assets, net	(43)	–	(1)		–	–	13	7	–	(24)
Change in provisions and allowances	9	–	188		–	(2)	7	18	13	233

The following table presents segment metal sales to external customers breakdown by metal for the years ended 31 December 2021, 2020 and 2019, respectively.

For the year ended 31 December 2021	GMK Group	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Total
Nickel				967			17	3,627
Copper	2,778	151		23	524	4	309	3,789
Palladium	2,764	3,583		55	–	5	258	6,665
Platinum	302	373		6	–	2	2	685
Rhodium	241	800		–	–	–	15	1,056
Gold	273	76		–	305	–	–	654
Other metals	117	80		55	371	3	1	627
	6,480	7,687		1,106	1,200	28	602	17,103

For the year ended 31 December 2020	GMK Group	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Total
Nickel				839			59	3,144
Copper	2,293	389		12	364	10	10	3,078
Palladium	2,283	3,399		44	–	43	596	6,365
Platinum	266	338		4	–	7	7	622
Rhodium	259	423		–	–	–	–	682
Gold	260	85		–	331	–	–	676
Other metals	60	82		50	202	10	6	410
	5,427	6,897		949	897	129	678	14,977

For the year ended 31 December 2019	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Total
Nickel	1,079	30	1,269		880			65	3,388
Copper	2,417	35	246		83	76	10	10	2,877
Palladium	3,634	209	588		106	–	31	475	5,043
Platinum	484	39	78		12	–	8	7	628
Rhodium	281	–	10		–	–	–	–	291
Gold	240	–	26		–	62	–	–	328
Other metals	73	36	54		64	44	19	6	296
	8,208	349	2,271		1,145	182	133	563	12,851

The following tables present assets and liabilities of the Group's reportable segments at 31 December 2021, 2020 and 2019, respectively.

At 31 December 2021	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Eliminations	Total
Intersegment assets	804	60	635		188	39	–	60	(1,786)	–
Segment assets	11,605	827	3,111		731	1,508	98	1,266	(1,445)	17,701
Total segment assets	12,409	887	3,746		919	1,547	98	1,326	(3,231)	17,701
Unallocated										5,734
Total assets										23,435
Intersegment liabilities	205	32	739		508	7	1	294	(1,786)	–
Segment liabilities	2,676	250	578		64	135	72	1,319	–	5,094
Total segment liabilities	2,881	282	1,317		572	142	73	1,613	(1,786)	5,094
Unallocated										13,553
Total liabilities										18,647

At 31 December 2020	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Eliminations	Total
Intersegment assets	2,848	162	720		165	109	14	45	(4,063)	–
Segment assets	10,150	412	3,440		480	1,526	49	1,150	(2,020)	15,187
Total segment assets	12,998	574	4,160		645	1,635	63	1,195	(6,083)	15,187
Unallocated										5,519
Total assets										20,706
Intersegment liabilities	350	24	2,645		266	8	–	770	(4,063)	–
Segment liabilities	3,794	129	322		84	107	79	1,139	–	5,654
Total segment liabilities	4,144	153	2,967		350	115	79	1,909	(4,063)	5,654
Unallocated										10,377
Total liabilities										16,031

At 31 December 2019	GMK Group	South cluster	KGMK Group		NN Harjavalta	GRK Bystrinskoye	Other mining	Other non-metallurgical	Eliminations	Total
Intersegment assets	3,286	163	315		100	28	5	38	(3,935)	–
Segment assets	10,416	375	4,177		486	1,791	78	984	(1,983)	16,324
Total segment assets	13,702	538	4,492		586	1,819	83	1,022	(5,918)	16,324
Unallocated										3,150
Total assets										19,474
Intersegment liabilities	305	39	3,227		138	11	–	215	(3,935)	–
Segment liabilities	1,732	108	348		102	107	54	1,197	–	3,648
Total segment liabilities	2,037	147	3,575		240	118	54	1,412	(3,935)	3,648
Unallocated										11,539
Total liabilities										15,187

7. METAL SALES

The Group's metal sales to external customers are detailed below (based on external customers' locations):

	Total	Nickel	Copper	Palladium	Platinum	Rhodium	Gold	Other metals
FOR THE YEAR ENDED 31 DECEMBER 2021								
Europe	**9,036**	1,693	3,073	2,778	612	354	342	184
Asia	**4,688**	1,209	576	2,204	1	82	306	310
North and South America	**2,647**	351	6	1,671	56	554	–	9
Russian and CIS	**732**	374	134	12	16	66	6	124
	17,103	3,627	3,789	6,665	685	1,056	654	627
FOR THE YEAR ENDED 31 DECEMBER 2020								
Europe	**6,755**	1,277	1,826	2,353	543	275	341	140
Asia	**5,266**	1,366	1,027	2,292	27	51	308	195
North and South America	**2,400**	260	23	1,715	46	339	–	17
Russian and CIS	**556**	241	202	5	6	17	27	58
	14,977	3,144	3,078	6,365	622	682	676	410
FOR THE YEAR ENDED 31 DECEMBER 2019								
Europe	**6,680**	1,399	2,354	1,892	574	85	261	115
Asia	**3,243**	1,329	226	1,476	32	14	47	119
North and South America	**2,289**	427	77	1,595	14	137	1	38
Russian and CIS	**639**	233	220	80	8	55	19	24
	12,851	3,388	2,877	5,043	628	291	328	296

Revenue from metal sales for the year ended 31 December 2021 included net loss of USD (41) million in respect of forward contracts measured at fair value that are expected to be settled by physical delivery or on a net basis (for the year ended 31 December 2020: net loss in the amount of USD (104) million and for the year ended 31 December 2019: net loss in the amount of USD (47) million).

For the year ended 31 December 2021, metal revenue included net gain of USD 25 million from price adjustments in respect of certain provisionally priced contracts, primarily for sale of rhodium and other metals in Europe, Asia, North and South America (primarily for sale of palladium for the year ended 31 December 2020: net gain in the amount of USD 38 million and for the year ended 31 December 2019: net loss in the amount of USD (1) million)

8. COST OF METAL SALES

	For the year ended 31 December		
	2021	2020	2019
CASH OPERATING COSTS			
Labour	1,406	1,307	1,295
Materials and supplies	715	731	712
Mineral extraction tax and other levies	627	248	221
Purchases of refined metals for resale	581	482	438
Export custom duties	442	–	–
Third party services	410	276	239
Transportation expenses	130	90	78
Fuel	122	109	101
Electricity and heat energy	118	151	155
Purchases of raw materials and semi-products	95	298	402
Sundry costs	228	194	167
Total cash operating costs	4,874	3,886	3,808
Depreciation and amortisation	843	845	735
Increase in metal inventories	(660)	(231)	(44)
Total	5,057	4,500	4,499

9. GENERAL AND ADMINISTRATIVE EXPENSES

	For the year ended 31 December		
	2021	2020	2019
Staff costs	577	529	601
Third party services	191	142	123
Depreciation and amortisation	83	67	69
Taxes other than mineral extraction tax and income tax	76	69	77
Transportation expenses	18	18	15
Other	44	44	53
Total	989	869	938

10. SELLING AND DISTRIBUTION EXPENSES

	For the year ended 31 December		
	2021	2020	2019
Transportation expenses	81	72	54
Marketing expenses	48	44	45
Staff costs	19	19	16
Other	36	32	18
Total	184	167	133

11. OTHER OPERATING EXPENSES, NET

	For the year ended 31 December		
	2021	2020	2019
Social expenses (Note 27)	1,031	500	224
Environmental provisions (Note 26)	176	2,242	1
Expenses on industrial incidents response	69	–	–
Change in provision on production facilities shut down (Note 26)	(3)	(10)	190
Change in other provisions	(3)	24	39
Net income earned during the pre-commissioning stage	–	–	(192)
Other, net	15	(19)	41
Total	1,285	2,737	303

12. FINANCE COSTS, NET

	For the year ended 31 December		
	2021	2020	2019
Interest expense, net of amounts capitalised	225	364	340
Changes in fair value of other non-current and other current liabilities	66	262	64
Unwinding of discount on provisions and payables	59	61	84
Interest expense on lease liabilities	15	12	12
Fair value (gain)/loss on the cross-currency interest rate swap contracts	(68)	182	(199)
Other, net	(18)	(2)	5
Total	279	879	306

13. INCOME FROM INVESTMENTS

	For the year ended 31 December		
	2021	2020	2019
Interest income on bank deposits	51	43	64
Other, net	1	30	34
Total	52	73	98

14. INCOME TAX EXPENSE

	For the year ended 31 December		
	2021	2020	2019
Current income tax expense	1,695	1,685	1,924
Deferred tax expense/(benefit)	616	(740)	(366)
Total income tax expense	2,311	945	1,558

A reconciliation of theoretic income tax, calculated at the statutory rate in the Russian Federation, the location of major production assets of the Group, to the amount of actual income tax expense recognised in the consolidated income statement is as follows:

	For the year ended 31 December		
	2021	2020	2019
Profit before tax	9,285	4,579	7,524
Income tax at statutory rate of 20%	1,857	916	1,505
Changes in unrecognised deferred tax assets	15	14	25
Non-deductible social expenses	177	93	64
Effect of different tax rates of subsidiaries	(45)	(38)	(62)
Income tax provision related to the compensation of environmental damages	460	–	–
Tax effect of other permanent differences	(153)	(40)	26
Total income tax expense	2,311	945	1,558

Tax effect of other permanent differences mainly represents an income tax rate credit applicable to a Group's subsidiary.

The corporate income tax rates in other countries where the Group has a taxable presence vary from 0% to 30%.

Deferred tax balances

	At 31 December 2020	Recognised in income statement	Recognised in other comprehensive income	Effect of translation to presentation currency	At 31 December 2021
Property, plant and equipment, right-of use assets	**389**	104	–	(3)	**490**
Inventories	**(448)**	285	–	(11)	**(174)**
Trade and other receivables	**6**	(3)	–	–	**3**
Decommissioning obligations	**(94)**	(22)	–	1	**(115)**
Environmental provisions	**(416)**	407	–	3	**(6)**
Other provisions	**(51)**	(38)	–	–	**(89)**
Loans and borrowings, trade and other payables, lease liabilities	**(117)**	(37)	–	9	**(145)**
Other assets	**21**	6	–	(12)	**15**
Other liabilities	**21**	11	2	(1)	**33**
Tax loss carry-forwards	**(23)**	(97)	–	14	**(106)**
Net deferred tax (assets)	**(712)**	**616**	**2**	**–**	**(94)**

	At 31 December 2019	Recognised in income statement	Effect of translation to presentation currency	At 31 December 2020
Property, plant and equipment,right-of use assets	**492**	(9)	(94)	**389**
Inventories	**(279)**	(258)	89	**(448)**
Trade and other receivables	**(10)**	16	–	**6**
Decommissioning obligations	**(113)**	7	12	**(94)**
Environmental provisions	**–**	(439)	23	**(416)**
Other provisions	**–**	(50)	(1)	**(51)**
Loans and borrowings, trade and other payables, lease liabilities	**(153)**	1	35	**(117)**
Other assets	**22**	(5)	4	**21**
Other liabilities	**36**	(6)	(9)	**21**
Tax loss carry-forwards	**(33)**	3	7	**(23)**
Net deferred tax (assets)	**(38)**	**(740)**	**66**	**(712)**

	At 1 January 2019	Recognised in income statement	Effect of translation to presentation currency	At 31 December 2019
Property, plant and equipment, right-of use assets	**427**	15	50	**492**
Inventories	**107**	(377)	(9)	**(279)**
Trade and other receivables	**(7)**	(3)	–	**(10)**
Decommissioning obligations	**(53)**	(51)	(9)	**(113)**
Loans and borrowings, trade and other payables, lease liabilities	**(123)**	(15)	(15)	**(153)**
Other assets	**24**	(3)	1	**22**
Other liabilities	**(2)**	38	–	**36**
Tax loss carry-forwards	**(61)**	30	(2)	**(33)**
Net deferred tax liabilities/ (assets)	**312**	**(366)**	**16**	**(38)**

Certain deferred tax assets and liabilities have been offset to the extent they relate to taxes levied on the Group's entities which entered into the tax consolidation group. Deferred tax balances (after offset) presented in the consolidated statement of financial position were as follows:

	At 31 December		
	2021	2020	2019
Deferred tax liabilities	73	43	60
Deferred tax assets	(167)	(755)	(98)
Net deferred tax (assets)	**(94)**	**(712)**	**(38)**

Unrecognised deferred tax assets

Deferred tax assets have not been recognised as follows:

	At 31 December		
	2021	2020	2019
Deductible temporary differences	194	218	164
Tax loss carry-forwards	201	182	240
Total	395	400	404

Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profit will be available against which the Group can utilise the benefits therefrom.

At 31 December 2021 deferred tax asset in the amount of USD 135 million related to past tax loss arising on disposal of shares of OJSC "Third Generation Company of the Wholesale Electricity Market" ("OCK-3") (31 December 2020: USD 136 million and 31 December 2019: USD 162 million) was not recognised as it occurred before the Company joined the tax consolidation group. This deferred tax asset can be utilised without expiry after the Company exits the tax consolidation group.

At 31 December 2021 unrecognized deferred tax assets in the amount of USD 66 million related to other tax loss carry-forwards may be recognised without expiry due to specific rules stated by art. 283 "Carry-Forward Of Losses" of the Tax code of the Russian Federation (31 December 2020: USD 46 million and 31 December 2019: USD 78 million).

At 31 December 2021, the Group did not recognise a deferred tax liability in respect of taxable temporary differences of USD 3,499 million (31 December 2020: USD 2,031 million and 31 December 2019: USD 628 million) associated with investments in subsidiaries, because management believes that it is in a position to control the timing of reversal of such differences and does not expect its reversal in foreseeable future.

15. PROPERTY, PLANT AND EQUIPMENT

	Non-mining assets and right-of-use assets					
	Mining assets and mine development cost	Buildings, facilities and infrastructure	Machinery, equipment and transport	Other	Capital construction-in-progress	Tota
COST						
Balance at 1 January 2019	**8,245**	**3,015**	**3,308**	**254**	**1,358**	16,180
Additions	614	–	–	–	855	1,469
Transfers	–	177	513	11	(701)	–
Change in decommissioning provision	79	4	–	–	–	83
Additions of right-of-use assets and remeasurement of the lease liability	–	9	15	5	–	29
Disposals	(52)	(43)	(69)	(6)	(32)	(202)
Other	91	38	(43)	–	(86)	–
Effect of translation to presentation currency	999	360	382	31	166	1,938
Balance at 31 December 2019	**9,976**	**3,560**	**4,106**	**295**	**1,560**	19,497
Additions	943	–	–	–	942	1,885
Transfers	–	192	361	21	(574)	–
Change in decommissioning provision	42	2	–	–	–	44
Additions of right-of-use assets and remeasurement of the lease liability	–	(9)	69	5	–	65
Disposed on disposal of subsidiary (Note 21)	(68)	–	–	–	–	(68)
Acquired on acquisition of subsidiaries	–	25	1	–	–	26
Disposals	(32)	(25)	(29)	(2)	(12)	(100)
Other	(31)	10	20	(1)	(9)	(11)
Effect of translation to presentation currency	(1,557)	(567)	(645)	(46)	(244)	(3,059)
Balance at 31 December 2020	**9,273**	**3,188**	**3,883**	**272**	**1,663**	18,279
Additions	1,237	–	–	–	1,750	2,987
Transfers	–	302	465	26	(793)	–
Change in decommissioning provision	134	21	–	–	–	155
Additions of right-of-use assets and remeasurement of the lease liability	–	7	18	8	–	33
Disposals	(68)	(55)	(107)	(51)	(17)	(298)
Other	(3)	(6)	(2)	(1)	–	(12)
Effect of translation to presentation currency	(82)	(21)	(22)	(2)	(21)	(148)
Balance at 31 December 2021	**10,491**	**3,436**	**4,235**	**252**	**2,582**	20,996

	Non-mining assets and right-of-use assets					
	Mining assets and mine development cost	Buildings, facilities and infrastructure	Machinery, equipment and transport	Other	Capital construction-in-progress	Total
ACCUMULATED DEPRECIATION AND IMPAIRMENT						
Balance at 1 January 2019	**(2,452)**	**(1,493)**	**(1,831)**	**(103)**	**(163)**	(6,042)
Charge for the year	(437)	(145)	(314)	(27)	–	(923)
Disposals	41	36	54	4	15	150
Reversal of impairment, net	(32)	42	–	(1)	15	24
Other	7	(18)	19	1	(9)	–
Effect of translation to presentation currency	(286)	(182)	(214)	(13)	(18)	(713)
Balance at 31 December 2019	**(3,159)**	**(1,760)**	**(2,286)**	**(139)**	**(160)**	(7,504)
Charge for the year	(466)	(175)	(338)	(24)	–	(1,003)
Disposals	27	18	25	1	9	80
Impairment loss, net	(247)	(41)	(18)	–	(2)	(308)
Disposed on disposal of subsidiary (Note 21)	50	–	–	–	–	50
Other	28	(9)	(10)	–	–	9
Effect of translation to presentation currency	463	289	359	23	25	1,159
Balance at 31 December 2020	**(3,304)**	**(1,678)**	**(2,268)**	**(139)**	**(128)**	(7,517)
Charge for the year	(479)	(179)	(357)	(24)	–	(1,039)
Disposals	57	51	89	32	5	234
Impairment loss, net	(123)	75	13	(2)	(11)	(48)
Other	3	4	1	2	–	10
Effect of translation to presentation currency	40	8	12	1	2	63
Balance at 31 December 2021	**(3,806)**	**(1,719)**	**(2,510)**	**(130)**	**(132)**	(8,297)
Carrying value At 31 December 2019	**6,817**	**1,800**	**1,820**	**156**	**1,400**	11,993
At 31 December 2020	**5,969**	**1,510**	**1,615**	**133**	**1,535**	10,762
At 31 December 2021	**6,685**	**1,717**	**1,725**	**122**	**2,450**	12,699

At 31 December 2021 capital construction-in-progress included USD nil million of irrevocable letters of credit opened for property, plant and equipment purchases (31 December 2020: USD 14 million and 31 December 2019: USD 52 million), representing security deposits placed in banks.

For the year ended 31 December 2021 purchases of property, plant and equipment in the consolidated statement of cash flows include USD nil million of irrevocable letters of credit (for the year ended 31 December 2020: USD 1 million and for the year ended 31 December 2019: USD 221 million).

Capitalised borrowing costs for the year ended 31 December 2021 amounted to USD 95 million (for the year ended 31 December 2020: USD 118 million and for the year ended 31 December 2019: USD 174 million). The capitalisation rate used to determine the amount of borrowing costs was 3.12% per annum for the year ended 31 December 2021 (for the year ended 31 December 2020: 4.10% and for the year ended 31 December 2019: 5.12%).

At 31 December 2021 mining assets and mine development cost included USD 2,560 million of mining assets under development (31 December 2020: USD 2,593 million and 31 December 2019: USD 2,750 million).

At 31 December 2021 non-mining assets included USD 38 million of investment property (31 December 2020: USD 39 million and 31 December 2019: USD 48 million).

Impairment

In 2015 the Group recognised the gas extraction assets as a separate cash-generating unit, with its value-in-use determined using a discounted cash flow model at each subsequent reporting date.

As a result of the performed assessment of the value-in-use, an impairment loss of USD 41 million was recognised in the consolidated income statement for the year ended 31 December 2020 and impairment loss reversal of USD 70 million for the year ended 31 December 2019.

During the year ended 31 December 2021 due to change in circumstances and changes in the operating environment the Group reviewed the aggregation of assets into a separate cash-generating unit. As a result, the gas extraction assets were included in a cash-generating unit which includes operations of the core production assets in Norilsk. The Group did not identify indicators of impairment in respect of the above cash-generating unit and reversed the previously recognised impairment losses from the gas extraction assets, net of respective accumulated depreciation that would have been accrued had no impairment been recognised, included in reversal of impairment of non-financial assets, in the consolidated income statement in the amount of USD 115 million.

During the year ended 31 December 2019 the Group identified indicators of further impairment of Nkomati assets and performed impairment tests using a discounted cash flow model approach. As a result, the carrying value of the Group's share in Nkomati property, plant and equipment was impaired in full at 31 December 2019. Impairment loss in the amount of USD 12 million was recognised in the consolidated income statement for the year ended 31 December 2019. For the years ended 31 December 2021 and 2020 no further impairment losses or impairment reversal was recognised.

In 2020 a federal law set a 3.5 times increase of mineral extraction tax on the types of ores mined by the Group. The Group assessed this change in the tax legislation as an indicator for impairment of one of the cash-generating units within JSC "Kolskaya GMK": KGMK ore mining and processing operations.

The recoverable amount of the cash-generating unit was determined based on value in use calculations. As a result of the impairment test the carrying value of KGMK ore mining and processing production assets in the amount of USD 264 million were fully impaired as at 31 December 2020. At 31 December 2021, the Group recognised further impairment in respect of additions to property, plant and equipment in the cash-generating unit. The impairment loss in the amount of USD 137 million was recognised in impairment of non-financial assets in the consolidated income statement (31 December 2020: USD 264 million).

The most significant estimates and assumptions used in determination of value in use are as follows:

- Future cash flows were projected based on budgeted amounts, taking into account actual results for the previous years. Forecasts were assessed up to 2031. Measurements were performed based on discounted cash flows expected to be generated by a separate cash-generating unit.
- Management used adjusted commodities price forecasts for copper-nickel concentrate price forecast. Prices adjustments were made based on current contract terms.
- Production information was primarily based on internal production reports available at the date of impairment test and management's assumptions regarding future production levels.
- Inflation indices and foreign currency trends are in general consistent with external sources of information. Inflation used was projected within 3.0-4.6% (31 December 2020: 3.6-4.5%), exchange rates USD/RUB were within the range of 72.23-84.76 (31 December 2020: 72.02-84.76).
- A pre-tax nominal discount rate of 12.2% (31 December 2020: 13.7%) was calculated based on weighted average cost of capital and reflects management's estimates of the risks specific to the cash generating unit.

During the year ended 31 December 2021 the Group developed and partially implemented optimization plans in order to increase of KGMK ore mining and processing operations cash flows and mitigate the negative impact of higher mineral extraction tax, with further implementation expected during 2022.

During the year ended 31 December 2021 the Group recognised additional impairment losses in the amount of USD 26 million in respect of specific individual assets (for the year ended 31 December 2020: USD 3 million and for the year ended 31 December 2019: USD 34 million).

Right-of-use assets

	Buildings, facilities and infrastructure	Machinery, equipment and transport	Other	Total
Balance at 1 January 2019	**137**	**62**	**5**	204
Additions of right-of-use assets and remeasurement of the lease liability	9	15	5	29
Depreciation	(23)	(18)	(3)	(44)
Effect of translation to presentation currency	16	7	–	23
Balance at 31 December 2019	**139**	**66**	**7**	212
Additions of right-of-use assets and remeasurement of the lease liability	(9)	69	5	65
Acquired on acquisition of subsidiaries	25	–	–	25
Depreciation	(20)	(12)	(3)	(35)
Effect of translation to presentation currency	(20)	(12)	(1)	(33)
Balance at 31 December 2020	**115**	**111**	**8**	234
Additions of right-of-use assets and remeasurement of the lease liability	7	18	8	33
Depreciation	(30)	(21)	(2)	(53)
Effect of translation to presentation currency	–	–	–	–
Balance at 31 December 2021	**92**	**108**	**14**	214

16. OTHER FINANCIAL ASSETS

	At 31 December		
	2021	2020	2019
NON-CURRENT			
Loans issued and other receivables	58	56	113
Investments in associates	17	14	–
Bank deposits	12	11	8
Derivative financial instruments (Note 30)	2	–	102
Total non-current	89	81	223
CURRENT			
Loans issued	1	57	47
Deposits	34	–	–
Derivative financial instruments	8	1	4
Total current	43	58	51

17. OTHER TAXES

	At 31 December		
	2021	2020	2019
TAXES RECEIVABLE			
Value added tax recoverable	410	434	638
Advance payments of other taxes	9	17	13
	419	451	651
Less: Allowance for impairment of value added tax recoverable	(7)	(7)	(7)
Other taxes receivable	**412**	**444**	**644**
Taxes payable			
Value added tax	75	199	397
Social security contributions	51	48	46
Mineral extraction tax	50	15	16
Property tax	19	12	15
Other	74	55	29
Other taxes payable	**269**	**329**	**503**

18. INVENTORIES

	At 31 December		
	2021	2020	2019
Refined metals and other metal products	767	547	407
Work-in-process and semi-products	1,572	1,159	1,339
Less: net realisable value allowance for finished goods and work-in-process	(78)	(84)	(5)
Total metal inventories	2,261	1,622	1,741
Materials and supplies	823	644	811
Less: allowance for obsolete and slow-moving items	(58)	(74)	(77)
Materials and supplies, net	765	570	734
Inventories	3,026	2,192	2,475

At 31 December 2021 a part of the metal semi-product stock in the amount of USD 121 million net of impairment allowance in the amount of USD 69 million was presented in other non-current assets in line with the Group's production plans (31 December 2020: USD 73 million net of impairment allowance of USD 57 million and 31 December 2019: USD 52 million net of impairment allowance of USD 52 million).

19. TRADE AND OTHER RECEIVABLES

	At 31 December		
	2021	2020	2019
Trade receivables	345	411	277
Other receivables	171	150	151
Receivables from the registrar on transfer of dividends to shareholders (Note 31)	–	32	–
	516	593	428
Less: Allowance for expected credit losses	(48)	(56)	(66)
Trade and other receivables, net	468	537	362

In 2021, 2020 and 2019, the average credit period on metal sales varied from 0 to 30 days. Trade receivables are generally non-interest bearing.

At 31 December 2021 trade and other receivables include USD 248 million of accounts receivable measured at fair value through profit or loss, Level 2 of fair value hierarchy (31 December 2020: USD 339 million and 31 December 2019: USD 196 million).

At 31 December 2021, 2020 and 2019 there were no material trade accounts receivable which were overdue or individually determined to be impaired.

The average credit period on sales of other products and services for the year ended 31 December 2021 was 42 days (for the year ended 31 December 2020: 37 days and for the year ended 31 December 2019: 25 days). No interest was charged on these receivables.

Included in the Group's other receivables at 31 December 2021 were debtors with a carrying value of USD 109 million (31 December 2020: USD 83 million and 31 December 2019: USD 43 million) that were past due but not impaired. Management of the Group believes that these amounts are recoverable in full.

The Group did not hold any collateral for accounts receivable balances.

Ageing of other receivables past due but not impaired was as follows:

	At 31 December		
	2021	2020	2019
Less than 180 days	97	75	35
180-365 days	12	8	8
	109	83	43

Movement in the allowance for expected credit losses was as follows:

	At 31 December		
	2021	2020	2019
BALANCE AT THE BEGINNING OF THE YEAR	56	66	70
Change in allowance	2	3	(8)
Accounts receivable written-off	(10)	(2)	(4)
Effect of translation to presentation currency	–	(11)	8
Balance at the end of the year	48	56	66

20. CASH AND CASH EQUIVALENTS

	At 31 December		
	2021	2020	2019
Current accounts			
• RUB	249	41	72
• USD	1,691	3,744	918
• EUR	20	18	34
• other	35	102	60
Bank deposits			
• RUB	2,402	39	1,357
• USD	1,132	1,237	326
• other	5	8	9
Other cash and cash equivalents			
• RUB	6	–	6
• USD	7	–	1
• other	–	2	1
Total	5,547	5,191	2,784

Bank deposits

Interest rate on USD-denominated deposits held in banks at 31 December 2021 was in the range from 0.05% to 0.88% (31 December 2020: 0.15% to 0.41% and 31 December 2019: 1.25% to 1.80%) per annum. Interest rate on RUB-denominated deposits held in banks at 31 December 2021 was in the range from 7.20% to 9.12% (31 December 2020: 3.75% and 31 December 2019: 5.90% to 6.26%) per annum.

21. DISPOSAL OF SUBSIDIARIES AND FOREIGN JOINT OPERATIONS

With regard to suspended production of the joint operations of Nkomati, the Group reclassified the foreign currency translation reserve of foreign operations to the profit or loss for the year ended 31 December 2021 in the amount of USD 20 million. In October 2021, the Group received cash consideration in the amount of USD 51 million and incurred associated costs in the amount of USD 2 million under the settlement agreement in relation to the cancelled sale of Nkomati. The reported amount was presented in Disposal of foreign joint operations in the consolidated income statement and consolidated statement of cash flows.

In September 2020, the Group sold a number of assets in Australia, including Honeymoon Well nickel project, held by the Group subsidiary MPI Nickel Pty Ltd for a consideration of USD 29 million (AUD 40 million). Net cash inflow from the disposal of the subsidiary in the amount of USD 28 million was recognised in the consolidated statement of cash flows, net of costs to sell in the amount of USD 1 million. Gain on disposal in the amount of USD 19 million was recognised in the consolidated income statement.

On 4 July 2019, the Group sold its interest in a subsidiary which provides construction services for a cash consideration of USD 5 million, resulting in a net cash outflow from disposal of the subsidiary recognised in the consolidated statement of cash flows in the amount of USD 20 million. Gain on disposal in the amount of USD 2 million was recognised in the consolidated income statement.

22. SHARE CAPITAL

Authorised and issued ordinary shares

At 31 December 2020 and 2019 the number of the Group's authorised and issued ordinary shares was 158,245,476. At 31 December 2021 the number of the Group's authorized and issued shares taking into account cancellation amounts to 153,654,624.

On 27 April 2021, the Board of Directors of the Company decided to acquire the Company's own outstanding shares. The Company completed acquisition of 5,382,079 ordinary shares on 29 June 2021 and presented the purchase of treasury shares in the consolidated statement of changes in equity in the amount of USD 2,075 million (RUB 149,630 million). Cash consideration was fully paid and recognised in the consolidated statement of cash flows in the amount of USD 2,068 million (RUB 149,630 million) at the USD /RUB exchange rates effective on payment dates.

On 19 August 2021, the extraordinary General meeting of shareholders of the Company decided to reduce the Company's share capital by cancelling 4,590,852 ordinary shares. The state registration of the amendments to the Company's Charter related to the reduction of the Company's share capital was carried out on 14 October 2021. The cancellation of treasury shares was recognised in the consolidated statement of changes in equity for the year ended 31 December 2021.

Earnings per share

	For the year ended 31 December		
	2021	2020	2019
Basic and diluted earnings per share (US Dollars per share):	41.9	21.4	36.5

The earnings and weighted average number of outstanding shares used in the calculation of basic and diluted earnings per share are as follows:

	For the year ended 31 December		
	2021	2020	2019
Profit for the period attributable to shareholders of the parent company	6,512	3,385	5,782

Weighted average number of shares outstanding

	For the year ended 31 December		
	2021	2020	2019
Shares outstanding at 1 January	158,245,476	158,245,476	158,245,476
June 2021: acquisition of own shares from shareholders	(5,382,079)	–	–
Shares outstanding at 31 December	152,863,397	158,245,476	158,245,476
Weighted average number of outstanding shares used in the calculation of basic and diluted earnings per share	**155,502,830**	**158,245,476**	**158,245,476**

23. NON-CONTROLLING INTEREST

At 31 December 2021, 2020 and 2019 aggregate financial information relating to the subsidiary, LLC "GRK "Bystrinskoye", that has material non-controlling interest, before any intra-group eliminations, is presented below:

	At 31 December		
	2021	2020	2019
Non-current assets	1,254	1,298	1,486
Current assets	1,061	762	407
Non-current liabilities	(66)	(718)	(824)
Current liabilities	(65)	(67)	(142)
NET ASSETS	2,184	1,275	927
Net assets attributable to non-controlling interest	1,093	656	464

	For the year ended 31 December		
	2021	2020	2019
Net profit for the year	924	497	362
Other comprehensive (loss)/income for the year	(15)	(147)	76
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	909	350	438
Profit attributable to non-controlling interest	462	248	181
Other comprehensive (loss)/income attributable to non-controlling interest	(7)	(73)	38

	For the year ended 31 December		
	2021	2020	2019
Cash flows from operating activities	1,083	619	302
Cash flows used in investing activities	(407)	(413)	(252)
Cash flows used in financing activities	(675)	(215)	(4)
Net increase/(decrease) in cash and cash equivalents	**1**	**(9)**	**46**

24. LOANS AND BORROWINGS

	Currency	Fixed or floating interest rate	Average nominal % rate during the year ended 31 December			Maturit	At 31 December		
			2021	2020	2019		2021	2020	2019
Unsecured loans	USD	floating	1.53%	1.99%	3.75%	2022-2028	5,624	5,319	3,746
	RUB	fixed	–	–	8.30%		–	–	969
	EUR	floating	0.85%	0.85%	0.85%	2022-2028	24	30	30
Secured loans	RUB	fixed	9.75%	9.75%	9.75%	2022	4	8	10
Total loans							5,652	5,357	4,755
Bonds	USD	fixed	4.20%	4.39%	4.88%	2022-2026	4,238	3,736	4,220
	RUB	fixed	7.20%	8.85%	8.85%	2024	336	541	645
Total bonds							4,574	4,277	4,865
Total loans and borrowings							10,226	9,634	9,620
Less: current portion due within twelve months and presented as current loans and borrowings							**(1,610)**	**(12)**	**(1,087)**
Non-current loans and borrowings							8,616	9,622	8,533

The Group is obliged to comply with a number of restrictive financial and other covenants, including maintaining certain financial ratios and restrictions on pledging and disposal of certain assets.

At 31 December 2021 loans were secured by property, plant and equipment with a carrying amount of USD 8 million (31 December 2020: USD 8 million and 31 December 2019: USD 10 million).

Reconciliation of liabilities/(assets) and cash flows arising from financing activities presented in the table below:

	Loans and borrowings	Lease liabilities	Derivatives financial instruments	Total
Balance at 1 January 2019	**8,417**	**22**	**61**	8,500
Proceeds from loans and borrowings	3,212	–	–	3,212
Repayments of loans and borrowings	(2,163)	–	–	(2,163)
Payments of lease liabilities	–	(45)	–	(45)
Proceeds on exchange of flows under cross-currency interest rate swaps	–	–	37	37
CHANGES FROM FINANCING CASH FLOWS	1,049	(45)	37	1,041
Other non-cash changes:				
Adjustments on IFRS 16 adoption	–	204	–	204
Recognition of lease liabilities	–	36	–	36
Changes in fair value of the cross-currency interest rate swap	–	–	(199)	(199)
Effect of changes in foreign exchange rates	153	7	–	160
Borrowing costs and amortization of loans at effective interest rate	1	–	–	1
Balance at 31 December 2019	**9,620**	**224**	**(101)**	9,743
Proceeds from loans and borrowings	2,903	–	–	2,903
Repayments of loans and borrowings	(2,552)	–	–	(2,552)
Payments of lease liabilities	–	(46)	–	(46)
Proceeds on exchange of flows under cross-currency interest rate swaps	–	–	38	38
CHANGES FROM FINANCING CASH FLOWS	351	(46)	38	343
Other non-cash changes:				
Recognition of lease liabilities	–	90	–	90
Changes in fair value of the cross-currency interest rate swap	–	–	182	182
Effect of changes in foreign exchange rates	(321)	(6)	17	(310)
Borrowing costs and amortization of loans at effective interest rate	(16)	–	–	(16)
Balance at 31 December 2020	**9,634**	**262**	**136**	10,032
Proceeds from loans and borrowings	1,000	–	–	1,000
Repayments of loans and borrowings	(415)	–	–	(415)
Payments of lease liabilities	–	(55)	–	(55)
Proceeds on exchange of flows under cross-currency interest rate swaps	–	–	4	4
Changes from financing cash flows	585	(55)	4	534
Other non-cash changes:				
Recognition of lease liabilities	–	37	–	37
Changes in fair value of the cross-currency interest rate swap	–	–	(68)	(68)
Effect of changes in foreign exchange rates	(4)	(9)	–	(13)
Borrowing costs and amortization of loans at effective interest rate	11	–	–	11
Balance at 31 December 2021	**10,226**	**235**	**72**	10,533

Interest payable on loans and borrowings and lease liabilities (Note 25) arising from financing activities is short-term and is paid within 12 months from the date of accrual

25. LEASE LIABILITIES

		Average borrowing rate during the year ended 31 December, %			Maturity	At 31 December		
	Currenc	2021	2020	2019		2021	2020	2019
Lease liabilities	RUB	7.23%	7.37%	8.21%	2022-2099	113	126	56
	USD	4.10%	4.07%	4.57%	2022-2031	107	114	148
	EUR	6.31%	6.20%	6.55%	2022-2050	15	20	19
	other	–	2.06%	2.29%		–	2	1
Total lease liabilities						235	262	224
Less: current lease liabilities						(57)	(59)	(44)
Non-current lease liabilities						178	203	180

At 31 December 2021 lease liabilities with original maturity in excess of 15 years amounted to USD 13 million (31 December 2020: USD 12 million and 31 December 2019: USD 15 million).

26. PROVISIONS

	Decommissioning	Environmental provisions	Tax	Other	Total
Balance at 1 January 2019	**337**	**–**	**2**	**1**	340
Accruals	187	1	4	37	229
Utilization	(18)	(1)	(1)	(20)	(40)
Change in estimates	81	–	–	–	81
Unwinding of discount	30	–	–	–	30
Effect of translation to					
presentation currency	45	–	(1)	1	45
Balance at 31 December 2019	**662**	**–**	**4**	**19**	685
Accruals	26	2,136	1	17	2,180
Utilisation	(16)	(48)	–	(9)	(73)
Change in estimates	17	106	–	(6)	117
Unwinding of discount	32	–	–	–	32
Effect of translation to					–
presentation currency	(106)	(113)	–	–	(219)
Balance at 31 December 2020	**615**	**2,081**	**5**	**21**	2,722
Accruals	146	–	2	11	159
Utilisation	(24)	(1,984)	(1)	(20)	(2,029)
Change in estimate	1	176	(1)	(3)	173
Unwinding of discount	39	–	–	–	39
Effect of translation to	(9)	(14)	(1)	–	(24)
presentation currency	**768**	**259**	**4**	**9**	1,040
Balance at 31 December 2021	**29**	**–**	**4**	**16**	49
including the current portion:	**66**	**2,072**	**5**	**19**	2,162
At 31 December 2019	**86**	**48**	**4**	**8**	146
At 31 December 2020					
At 31 December 2021					

Significant event – fuel leakage in Norilsk

On 29 May 2020 an incident occurred at the site of heat and power plant №3 (HPP-3) in the Kayerkan neighborhood of Norilsk: diesel fuel storage reservoir was damaged through sudden failure of support posts, which resulted in approximately 21.2 kt of diesel fuel leakage. According to the Group's assessment, the incident was caused by defects in design and construction as well as by unusually hot weather, which led to thawing of permafrost resulting in sinking of support posts.

The incident resulted in contamination of nearby water bodies and land in the area of leakage as well as damage to biological resources. The main stage of clean-up works following the incident was finished in 2020, with USD 48 million of clean-up costs incurred at 31 December 2020.

On 10 September 2020 Yenisei interregional administration of Federal Environment Supervision Agency (Rosprirodnadzor) filed the lawsuit to the Krasnoyarsk Arbitrary Court against JSC "Norilsk-Taimyr Energy Company" (JSC "NTEK") claiming compensation of damages to water bodies and soil caused by diesel fuel spill at HPP-3 in Norilsk for the amount of RUB 147.78 billion (USD 1,943 million at RUB/USD at the date of filing).

For the year ended 31 December 2020, the Group recognised accruals of the environmental provision for the claim for compensation of environmental damages and expenditure for clean-up and rehabilitation in the total amount USD 2,134 million.

Based on an interpretation of the Russian tax law and the way it was applied at the time the Group assessed the recoverability of the recognised deferred tax assets of USD 415 million with respect to the environmental provision as probable at 31 December 2020 taking into consideration taxable profit forecasts.

On 10 March 2021, in accordance with the court decision on the lawsuit filed by Rosprirodnadzor, the Group paid RUB 146.177 billion (USD 1,968 million) as the compensation of damages to water bodies and soil.

During the first half of 2021, expenditure for the compensation was deducted against taxable profits.

On 3 December 2021, the Group received a decision of the off-site tax audit for the consolidated taxpayers group for the first half of 2021 that invalidated income tax deduction of the damages compensation. The Group is currently in the process of a pre-trial appeal of this decision. Taking into consideration all the facts and circumstances and based on an assessment of the probability of economic benefits outflows, the Group recognised an income tax provision in the amount of USD 402 million offset against income tax prepayments at 31 December 2021.

In April 2021, the Company subsidiary, JSC "NTEK" signed a three-party agreement with the Ministry of Ecology and Environmental Management of the Krasnoyarsk Territory and the Siberian Federal University in order to develop, approve and implement a package of measures to remediate the damage caused by the oil spill to the fauna and broader environment of the Krasnoyarsk Territory.

On 29 July 2021, Yenisei territorial administration of the Federal Agency for Fishery (Rosrybolovstvo) filed a lawsuit for compensation of damages to aquatic bioresources for the total amount of RUB 58.65 billion (USD 810 million).

On 3 September 2021 during the court hearing, the parties agreed to proceed with the dispute settlement by negotiating an amicable agreement, which would include compensation in kind of the damage caused to aquatic life by constructing fish breeding plants, artificially reproducing the affected fish species and releasing the fry to the water bodies. As of the date the consolidated financial statements are authorised for issue, the parties are at the final stage of negotiations regarding this agreement. The next court hearing is scheduled on 18 February 2022.

The key assumptions for determining the liabilities arising from the long-term action plan on artificial reproduction of the biological resources expected to be implemented under the amicable agreement inherently contain a high degree of uncertainty, primarily due to the following: the period of time for fish species reproduction and their population stabilization, the cost to build and operate the fish breeding plants, the costs of operation at the water bodies of the Norilo-Pyasinskoe lake and river system, macroeconomic assumptions (including applicable inflation rates and risk-free rates), and the material effect of the discount factor for longer terms.

During the year ended 31 December 2021, the Group incurred clean-up and remediation expenditures amounting to USD 16 million. The Group continues rehabilitation works as well as post-incident environmental monitoring.

At 31 December 2021 and 2020, the total discounted amount of the provision in relation to the diesel fuel spill at HPP-3 in Norilsk was recognised in the environmental provisions in the consolidated statement of financial position.

The amount of the provision is subject to a high degree of uncertainty and will be adjusted in the future reporting periods as new facts and circumstances arise, including the outcome of the negotiations between the parties involved, court decisions, the reassessment of forecast cost for environment remediation, changes in macroeconomic and other factors. However, to the best of its knowledge and in accordance with the requirements of law the Group does not expect new significant claims to be filed with respect to the HPP-3 fuel spill in the future periods.

Key assumptions used in estimation of decommissioning obligations and environmental provisions were as follows:

	At 31 December		
	2021	2020	2019
Discount rates Russian entities	8.2% - 8.67%	4.2% - 7.0%	5.6% - 7.5%
Discount rates non-Russian entities	4.44% - 9.57%	3.64%	7.14%
Expected closure date of mines	up to 2054	up to 2057	up to 2060
Expected inflation over the period from 2022 to 2041	2.8% - 4.9%	2.8% - 4.1%	2.9% - 4.2%
Expected inflation over the period from 2042 onwards	2.5% - 2.8%	2.5% - 2.8%	2.9%

Present value of expected cost to be incurred for settlement of long-term provisions was as follows:

	At 31 December		
	2021	2020	2019
Due from second to fifth year	317	228	278
Due from sixth to tenth year	231	88	124
Due from eleventh to fifteenth year	86	62	102
Due from sixteenth to twentieth year	66	82	64
Due thereafter	194	100	68
Total	894	560	636

At 31 December 2019 the Group recognised a provision for expenditure to shutdown certain production facilities located on Kola Peninsula starting from 2021 (Note 11). The amount of decommissioning obligation was calculated based on the best estimate of the amount and timing of future expenditures included in the detailed asset retirement programme, and accounted for accordingly.

27. SOCIAL LIABILITIES AND CONTINGENT

SOCIAL COMITTMENTS

Social liabilities of the Group include social provisions and payables relating to social commitments of the Group.

The table below represents changes in social liabilities of the Group for the years ended 31 December 2021, 2020 and 2019.

	Social liabilities
Balance at 1 January 2019	**102**
Accruals of provision and payables	222
Utilisation and payment	(256)
Change in estimates	2
Unwinding of discount	8
Effect of translation to presentation currency	11
Balance at 31 December 2019	**89**
Accruals of provision and payables	489
Utilisation and payment	(398)
Change in estimates	11
Unwinding of discount	5
Effect of translation to presentation currency	(16)
Balance at 31 December 2020	**180**
Accruals of provision and payables	1,062
Utilisation and payment	(431)
Change in estimate	(31)
Unwinding of discount	18
Effect of translation to presentation currency	(7)
Balance at 31 December 2021 including the current portion:	**791**
At 31 December 2019	**51**
At 31 December 2020	**96**
At 31 December 2021	**158**

	At 31 December		
	2021	2020	2019
Due from second to fifth year	296	66	32
Due from sixth to tenth year	216	11	6
Due from eleventh to fifteenth year	117	3	–
Due from sixteenth to twentieth year	2	2	–
Due thereafter	2	2	–
Total	633	84	38

Carrying value of social provisions are determined based on the discounted cash flows required to settle the present obligation. The discount rate was in the range from 8.20% to 8.67% at 31 December 2021 (31 December 2020: 4.30% to 5.58% and 31 December 2019: 5.61% to 6.35%).

In 2017, the Group entered into agreements with the Zabaikalsky Territory Government for the construction and development of industrial, social and other infrastructure until 2026.

In 2020, the Group entered into new agreements with the Zabaikalsky Territory Government and the Government of the Murmansk Region as well as amendments to the existing agreements, and increased its financial commitments accordingly in respect of the social and economic development of these regions, including the construction of social infrastructure facilities.

In 2021, the Group entered into an agreement with the Krasnoyarsk Territory Government to support investment projects in the region envisaging the implementation of a number of social and infrastructure projects until 2028, which will contribute to the region's development in priority areas (society, culture, education, science, support for small and medium-sized businesses and innovation).

At 31 December 2021, the Group carried a provision of USD 115 million (including USD 74 million accrued during 2021 and USD 36 million during 2020) in Social liabilities with respect to the above-mentioned agreements with the regional governments.

Comprehensive Social and Economic Development Plan for the city of Norilsk

In February 2021, the Group entered into a four-party agreement with the Ministry for the Development of the Russian Far East and Arctic, the Krasnoyarsk Territory Government, and the Norilsk Municipality to implement large-scale social and economic development programmes in Norilsk. In December 2021, the Government of the Russian Federation approved the Comprehensive Social and Economic Development Plan for the city of Norilsk ("the Compreshesive Plan"), which includes a schedule of mutual financial commitments from the Government of the Russian Federation, the Krasnoyarsk Territory Government, and the Group for the social and economic development of the city up to 2035. The Comprehensive Plan covers housing renovation, the overhaul and modernisation of the city's engineering and utilities infrastructure, construction, repair, reconstruction and development of social infrastructure facilities and resettlement of Norilsk and Dudinka citizens to areas with more favourable living conditions. In addition, the Comprehensive Plan provides for the preparation and subsequent update of the Norilsk development strategy with the city envisioned a hub for the Taimyr peninsula overall development, the regional tourism industry development concept and the roll-out of support programmes for small and medium-sized businesses in Norilsk. The financial commitments of the Company from 2021 till 2035 amount to RUB 81.3 billion (USD 1,094 million at the US dollar exchange rate at 31 December 2021).

In line with the Group's accounting policy (Note 4), in respect of the part of its obligations under the four-party agreement and the Comprehensive Plan in the amount of RUB 69.3 billion, the Group recognised a provision in its consolidated income statement for the year ended 31 December 2021 at the discounted present value of cash outflows in the amount of RUB 37.9 billion (USD 514 million). Remaining financial commitments stipulated by the Comprehensive plan in the amount of RUB 12 billion (USD 162 million) will be recognised in the consolidated statement of financial position as part of property, plant and equipment, as the expenditure is incurred.

If the nature, timing or amount of financing for particular activities are adjusted in line the Comprehansive Plan's provisions during the term of its implementation, then the Group will update the amount of social provisions in its consolidated financial statements accordingly.

Apart from the financing committed under the four-party partnership agreement and the Comprehensive Plan, in 2021 the Company announced an additional financing programme for the social and economic development of Norilsk for RUB 150 billion (USD 2,019 million). As of the date the consolidated financial statements are authorised for issue, the schedule, amounts and terms of financing of the programme's individual activities, as well as the mechanism for their implementation, have not been approved. The implementation of the programme is subject to the Company's verification procedures and corporate approval, which have not been received as of the date these consolidated financial statements were authorised for issue.

For the year ended 31 December 2021, the Group also accrued USD 127 million (for the year ended 31 December 2020: USD 198 million and for the year ended 31 December 2019: USD 34 million) of social provisions under miscellaneous social programmes and contributions other than those referred to above.

28. TRADE AND OTHER PAYABLES

	At 31 December		
	2021	2020	2019
FINANCIAL LIABILITIES			
Trade payables	416	267	425
Payables for acquisition of property, plant and equipment	417	242	212
Other creditors	397	116	117
Total financial liabilities	1,230	625	754
NON-FINANCIAL LIABILITIES			
Advances received on contracts with customers	994	802	952
Total non-financial liabilities	994	802	952
Total	2,224	1,427	1,706

The maturity analysis for the Group's financial liabilities that shows the remaining contractual maturities was as follows:

	At 31 December		
	2021	2020	2019
Due within one month	854	322	260
Due from one to three months	312	246	199
Due from three to twelve months	64	57	295
Total	1,230	625	754

29. EMPLOYEE BENEFIT OBLIGATIONS

	At 31 December		
	2021	2020	2019
Accrual for annual leave	238	218	206
Wages, salaries and bonuses	190	178	225
Other	31	27	32
Total obligations	459	423	463
Less: non-current obligations	(42)	(22)	(70)
Current obligations	**417**	**401**	**393**

Defined contribution plans

Amounts recognised within continuing operations in the consolidated income statement in respect of defined contribution plans were as follows:

	For the year ended 31 December		
	2021	2020	2019
Pension Fund of the Russian Federation	325	283	281
Mutual accumulated pension plan	6	6	7
Other	5	5	5
Total	336	294	293

30. DERIVATIVE FINANCIAL INSTRUMENTS

At 31 December 2021 the fair value of the cross-currency interest rate swap contracts was presented in non-current liabilities in the amount of USD 72 million (31 December 2020: non-current and current liabilities in the amount of USD 52 million and 84 million respectively and 31 December 2019: other non-current financial assets in the amount of USD 101 million).

The fair value of cross-currency interest rate swap contracts (Level 2 of fair value hierarchy) is calculated as the present value of future cash flows discounted at the interest rates applicable to the currencies of the corresponding cash flows and available at the reporting date. The fair value is subject to a credit risk adjustment that reflects the credit risk of the Group and of the other party and is calculated based on credit spreads derived from current tradable financial instruments (Note 36).

31. DIVIDENDS

Dividends declared and paid in Russian roubles were translated to US dollars using prevailing RUB/USD rates at the declaration date and payment date, respectively, as presented in the table below.

Dividends for the period	Declaration period	Dividends declared			Dividends paid	
		Per share RUB	Per share USD	Total USD million	Payment period	Total USD million
9 months 2021	December 2021	1,523.17	20.81	3,181	January 2022	3,050
Annual 2020	May 2021	1,021.22	13.86	2,193	June 2021	2,198
9 months 2020	December 2020	623.35	8.50	1,346	December 2020	1,334
Annual 2019	May 2020	557.20	7.59	1,201	June 2020	1,264
9 months 2019	December 2019	604.09	9.66	1,529	January 2020	1,567
6 months 2019	September 2019	883.93	13.77	2,179	October 2019	2,180
Annual 2018	June 2019	792.52	12.19	1,928	July 2019	1,986

At 31 December 2020 dividends paid by the Company to the shareholders registrar but not transferred to shareholders bank accounts amounted to USD 32 million and were recognised in trade and other receivables (Note 19).

32. RELATED PARTIES TRANSACTIONS AND OUTSTANDING BALANCES

Related parties include major shareholders and entities under their ownership and control; associates, joint ventures and joint operation; and key management personnel. The Group defines major shareholders as shareholders, which have significant influence over the Group activities. The Company and its subsidiaries, in the ordinary course of their business, enter into various sale, purchase and service transactions with related parties.

Transactions between the Company and its subsidiaries, which are related parties of the Company, have been eliminated on consolidation and are not disclosed in this note. Details of transactions between the Group and other related parties are disclosed below.

	Purchase of assets and services and other operating expenses, net		
Transactions with related parties	For the year ended 31 December 2021	For the year ended 31 December 2020	For the year ended 31 December 2019
Entities under ownership or control of the Group's major shareholders	103	92	89
Associates, joint ventures and joint operation	66	120	136
Total	169	212	225

	Accounts receivable		
Outstanding balances with related parties	At 31 December 2021	At 31 December 2020	At 31 December 2019
Entities under ownership or control of the Group's major shareholders	1	–	1
Associates, joint ventures and joint operation	10	7	10
Total	11	7	11

	Accounts payable and lease liabilities		
Outstanding balances with related parties	At 31 December 2021	At 31 December 2020	At 31 December 2019
Entities under ownership or control of the Group's major shareholders	13	19	3
Associates, joint ventures and joint operation	5	15	8
Total	18	34	11

During the year ended 31 December 2021, the Company acquired own shares from the entities under ownership and control of the Group's major shareholders for a consideration of USD 1,421 million (Note 22).

During the year ended 31 December 2020, the Group acquired from a related party an entity, which holds the right-of-use assets and lease liabilities in the amount of USD 25 million.

Transactions with related parties presented in the table above are made on terms equivalent to those that prevail in arm's length transactions.

Compensation of key management personnel

Key management personnel of the Group consists of members of the Management Board and the Board of Directors. For the year ended 31 December 2021 remuneration of key management personnel of the Group included salary and performance bonuses amounted to USD 91 million (for the year ended 31 December 2020: USD 78 million and for the year ended 31 December 2019: USD 134 million).

33. COMMITMENTS

Capital commitments

At 31 December 2021, contractual capital commitments amounted to USD 3,338 million (31 December 2020: USD 2,021 million and 31 December 2019: USD 930 million).

Leases

The Group is a party to a number of lease contracts with variable lease payments that do not depend on an index or market rental rates, and hence are not recognised as lease liabilities. At 31 December 2021 total future non-discounted variable lease payments under such contracts with the maturity up to 2069 amounted to USD 322 million (31 December 2020: USD 316 million and 31 December 2019: USD 310 million).

At 31 December 2021 future non-discounted lease payments for leased items not transferred to the lessee and not recognised as lease liabilities amounted to USD 36 million (31 December 2020: nil and 31 December 2019: USD 192 million).

34. CONTINGENCIES

By their nature, contingencies will only be resolved when one or more future events occur or fail to occur. The assessment of such contingencies inherently involves the exercise of significant judgement and estimates of the outcome of future events.

Litigation

At 31 December 2021 the Group is involved in legal disputes in the ordinary course of its operations, with the probability of their unfavorable resolution being assessed as possible. At 31 December 2021, total claims under unresolved litigation (except as disclosed in Note 26) amounted to approximately USD 3 million (31 December 2020: USD 7 million and 31 December 2019: USD 14 million).

Taxation contingencies in the Russian Federation

The Russian Federation currently has a number of laws related to various taxes imposed by both federal and regional governmental authorities. Applicable taxes include value-added (VAT), income tax, mandatory social security contributions, mineral extraction tax and other levies. Tax returns, together with other legal compliance areas (for example, customs and currency control matters), are subject to review and investigation by government authorities, which are authorised by law to impose severe fines, penalties and interest charges. Generally, tax returns remain open and subject to inspection for a period of three years following the fiscal year.

The Russian Government's Regulation No. 988 dated 25 June 2021 introduced temporary export duties on some of the base metals produced by the Group for the period from 1 August 2021 to 31 December 2021.

While management of the Group believes that its has recognised adequate provisions for tax liabilities based on its interpretation of current and previous legislation, the risk remains that the tax authorities in the Russian Federation could take differing positions with regard to interpretive issues. This uncertainty may expose the Group to additional taxation, fines and penalties.

Transfer pricing legislation enacted in the Russian Federation starting from 1 January 2012 provides for major modifications making local transfer pricing rules closer to OECD guidelines, but creating additional uncertainty in practical application of tax legislation in certain circumstances, but have certain differences that create uncertainty in practical application of tax legislation in specific circumstances.

A very limited number of publicly available transfer pricing court cases in Russia does not provide enough certainty as to the approach to applying transfer pricing rules in Russia. The impact of any transfer pricing assessment may be material to financial statements of the Group, however, the probability of such impact cannot be reliably assessed.

These transfer pricing rules provide for an obligation for the taxpayers to prepare transfer pricing documentation with respect to controlled transactions and prescribe the basis and mechanisms for accruing additional taxes and interest in case prices in the controlled transactions differ from the market level.

Current Russian transfer pricing legislation requires transfer pricing analysis for the majority of cross-border intercompany and major domestic intercompany transactions. Starting from 2019, transfer pricing control, as a general rule, is applied to domestic transactions only if both criteria are met: the parties apply different tax rates, and the annual turnover of transactions between them exceeds RUB 1 billion (USD 13 million at RUB/USD rate at 31 December 2021).

Russian tax authorities may review prices used in intra-group transactions, in addition to transfer pricing audits. They may assess additional taxes if they conclude that taxpayers have received unjustified tax benefits as a result of those transactions.

Russian tax authorities continue to exchange transfer pricing as well as other tax related information with tax authorities of other countries. This information may be used by the tax authorities to identify transactions for additional in-depth analysis.

Environmental matters

The Group is subject to extensive federal, state and local environmental controls and regulations in the countries in which it operates. The Group's operations involve pollutant emissions to air and water bodies as well as generation and disposal of production waste.

The Group periodically evaluates its environmental provisions pursuant to the environmental legislation in the countries, in which it operates. Such provisions are recognised in the consolidated financial statements as and when obligating events occur. The Management of the Group believes that there are no material obligations for environmental damage other than those recognised in the consolidated financial statements. However, potential liabilities, which could arise due to changes in environmental laws and regulations, cannot be reliably estimated but may be material. The Group is unable to predict the timing or extent to which environmental laws and regulations may change. Such change, if it occurs, may require that the Group modernise technology to meet more stringent standards.

Russian Federation risk

The Group's operations are primarily located in the Russian Federation. Consequently, the Group is exposed to the economic and financial markets of the Russian Federation, which display the characteristics of an emerging market. The legal, tax and regulatory frameworks continue development, but are subject to varying interpretations and frequent changes which contribute together with other legal and fiscal impediments to the challenges faced by entities operating in the Russian Federation.As a result, operations in the Russian Federation involve risks that are not typically associated with those in more developed markets. Stability and success of Russian economy and the Group's business mainly depend on the effectiveness of economic measures undertaken by the government as well as the development of legal system.

Starting 2014, the United States of America, the European Union and some other countries have imposed and gradually expanded economic sanctions against a number of Russian individuals and legal entities. The imposition of the sanctions has led to increased economic uncertainty, including more volatile equity markets, a depreciation of the Russian rouble, a reduction in both local and foreign direct investment inflows and a significant tightening in the availability of credit. As a result, some Russian entities may experience difficulties accessing the international equity and debt markets and may become increasingly dependent on state support for their operations. The longer-term effects of the imposed and possible additional sanctions are difficult to determine.

Recent elevated tensions related to the situation over Ukraine have further increased the economic uncertainty and the risk of additional sanctions. The consolidated financial statements reflect management's assessment of the impact of the Russian business environment on the operations and the financial position of the Group. The future business environment may differ from management's assessment.

Impact of the COVID-19 outbreak on the Group's operations

On 11 March 2020, the World Health Organization declared COVID-19 outbreak a pandemic. The spread of COVID-19 led to lockdown and business disruption in many countries, which triggered increased volatility of financial markets, including commodity markets, and general economic uncertainty. Also, the COVID-19 coronavirus pandemic has continued to create additional uncertainty in the business environment.

The Group operates primarily in exploration, extraction, refining of ore and nonmetallic minerals and sale of base and precious metals produced from ore, which have not been subject to significant adverse impact by the outbreak of coronavirus. According to the analysis of the Group's financial position, its liquidity and access to debt financing, including compliance with debt covenants, the above factors did not have a material effect on the Group's financial stability, hence the management of the Group believes that there is no uncertainty related to the Group's going concern.

Based on the results of the analysis of possible outcomes and their consequences for the economic environment and operations of the Group, the Group's management has developed and implemented a number of measures to ensure normal operating activities, including:

- administrative arrangements to ensure timely response to threats, caused by COVID-19, continuity of production, procurement and marketing of the Group's products and protection of health and safety of employees;
- establishing remote workplaces for employees in administrative functions, sales and procurement departments whose presence in the office is not necessary;
- training employees in operations to ensure strict compliance with work safety measures including social distancing;
- procurement of supplies to ensure compliance with the requirements of government authorities relating to wearing personal protective equipment and the use of antiseptics;
- providing financial support to the regional healthcare, including significant funding allocated to healthcare institutions through procurement of necessary medical equipment and medicines to prevent further spread of the epidemic;
- uninterrupted deliveries of supplies for operating and investing activities as per arrangements with the Group suppliers.

For the year ended 31 December 2021, the Group spent USD 66 million in cash net of VAT (for the year ended 31 December 2020: USD 157 million) to prevent and combat the spread of COVID-19. For the year ended 31 December 2021 expenses in the amount of USD 67 million were recognized in the consolidated income statement (for the year ended 31 December 2020: USD 123 million), which are presented in the following line items:

Line items of the consolidated income statement		For the year ended 31 December	
		2021	2020
Cost of metal sales	Labour	10	45
	Materials and supplies	4	5
	Sundry costs	6	5
Cost of other sales	Labour	6	11
General and administrative expenses	Staff costs and other costs	11	8
Other operating expenses	Social expenses	30	49

The part of the amount paid for the year ended 31 December 2021 included capital expenditures of USD 3 million (for the year ended 31 December 2020: USD 12 million). The change in inventory balances and prepayments for future supplies amounted to USD (2) million (for the year ended 31 December 2020: USD 22 million).

Taking into account the above-mentioned measures and the Group's current operational and financial performance as well as other currently available public information, Group management does not expect a significant adverse impact on the financial position and operating results of the Group in a short-term perspective in the face of the ongoing epidemic of coronavirus. The management will continue to monitor the situation closely and will implement necessary measures to respond to possible adverse events, as they occur.

35. FINANCIAL RISK MANAGEMENT

Capital risk management

The Group manages its capital in order to safeguard the Group's ability to continue as a going concern and to maximise the return to shareholders through the optimisation of debt (long and short-term borrowings) and equity (share capital and retained earnings) structure.

Management of the Group regularly reviews its level of leverage, calculated as the ratio of Net Debt to EBITDA, to ensure that it is in line with the Group's financial policy aimed at preserving investment grade credit ratings.

The Company maintains credit ratings from international rating agencies S&P's, Fitch and Moody's at BBB-/BBB-/Baa2 investment grade level.

Financial risk factors and risk management structure

In the normal course of its operations, the Group is exposed to a variety of financial risks: market risk (including interest rate and currency risk), credit risk and liquidity risk. The Group has an explicit risk management structure aligned with internal control and analysis procedures that enable it to assess, evaluate and monitor the Group's exposure to such risks.

Interest rate risk

Interest rate risk relates to changes in interest rates that could adversely impact the financial results

of the Group. The Group's interest rate risk arises from borrowings at floating rates.

The Group performs thorough analysis of its interest rate risk exposure on a regular basis, primarily the sensitivity analysis of basic floating rate. In order to minimize and manage the risk, the Group carries out arrangements to maintain the structure of debt portfolio which includes loans and borrowings with fixed and floating interest rates. The Group also considers impact of this risk factor together with changes in the macroeconomic environment, particularly stage of economic growth and increase in commodity prices, generally accompanying the increase of base rates.

Management believes that the Group's exposure to interest rate risk fluctuations is at an acceptable level.

A fundamental reform of major interest rate benchmarks is being undertaken globally, including the replacement of some interbank offered rates (IBORs) with alternative nearly risk-free rates (referred to as 'IBOR reform'). The Company monitors market developments and manages the Group's transition to alternative rates. The Group signed amendments to certain loan agreements to replace LIBOR rate with the alternative rate – Term Secured Overnight Financing Rate (Term SOFR) in effect from June 2023 and intends to switch the remaining loan agreements with floating interest rates to the alternative rates during 2022 and 2023, not later than the scheduled discontinuation of LIBOR rates.

Currency risk

Currency risk relates to changes in the fair value or future cash flows of a financial instrument denominated in foreign currency because of changes in exchange rates.

The major part of the Group's revenue and related trade accounts receivable are denominated in US dollars while expenditure is primarily incurred in Russian roubles and therefore the Group is exposed to fluctuation of USD exchange rate.

Currency risk arising from other currencies is assessed by management of the Group as immaterial.

The currency risk is managed by analysis of currency position, efficiency control of currency exchange operations and the best possible matching of cash inflows and cash outflows denominated in the same currency.

The Group uses in appropriate cases derivative financial instruments primarily cross-currency interest rate swaps to reduce exposure to currency risk by balancing revenue cash flows denominated in US Dollar and liabilities denominated in Russian Rouble.

The carrying amounts of monetary assets and liabilities denominated in foreign currencies other than functional currencies of the individual Group entities at 31 December 2021, 2020 and 2019 were as follows:

	At 31 December 2021			At 31 December 2020			At 31 December 2019		
	USD	EUR	Other currencies	USD	EUR	Other currencies	USD	EUR	Other currencies
Cash and cash equivalents	2,811	20	39	4,940	19	110	1,227	35	69
Trade and other receivables	792	35	–	638	15	–	398	13	4
Other assets	55	8	12	32	–	12	59	2	10
Total assets	**3,658**	**63**	**51**	**5,610**	**34**	**122**	**1,684**	**50**	**83**
Trade and other payables	353	118	4	277	99	7	213	66	8
Loans and borrowings	9,862	24	–	9,055	30	–	7,966	30	–
Lease liabilities	107	15	–	114	20	2	147	3	2
Other liabilities	23	–	–	16	2	–	11	16	–
Total liabilities	**10,345**	**157**	**4**	**9,462**	**151**	**9**	**8,337**	**115**	**10**

Given that the Group's exposure to currency risk for the net USD-denominated monetary liabilities is offset by the revenue denominated in USD, management believes that the Group's exposure to currency risk is at an acceptable level.

The sensitivity analysis of interest rate and currency risks

	Increase/(decrease) of profit before tax for the year ended 31 December		
	2021	2020	2019
INTEREST RATE RISK			
1 p.p. RUB rate increase impact	(8)	(18)	(33)
1 p.p. USD rate increase impact	(35)	(34)	(6)
CURRENCY RISK			
USD 20% strengthening against RUB	(1,421)	(1,034)	(1,594)

The sensitivity analysis is prepared including cross-currency interest rate swap effects and assuming that the amount of loans and borrowings at floating rates outstanding at the reporting date was outstanding for the whole year.

Credit risk

Credit risk refers to the risk that a debtor will default on its contractual obligations resulting in a financial loss to the Group. Credit risk arises from cash and cash equivalents, bank deposits as well as credit exposures to customers, including outstanding uncollateralised trade and other receivables as well as loans receivable.

The Group minimizes the credit risk through its allocation to a large number of customers and respective credit limits approval based on customers financial position analysis in addition to trade financing and insurance instruments, bank guarantees and documentary forms of payment.

The Group assesses customers creditworthiness using its current and forecasted credit rating from international credit-rating agencies. In case of their absence, the Group performs the assessment of a customer's financial sustainability and general creditworthiness through calculation of financial metrics and analysis of the financial statements of a customer for several reporting periods.

The outstanding balances with 5 financial institutions and 5 largest customers are presented below. The banks have a minimum of BB+ credit rating.

Cash and cash equivalents	Outstanding balance at 31 December		
	2021	2020	2019
Bank A	1,548	2,512	821
Bank B	902	800	715
Bank C	572	712	485
Bank D	541	170	162
Bank E	405	160	152
Other	1,579	837	449
Total	5,547	5,191	2,784
TRADE AND OTHER RECEIVABLES			
Customer A	149	108	31
Customer B	24	32	24
Customer C	19	26	22
Customer D	18	21	21
Customer E	13	21	21
Other	245	329	243
Total	468	537	362

The Group is not economically dependent on a limited number of customers because the majority of its products are industrial metals traded on the global commodity markets. Metal and other sales to the Group's customers are presented below:

	For the year ended 31 December 2021		For the year ended 31 December 2020		For the year ended 31 December 2019	
	Revenue USD million	%	Revenue USD million	%	Revenue USD million	%
Largest customer	3,431	19	2,541	16	2,363	17
Next 9 largest customers	6,169	35	5,596	36	4,176	31
Total 10 largest customers	9,600	54	8,137	52	6,539	48
Remaining customers	8,252	46	7,408	48	7,024	52
Total	17,852	100	15,545	100	13,563	100

Management of the Group believes that with the exception of the cash and cash equivalents in banks indicated above there is no significant concentration of credit risk, while credit risks related to cash and cash equivalents are at an acceptable level due to high credit ratings of financial institutions, where such cash and cash equivalents are held.

The following table provides information about the exposure to credit risk for financial assets:

		At 31 December		
	Note	2021	2020	2019
Cash and cash equivalents	20	5,547	5,191	2,784
Derivative financial instruments	16	10	1	106
Loans and other long-term receivables	16	59	113	160
Trade and other receivables	19	468	537	362
Cover for irrevocable letters of credit	15	–	14	52
Bank deposits not included in cash and cash equivalents	16	46	11	8

Liquidity risk

Liquidity risk is the risk that the Group will not be able to settle all liabilities as they fall due.

The Group's Centralised treasury continuously monitors actual and forecasted cash flows and performs analysis of maturity profiles of financial liabilities to take timely appropriate actions to minimize possible negative effects. These actions include liquidity management and proactive management of credit portfolio to minimise the volume of short-term debt and maintain weighted average period of credit portfolio at an acceptable level.

Current liquidity management involves detailed budgeting procedures, as well as analysis and structuring of a daily payment position for a 30-day period. The payment position is calculated separately for each currency and bank account. In addition to the continuous analysis of the payment position, at least three times a month the Group updates its rolling cash flow forecast model with a horizon of up to 12 months.

The Group manages liquidity risk by maintenance of liquid funds and a portfolio of committed credit facilities and overdrafts with a number of banks at a level, which is sufficient to cover possible revenue fluctuations taking into account price, currency and interest rate risks. In particular, the Group had available committed bank facilities for the management of its day-to-day liquidity requirements of USD 3,500 million at 31 December 2021 (31 December 2020: USD 3,313 million and 31 December 2019: USD 5,044 million).

The following table contains the maturity profile of the Group's borrowings and lease liabilities (maturity profiles for trade and other payables are presented in Note 28) based on contractual undiscounted payments, including interest:

At 31 December 2021	Total	Due in the first year	Due in the second year	Due in the third year	Due in the fourth year	Due in the fifth year	Due there- after
FIXED RATE BANK LOANS AND BORROWINGS							
Principal	4,591	1,504	1,000	1,087	500	500	–
Interest	407	193	97	76	27	14	–
	4,998	1,697	1,097	1,163	527	514	–
FLOATING RATE BANK LOANS AND BORROWINGS							
Principal	5,676	107	2,166	2,100	614	676	13
Interest	221	88	71	40	14	8	–
	5,897	195	2,237	2,140	628	684	13
LEASE LIABILITIES							
Lease liabilities	279	65	50	45	31	20	68
CROSS-CURRENCY INTEREST RATE SWAP							
Payable	426	12	12	402	–	–	–
Receivable	(409)	(24)	(24)	(361)	–	–	–
	17	(12)	(12)	41	–	–	–
Total	11,191	1,945	3,372	3,389	1,186	1,218	81

At 31 December 2020	Total	Due in the first year	Due in the second year	Due in the third year	Due in the fourth year	Due in the fifth year	Due there- after
FIXED RATE BANK LOANS AND BORROWINGS							
Principal	4,299	4	1,504	1,000	1,088	500	203
Interest	656	213	203	106	86	36	12
	4,955	217	1,707	1,106	1,174	536	215
FLOATING RATE BANK LOANS AND BORROWINGS							
Principal	5,387	7	345	2,558	2,055	400	22
Interest	312	105	103	74	29	1	–
	5,699	112	448	2,632	2,084	401	22
LEASE LIABILITIES							
Lease liabilities	288	61	61	48	41	26	51
CROSS-CURRENCY INTEREST RATE SWAP							
Payable	1,364	938	12	12	402	–	–
Receivable	(1,305)	(893)	(24)	(24)	(364)	–	–
	59	45	(12)	(12)	38	–	–
Total	11,001	435	2,204	3,774	3,337	963	288

At 31 December 2019	Total	Due in the first year	Due in the second year	Due in the third year	Due in the fourth year	Due in the fifth year	Due there- after
FIXED RATE BANK LOANS AND BORROWINGS							
Principal	5,860	985	974	1,505	1,000	1,154	242
Interest	1,050		277	200	103	82	42
	6,910	1,331	1,251	1,705	1,103	1,236	284
FLOATING RATE BANK LOANS AND BORROWINGS							
Principal	3,797	104	1,204	1,541	833	100	15
Interest	346	143	118	68	16	1	–
	4,143	247	1,322	1,609	849	101	15
LEASE LIABILITIES							
Lease liabilities	274	55	48	44	41	37	49
CROSS-CURRENCY INTEREST RATE SWAP							
Payable	1,415	51	938	12	12	402	–
Receivable	(1,665)	(109)	(1,065)	(29)	(29)	(433)	–
	(250)	(58)	(127)	(17)	(17)	(31)	–
Total	11,077	1,575	2,494	3,341	1,976	1,343	348

36. FAIR VALUE OF FINANCIAL INSTRUMENTS

Financial instruments that are measured at fair value subsequent to initial recognition, are grouped into Levels 1 to 3 of fair value hierarchy based on the degree to which their fair value is observable as follows:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the assets or liabilities, either directly or indirectly;
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the assets or liabilities that are not based on observable market data.

The management believes that the carrying value of financial instruments such as cash and cash equivalents (Note 20), other financial assets (Note 16), trade and other receivables (Note 19), trade and other payables (Note 28) and lease liabilities (Note 25) either approximates to their fair value or may not significantly differ from it.

At 31 December 2020 other current liabilities measured at fair value through profit or loss included a liability on the execution of a put option held by owners of 13.3% non-controlling interest in the share capital in LLC "GRK "Bystrinskoye" in the amount of USD 428 million (non-current liability at 31 December 2019: USD 210 million). Since the non-controllling interest owners did not exercise their right under the put option before its expiry date of 31 December 2021, the Group derecognised the liability on the execution of the put option as at 31 December 2021. The Group presented derecognition of the liability directly in the consolidated statement of changes in equity as Other effects related to transactions with non-controlling interest owners in the amount of USD 490 million, which was its fair value at 31 December 2021 immediately before derecognition. The fair value of the liability at all applicable dates was determined based on the discounted cash flows of LLC "GRK "Bystrinskoye" less its net debt taking into account the amount of working capital at the reporting date and with the relevant discount reflecting the non-controlling ownership interest. The fair value estimate is within Level 3 of fair value hierarchy. The most significant estimates and assumptions used in determination of the fair value are as follows:

- Future cash flows are forecast up to 2044 based on budgeted amounts, taking into account actual results for the previous years as well as capital expenditure budgets;
- Prices for metal concentrates (gold, copper) and iron ore are estimated using consensus forecasts for commodity prices;
- Metals concentrate (copper, gold and iron ore concentrates) production and sales forecast is based on production reports available at the reporting date and the life of mine plan taking into account the current production capacity and current estimates of metal content in ore reserves;
- The inflation and exchange rate forecasts are based on Oxford Economics data consistent with a consensus forecast of investment banks. Forecast for exchange rate is made based on expected RUB and USD inflation indices;
- An after-tax nominal RUB discount rate of 13.9% (31 December 2020: 13.8%, 31 December 2019: 14.3%) was estimated by reference to the weighted average cost of capital and the management's estimates of the risks specific to the asset.

Change in the fair value of the liability on the execution of the put option for 2021 till the date of derecognition amounted to USD 66 million included in the financial costs of the consolidated income statement (31 December 2020: USD 262 million and 31 December 2019: USD 64 million). The estimation of fair value of the liability on the execution of the put option was sensitive to changes in the number of key assumptions. The sensitivity analysis at the reporting date is disclosed in the table below:

	Change of parameters			
Increase in fair value of the liability on the execution of the put option	Decrease in discount rate by 1 p.p.	Weakening of RUB/ USD exchange rate by 10%	Increase of copper price by 10%	Increase of gold price by 10%
At 31 December 2020	25	70	37	36
At 31 December 2019	15	68	33	30

The information below presents financial instruments not measured at fair value, including loans and borrowings (Note 24), trade and other long-term payables (Note 28).

	At 31 December 2021		At 31 December 2020		At 31 December 2019	
	Carrying value	Fair value Level 1	Carrying value	Fair value Level 1	Carrying value	Fair value Level 1
Fixed rate bonds	4,574	4,639	4,277	4,512	4,865	5,100
Total bonds	4,574	4,639	4,277	4,512	4,865	5,100
Loans, including:	Carrying value	Fair value Level 2	Carrying value	Fair value Level 2	Carrying value	Fair value Level 2
Floating rate loans	5,648	5,439	5,349	5,309	3,776	3,814
Fixed rate loans	4	4	8	8	979	1,007
Total loans	5,652	5,443	5,357	5,317	4,755	4,821
	Carrying value	Fair value Level 2	Carrying value	Fair value Level 2	Carrying value	Fair value Level 2
Trade and other long-term payables	55	55	32	32	37	37
Total trade and other long-term payables	55	55	32	32	37	37

The fair value of financial liabilities presented in the table above is determined as follows:

- the fair value of corporate bonds was determined as their market price at the reporting dates;
- the fair value of floating rate and fixed rate loans and borrowings at 31 December 2021, 2020 and 2019 was determined as the present value of future cash flows (principal and interest), discounted at the market interest rates, which are determined as of the reporting date based on the currency of a loan, its expected maturity and credit risks attributable to the Group;
- the fair value of trade and other long-term payables at 31 December 2021, 2020 and 2019 was determined as the present value of future cash flows, discounted at the best management estimate of market interest rates.

37. INVESTMENTS IN SIGNIFICANT SUBSIDIARIES

Subsidiaries by operating segments	Country	Nature of business	Effective % held		
			31 December 2021	31 December 2020	31 December 2019
CMK GROUP					
JSC “Norilsky Kombinat”	Russian Federation	Rental of property	100	100	100
JSC “Norilskgazprom”	Russian Federation	Gas extraction	100	100	100
JSC “Norilsktransgaz”	Russian Federation	Gas transportation	100	100	100
JSC “NTEK”	Russian Federation	Electricity production and distribution	100	100	100
LLC “ZSC”	Russian Federation	Construction	100	100	100
LLC “Norilsknickelremont”	Russian Federation	Repairs	100	100	100
LLC “Norilskyi obespechivaushyi complex”	Russian Federation	Production of spare parts	100	100	100
SOUTH CLUSTER					
LLC “Medvezhyi ruchey”	Russian Federation	Ore mining and processing	100	100	100
KGMK GROUP					
JSC “Kolskaya GMK”	Russian Federation	Mining and metallurgy	100	100	100
LLC “Pechengastroy”	Russian Federation	Repairs	100	100	100
Norilsk Nickel Harjavalta					
Norilsk Nickel Harjavalta OY	Finland	Metallurgy	100	100	100
GRK BYSTRINSKOYE					
LLC “GRK “Bystrinskoye”	Russian Federation	Ore mining and processing	50.01	50.01	50.01
LLC “Vostokgeologiya”	Russian Federation	Geological works and construction	100	100	100
OTHER NON-METALLURGICAL					
Metal Trade Overseas A.G.	Switzerland	Distribution	100	100	100
Norilsk Nickel (Asia) Limited	Hong Kong	Distribution	100	100	100
Norilsk Nickel USA, Inc.	USA	Distribution	100	100	100
LLC “Institut Gypronickel”	Russian Federation	Research	100	100	100
JSC “TTK”	Russian Federation	Supplier of fuel	100	100	100
JSC “ERP”	Russian Federation	River shipping operations	100	100	100
LLC “Aeroport Norilsk”	Russian Federation	Airport	100	100	100
JSC “AK “NordStar”	Russian Federation	Air company	100	100	100

Joint operations by operating segments	Country	Nature of business	Effective % held		
			31 December 2021	31 December 2020	31 December 2019
OTHER MINING					
Nkomati Nickel Mine	Republic of South Africa	Ore mining and processing	50	50	50

APPENDIX

REPORT ON PAYMENTS TO GOVERNMENT

Nornickel publishes a report on payments to government in the countries where it operates.

The report confirms the Company's compliance with the highest standards of corporate governance and business transparency.

Income tax payments are recorded in accordance with the taxpayer's belonging to a particular reporting segment. The amounts of income tax payments for a consolidated taxpayers group are therefore reflected in the GMK Group reporting segment since the designated member of the consolidated taxpayers group belongs to this segment.

Payments to government authorities in 2021 by asset, USD million

Asset	Income tax	MET	Licences and similar payments	Total payments
GMK Group	2,068	421	0	2,489
South Cluster	84	79	0	163
KGMK Group	-1	27	0	26
NN Harjavalta	14	0	0	14
GRK Bystrinskoye	18	3	0	21
Other mining	-	0	0	0
Other non-metallurgical	28	0	0	28
Total	2,211	530	0	2,741

Payments to government authorities in 2021 by country, USD million

Country	Income tax	MET	Licences and similar payments	Total payments
Russia	2,174	530	0	2,704
Finland	14	0	0	14
Switzerland	23	0	0	23
Other	0	0	0	0
Total	2,211	530	0	2,741

GLOSSARY

Anode. Crude metal (nickel or copper) obtained from anode smelting and fed for electrolytic refining (electrolysis) whereby it is dissolved.

Refinement. The process of extracting high purity precious metals through their separation and removal of impurities.

Rich ores. Ores with high sulphide content (over 70%) and the following metal grades: 2–5% for nickel, 2–25% for copper, and 5–100 g/t for platinum group metals.

Probable ore reserves. Estimated based on the economically mineable part of indicated and, in some circumstances, measured mineral resources, including possible dilution and losses during mining operations.

Disseminated ores. Ores containing 5% to 30% sulphides, with the following metal grades: 0.2–1.5% for nickel, 0.3–2% for copper, and 2–10 g/t for platinum group metals.

Leaching. Selective dissolution of one or several components of the processed solid material in organic solvents or water solutions of inorganic substances. Kinds of leaching: acid leaching (leaching with acids as reagents), chlorine leaching.

Proven ore reserves. Estimated based on the economically mineable part of measured mineral resources, including possible dilution and losses during mining operations.

Metal extraction. The ratio between the quantity of a component extracted from the source material and its quantity in the source material (as a percentage or a fraction).

Cathode. Pure metal (nickel or copper) obtained as a result of electrolytic refining of anodes.

Cake. Solid residue from filtering pulp during leaching of ores, concentrates or metallurgical intermediates, and purification of processing solutions.

Conversion. Oxidation process to turn matte into converter matte (in smelting copper-nickel concentrates) or blister copper (in smelting copper concentrates) and remove slag (carbon, sulphur, iron and other impurities).

Concentrate. A product of ore concentration with a high grade of the extracted mineral, which gives its name to the concentrate (copper, nickel, etc.).

Cuprous ores. Ores containing 20% to 70% sulphides, with the following metal grades: 0.2–2.5% for nickel, 1.0–15.0% for copper, 5–50 g/t for platinum group metals.

Roasting. Heating ore to high temperatures to trigger chemical changes that enable subsequent metal recovery processes.

Concentration. Artificial improvement of metallurgical feedstock mineral grades by removal of a major portion of waste rock not containing any valuable minerals.

Oxide. A compound of a chemical element with oxygen.

Tailings pit. A complex of hydraulic structures used to receive and store mineral waste / tailings.

Vanyukov furnace. An autogenous smelter for processing concentrates, where smelting is performed in a bath of slag and matte, with intensive injection of air-oxygen mixture. The heat from oxidation reactions is actively used in the process.

Flash smelter. An autogenous smelter for processing dry concentrates, where the smelted substance is finely ground feedstock mixed with a gaseous oxidiser (air, oxygen), which holds melted metal particles suspended. The heat from oxidation reactions is actively used in the process.

Fluidised bed furnace. A furnace where solid particles are intensively mixed under a fluidising impact of heated gas (air, oxygen or flue gases) flowing through the bed of grainy material (powder, granules).

Pyrrhotite concentrate. By-product of copper-nickel ore concentration.

Smelting. Pyrometallurgical process carried out at temperatures that ensure complete melting of the processed material.

Sublevel caving. An underground mining method in which ore blocks are developed from top to bottom via sublevels, and ore is extracted by blasting or causing sublevels to cave in. The voids formed after extraction get filled with fractured rock.

Pulp. A mixture of finely ground rock with water or a water solution.

Ore. Natural minerals containing metals or their compounds in economically valuable amounts and forms.

Mine. A mining location for extraction of ores.

Thickening. Separation of liquid (water) and solid particles in dispersion systems (pulp, suspension, colloid) based on natural gravity settling of solid particles in settlers and thickeners, or centrifugal settling of solid particles in hydrocyclones.

Metal grade. The ratio between the weight of metal in the dry material and the total dry weight of the material expressed as a percentage or grammes per tonne (g/t).

Sulphides. Compounds of metals and sulphur.

Drying. Removal of moisture from concentrates performed in designated drying furnaces (to a moisture level below 9%).

Tolling agreement. An agreement to process foreign feedstock with subsequent shipping of finished product. The feedstock and end product are exempt from customs duties.

Converter matte. A metallurgical intermediate produced as a result of matte conversion. Depending on the chemical composition, the following types of converter matte are distinguished: copper, nickel and copper-nickel.

Filtration. The process of reducing the moisture level of the pulp by forcing it through a porous medium.

Flotation. A concentration process where specific mineral particles suspended within the pulp attach to air bubbles. Poorly wettable mineral particles attach to the air bubbles and rise through the suspension to the top of the pulp, producing foam, while well wettable mineral particles do not attach to the bubbles and remain in the pulp. This is how the minerals are separated.

Tailings. Waste materials left over after concentration processes and containing mostly waste rock with a minor amount of valuable minerals.

Ore mixture. A mixture of materials in certain proportions needed to achieve the required chemical composition of the end product.

Slag. Melted or solid substance with a varying composition that covers the surface of a liquid product during metallurgical processes (resulting from ore mixture melting, melted intermediate processing and metal refining) and includes waste rock, fluxes, fuel ash, metal sulphides and oxides, and products of interaction between the processed materials and lining of melting units.

Sludge. Powder product containing precious metals settling during electrolysis of copper and other metals.

Matte. Intermediate product in the form of an alloy of sulphides of iron and non-ferrous metals with a varying chemical composition. Matte is the main product accumulating precious metals and metal impurities the feedstock contains.

Electrolysis. A series of electrochemical reduction-oxidation reactions at electrodes immersed in an electrolyte as a result of passing of an electric current from an external source.

Electrowinning. Electrodeposition of metal from ores that have been put in solution. Ore or concentrate is leached with agents that dissolve metal-containing minerals or the entire material, so that the metal is deposited on the cathode. The electrolyte is typically reused in the process. The end product is high-purity metal cathode.

Measurement units

Length	
1 km	0.6214 mi
1 m	3.2808 ft
1 cm	0.3937 in
1 mi	1.609344 km
1 foot	0.3048 m
1 in	2.54 cm

Area	
1 sq m	10.7639 sq ft
1 sq km	0.3861 sq mi
1 ha	2.4710 acres
1 sq ft	0.09290304 sq m
1 sq m	2.589988 sq km
1 acre	0.4046873 ha

Weight	
1 kg	2.2046 lb
1 metric tonne	1,000 kg
1 short tonne	907.18 kg
1 troy ounce	31.1035 g
1 lb	0.4535924 kg
1 g	0.03215075 oz t

Currency exchange rates in 2017–2021

Index	2017	2018	2019	2020	2021
Average rate Russian Rouble / US Dollar	58,35	62,71	64,74	72,15	73,65
Average effective rate Russian Rouble / US Dollar (for CAPEX)	58,32	63,88	64,40	73,15	73,42

CONTACTS

INVESTOR RELATIONS

VLADIMIR ZHUKOV,

Vice President for Investor Relations

MIKHAIL BOROVIKOV,

Deputy Head of Investor Relations

Email: ir@nornik.ru

Phone: +7 (495) 786–83–20

FOR SHAREHOLDERS

OKSANA KUZNETSOVA,

Head of the Share Capital Division

Email: gmk@nornik.ru

Phone: +7 (495) 797–82–44

PUBLIC RELATIONS

TATIANA SMIRNOVA,

Head of Public Relations

ANDREY CHUPRASOV,

Head of Corporate Communications Department

Email: pr@nornik.ru

Phone: +7 (495) 785–58–00

REGISTRAR

JSC IRC - R.O.S.T. Registrar

Head office: 18 bldg. 5B, Stromynka Street, 107076 Moscow, Russian Federation

Email: info@rrost.ru

Web-site: www.rrost.ru

Phone: +7 (495) 989–76–50

ADR DEPOSITARY

Bank of New York Mellon

Address: 240 Greenwich Street, 8th Floor West, New York, NY 10286

Phone: +1 (212) 815–50–21

Web-site: www.bnymellon.com

AUDITOR

JSC «KPMG»

Address: 24E, 16/5 Olympiysky prospekt, Moscow, 129110 Russian Federation

Phone: +7 (495) 937–44–77

Email: moscow@kpmg.ru

Web-site: www.kpmg.com/ru

Disclaimer

The information herein relies on the data available to MMC Norilsk Nickel as at the date of this Annual Report.

After this Annual Report was prepared, the Company's operations, its operating and financial results, and the report content may have been affected by external or other factors, including the escalation of the geopolitical conflict in Ukraine, sanctions imposed by the United States of America, the European Union, the United Kingdom and other nations against the Russian Federation, Russian individuals and legal entities, Russian Federation's response to sanctions, economic and other measures introduced to maintain the economic and financial stability of the Russian Federation, the COVID-19 pandemic and other factors beyond the Company's control. In particular, the United States, the European Union, the United Kingdom, and other nations have imposed export controls against the Russian Federation that restrict, among other things, supply of industrial equipment to the Russian Federation. These export controls may have a negative impact on the manufacturing capabilities of MMC Norilsk Nickel, should it be unable to purchase and deliver equipment to the Russian Federation.

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

Forward-looking statements are subject to risks and uncertainties as they refer to events and depend on circumstances that may or may not occur in the future. Forward-looking statements are not guarantees of the Company's future operational and financial performance, and actual results of the Company's operations, its financial position, liquidity, prospects, growth, strategy, and the development of the industry in which MMC Norilsk Nickel operates may differ materially from those expressed or implied by the forward-looking statements contained in this annual report. MMC Norilsk Nickel hereby disclaims any liability for any loss resulting from the use of this annual report, and assumes no obligation to update any forward-looking statements contained herein.

Information about market share and other statements regarding the industry in which MMC Norilsk Nickel operates, as well as the Company's position relative to its competitors is 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 independently verified, and the financial and operating performance metrics of MMC Norilsk Nickel's competitors used to assess and compare positions may have been calculated differently from the method used by MMC Norilsk Nickel.

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