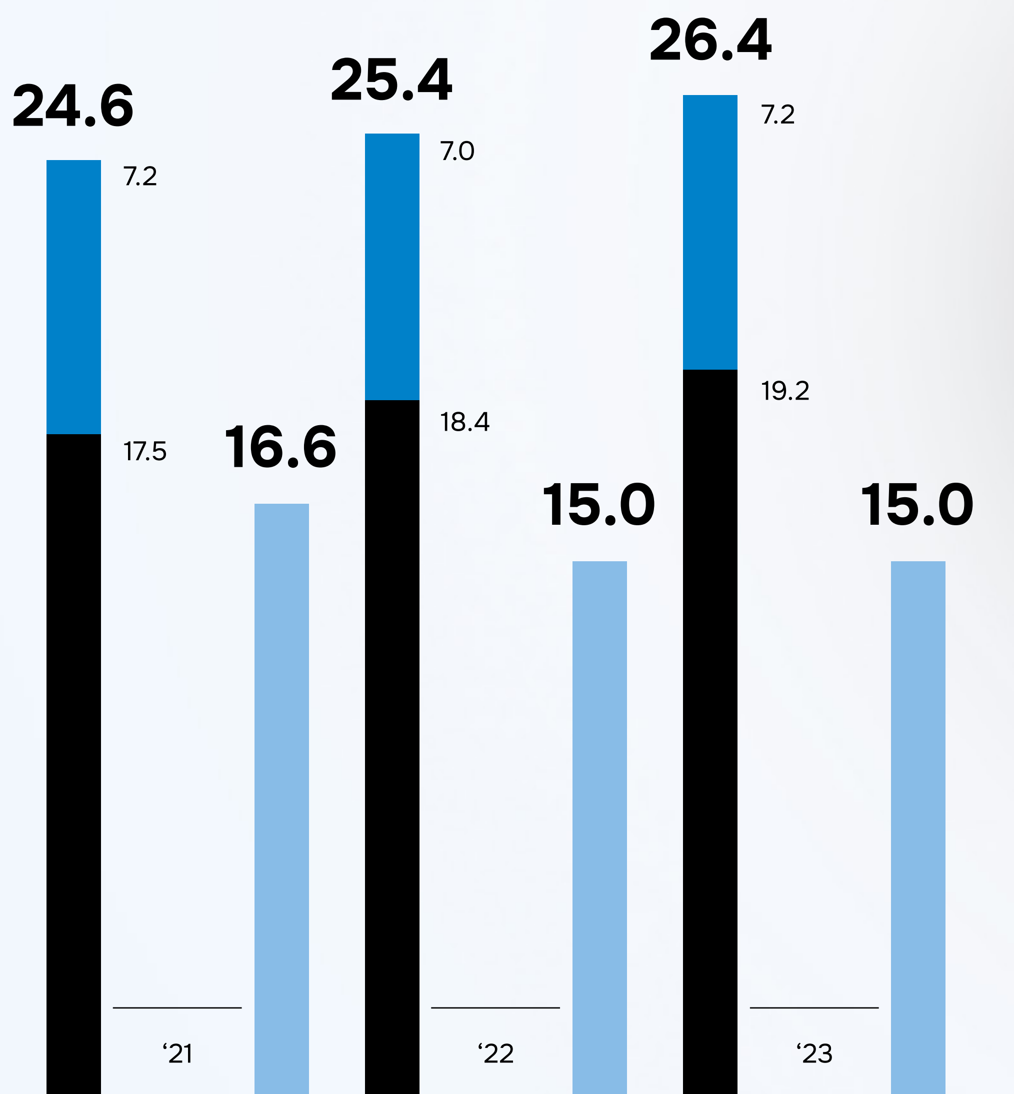
STAYING STRONG

Group ore output, MLN T



- **Norilsk Division** (copper-nickel sulphide ores)
- **Kola Division** (copper-nickel sulphide ores)
- **Trans-Baikal Division** (gold-iron-copper ores)

BUSINESS OVERVIEW

Mineral resource base

The Group’s mineral resources and ore reserves as at 1 January 2024

NORILSK AND KOLA DIVISIONS[1] (copper-nickel sulphide ores)	Ore mln t	Metal grade						Contained metal					
		Ni, (%)	Cu, (%)	Pd (g/t)	Pt (g/t)	Au (g/t)	6PGM[2] (g/t)	Ni (kt)	Cu (kt)	Pd (koz)	Pt (koz)	Au (koz)	6МПГ[2] (koz)
TOTAL PROVEN AND PROBABLE RESERVES	**1,267**	**0.70**	**1.26**	**3.26**	**0.88**	**0.18**	**4.30**	**8,918**	**15,946**	**132,756**	**35,955**	**7,236**	**175,044**
TOTAL MEASURED AND INDICATED RESOURCES[3]	**1,869**	**0.74**	**1.22**	**3.22**	**0.89**	**0.18**	**4.26**	**13,890**	**22,875**	**193,341**	**53,345**	**11,001**	**256,067**
TOTAL INFERRED RESOURCES	**888**	**0.68**	**1.14**	**2.87**	**0.76**	**0.17**	**3.76**	**6,033**	**10,157**	**81,997**	**21,796**	**4,814**	**107,284**
NORILSK DIVISION													
Proven and probable reserves	**1,203**	**0.71**	**1.31**	**3.43**	**0.93**	**0.19**	**4.52**	**8,511**	**15,740**	**132,697**	**35,917**	**7,217**	**174,945**
Proven reserves	**709**	**0.65**	**1.28**	**3.25**	**0.87**	**0.19**	**4.26**	**4,628**	**9,081**	**73,995**	**19,828**	**4,217**	**97,050**
Talnakh ore field, including:	676	0.67	1.33	3.25	0.85	0.19	4.25	4,547	8,975	70,751	18,571	4,083	92,291
• rich	71	2.66	3.26	6.19	1.27	0.19	8.00	1,886	2,313	14,138	2,888	439	18,273
• cuprous	76	0.70	2.36	5.96	1.53	0.37	7.59	530	1,786	14,495	3,727	902	18,457
• disseminated	529	0.40	0.92	2.47	0.70	0.16	3.26	2,131	4,876	42,118	11,955	2,741	55,561
Norilsk-1 deposit (disseminated ore)	32	0.25	0.33	3.11	1.20	0.13	4.56	81	106	3,244	1,257	134	4,759
Probable reserves	**494**	**0.79**	**1.35**	**3.69**	**1.01**	**0.19**	**4.90**	**3,883**	**6,658**	**58,701**	**16,089**	**3,000**	**77,895**
Talnakh ore field, including:	389	0.94	1.64	3.98	1.01	0.21	5.17	3,649	6,386	49,802	12,594	2,617	64,775
• rich	75	2.84	3.80	7.37	1.49	0.28	9.38	2,120	2,836	17,660	3,576	681	22,489
• cuprous	63	0.63	2.18	5.18	1.34	0.32	6.59	399	1,382	10,549	2,720	652	13,433
• disseminated	252	0.45	0.86	2.67	0.78	0.16	3.57	1,131	2,168	21,593	6,298	1,284	28,853
Norilsk-1 deposit (disseminated ore)	105	0.22	0.26	2.64	1.04	0.11	3.89	233	272	8,900	3,495	383	13,121
Measured and indicated resources	**1,569**	**0.75**	**1.39**	**3.82**	**1.05**	**0.21**	**5.06**	**11,822**	**21,866**	**192,869**	**53,044**	**10,829**	**255,236**
Talnakh ore field, including:	1,429	0.80	1.50	3.87	1.02	0.22	5.07	11,431	21,391	177,601	47,077	10,179	232,754
• rich	124	3.46	4.46	8.79	1.81	0.32	11.28	4,308	5,541	35,124	7,254	1,272	45,111
• cuprous	136	0.83	2.74	7.03	1.85	0.43	9.00	1,131	3,725	30,757	8,087	1,870	39,389
• disseminated	1,169	0.51	1.04	2.97	0.84	0.19	3.95	5,991	12,126	111,720	31,736	7,036	148,253
Norilsk-1 deposit (disseminated ore)	140	0.28	0.34	3.39	1.33	0.14	5.00	392	474	15,268	5,967	650	22,482
Inferred resources	**750**	**0.69**	**1.30**	**3.40**	**0.90**	**0.20**	**4.44**	**5,160**	**9,727**	**81,839**	**21,692**	**4,762**	**107,007**
Talnakh ore field, including:	741	0.69	1.31	3.39	0.89	0.20	4.43	5,138	9,697	80,826	21,272	4,720	105,491
• rich	43	3.19	5.31	10.32	2.15	0.56	13.08	1,358	2,265	14,137	2,953	766	17,931
• cuprous	55	0.78	2.37	6.08	1.55	0.37	7.79	427	1,292	10,652	2,713	653	13,658
• disseminated	644	0.52	0.95	2.71	0.75	0.16	3.57	3,353	6,139	56,036	15,606	3,301	73,902
Norilsk-1 deposit (disseminated ore)	9	0.25	0.34	3.62	1.50	0.50	5.41	22	30	1,013	420	41	1,516
KOLA DIVISION (DISSEMINATED ORE)													
Proven and probable reserves	**64**	**0.63**	**0.32**	**0.03**	**0.02**	**0.01**	**0.05**	**407**	**206**	**59**	**39**	**18**	**99**
Proven ore reserves	33	0.59	0.25	0.03	0.02	0.01	0.05	192	82	30	22	9	53
Probable reserves	32	0.68	0.39	0.03	0.02	0.01	0.05	215	124	29	17	9	46
Measured and indicated resources	**300**	**0.69**	**0.34**	**0.05**	**0.03**	**0.02**	**0.09**	**2,068**	**1,010**	**472**	**302**	**172**	**831**
Inferred resources	**138**	**0.63**	**0.31**	**0.04**	**0.02**	**0.01**	**0.06**	**873**	**430**	**158**	**104**	**52**	**277**

1 In 2021, SRK Consulting (Russia) completed an estimate of mineral resources and ore reserves using its own methodology.
2 The six platinum group metals (PGMs) are platinum, palladium, rhodium, ruthenium, osmium, and iridium.
3 Proven and probable ore reserves are included in measured and indicated resources.

ZABAYKALSKY DIVISION[1] (gold-iron-copper ores)	Ore mln t	Metal grade				Contained metal			
		Cu (%)	Au (g/t)	Ag (g/t)	Fe (%)	Cu (kt)	Au (koz)	Ag (koz)	Fe (koz)
PROVEN AND PROBABLE RESERVES	283	0.53	0.66	2.75	18.67	1,505	6,028	25,074	52,874
MEASURED AND INDICATED RESOURCES	303	0.59	0.65	3.08	21.54	1,801	6,328	30,020	65,268
INFERRED RESOURCES	44	0.6	0.4	3.34	4.29	262	563	44,741	1,891

The Company conducts exploration in three regions of Russia – on the Taimyr and Kola Peninsulas and in the Zabaykalsky Territory. Through exploration at new and existing mine sites, Nornickel drives increases in its high-grade and cuprous ore reserves to support future production from existing sites, viewing it as a key driver of its long-term growth.

>70 YEARS of resources for sulfide copper-nickel ores

>20 YEARS of resources for gold-iron-copper ores

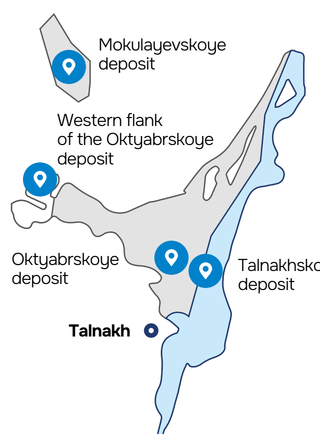
at the current production rate.

Existing ore deposits

Deposits: Talnakhskoye and Oktyabrskoye

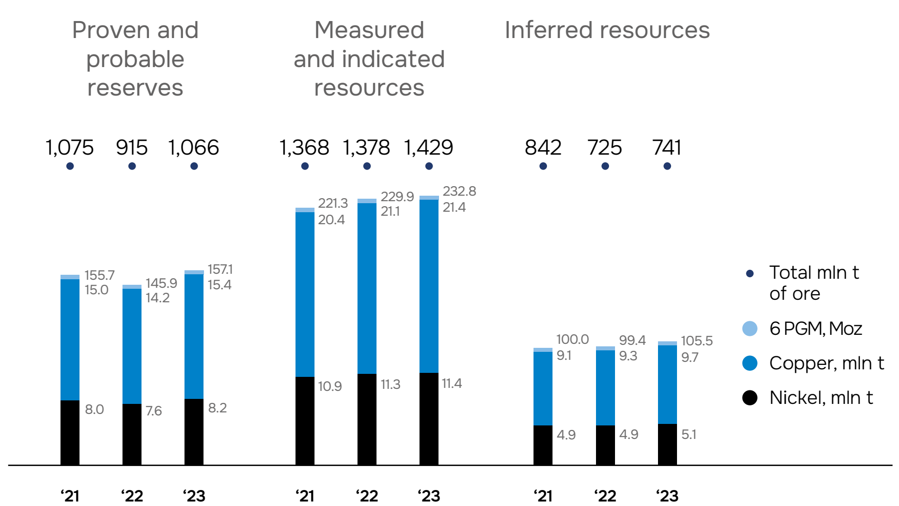
Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Norilsk. Geologically, the deposits are part of the Talnakh Ore Cluster.



The Company has been developing the Talnakhskoye and Oktyabrskoye deposits since the early 1960s, when multiple deposits of high-grade, cuprous, and disseminated ores were discovered within the area. Nornickel is still well supplied with non-ferrous and noble metals from the uniquely rich and vast resource base of the Talnakh Ore Cluster deposits.

Reserves and resources of the Talnakhskoye and Oktyabrskoye deposits

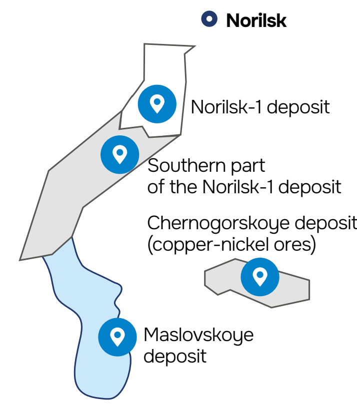


[1] In 2021, SRK Consulting (Russia) completed an estimate of mineral resources and ore reserves using its own methodology.

Deposit: Norilsk-1

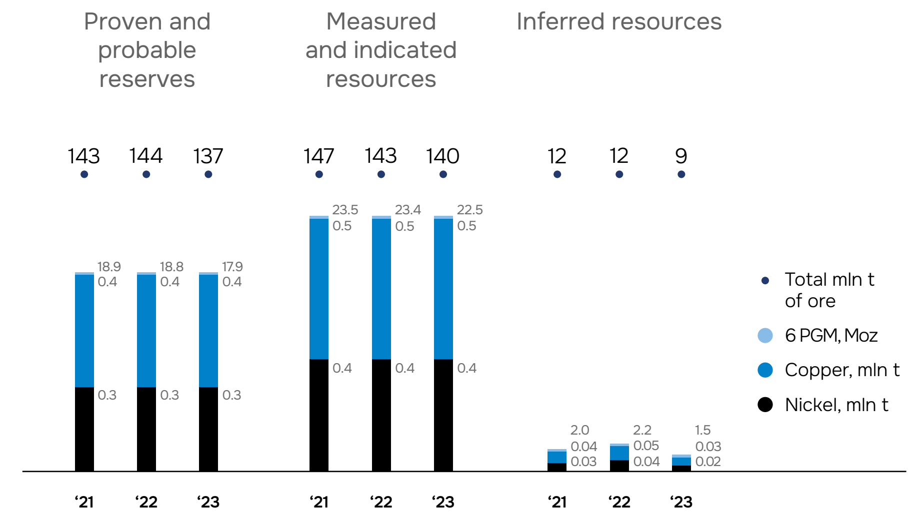
Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Norilsk. Geologically, the deposit is part of the Norilsk Ore Cluster.



The Company has been developing Norilsk-1 since the 1930s, currently mining disseminated ores from the deposit's northern portion. In 2020, the resource estimate for the deposit was updated against new permanent exploratory standards for open-pit and underground mining.

Reserves and resources of the Norilsk-1 deposit



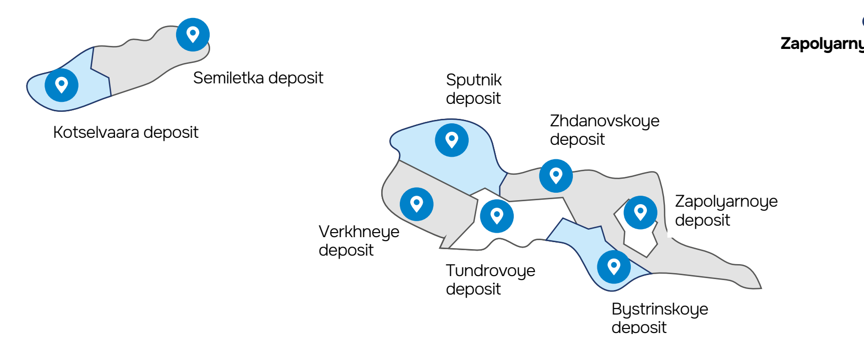
Deposits: Kotselvaara, Semiletka, Zhdanovskoye, Zapolyarnoye, Bystrinskoye, Tundrovoye, Sputnik, and Verkhneye

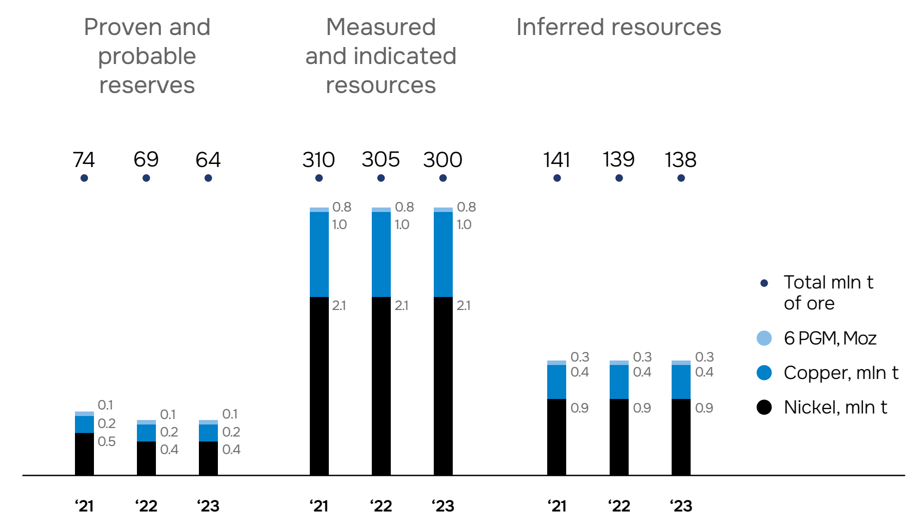
Minerals: copper-nickel sulphide ores.

Location: Murmansk Region, Pechengsky District.

The deposits are located within a 25 km stretch between Nikel and Zapolyarny 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 of the Kola Division





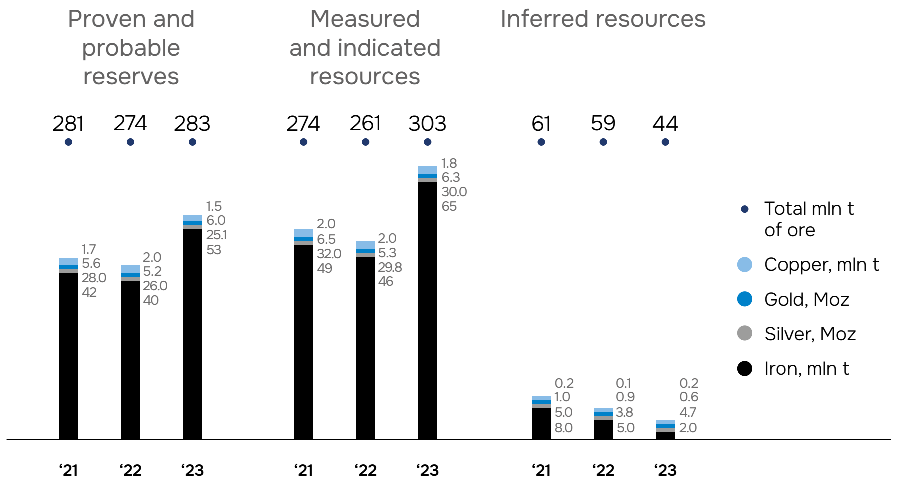
Deposit: Bystrinskoye

Minerals: gold-iron-copper ores.

Location: Zabaykalsky Territory, Gazimuro-Zavodsky Municipal District.

Developed since 2017, the Bystrinskoye deposit currently comprises two open-pit mines, Verkhne-Ildikansky and Bystrinsky-2, with two more – Medny Chainik and Yuzhno-Rodstvenny – scheduled to come online in 2030.

Reserves and resources of the Bystrinskoye deposit[1]



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

Existing non-metallic deposits

Deposit: Mokulayevskoye

Minerals: limestone.

Location: Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

The deposit lies 10 km north-west of the production sites of the Oktyabrsky and Taimyrsky Mines. The exploration and 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. It included the deposit's 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.

In 2022, an exploration campaign was completed to look into dolomite overburden within the Mokulayevskoye limestone deposit. 1.2 Mcm of reserves at the Verkhne-Mokulayevskoye dolomite deposit were confirmed, which will be used to construct roads for a project to develop the limestone deposit.

Its B + C_1 + C_2 balance reserves of limestone are 135 Moz as at 1 January 2024.

135 MLN T

Limestone balance reserves of the Mokulayevskoye deposit

Deposit: Ozero Lesnoye

Minerals: magmatic rock (basalts).

Location: Krasnoyarsk Territory, Norilsk.

Located 22 km to the north of Norilsk, the deposit consists of two adjacent licence areas (No. 1 and No. 2) which share a common boundary. The deposit is developed within licence area No. 1. In 2017, Nornickel obtained a survey, exploration, and mining licence for the magmatic basalt reserves at licence area No. 2.

In 2022, Nornickel updated its reserve estimate for the deposit's two licence areas to 189.2 Mcm. In 2023 a technical project developed to further develop the deposit, enabling mining the two licence areas as one open-pit mine to ensure continuous production.

Deposit: Gribanovskoye

Minerals: sand.

Location: Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2020, Nornickel obtained an exploration and mining licence upon the discovery of the Gribanovskoye deposit, located on the Yenisei 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.. Sand production was launched in 2022.

Deposit: Gorozubovskoye

Minerals: anhydrite.

Location: Krasnoyarsk Territory, Norilsk.

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 C_2 to C_1. A certificate issued by the State Commission for Mineral Reserves confirmed the parameters of updated standards. The deposit is currently under development.

Deposit: Kayerkanskoye

Minerals: quartzose sandstone, coal, tuffaceous argillite.

Location: Krasnoyarsk Territory, Norilsk.

Since 1967, the Kayerkanskoye deposit has been supplying the needs of the Company's Polar Division plants in materials used to produce fluxes for concentration and metallurgical processes at the metallurgical plants, as well as to manufacture building materials.

The deposit is currently under development.

Growth projects

Deposit: Maslovskoye

Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Norilsk. Geologically, the deposit is part of the Norilsk Ore Cluster.

The Company obtained the licence to explore and mine the Maslovskoye deposit upon its discovery in 2015.

A feasibility study of permanent exploratory standards and a reserve statement for the Maslovskoye deposit were approved by the State Commission for Mineral Reserves, and its copper-nickel ore reserves were included into the State Register of Mineral Reserves. B + C_1 + C_2 ore reserves: 206.8 mln t.

Deposit: Kolmozerskoye

Minerals: beryllium, niobium, lithium, lithium ore, tantalum

Location: Murmansk Region, Lovozersky District

In 2023, Polar Lithium, a joint venture between Nornickel and ROSATOM, obtained an exploration and mining licence for the Kolmozerskoye deposit, located within an area of federal significance.

The balance (economic) reserves of the deposit were confirmed through exploration in 1960 at 75 mln t of ore and 844.2 kt of lithium oxide. In 2023, follow-up exploration was initiated at the deposit to confirm the quality and quantity of the minerals. The exploration is expected to continue in 2024–2025.

Deposit: Bugdainskoye

Minerals: molybdenum and associated elements.

Location: Zabaykalsky Territory, Alexandrovo-Zavodsky Municipal District.

The deposit's mineral reserves, comprising 813 mln t of B + C_1 + C_2 ore reserves, including 600 kt of molybdenum, were included into the State Register of Mineral Reserves in 2007.

Deposit: Bystrinsko-Shirinskoye

Minerals: gold ore. gold ore.

Location: Zabaykalsky Territory, Gazimuro-Zavodsky Municipal District.

In 2023, based on an expert review, further exploration was recommended for the deposit's flanks and deep levels given the high complexity of the ore body structures. The exploration will be followed by a feasibility study and a reserve statement.

Deposit: western flank of the Oktyabrskoye deposit

Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Norilsk. Geologically, the deposit is part of the Talnakh Ore Cluster.

Licensed for prospecting in 2017, the area shares a boundary with the earlier licensed mining area at the Oktyabrskoye deposit. In 2022 and 2023, exploration was carried out on the Zapadny section, where prospecting had earlier confirmed the presence of copper-nickel ores, suggesting potential for reserve additions of 500 kt in high-grade ores, 2,140 kt in cuprous ores, and 546 kt in disseminated ores. Plans for 2024 include conducting laboratory tests and compiling a final report to be followed by a state expert review and a reserve statement approval.

206.8 MLN T
B + C_1 + C_2 copper-nickel ore reserves of the Maslovskoye deposit

Balance reserves of the Kolmozerskoye deposit

75 MLN T
of ore

844.2 KT
of lithium oxide

813 MLN T
B + C_1 + C_2 ore reserves of the Bugdainskoye deposit, including

600 KT
of molybdenum

Deposit: flanks of the Bystrinskoye deposit

Minerals: lode gold, iron ore, copper ore.

Location: Zabaykalsky Territory, Gazimuro-Zavodsky Municipal District.

Licensed for prospecting in 2021, the area shares a boundary with the earlier licensed exploration and mining area at the Bystrinskoye deposit. In 2022 and 2023, to assess the potential for adding gold-iron-copper ore and gold ore reserves to its the mineral resource base, the Company conducted prospecting at the flanks of the Bystrinskoye deposit but found no prospects.

Potential for reserve additions at the Western flank of the Oktyabrskoye deposit:

500 KT
in high-grade ores

2,140 KT
in cuprous ores

546 KT
in disseminated ores

Promising areas and prospects

Area: Yuzhno-Norilskaya

Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2019, the Company obtained exploration licences for the Morongovsky and Yuzhno-Yergalakhsky copper-nickel sulphide ore prospects within the Yuzhno-Norilskaya area. In 2021 and 2022, prospecting of the areas was completed, including prospecting drilling. A preliminary estimate of the resource potential is currently being prepared. In 2023, an exploration licence was obtained for the adjacent Mezhdurechensky area, where further prospecting is planned.

Area: Mikchangdinskaya

Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2019 and 2020, the Company obtained exploration licences for the Neralakhsky, Yuzhno-Neralakhsky, Snezhny, Yuzhno-Ikensky, and Medvezhy prospects within the Mikchangdinskaya area. Prospecting drilling conducted in 2021-2023 confirmed that the area has a potential for containing copper-nickel sulphide ores. In 2024, there are plans to assess the effectiveness of mining the identified disseminated copper-nickel mineralisation before continuing the development.

Area: Arylakhskaya

Minerals: copper-nickel sulphide ores.

Location: Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2020, the Company obtained exploration licences for the Yttakhsky, Samoyedsky, and Mastakh-Salinsky prospects within the Arylakhskaya area. In 2021 and 2022, prospecting drilling was completed at prospects identified by geophysical and geochemical prospecting across areal zones. In 2024, after the ongoing laboratory tests are completed, a report on the area's potential and an opinion on further prospecting will be prepared.

Area: Alenuyskaya

Minerals: gold-copper porphyry ores.

Location: Zabaykalsky Territory, Alexandrovo-Zavodsky District.

In 2020, the Company obtained exploration licences for the Severo-Alenuysky and Yuzhno-Alenuysky prospects within the Alenuyskaya area. In 2023, prospecting drilling was completed at the Tsentralno-Alenuysky area. In 2024, after the ongoing laboratory tests are completed, a report on the area's potential and an opinion on further prospecting will be prepared.

Area: Doguinskaya

Minerals: gold-copper and gold-silver ores.

Location: Zabaykalsky Territory, Gazimuro-Zavodsky District.

In 2021, the Company obtained exploration licences for the Severo-Doguinsky and Yuzhno-Doguinsky prospects within the Doguinskaya area. In 2022 and 2023, prospecting drilling was completed at prospects identified by geophysical and geochemical prospecting across areal zones. In 2024, after the ongoing laboratory tests are completed, a report on the area's potential and an opinion on further prospecting will be prepared.

Area: Shamyanskaya

Minerals: gold ore, copper-molybdenum ore.

Location: Zabaykalsky Territory, Zabaykalsky District.

In 2021 and 2022, the Company obtained exploration licences for the Zapadno-Shamyansky, Tsentralno-Shamyansky, and Vostochno-Shamyansky prospects within the Shamyanskaya area. In 2023, prospecting drilling was completed at prospects identified by geophysical and geochemical prospecting across areal zones. In 2024, after the ongoing laboratory tests are completed, a report on the area's potential and an opinion on further prospecting will be prepared.

Area: Mostovskaya

Minerals: gold-silver ores, copper ore, molybdenum ore.

Location: Zabaykalsky Territory, Mogochinsky District.

In 2020, the Company obtained exploration licences for the Zapadno-Mostovsky and Vostochno-Mostovsky prospects within the Mostovskaya area. In 2022, prospecting drilling was completed at prospects identified by geophysical and geochemical prospecting across areal zones. In 2024, after the ongoing laboratory tests are completed, a report on the area's potential and an opinion on further prospecting will be prepared.

Operational performance

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

The Group owns three production assets: the Norilsk and Kola Divisions mining copper-nickel sulphide ores and the Trans-Baikal Division producing gold-iron-copper ores.

The Norilsk Division is the Group's flagship asset, which includes its two major production assets – the Polar Division and Medvezhy Ruchey (100% stake), as well as a number of support enterprises. The Norilsk Division's assets are located on the Russian Taimyr Peninsula – in the Norilsk Industrial District (northern part of the Krasnoyarsk Territory, within the Arctic Circle) – and linked to other regions by the Yenisei River, the Northern Sea Route, and by air.

Located on **the Kola Peninsula** in the Murmansk Region, the Kola Division includes two Nornickel's wholly owned subsidiaries: Kola MMC, a production company; and Norilsk Nickel Harjavalta. Norilsk Nickel Harjavalta is located in Harjavalta, Finland. Founded in 1959, Harjavalta is now the only nickel refinery in Finland and one of the largest in Europe with a total throughput capacity of up to 65 ktpa of nickel products.

The Trans-Baikal Division is located in the Zabaykalsky Territory of Russia, 350 km away from Chita. The Division includes Bystrinsky GOK (via 50.01% held in GRK Bystrinskoye), the construction of which was started by Nornickel in 2013 (put into commercial operation in 2019). This asset includes open-pit ore mining operations and a mining and processing plant with full infrastructure, including a power line, a 227-km Borzya–Gazimursky Zavod railway line (25% held by Nornickel and 75% by the government), as well as a rotation camp.

The Group also holds 50% in **Polar Lithium**, which develops Kolmozerskoye lithium deposit in the Murmansk Region. The Kolmozerskoye deposit contains about 24% of lithium balance (economic) reserves in Russia. Polar Lithium will produce lithium carbonate and/or hydroxide used in the growing Li-ion battery industry. Exploration is currently underway at the site to prepare a feasibility study of the deposit's permanent conditions, and the process is being developed for the future facilities – a mining and processing plant and a chemical and metallurgical plant.

Norilsk Division

- Polar Division
- Medvezhy Ruchey

Taimyr Peninsula

Kola Division

- Kola MMC

Kola Peninsula, Murmansk Region

- Norilsk Nickel Harjavalta

Finland, Harjavalta

Trans-Baikal Division

- Bystrinsky GOK

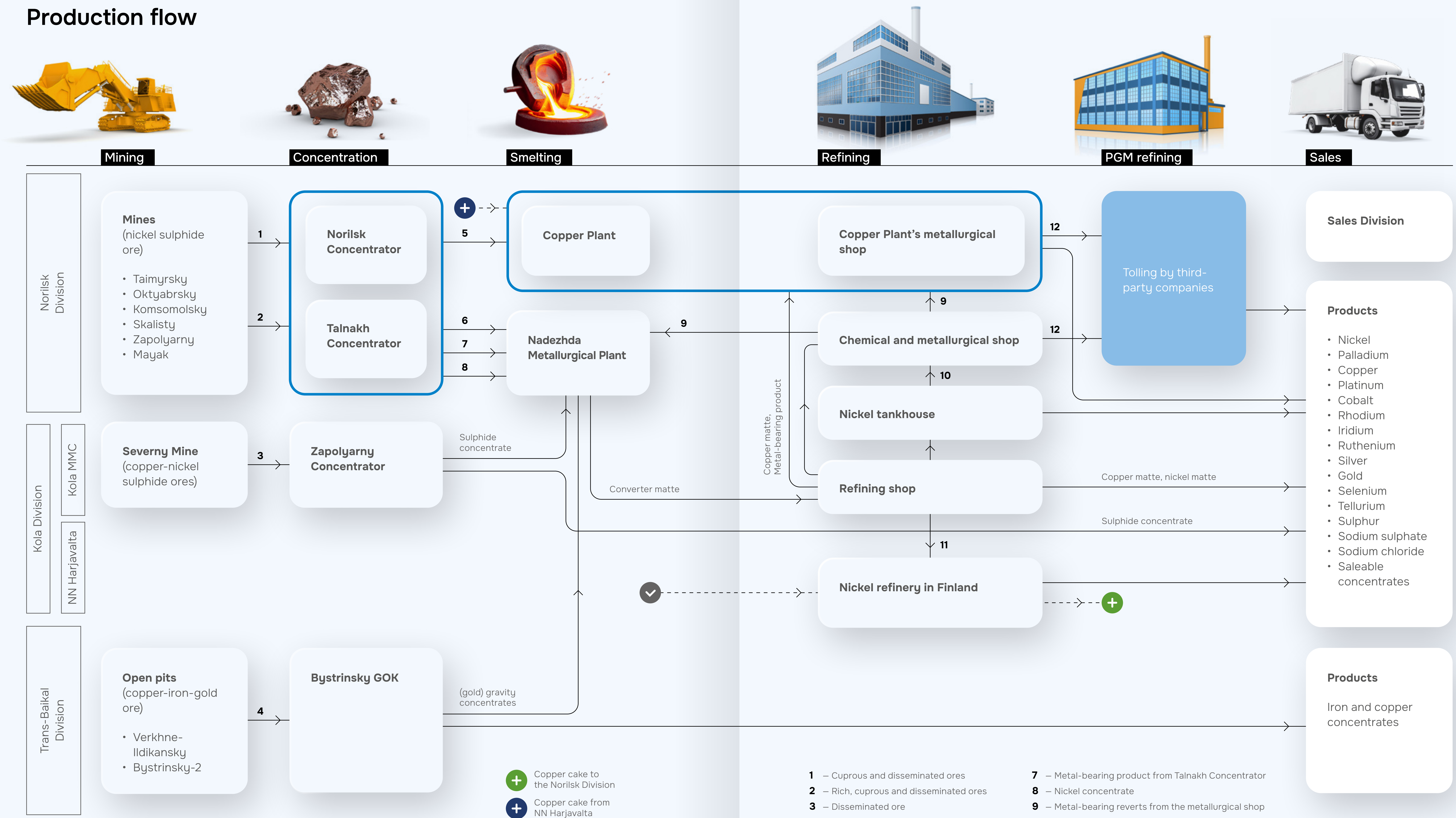
The Zabaykalsky Territory of Russia, 350 km away from Chita

Polar Lithium

- Kolmozerskoye lithium deposit

Murmansk Region

Production flow



Copper cake to the Norilsk Division

Copper cake from NN Harjavalta

Third-party feedstock

1 – Cuprous and disseminated ores
2 – Rich, cuprous and disseminated ores
3 – Disseminated ore
4 – Copper-iron-gold ore
5 – Copper concentrates
6 – Nickel-pyrrhotite concentrate
7 – Metal-bearing product from Talnakh Concentrator
8 – Nickel concentrate
9 – Metal-bearing reverts from the metallurgical shop
10 – Chlorine leaching residuals, nickel sludge
11 – Crushed converter matte, nickel concentrate
12 – Precious metal concentrate

Mining

Average metal content in mined ore

For more details on ore production, metal content, and metal recovery percentage in our concentration and metallurgical operations, please see the Data Book section on the Company website.

The Norilsk and Kola Divisions mine copper-nickel sulphide ores of three grades: high-grade ores with a higher content of non-ferrous 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 Trans-Baikal Division mines gold-iron-copper ores of the Bystrinskoye deposit.

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, with stopes refilled with backfill mixtures.

The Norilsk-1 deposit is developed by the Zapolyarny Mine of the Norilsk Division through open-pit and underground mining. Underground mining is carried out through sublevel caving using front ore passes and self-propelled vehicles.

In 2023, total ore production by the Norilsk Division was 19.2 mln t, up 0.74 mln t y-o-y (up 4%). High-grade ore output decreased by 9% (–0.6 mln t), while production of cuprous ores decreased by 11.0% (–0.6 mln t). The decline in ore output was caused by self-propelled diesel machinery breakdowns, lack of spare parts, and undersupply of new mining equipment. Disseminated ore production increased by 34% (+1.9 mln t). The year-on-year increase in the production of disseminated ores was driven by higher ore production at the Zapolyarny Mine, which only produces disseminated ores, as was anticipated in the mining option.

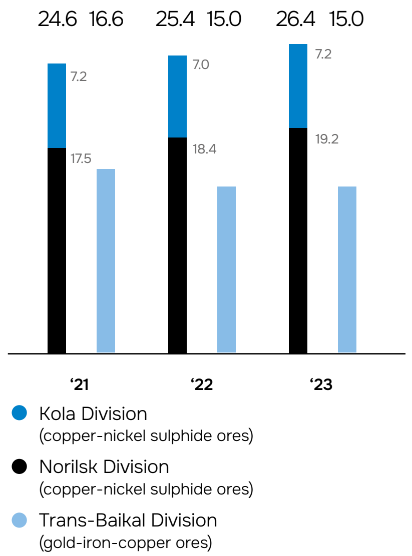
The **Kola Division** mines disseminated ores at Kola MMC, which operates four deposits: Zhdanovskoye, Zapolyarnoye, Kotselvaara, and Semiletka. Kola MMC uses various ore mining methods. The Zhdanovskoye and Zapolyarnoye deposits use three mining methods: gravity caving with front ore passes, sublevel 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 2023, Kola MMC produced 7.2 mln t of ore (up 3% y-o-y). The increase in ore production (+0.2 mln t) was driven by the concentrator tapping into off-balance (sub-economic) ore reserves with partial replacement of the output from the Kaula-Kotselvaara mine due to preparations for mothballing in 2024.

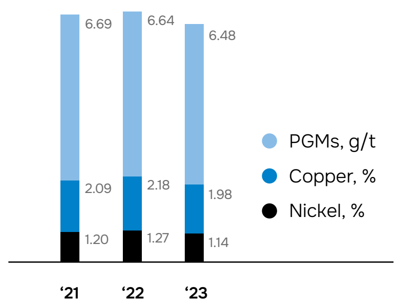
The **Trans-Baikal Division** mines gold-iron-copper ores of the Bystrinskoye deposit through open-pit mining at the Verkhne-Ildikansky and Bystrinsky-2 mines.

In 2023, total ore production by the Trans-Baikal Division was 15.0 mln t, virtually flat year-on-year.

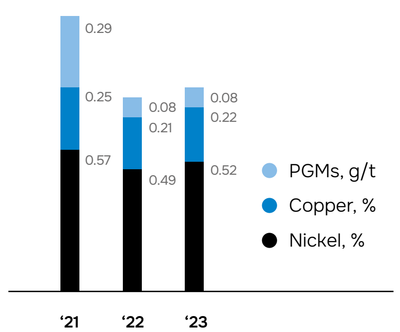
Group ore output, MLN T



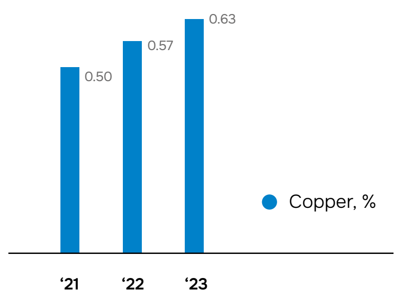
Norilsk Division



Kola Division



Trans-Baikal Division



Concentration

Concentrators

- Talnakh Concentrator, Norilsk Division
- Norilsk Concentrator, Norilsk Division
- Zapolyarny Concentrator, Kola Division
- Bystrinsky GOK, Trans-Baikal Division

Talnakh Concentrator processes high-grade, cuprous, and disseminated ores from the Oktyabrskoye and Talnakhskoye deposits to produce nickel-pyrrhotite and copper concentrates as well as metal-bearing products. Its key processing stages include crushing, milling, flotation, and thickening. In 2023, ore processing volumes at Talnakh Concentrator stayed flat at 10.7 mln t.

Norilsk Concentrator processes all disseminated ores from the Norilsk-1 deposit, cuprous and disseminated ores from the Oktyabrskoye and Talnakhskoye deposits, and some metal-bearing products from Talnakh Concentrator to produce nickel and copper concentrates. Its key processing stages include crushing, milling, flotation, gravity concentration, and thickening. In 2023, Norilsk Concentrator increased its ore processing to 8.4 mln t, up 0.7 mln t y-o-y.

The resulting thickened concentrates from Talnakh and Norilsk Concentrators are transported via slurry pipelines to the metals operations of the Norilsk Division for further processing.

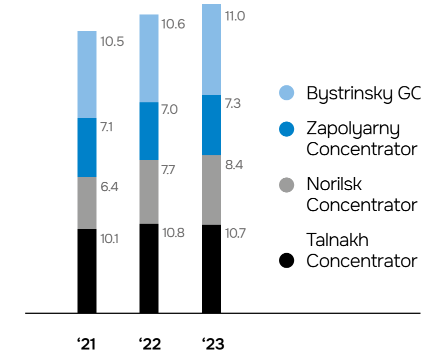
Zapolyarny Concentrator processes disseminated ores from Kola MMC deposits. The concentrator produces nickel sulphide concentrate, which is then sold via third parties or partially shipped to the Norilsk Division for further processing. In 2023, the concentrator processed 7.3 mln t of ore, up 0.3 mln t y-o-y due to an increase in open-pit ore production.

Bystrinsky GOK processes ores from 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. Copper and iron ore concentrates are sold via third parties, while gold concentrates are further processed at the Norilsk Division. In 2023, Bystrinsky GOK processed 11.0 mln t of ore, up 0.4 mln t y-o-y.

Metals recovery in concentration, %

Division	2021	2022	2023
NICKEL			
Norilsk Division	84.3	85.3	**84.7**
Kola Division (Kola MMC)	67.7	67.4	**66.5**
COPPER			
Norilsk Division	95.5	96.3	**96.2**
Kola Division (Kola MMC)	76.8	73.7	**73.1**
Trans-Baikal Division	86.9	88.1	**88.8**
PGMS			
Norilsk Division	85.6	85.8	**85.3**

Concentrators' throughput, MLN T



10.7 MLN T
Ore processing at Talnakh Concentrator in 2023

0.7 MLN T
Growth in ore processing volumes at Norilsk Concentrator in 2023

0.3 MLN T
Growth in ore processing volumes at Zapolyarny Concentrator in 2023

0.4 MLN T
Increase in ore processing volumes at Bystrinsky GOK from 2022

Smelting and refining

Downstream facilities

- Nadezhda Metallurgical Plant, Norilsk Division
- Copper Plant, Norilsk Division
- Metallurgical shop of Copper Plant, Norilsk Division
- Chemical and metallurgical shop, Kola Division
- Refining shop, Kola Division
- Nickel tankhouse, Kola Division
- Refinery, Kola Division, Harjavalta

Production chain

Norilsk Division

The produced nickel concentrates, including pressure oxidised sulphide concentrate[1], secondary materials, and metal-bearing feed from Kola MMC, are fed into flash smelting furnaces at **Nadezhda Metallurgical Plant**. The matte produced in flash smelting furnaces is then converted into high-grade converter matte, which is shipped to the Kola MMC.

Copper Plant processes all of the copper concentrate from the Norilsk Division's concentrators, metal-bearing feed from Kola MMC, and copper cake from 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 to produce precious metal concentrates and commercial selenium.

Kola Division (Kola MMC)

Kola MMC's refining facilities in Monchegorsk refine converter matte from the Norilsk Division[1]. Supplied to the converter matte separation section, converter matte is crushed, milled, and separated into copper and nickel concentrates by flotation, while part of the converter matte after crushing is immediately sent for processing to Norilsk Nickel Harjavalta. The resulting copper concentrate is sent to the Norilsk Division's Copper Plant. The nickel concentrate flow is then separated, with some of it after magnetic separation and recovery of precious metals sent to Norilsk Nickel Harjavalta for further processing. The remaining nickel concentrate is processed at the roasting and electric furnace sections to produce tube furnace nickel powder, anodes, and granulated nickel alloy. Anodes are processed using the conventional electrorefining technology at Tankhouse 1 to produce cathodes. Tube furnace nickel powder is processed at Tankhouse 2 using a new technology involving leaching plus electrowinning to produce cathodes. The granulated nickel alloy is processed at the nickel carbonyl section to produce pellets and powder.

The production of nickel cathodes at Tankhouse 1 and Tankhouse 2 results in semi-finished products with a high content of precious metals. These semi-finished products are processed at the chemical and metallurgical shop to produce precious metal concentrates. The production of nickel cathodes at Tankhouse 1 and Tankhouse 2 also generates primary cobalt cake, which is used by the cobalt section to produce saleable cobalt concentrate and cobalt cathodes.

Kola Division (NN Harjavalta)

Norilsk Nickel Harjavalta uses sulphuric acid leaching with high metal recovery rates – above 98%. The refinery processes nickel feedstock (matte and crushed converter matte with precious metals recovered from it) supplied by Kola MMC and feedstocks purchased from third parties (nickel salts). Once leached, copper cake is sent to the Norilsk Division or sold to third parties, while purified nickel solutions are sent for further processing to produce nickel cathodes, nickel briquettes, powder, salts, as well as salts and solutions of cobalt.

Precious metals produced by Nornickel are refined under tolling agreements by third-party companies.

Metals recovery in smelting, %

Division	2021	2022	2023
NICKEL			
Norilsk Division[3]	94.4	95.1	**94.9**
Kola Division (Kola MMC)[4]	98.3	98.4	**98.5**
Kola Division (NN Harjavalta)[4]	98.1	97.8	**98.3**
COPPER			
Norilsk Division[3]	95.1	95.4	**95.6**
Kola Division (Kola MMC)[4]	99.5	99.6	**99.2**
Kola Division (NN Harjavalta)[4]	99.8	99.8	**99.8**
PGMS			
Norilsk Division[3]	96.5	96.6	**96.7**
Kola Division (Kola MMC)[4]	92.9	97.8	**98.1**
Kola Division (NN Harjavalta)[4]	99.9	99.9	**99.9**

1 Hydrometallurgical product.
2 The production and processing of own converter matte have been discontinued following the shutdown of the smelting shop in December 2020.
3 Feedstock to finished products.
4 In refining, converter matte to finished products.

Products

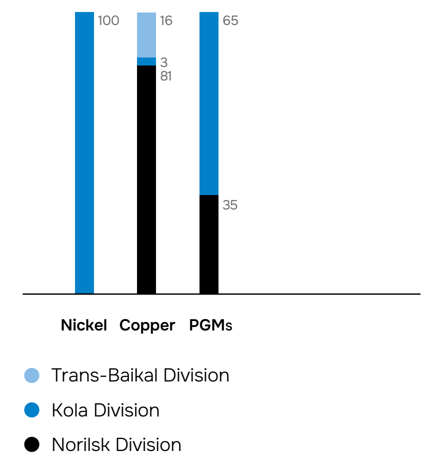
Production volumes by Bystrinsky GOK

Products	2021	2022	2023
Ore processing (mln t)	10.47	10.60	**11.02**
Copper (in copper concentrate, t)	67,798	67,240	**68,958**
Copper content in the concentrate (%)	22.87	22.97	**22.96**
Iron ore concentrate (kt)	2,582	2,545	**2,892**
Iron content in the concentrate (%)	63.72	64.68	**65.09**

Finished product output by the Group

Saleable metals	2021	2022	2023
Nickel (kt)	193.0	219.0	**208.6**
including from own feed	189.9	218.7	**208.2**
Copper (kt)	406.8	433.0	**425.4**
Palladium (koz)	2,616	2,790	**2,692**
Platinum (koz)	641	651	**664**

Finished products by division in 2023, %



The Group's saleable products

Norilsk Division:
- Copper cathodes
- Commercial sulphur
- Selenium
- Precious metals

Kola Division:
- Nickel cathodes and carbonyl
- Nickel sulphide concentrate
- Nickel matte
- Copper matte
- Cobalt cathodes, cobalt concentrate
- Precious metals
- Sulphuric acid

Norilsk Nickel Harjavalta:
- Nickel salts, briquettes, cathodes, powders, and solutions
- Copper cake
- Cobalt sulphate, cobalt solutions

Trans-Baikal Division:
- Iron ore concentrate
- Copper concentrate

1

Logistics and distribution

Asset summary:

Sea fleet
- six heavy ice-class vessels
- a sea-class diesel port icebreaker

River fleet
- 622 vessels (188 self-propelled and 434 towed vessels), including the active core fleet of 406 vessels
- a river-class diesel port icebreaker

Rail car and locomotive fleet
- 142 container flatcars
- two shunting vehicles
- one shunting tractor

Aircraft fleet
- 17 helicopters
- one plane
- Norilsk Airport

The **Arkhangelsk Transport Division** is responsible for smooth year-round transshipment services for Nornickel's cargoes 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 responsible for the transportation and forwarding of Nornickel's cargoes and for the carriage of precious metal concentrates.

Nornickel-YRSC was established in 2019 to coordinate the operations of the Krasnoyarsk and Lesosibirsk ports and Yenisei River Shipping Company, which operate a strictly seasonal service due to the Yenisei River freezing over in winter. When ice flows pass, the ports are used 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 Nornickel'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. 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

Nornickel has a unique Arctic fleet capable of breaking through Arctic ice up to 1.5 m thick without icebreaker support, which enables the Company to provide year-round dry and liquid cargo shipping services between sea ports.

In 2023, Nornickel also shipped liquid cargoes, including by the Company-owned tanker, Yenisei. The transport services involved export of gas condensate from the Pelyatkinskoye field, delivery of petroleum products to the Norilsk Industrial District, and commercial trips to other destinations.

In addition to sea transportation with its own fleet of Arc7 heavy ice-class vessels, the Company engages a fleet of lower ice-class Arc4/Arc5 vessels to transport additional cargoes for major investment projects in Taimyr. These sea vessels require icebreaker escort in the Yenisei River, the Yenisei Bay, and the Kara Sea between November and May, with three icebreakers providing this support.

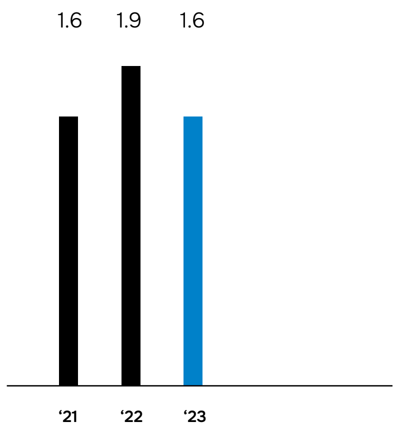
Nornickel signed a long-term contract with ROSATOM (valid until 2041 and renewable until 2051) to engage a nuclear-powered Project 22220 icebreaker with a shaft power of about 60 MW to make sure the Company's strategic needs for icebreaker support are fully covered.

The Company operates Dudinka Port on the Taimyr Peninsula as well as a fleet of port service vessels, which includes towboats, motorboats, a bunker barge, and a floating crane. Dudinka Port is Taimyr's main cargo gateway with no reasonable alternative. In addition, Dudinka 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, 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.

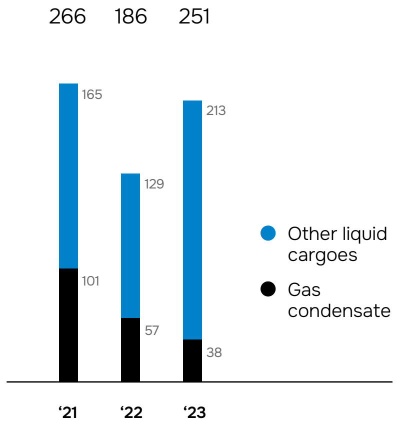
The port transships cargoes for the Norilsk Division and residents of the Taimyr Peninsula. In summer, river vessels deliver equipment and materials (sand, round timber, clinker, process materials, etc.) for production needs from Krasnoyarsk and Lesosibirsk. Converter matte and metal products are shipped by sea from Dudinka throughout the year.

To reduce its environmental footprint, the Company implements programmes aimed at reducing fuel consumption and preventing contamination of the Dudinka and Yenisei Rivers and finances the release of fry.

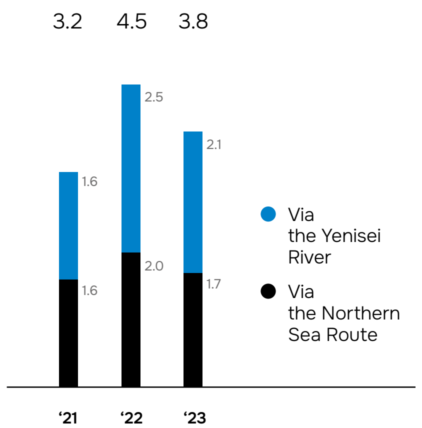
Dry cargo transportation by fleet, MLN T[1]



Liquid cargo shipments, KT[1]



Cargo traffic at Dudinka Port, MLN T



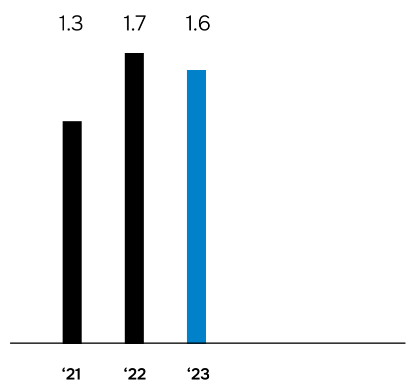
[1] Includes a third-party fleet

Nornickel's own terminal in Murmansk ensures year-round transshipment of the Company's finished metal products for export, acceptance of converter matte from Dudinka and its shipment by rail to the Kola Division, and shipment of semi-finished products to Dudinka for further processing at the Norilsk Division facilities as well as of cargoes to meet the needs of the Norilsk region. Along with sea transportation, the Company's Murmansk-based operations include transport and freight forwarding services, cargo transshipment and storage, as well as railway services between Murmansk and Monchegorsk.

The Company also owns the airline Norilsk Avia and Norilsk Airport, offering air transportation services to local communities across the Taimyr Peninsula. The air carrier has its own fleet of 17 helicopters and one aircraft and provides air services related to the operations of the Norilsk Nickel Group, emergency medical flights, search and rescue operations, and local passenger services.

Norilsk Airport is the only transport infrastructure facility that provides year-round connections between the Norilsk Industrial District and other Russian regions.

Cargo traffic at the Murmansk terminal, MLN T



Distribution

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

In 2023, the Company supplied its products to 28 countries around the world, with Asia becoming the leading consumer on total portfolio, although Europe retained the considerable share on some of the products. The share of supplies to the Russian market also increased.

Sales and distribution strategy

As the world's largest producer of several metals, Nornickel sees distribution as one of its core activities alongside production. The key objective of sales and distribution is to ensure current and future liquidity across the entire product range.

Nornickel places an emphasis on strong positioning within the end markets for its core products. The Group operates its own global network of sales offices in Russia, China, and Switzerland[1].

The Company's market reach enables it to respond promptly to the needs of these offices in terms of product quality and services as well as to changes in the market environment and other external conditions affecting sales and distribution. Nornickel favours direct sales to industrial customers while also engaging other professional market participants willing to partner with the Company to promote its products.

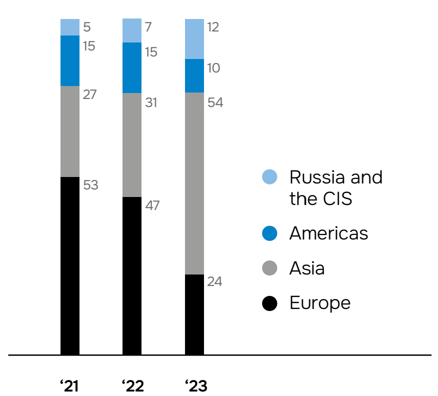
Nornickel has traditionally positioned itself as a responsible supplier promoting the sustainable development of end markets for its core products. Consumers can rely on Nornickel for a stable supply of and unrestricted access to consistent-quality products in the volumes required by the market, whatever the external challenges.

The Company's nickel product sales mix matches the global nickel consumption mix, with the production of stainless and specialty steels and alloys as well as electroplating as its main segments. At the same time, the battery sector is increasingly gaining importance.

28 COUNTRIES

getting supplies of Company products in 2023

Revenue metal sales by region, %



[1] The US-based sales company was sold to an independent operator in 2023.

To capture the expected mid- and long-term growth in nickel demand from the battery sector, Nornickel continues implementing a number of initiatives to enhance and expand its existing product range supporting the battery supply chain. Growing Indonesian nickel supply could limit implementation of these initiatives. Nevertheless, the competitive advantages of Norilsk Nickel products, such as their low carbon footprint and full compliance with generally accepted international environmental standards, make it possible to reach a certain presence in the market, which traditionally pays attention to the specified ESG metrics to ensure sustainable EV production.

This is a major competitive advantage of Nornickel's products that have one of the lowest carbon footprints and fully meet all internationally recognized environmental standards.

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

Electric vehicles and batteries are a priority segment in the nickel consumption mix, 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 low-carbon nickel products, high reliability of supply, own global sales platform, and long-term experience of partnering with automakers and chemical companies, Nornickel sees itself 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.

The automotive industry and the production of other process catalysts, as well as the jewellery and medical products industries traditionally remain the key market segments for **platinum group metal (PGM) products.**

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

As the world's largest producer of palladium, the Company keeps favouring relations with big end consumers and key participants in **PGM market** to sustain strong demand over the long term. Nornickel is actively developing palladium applications in potential new technologies, including hydrogen energy, new chemistry, solar energy, and other areas to expand palladium usage going forward.

Product sales

In 2023, Nornickel once again confirmed its reputation as a reliable supplier of high-quality products. The Company prioritises the offering of high-quality products and related services to maximise customer satisfaction. Procedures for managing substandard products are in place at Nornickel production sites to ensure that no sub-par products are supplied to customers. The handling of such products, responses to customer complaints, and corrective actions are governed by documented procedures compliant with ISO 9001:2015. With regard to the procedure for acceptance of products by consumers, the Company is guided by the instruction on the procedure for acceptance of products in terms of quantity and quality, as well as by the product supply contract.

Every year, the Company conducts customer satisfaction analysis in line with ISO 9001 to get feedback from its customers. Customer feedback is reviewed and incorporated into initiatives to improve product and service quality. Nornickel is committed to continuous improvement. The integrated index of customer satisfaction with the Company's products and services was fully in line with our target for 2023.

Despite the geopolitical challenges and related logistical issues, the Company successfully met all its obligations to customers in 2023, having never failed to deliver on its commitments. This solid performance was to a large extent driven by Nornickel's long-standing policy of independent positioning in the market and building direct relationships with market players.

In 2023, we developed and set up backup routes to ensure uninterrupted product supplies to consumers. In addition, during the year, Nornickel retained considerable part of its customers and established new relationships in new markets, promptly adding them to the Company's customer portfolio.

Consumer personal data protection

Protection of personal data at Nornickel is governed by the Regulations on Personal Data Protection and the Personal Data Processing Policy developed in line with legal requirements. Documents provided by consumers and containing personal data, among other information, are stored in the information system in line with applicable data protection requirements.

In 2023, there were no data-related incidents involving consumers personal data.

Procurement and responsible supply chain

Approach to management

Nornickel takes a responsible approach to attracting suppliers and consumers, prioritising partners who comply with applicable laws and regulations, ensure safe working conditions, and care for the environment. The Company expects its suppliers to comply with international best practices and standards in sustainability and environmental stewardship.

To mitigate operational and financial risks and costs, reduce working capital, and improve supply reliability and cadence, the Company applies procurement policies. As of the end of 2023, there were 48 category procurement policies in place, four of which were updated during the year.

In the reporting year, the Company also approved a programme to improve procurement efficiency aimed at:
- optimising the costs of inventory, works, and services (zero inflation)
- meeting working capital targets in terms of inventory reduction
- increasing supplier competition
- increasing transparency and strengthening control of procurement procedures.

The following key documents guide supply chain and procurement management at Nornickel:
- Business Ethics Code
- Human Rights Policy
- Supplier Code of Conduct
- Responsible Sourcing Policy
- Internal corporate procurement standards

Procurement

Nornickel engages with suppliers via open tender procedures. Nornickel's procurement system focuses on timely and fully meeting the Company's needs for required materials and services of specified quality and at an acceptable price.

Procurement process

Nornickel's procurement process is certified to international standards ISO 9001 and ISO 14001.

The Company procures over 40 aggregated purchasing categories, from heavy industrial equipment to food. In doing so, Nornickel provides equal competitive opportunities for large, medium, and small businesses alike, guided by generally accepted standards of fair business practices and the principles of avoiding conflicts of interest. To maximise procurement effectiveness and transparency, the Company's procurement activities are mostly centralised at its Head Office through automated systems and electronic trading platforms.

Depending on the budgeted cost, procurement can follow a tendering, simple, or simplified procedure. Based on the materiality and parameters of purchases, the qualification results and the winning bidder in the procurement process are approved by the collective procurement body composed of representatives from various functions of Nornickel. The contract with the winning bidder is signed in accordance with the approved results of the procurement procedure.

All details of the Group's centralised procurement transactions are published on the Company website.

In 2023, procurement by collective bodies of the Head Office (tender committee, tender commissions) amounted to about RUB 99 billion.

As the Company aims to work with reliable suppliers meeting their obligations regarding delivery dates and the quantity and quality of products supplied, during the procurement procedure, all suppliers undergo mandatory qualification screening against formalised criteria and rules.

Nornickel has in place a hotline that can be used by any stakeholder to report any violations.

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.

Supplier engagement

Efficient and convenient communications with suppliers at Nornickel are enabled through its SRM procurement management system that gives suppliers anytime access to information about the Company's procurement procedures. As at 2023-end, over 11 thousand potential suppliers were accredited in the system. The Company also engages with original equipment manufacturers (OEMs) to accredit them on this e-platform.

To raise market awareness and attract new suppliers, the automated management system (SAP SRM) was integrated with the TEK-Torg electronic trading platform. Information on procurement by the Company's Russian subsidiaries is also published on the TEK-Torg platform.

Nornickel has in place a supplier relationship management (SRM) system to drive seamless and effective engagements with suppliers.

Sign-up for the supplier relationship management (SRM) system is free of charge and does not impose any obligations on users.

One of the channels used by the Company to interact with suppliers is the Suppliers section on its website, containing key information on the procurement principles and procedures, planned needs, as well as announcements and invitations to participate in tenders.

Nornickel procurement specialists are active members of the professional community in their respective purchasing categories, attending industry exhibitions and participating in conferences.

The Company's priority in driving supplier engagement is to provide robust feedback mechanisms, which are also implemented, improved, and enhanced in the supplier's personal account in SRM. Designed for communicating with counterparties during contract execution, the system is continuously improved to optimise and boost performance for all users. Suppliers can get updates on Nornickel's procurement procedures and opportunities by communicating online with procurement teams in all product categories in Nornickel's SRM procurement management system.

In their personal accounts, counterparties can manage the documents generated for contract purposes, track work stages, and exchange files and instant messages with contract owners to request clarifications and accelerate communication. The service helps to keep suppliers better informed about contract execution progress while also ensuring transparency of transactions and significantly speeding up daily communication between the parties. All supply terms and conditions are specified in the contracts or agreements signed with suppliers.

The supplier's personal account also enables sign-up for other services, such as electronic document management, factoring, and dynamic discounting, forging a stronger partnership.

Nornickel is also working on expanding and supplementing the list of services and consolidating them in the personal account to develop relationships with counterparties.

In addition, the Company has implemented and is operating an electronic document management solution for suppliers to speed up mutual settlements and add transparency to the process.

If a counterparty faces difficulties signing in or using the system, they can seek help and advice

via e-mail at suppliers@nornik.ru

or by phone at +7 (495) 783-00-45 ext. 6 (for calls within Moscow)

8 (800) 700-59-11 ext. 6 (toll-free federal number)

ESG factors in the supply chain

Nornickel seeks to create a common information space and set of values with its suppliers. The Company employs a proprietary multi-tier system to evaluate its suppliers. The criteria for review, 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.

In 2021, the Company approved its Responsible Sourcing Policy covering all of Nornickel's activities related to supplier selection in the supply chain of raw materials, goods, and services. The purpose of the Policy is to define the 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 its Supplier Code of Conduct, which encourages the Company and its business partners to introduce procedures for responsible sourcing in accordance with ESG requirements in all of Nornickel's supply chains.

Provisions of the Policy and the Code are included in contracts with suppliers: contract templates were supplemented with a clause on ESG compliance, which, in particular, provides for access to Nornickel's Corporate Trust Line for feedback.

In 2021, the Company developed a due diligence management system (DDMS) for metallic mineral suppliers and started rolling it out in stages. In the reporting period, the system was rolled out to all production assets. The DDMS is focused on identifying potential risks affecting the sustainability of business processes in the mineral supply chain while also minimising risks of human rights violation, corruption, and misinformation about minerals, as well as risks relating to illegal control of mines and support for non-state armed groups.

The 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 by the Organisation for Economic Co-operation and Development (OECD) provided a methodological framework for developing the DDMS.

The DDMS is driven by the following requirements and recommendations:

- London Metal Exchange responsible sourcing policy
- Standards and principles of leading sustainable development initiatives in the industry: ICMM, IRMA, RMI, and JDDS, as well as the Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains of the China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC)
- Requirements of the Company's customers.

The Company's plans and progress towards building a responsible supply chain are disclosed in the Responsible Supply Chain Report, first published in 2023 to cover 2021 and 2022; in 2024, the Responsible Supply Chain Report will disclose 2023 data.

In 2023, Nornickel expanded the scope of its ESG assessment of suppliers to include all categories of suppliers, including non-mineral suppliers. The Company piloted an ESG assessment survey of selected major suppliers of goods, works, and services using a Supplier Self-Assessment Questionnaire (SSAQ) that included sections on environmental, social, and governance (ESG) issues. The purpose was to measure their compliance with the requirements of the Supplier Code of Conduct.

According to the survey findings, the average level of suppliers' compliance with the requirements is 68%. The counterparties were sampled so that 90% were non-public companies, which suggests that the 68% compliance rate is a fairly strong ESG performance. In 2024, the Company plans to expand the counterparty survey sample.

Given the risk of potential negative environmental impact of cargoes in transit, the Company's 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, transportation, 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.

Energy assets

Nornickel operates its own energy assets, which are managed by the Energy Division and comprise four natural gas fields, three combined heat and power (CHP) plants, 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.

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

Norilsktransgaz transports natural gas and gas condensate from fields to consumers. The string length of its gas and condensate pipelines totals 1,653 km.

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 consumers. The company's operations span vast areas of Russia, including the Norilsk Industrial District, the cities of Krasnoyarsk and Dudinka, the Murmansk Region, and the Zabaykalsky Territory. Taimyr Fuel Company supplies petroleum products to mining, exploration, and transport companies as well as municipal enterprises. Its key consumers are the Norilsk Nickel Group enterprises.

NTEC is an electricity and heat generation, transmission and distribution company. NTEC supplies electricity, heat, and water to Norilsk households, as well as to 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. NTEC operates five generating facilities: three thermal power plants with a total installed capacity of 1,154 MW and two hydropower plants with a total installed capacity of 1,102 MW. The total installed capacity of all plants is 2,256 MW.

Natural gas production

2,720 MCM

Gas condensate production

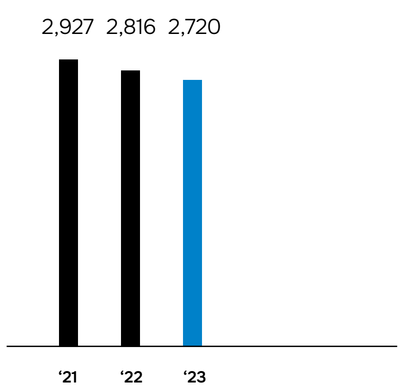
85 KT

Share of renewables across the Group

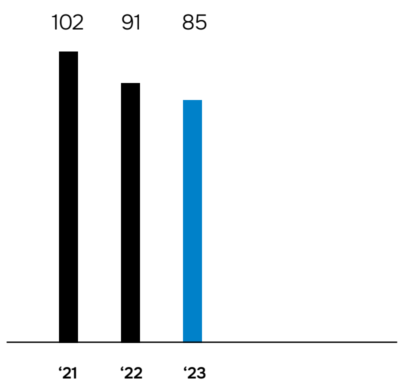
55%

Production volume[1]

Natural gas, MCM



Gas condensate, KT



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

Ust-Khantayskaya and Kureyskaya HPPs are the Company's two renewable electricity generation facilities. In 2023, the share of renewables in total electricity generation stood at 55% for the Group and 58% for the Norilsk Industrial District.

For the Kola and Trans-Baikal Divisions, electricity is purchased in the wholesale electricity and capacity market (WECM). Harjavalta sources electricity from the Finnish electricity market.

The Company's investment programme includes a number of projects to boost the share of hydropower, capture fuel and energy savings, and improve the reliability of energy and gas supplies.

Start of production

1969

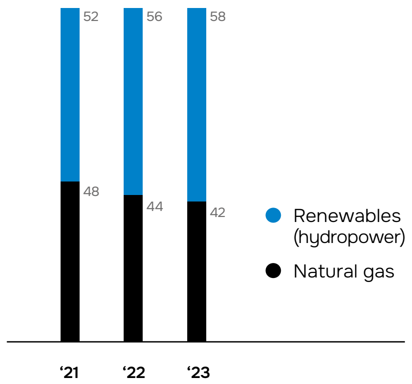
Gas reserves

245.4 BCM

Gas condensate reserves

4,527 KT

Power generation mix in the Norilsk Industrial District in 2023, %



The Company's key projects to improve equipment reliability and energy efficiency and to boost output include:

- A contractor was selected through a tender process to drill five wells at well pad No. 4 of the Pelyatkinskoye gas condensate field.
- Construction and installation were completed for a booster compressor station at the Severo-Soleninskoye gas condensate field, with the station now at the equipment setup and pre-commissioning stage.
- The bulk of construction and installation works was completed as part of retrofitting a gas pipeline's underwater crossing of the Bolshaya Kheta River; stage one of retrofitting the Tukhard–Messoyakha–Yuzhno-Soleninskoye–Severo-Soleninskoye methanol pipeline was completed.
- The core generating equipment of Unit No. 2 at NTEC's CHPP-2 was installed. The new Unit No. 1 was commissioned.
- As part of revamping NTEC's emergency diesel fuel tanks, three tanks at CHPP-1 and CHPP-2 were installed, and the installation of a tank at CHPP-3 is nearing completion.
- As part of a project to upgrade the Norilsk, Kayerkan, and Dudinka tank farms operated by Taimyr Fuel Company, a construction and installation contractor was selected through a tender process for the Norilsk and Kayerkan tank farms.
- Under the programme to build local treatment facilities, LTF No. 94 was put into operation.

Innovation and digital technology

Nornickel relies on innovative solutions such as artificial intelligence (AI) and machine learning (ML) at all stages of its production process, from exploration to smelting, to streamline processes and make its operations safer for people and the environment.

The Company's goal is not only about research, development, and deployment of promising technologies but also about building the Company's own R&D capabilities, shaping internal policies, and fostering a culture of high-tech developments.

Gipronickel Institute, which makes part of the Group and is one of Russia's largest research and design centres for mining, concentration, and metallurgy, is Nornickel's core R&D platform.

In 2023, its continuous converting technology was patented in South Africa, and Roast–Leach–Electrowin technology in Kazakhstan and China.

Contribution to the UN SDGs

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

In 2023,

RUB **7.6** BN

were spent on the implementation of projects in the field of IT, innovation and digitalization.

Industrial safety technology

Video analytics

To maintain a safety culture at its operations, Nornickel is actively adopting solutions that use AI-enabled video analytics. The Company operates a proprietary solution to monitor the use of personal protective equipment (PPE) by operational staff.

The AI-enabled solution continuously monitors workwear usage on the shop floor, including safety helmets with chin straps buckled up, safety goggles, and other protective equipment. Specialists are also training the system to monitor and record the use of a safety harness when working at height. If an employee violates the rules for using personal protective equipment, the system will generate a violation card and send it to the line manager, who will review each case and make a decision. The card is then submitted to a coordinator from the Occupational Health and Safety Department for final review. Once the decision is approved, the department head conducts a behavioural safety audit of the employee.

New safety incident detection models were also added (detecting unauthorised access to hazardous areas, detecting open fire, etc.) in 2022, and the solution was integrated with personnel tracking and face recognition modules. During the same year, the Norilsk Division launched pilot tests of a video analytics system at its industrial facilities. In 2023, Nornickel launched a PPE enforcement system at Bystrinsky GOK.

Emergency monitoring

A prototype of a system to monitor the areas under gantry cranes was successfully launched in 2023. The system projects a laser beam to illuminate a hazard warning zone under the crane so as to increase operational safety and monitor the presence of people around load handling areas. The Company is planning to further roll out the system to 15 cranes in Trans-Baikal Division.

This video analytics system detects

>89%

of PPE usage violations while its employee identification accuracy exceeds

>70%

Environmental protection technologies

Reduction in emissions

In 2023, Nornickel and subsidiary IT company Norsoft launched a joint project to develop an automated emissions accounting system enabled by digital process twins. The project has been included into the list of approved projects for substituting Russian alternatives for foreign software and into the development roadmap for the New Industrial Software high-tech area. On top of this, the project is on the priority list and is expected to bring significant environmental benefits.

In 2023, an initiative to improve the environmental conditions and reduce air pollutant emissions was launched as part of the Sulphur Project at Nadezhda Metallurgical Plant. The project provides for sulphur dioxide recovery into sulphuric acid to be then neutralised with limestone into gypsum cake, which will be stored in a gypsum storage facility.

The Company continues its research into producing artificial anhydrite from gypsum to be used in solidifying backfill mixtures in mines. The solution will eliminate the continuous expansion of the gypsum storage facility and phase out the production of natural anhydrite.

The Company is considering the launch of a WGCP[1] Retrofit project to boost the performance of the wet gas cleaning plant's pulp filtration section at Copper Plant. Currently, Vanyukov furnace off-gases undergo consecutive wet cleaning from dust and then are cooled, while pulp is filtered, with the cake returned to the melting stage.

Tech-enabled construction

Construction management platform

Nornickel is testing a digital platform that provides a common data environment for specific construction projects based on updatable digital models of buildings and structures. Norilsk renovation projects have been selected for piloting the platform.

Although construction is not the Company's core business, its investment programme includes the construction of industrial facilities, homes, and social infrastructure. Digital technologies enable monitoring of funds allocated for these initiatives, accelerating data exchange between contributors, and identify design errors and deviations from design.

Laser scanning-based analytics

This is one of the most promising technologies for digital control over construction and installation. Ground-based LiDAR scanning is used at each construction stage to automatically detect deviations between the construction project and its initial 3D model.

The solution is used in the Norilsk renovation programme as well as at mining facilities of the Polar Division.

[1] WGCP – wet gas cleaning plant.

Technology in operations

Geological data analysis

The Company is working on creating a single digital platform that will support end-to-end automation of core business processes at mining enterprises: exploration, drilling, sampling, mining, rock bolting, etc. Such a platform will ensure that high-quality reliable process data are accessible at all levels of the Company's management, and accordingly, enable faster and better management decision making.

The project's IT product was presented at the 19th Mining Forum and the 2023 MINEX Russia forum, winning a finalist diploma in the MineDigital category.

PGM production technologies

The Company has developed a technology to recover precious metals from converter matte sent to the Harjavalta nickel refinery. The crushed converter matte is replaced with a non-magnetic fraction from the first milling stage to reduce the amount of WIP PGMs by 1.8 tonnes.

Nornickel has also designed solutions to produce refined platinum, palladium, gold, and silver. The Kola Division is planning to pilot a precious metals refining technology section, which will enable the Company to build in-house capabilities in this area and update core process parameters and parameters of product and semi-product quality using actual concentrates with a view to launch in-house refining projects at later stages. The technologies provide for annual processing of 36 tonnes of concentrate and production of at least 3 tonnes of platinum and at least 12 tonnes of palladium powder.

Palladium Centre

To date, the Centre's portfolio comprises more than 20 new palladium products offered through projects at various development stages:

Hydrogen power. A range of Nornickel products under development is meant to support hydrogen energy, where palladium can be used at every step of the production chain: hydrogen extraction from water, production from gas, transportation, and directly in fuel cells. The Company has obtained catalyst samples for electrolysers with 30% of iridium substituted by palladium, which offer a threefold increase in activity compared to existing commercial alternatives. Another innovation was synthesised catalyst samples for fuel cells with 25% of platinum substituted by palladium, which offer over double the activity of existing commercial alternatives (the plan is to substitute up to 80%). Catalyst samples are currently being tested by respected foreign partners, after which they will be sent to end consumers.

New chemistry. The Company is working on a range of products for new chemistry technologies, such as catalysts for glycolic acid synthesis for cosmetology, FDCA for biodegradable packaging, and elements for water disinfection. The samples are expected to move to customer testing in 2024.

Solar power. Research in this area is focused on developing a prototype of a new thin-film solar cell using palladium chalcogenide, which will improve efficiency and reduce cost compared to existing silicon-, tellurium-, or copper-based cells.

The Company also joined efforts with research institutes for fundamental research to unlock the potential of palladium in longer-term applications, such as superconductors, supercapacitors, microelectronics and spintronics devices, battery technology, and medical devices.

Nornickel is actively building a partner network of experts and customers, conducting R&D jointly with institutes and laboratories in Russia and beyond, and engaging closely with potential customers in the Asian market to accelerate the commercialisation of new products.

More than 100 new palladium-containing materials are planned to be developed in the next 5 to 10 years. The Company estimates that new uses for palladium will add at least 40 tonnes of demand for the metal by 2030.

The Company's technology to recover precious metals from converter matte has reduced work-in-progress PGM volumes

BY **1.8** TONNES

+**40** TONNES

in incremental demand for palladium projected by 2030 due to new Palladium Centre products

3x

Increase in activity of catalysts for electrolysers with 30% of iridium substituted by palladium as compared to existing commercial alternatives

Production management optimisation

As part of diagnosing the current production flow and building a project portfolio, the Company has decided to stabilise the parameters of the initial melting charge. To this end, Nornickel has developed digital assistants which make recommendations on the process flow.

In 2023, the Company launched a project for streamlining the management of concentrate charge blending at the concentrate dewatering and storing shop (CDSS) and the flash smelting furnace (FSF). This will optimise the pyrometallurgical process through stabilising the nickel sulphide concentrate charge while reducing the standard deviation of the total amount of non-ferrous metals in the FSF's matte from target levels.

The effectiveness of this approach has been confirmed by pilot tests completed so far. The Company is planning to include expectations of improved process parameters into the efficiency improvement programme. The technical effect of these transformations will be tracked during the first half of 2024, and then the solutions will be put into commercial operation with support from contractors.

Machinery video monitoring

In 2023, the Company developed a software suite to monitor the operation of mining machinery, including autonomous haul trucks, load-haul-dumpers, mine cars, tipping devices, and self-propelled drilling rigs. The suite accurately tracks machinery movements and load through video images and offers video tagging functionality to speed up the acquisition of data sets and leverage the expertise of mine experts to improve accuracy. At the time of writing this Report, the suite was in the testing stage. Four prototypes have already been developed, slated for testing in the Norilsk Division's mines in 2024.

Ore Flow project

The Ore Flow project enabled by computer vision and launched in the Kola Division unlocks new opportunities for better management of underground rail transport and ore logistics. The system detects underload or ore buildup, analyses fractions and ore water content. Ore quality can be assessed using infrared light, enabling video analysis even in dust conditions. The system also locates individual pieces of machinery in a mine by monitoring loading and unloading locations and transport routes.

All detection models built for the system make part of an integrated solution and were being piloted at the Severny Mine at the time of writing this Report. The system is planned to be further rolled out to other mines of the Norilsk Division.

Improving drilling quality

In 2023, the Company continued the automation of drilling preparations through a solution based on visual navigation and digital beacons. At the first stage, the application displays tips for the operator by projecting a laser beam, ensuring better drilling and reducing drilling problems. Going forward, we are planning to develop an in-house solution, which could be automated and rolled out across our entire fleet of self-propelled drilling rigs regardless of their manufacturer.

The system's tests confirmed that machinery tracking is highly accurate. Equipment scale models were later built, a self-propelled drilling rig was inspected to connect the equipment for correct operation, and terms of reference were prepared to develop a software and hardware suite prototype.

The development of the prototype and two equipment sets is expected to be completed before April 2024, with pilot tests slated for April–May. The decision on commercial operation will be taken based on the performance during the test period.

Modelling underground blasting

In 2023, the Company launched a project to model underground drilling, aimed at reducing the share of rock dilution with waste rock and concrete during drilling and cleaning as well as cutting drilling and blasting costs.

Computer modelling, with rock parameters factored in, enables highly accurate predictions of blasting outcomes while optimising target drilling and blasting patterns. At the time of writing this Report, the Company selected the optimal software solution, assessed the technical and economic benefits from its adoption, and collected data for modelling and conducting full-scale pilot tests, slated for the first half of 2024.

The Company plans to validate that the model's performance meets the technical and economic targets and roll it out across all mines of the Polar Division before the end of the year.

Modelling open-pit blasting

In 2022, the Company launched a project that models rock displacement during open-pit blasting. This solution will enable more accurate ore displacement predictions while reducing metal losses when recovering the rock.

Currently, the model enables ore displacement predictions using both actual data on drilled wells and explosives used, as well as target values, to select the optimal design of the block to be blasted. Six blasts were carried out based on model data in 2023, and the technical impact was verified.

The Company has already launched the process of procuring software for a full-scale rollout of the solution at Bystrinsky GOK. During 2024, Nornickel is planning to train staff on the new functionality.

Concentration optimisation

Research was conducted and preparations are underway for deploying wet magnetic separation for enhanced recovery of magnetic pyrrhotite from tailings of the Company's concentrators. At the time of writing this Report, the initiative's economic feasibility was confirmed, with the expected impacts of an increase in nickel output by 1.5 kt and PGMs by 602 kg over three years.

Norilsk Concentrator piloted a flotation plant to further deploy ejector flotation machines and boost throughput roughly by 100–150 ktpa of ore.

Research was conducted on ionometric mapping and optimisation of pulp ionic content during flotation of copper-nickel ores at the Company's concentrators. It was established that reagent consumption can be effectively regulated by using ion-selective electrodes. Tests will be continued to validate the result on winter pulps; in case of success, the Company expects a 0.5% increase in the recovery of nickel, copper, and PGMs into bulk concentrate at Talnakh Concentrator.

A smart assistant for flotation machine operators went on stream at Norilsk Concentrator's copper circuit. The system uses modelling algorithms leveraging intelligent analysis methods and makes recommendations based on statistics and the expertise of flotation machine operators, leaving specialists on the ground to make the final decision. The system's deployment was launched in 2020. Experts from Norilsk Concentrator and developers of the system worked through all possible scenarios to rule out almost all errors in the assistant's operation. After pilot tests, the system is expected to work fully automatically. The Company is considering adding a video analytics module to the solution going forward.

In 2023, the Company launched a charge blending optimisation project to stabilise concentrator processes. Tests have shown that predictions based on actual feedstock data, the current process status, and the concentrator's performance with different types of ore reduce productivity and recovery losses. A preliminary predictive model has been developed so far, with a comprehensive diagnostic of the concentration stage and development of a full-scale predictive model slated for the first half of 2024 to support pilot tests in a live environment.

Additive manufacturing

The Company is making great strides in developing 3D-based additive solutions.

In 2023, Nornickel used 3D printing to create and install a large, wear-resistant cast iron spiral chamber on a pump at Nadezhda Metallurgical Plant. This part is a critical device for lifting concentrate

from the ore-settling tank. Typically, replacing this chamber would take around a year, including the time it takes to create its detailed drawings. However, additive technologies have eliminated this first step through scanning the part and creating its 3D model.

Additive manufacturing reduces the lead times to manufacture and deliver equipment and components by 50%. Additionally, it enables quick changes and the creation of objects of any shape. Three-dimensional printing can also prevent unscheduled downtime in production and facilitate partial import substitution.

Turbidity monitoring system

Nornickel has introduced a new proprietary technology at Copper Plant – a video analytics system to monitor turbidity of water after ore processing.

The ore mixed with water into slurry is sent from the concentrator to the smelter's drying shop, where water is separated from the copper concentrate in thickeners. The water discharged from the thickeners must be clear, with no traces of concentrate. The turbidity monitoring system helps to control this.

The process is monitored by video cameras. The data from the cameras are processed by AI-enabled video analytics software. If the drains are too turbid, the system notifies the operator and records the violation. This reduces the loss of copper concentrate.

Powder metallurgy

Powder metallurgy is an economically beneficial alternative to mechanical processing of various metal parts. It allows for the creation of items with unique properties, significantly increasing metal use efficiency and enhancing the competitiveness of end products.

Demand for powder materials is growing on the back of rapid advances in 3D printing, die casting, hot isostatic pressing, and coating application. Powders can also be used in other innovative developments, from new nickel- and cobalt-based heat-resistant alloys to catalytic materials.

The first prototypes of powders from nickel alloys for use in 3D printing and hot pressing were obtained by Nornickel back in 2022. In 2023, the Company conducted benchmarking studies and is currently piloting their commercial operation using a 3D printer.

Expected impact from deploying wet magnetic separation technology: incremental production of nickel

at **1.5** KT

and PGMs

at **602** KG

Additive manufacturing reduces the lead times to manufacture and deliver equipment and components

by **50**%

Digital projects

Deployment of innovative tools is a critical lever to improve Nornickel's business processes and workplace safety. Nornickel has been continuously working towards securing technological sovereignty and developing IT initiatives to support its key business segments.

In 2023, the Company updated its IT strategy. Its key strategic ambitions include reliability and availability, agility and technological sovereignty, while the strategic objectives encompass driving faster decision making, building the necessary capabilities, and ensuring the smooth operation of the Company's IT landscape during the transformation.

Spending on digital projects totalled RUB 7.6 billion in 2023.

IT infrastructure monitoring

By continuously monitoring key performance metrics, help desks can timely locate issues, prevent information system downtime, and identify opportunities to boost IT landscape performance.

In 2023, the Company continued to develop its corporate IT monitoring function. Over the last year, the number of monitored IT facilities increased by 20% to more than 20 thousand. Today, over 3 million behavioural metrics are collected and analysed on a 24/7 basis, enabling the Company to be more proactive and promptly make informed decisions on IT service management.

Data Lake ecosystem

One of the core elements in the corporate digital landscape is the Data Lake, a scalable platform to digitise operating and business processes, which, in the longer run, will enable storing and analysing data for the entire Group while driving synergies by enriching data in external systems with new data. Integration data flows from Nornickel's core production sites have already been incorporated into the ecosystem.

A proprietary framework has been developed for the ecosystem for smoother connection and processing of data from equipment sensors based on advanced open source solutions. Existing solutions allow integrating machine-learning models, generating analytical reports, customising calculations, and running basic quality checks of metrics without developing additional standalone components.

In 2023, Nornickel successfully rolled out the Data Platform PROD landscape based on Russian Arenadata software, which supports a multi-landscape ecosystem. A geo-distributed Data Lake infrastructure is slated to be rolled out across production sites in 2024.

20%

Increase in the number of monitored IT facilities over the year

>3 MLN

behavioural metrics are collected and analysed 24/7

Enhancing corporate business processes

A total 38 Group enterprises have adopted electronic document management. Introduction of algorithms and robotic process automation of accounting function tasks have boosted the effectiveness of certain processes by as much as 13 times. As part of implementing electronic document management for the HR function, the system was redesigned to be hosted on the domestic Directum RX platform.

A pilot project to digitise contracts has reduced document signing times, with a record turnaround of just 30 minutes achieved in one of the tests.

Further development of digital treasury Dynamic discounting tools launched in 2023 were used to run 14 tenders for a total of over RUB 300 million during the year. Nornickel has been actively developing its monitoring and analytics landscape to increase process maturity. The necessary enablers have been put in place for the deployment and rollout of a full-cycle management digital platform, including monitoring and forecasting tools.

Towards the end of 2023, as part of expanding the functionality offered by the supplier online account, the Company introduced dynamic discounting feature to support contract negotiation and execution processes, with the coverage of key suppliers expanded by more than 1 thousand companies operating across the country, or over 30% of the total number of Nornickel suppliers.

In 2023, the Company migrated to a systematic tax monitoring platform to facilitate dispute resolution between the Company and tax authorities. At the time of writing this Report, over 97% of the Group's sales were monitored by tax authorities in real time. The Company is further increasing the platform's coverage of Group enterprises, improving its interface, enhancing data quality, and accelerating data sharing while driving integration with information systems of various government authorities.

Nornickel is a top innovation-driven counterparty demonstrating the maximum level of disclosure and cooperation with the Federal Tax Service of Russia, which already results in preferences granted to it by regulatory authorities.

38 GROUP ENTERPRISES

have adopted electronic document management

14 TENDERS

run using digital treasury tools launched in 2023

>97%

of the Group's sales monitored by tax authorities in real time using a systematic tax monitoring platform

Financial performance (MD&A)

FY2023 HIGHLIGHTS

- Consolidated revenue decreased 15% y-o-y amounting to USD 14.4 billion following the decline of prices for nickel, copper, palladium and rhodium. The Company sold all metal volumes produced in 2023 as well as a part of stock accumulated in 2022;
- EBITDA decreased 21% y-o-y to USD 6.9 billion owing to lower revenue while EBITDA margin remained at healthy 48%;
- Cash operating costs decreased 19% y-o-y to USD 5.3 billion mostly driven by the weakening of Russian rouble, the termination of metal purchases from third parties as well as the execution on operating efficiencies that allowed to mitigate inflationary pressure on expenditures in spite of introduction of export duties in October 2023;
- CAPEX decreased 29% y-o-y to USD 3 billion driven by softening of rouble exchange rate, optimization of payments to contractors as well as rescheduling of investment projects owing to voluntary self-sanctions imposed by foreign suppliers of equipment and technologies;
- Net working capital decreased 23% year-to-date to USD 3.1 billion driven mostly by devaluation of rouble, partial sale of metal stock accumulated in 2022 and application of different payment terms in certain major procurement and construction contracts;
- Net debt decreased 18% y-o-y to USD 8.1 billion with net debt/EBITDA ratio as of December 31, 2023 remained at 1.2x;
- The Company continued the optimization of its debt portfolio to adapt to changing debt market reality while servicing all its outstanding debt portfolio and maintaining comfortable liquidity level on its balance sheet and reserve credit lines;
- On December 7, General Shareholders Meeting approved the split of ordinary shares with a ratio of 100 to 1 to improve their attractiveness to retail investors.

USD 14.4 BN
Consolidated revenue for 2023

48%
EBITDA margin for 2023

19%
Reduction in cash operating costs

18%
Decrease in net debt as at 31 December 2023

Key corporate highlights, USD MILLION, UNLESS STATED OTHERWISE

Indicators	2022	2023	Change
Revenue	16,876	**14,409**	–15%
EBITDA[1]	8,697	**6,884**	–21%
EBITDA margin, %	52%	**48%**	–4 p.p.
Net profit	5,854	**2,870**	–51%
Capital expenditures	4,298	**3,038**	–29%
Net working capital[2]	4,003	**3,092**	–23%
Net debt[2]	9,835	**8,093**	–18%
Net debt/12M EBITDA	1.1x	**1.2x**	0.1x
Dividends paid per share (USD)[3]	40.5	**–**	–100%
Free cash flow[2]	437	**2,686**	6x
Проценты уплаченные[4]	599	**791**	32%
Dividends paid to non-controlling interest[4]	73	**503**	7x

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 perio.
4 Regular outflows, financed from free cash flow.

Recent developments

- In January 2024, the Company paid dividend for 9 months of 2023 in the amount of RUR 915.33 per one ordinary share.

Key segmental highlights[1], USD MILLION

Indicators	2022	2023	Change
Revenue	**16,876**	**14,409**	**–15%**
GMK Group	12,242	**10,488**	–14%
South cluster	972	**1,066**	10%
Kola division	10,889	**8,396**	–23%
GRK Bystrinskoye	1,325	**1,340**	1%
Other mining	1	**–**	–100%
Other non-metallurgical	1,556	**1,064**	–32%
Eliminations	–10,109	**–7,945**	–21%
EBITDA	**8,697**	**6,884**	**–21%**
GMK Group	4,316	**3,641**	–16%
South cluster	450	**484**	8%
Kola division	4,071	**2,254**	–45%
GRK Bystrinskoye	934	**963**	3%
Other mining	–11	**–12**	9%
Other non-metallurgical	8	**–13**	n.a
Eliminations	–7	**343**	n.a
Unallocated	–1,064	**–776**	–27%
EBITDA margin	**52%**	**48%**	**–4 p.p.**
GMK Group	35%	**35%**	0 p.p.
South cluster	46%	**45%**	–1 p.p.
Kola division	37%	**27%**	–10 p.p.
GRK Bystrinskoye	70%	**72%**	2 p.p.
Other mining	n.a.	**n.a.**	n.a.
Other non-metallurgical	1%	n.a.	n.a.

RUB 915.33
per ordinary share – dividend paid in January 2024

USD 1,066 MLN
Revenue from the South Cluster segment

8%
EBITDA growth in the South Cluster segment

USD 1,340 MLN
Revenue from the GRK Bystrinskoye segment

3%
EBITDA growth in the GRK Bystrinskoye segment

1 Segments are defined in the consolidated financial statements.

In 2023, revenue of GMK Group segment decreased 14% to USD 10,488 million primarily due to lower metal prices and decrease in matte sales delivered to Kola Division partly offset by increase in sales volume of refined metals.

Revenue of South cluster segment increased 10% to USD 1,066 million primarily driven by higher volume of semi-products realized to GMK Group partly offset by decrease in semi-products realized prices.

Revenue of Kola division segment decreased 23% to USD 8,396 million primarily owing to lower metal prices partly offset by increase in sales volume of refined metals.

Revenue of GRK Bystrinskoye segment increased 1% to USD 1,340 million.

Revenue of Other non-metallurgical segment decreased 32% to USD 1,064 million primarily due to cease of metals resale.

In 2023, EBITDA of GMK Group segment decreased 16% to USD 3,641 million owing to lower revenue, partly positively offset by decrease in cash operating costs, primarily due to lower mineral extraction tax and other levies, lower labour and repair and maintenance costs, and comparative impact of environmental provisions accrual.

EBITDA of South cluster segment increased 8% to USD 484 million primarily owing to higher revenue that was partly negatively offset by increase in cash operating costs primarily due to higher mineral extraction tax and ore mining services.

EBITDA of Kola division segment decreased 45% to USD 2,254 million primarily owing to lower revenue.

EBITDA of GRK Bystrinskoye segment increased 3% to USD 963 million primarily due to decrease in cash operating costs driven by Russian rouble depreciation against US Dollar.

EBITDA of Other mining segment decreased by USD 1 million and amounted to negative USD 12 million.

EBITDA of Other non-metallurgical segment decreased by USD 21 million and amounted to negative USD 13 million.

EBITDA unallocated to segments increased by USD 288 million and amounted to a negative USD 776 million mainly due to lower social expenses and effect of the Russian rouble depreciation against US Dollar.

Metal sales

In 2023, revenue from metal sales was down 15% (or –USD 2,371 million) y-o-y to USD 13,702 million primarily driven by lower selling prices (-USD 3,378 million) mainly for palladium, nickel, rhodium and copper, as well decrease in the resale of metals purchased from third parties (-USD 385 million). The increase in the volume of metal sales (+USD 1,392 million) primarily due to the partial sale of metal stock accumulated in 2022 was partly offset by decrease in production volume in 2023.

Other sales

In 2023, other sales decreased 12% (or -USD 96 million) to USD 707 million primarily due to Russian rouble depreciation, which was partially offset by the increase of revenue from resale of icebreaking and sea transportation services.

Cost of sales

Cost of metal sales

In 2022, the cost of metal sales increased 21% (or +USD 1,051 million) to USD 6,108 million, In 2023, the cost of metal sales increased 4% (or +USD 232 million) to USD 6,322 million, driven by the following factors:
- decrease in cash operating costs by 19% (or -USD 1,234 million);
- decrease in depreciation and amortization by 7% (or -USD 76 million);
- comparative effect of change in metal inventories y-o-y leading to the cost of metal sales increase by USD 1,542 million.

Cash operating costs

In 2023, total cash operating costs decreased 19% (or -USD 1,234 million) to USD 5,289 million mainly due to decrease in purchases of refined metals for resale (-USD 432 million), decrease in mineral extraction tax and other levies (-USD 319 million), decrease in materials and supplies (-USD 98 million), decrease in labour costs (-USD 266 million) partly offset by introduction of export customs duties from October 1, 2023 (+USD 121 million).

Inflationary growth of cash operating costs amounted to +USD 428 million while Russian rouble depreciation against US Dollar amounted to cash operating costs decrease of -USD 889 million.

Cost of metal sales, USD MILLION

Indicators	2022	2023	Change
Labour	2,123	**1,857**	–13%
Materials and supplies	1,069	**971**	–9%
Mineral extraction tax and other levies	1,192	**873**	–27%
Third party services	784	**659**	–16%
Transportation expenses	257	**216**	–16%
Fuel	166	**157**	–5%
Export customs duties	–	**121**	100%
Electricity and heat energy	136	**115**	–15%
Purchases of raw materials and semi-products	33	**33**	0%
Purchases of refined metals for resale	437	**5**	–99%
Other costs	326	**282**	–13%
Total cash operating costs	**6,523**	**5,289**	**–19%**
Depreciation and amortisation	1,015	**939**	–7%
Decrease/ increase (-) in metal inventories	–1,448	**94**	n.a.
TOTAL	**6,090**	**6,322**	**4%**

Labour

In 2023, labour costs decreased 13% (or -USD 266 million) to USD 1,857 million amounting to 35% of the Group's total cash operating costs driven by the following factors:
- -USD 409 million – Russian rouble depreciation against US Dollar;
- +USD 86 million – increase in headcount in Norilsk industrial region;
- -USD 77 million – one-off incentive payment to personnel in 1H2022:
- +USD 45 million – payments to personnel within the programme "Digital investor";
- +USD 89 million – other increase in labour costs mainly due to indexation of salaries and wages.

Materials and supplies

In 2023, expenses for materials and supplies decreased 9% (or -USD 98 million) to USD 971 million driven by the following factors:

- +USD 219 million – inflationary growth of materials and supplies;
- -USD 133 million – lower material and supplies expenses primarily due to decreased repairs as part of production efficiency measures;
- -USD 184 million – effect of the Russian rouble depreciation against US Dollar.

Mineral extraction tax and other levies

In 2023, mineral extraction tax and other levies decreased 27% (or -USD 319 million) to USD 873 million primarily due to lower metal prices and lower ore mined.

Third-party services

In 2023, cost of third-party services decreased 16% (or -USD 125 million) to USD 659 million mainly driven by:

- -USD 61 million – primarily due to decrease in repairs as part of production efficiency measures;
- +USD 79 million – inflationary growth of third-party services;
- -USD 143 million – effect of the Russian rouble depreciation against US Dollar.

Transportation expenses

In 2023, transportation expenses decreased 16% (or -USD 41 million) to USD 216 million driven by the following factors:

- -USD 23 million – primarily decrease in transportation volume of metal products;
- +USD 20 million – inflationary growth of expenses;
- -USD 38 million – effect of the Russian rouble depreciation against US Dollar.

Fuel

In 2023, fuel expenses decreased 5% (or -USD 9 million) to USD 157 million mainly due to Russian rouble depreciation against US Dollar partly offset by inflationary growth of fuel expenses in Norilsk industrial region.

Electricity and heat energy

In 2023, electricity and heat energy expenses decreased 15% (or –USD 21 million) to USD 115 million primarily due to Russian rouble depreciation against US Dollar.

Purchases of raw materials and semi-products

In 2023, purchases of raw materials and semi-products remained unchanged y-o-y and amounted to USD 33 million.

Purchases of refined metals for resale

In 2023, purchases of refined metals for resale decreased 99% (or -USD 432 million) to USD 5 million, primarily due to cease of refined metals purchases.

Other costs

In 2023, other costs decreased 13% (or -USD 44 million) to USD 282 million primarily due to Russian rouble depreciation against US Dollar partly offset by price inflation.

Depreciation and amortisation

In 2023, depreciation and amortisation expenses decreased 7% (or -USD 76 million) to USD 939 million mainly due to Russian rouble depreciation against US Dollar partly offset by increase in property, plant and equipment.

Decrease / Increase (with minus) in metal inventories

Comparative effect of change in metal inventory amounted to +USD 1,542 million resulting in a respective increase in cost of metal sales mainly due to increase in metal inventories in 2022 driven by the extension of logistics and refocusing sales to new markets.

Cost of other sales

In 2023, cost of other sales decreased by USD 108 million to USD 721 million due to Russian rouble depreciation against US Dollar, which was partially compensated by increase in the cost of resale of icebreaking and sea transportation services.

Selling and distribution expenses

Selling and distribution expenses, USD MILLION

Indicators	2022	2023	Change
Transportation expenses	118	**132**	12%
Export customs duties	–	**43**	100%
Marketing expenses	52	**29**	–44%
Staff costs	29	**27**	–7%
Other	56	**54**	–4%
TOTAL	**255**	**285**	**12%**

In 2023, selling and distribution expenses increased 12% (or USD 30 million) to USD 285 million driven by:

- +USD 43 million – export customs duties introduced from October 1, 2023;
- +USD 14 million – increase in transportation expenses primarily due to extension of logistics chains;
- -USD 23 million – decrease in marketing expenses.

General and administrative expenses

General and administrative expenses, USD MILLION

Indicators	2022	2023	Change
Staff costs	833	**684**	–18%
Third party services	230	**147**	–36%
Depreciation and amortisation	107	**110**	3%
Property tax and other miscellaneous taxes	94	**75**	–20%
Transportation expenses	9	**6**	–33%
Other	80	**71**	–11%
TOTAL	**1,353**	**1,093**	**–19%**

In 2023, general and administrative expenses decreased 19% (or -USD 260 million) to USD 1,093 million. Positive effect of the Russian rouble depreciation against US Dollar amounted to USD 242 million. Changes of the general and administrative expenses in real terms were primarily driven by the following factors:

- -USD 42 million – decrease in third-party services primarily driven by consulting services expenses;
- +USD 22 million – increase in depreciation due to growth of fixed assets.

Other operating expenses

Other operating expenses, NET, USD MILLION

Indicators	2022	2023	Change
Social expenses	407	**205**	–50%
Change in decommissioning obligations	12	**53**	4x
Change in other allowances	43	**40**	–7%
Loss on disposal of property, plant and equipment	70	**36**	–49%
Expenses on industrial incidents response	35	**10**	–71%
Change in provision on production and mining facilities shut down	14	**–1**	n.a.
Change in environmental provisions	93	**–32**	n.a.
Other, net	4	**–42**	n.a.
TOTAL	**678**	**269**	**–60%**

In 2023, other operating expenses, net decreased by USD 409 million to USD 269 million driven by the following factors:

- -USD 202 million – decrease in social expenses;
- -USD 125 million – lower environmental provisions related to compensation for environmental damages;
- +USD 26 million – comparative effect of changes in provision on production and mining facilities shut down and in decommissioning obligations;
- -USD 34 million – decrease in loss on disposal of property, plant and equipment;
- -USD 25 million – decrease in industrial incidents response expenses.

Finance costs

Finance costs, NET, USD MILLION

Indicators	2022	2023	Change
Interest expense, net of amounts capitalised	330	**337**	2%
Unwinding of discount on provisions	185	**147**	–21%
Fair value loss / gain (-) on the cross-currency interest rate swap contracts	18	**60**	3x
Interest expense on lease liabilities	16	**35**	2x
Income received as a result of early debt repayment	–172	**–**	100%
Gain (-) / loss from currency conversion operations	111	**–5**	n.a.
Other, net	5	**–7**	n.a.
TOTAL	**493**	**567**	**15%**

In 2023, finance costs, net increased 15% to USD 567 million. Finance costs, net decreased by USD 98 million in 2023 without taking into consideration profit from the early repayment of debt with a discount in 2022. The primary drivers of the change were:

- -USD 116 million – decrease in foreign currency conversion costs due to lower intraday volatility in the foreign exchange market;
- -USD 38 million – decrease in expenses related to unwinding of discount on provisions and due to significant volatility of discount rates during 2023, as well as changes in provisions;
- +USD 42 million – increase in expenses driven by fair value revaluation of cross-currency interest rate swaps primarily related to Russian rouble depreciation against US Dollar in 2023.

In 2022, negative result of revaluation of financial instruments during a period of high exchange rate volatility was partially compensated by the appreciation of Russian rouble against US Dollar.

Income tax expense

The breakdown of the income tax expense, USD MILLION

Indicators	2022	2023	Change
Current income tax expense	1,306	**966**	–26%
Deferred tax /benefit (-) /expense	219	**–302**	n.a.
TOTAL INCOME TAX EXPENSE	**1,525**	**664**	**–56%**

In 2023, income tax expense decreased by USD 861 million driven mostly by lower profit before tax.

EBITDA

EBITDA, USD MILLION

Indicators	2022	2023	Изменение
Operating profit	7,581	**5,540**	–27%
Depreciation and amortisation	1,026	**1,165**	14%
Impairment of non-financial assets, net	90	**179**	99%
EBITDA	**8,697**	**6,884**	**–21%**
EBITDA margin	**52%**	**48%**	**–4 p.p.**

In 2023, EBITDA decreased 21% (or -USD 1,813 million) to USD 6,884 million primarily driven by lower revenue, which was partially offset by Russian rouble depreciation against US Dollar in 2023.

Statement of cash flows

Statement of cash flows, USD MILLION

Indicators	2022	2023	Change
Cash generated from operations before changes in working capital and income tax	**8,897**	**7,121**	**–20%**
Movements in working capital	–3,184	**–229**	–93%
Income tax paid	–1,127	**–1,164**	3%
Net cash generated from operating activities	**4,586**	**5,728**	**25%**
Capital expenditure	–4,298	**–3,038**	–29%
Other investing activities	149	**–4**	n.a.
Net cash used in investing activities	**–4,149**	**–3,042**	**–27%**
Free cash flow	**437**	**2,686**	**6x**
Interest paid	–599	**–791**	32%
Payments of lease liabilities	–50	**–45**	–10%
Dividends paid to non-controlling interest	–73	**–503**	7x
Other financing activities	–4,342	**–1,065**	–75%
Net cash used in financing activities	**–5,064**	**–2,404**	**–53%**
Effects of foreign exchange differences on balances of cash and cash equivalents	962	**–25**	n.a.
Net change in cash and cash equivalents	**–3,665**	**257**	**n.a.**

In 2023, net cash used in investing activities decreased 27% to USD 3,042 million primarily driven by decrease in capital expenditures.

In 2023, free cash flow increased 6 times to USD 2,686 million following the increase in net cash generated from operating activities and the decrease in cash used in investing activities.

In 2023, free cash flow less regular financing outflows (interest paid, payments of lease liabilities, dividends paid to non-controlling interest of GRK Bystrinsky) increased by USD 1,632 million and amounted to USD 1,347 million following the increase in free cash flow.

Net working capital changes between the balance sheet and cash flow statement , USD MILLION

Indicators	2022	2023
Change of the net working capital in the balance sheet	**–2,734**	**911**
Foreign exchange differences	–218	**–780**
Change in income tax balance	–165	**208**
Change of provisions, reserves and long term components of working capital included in cash flow	–225	**–412**
Other changes	158	**–156**
CHANGE OF WORKING CAPITAL PER CASH FLOW	**–3,184**	**-229**

Capital investments breakdown by project, USD MILLION

Indicators	2022	2023	Change
Polar Division, including:	1,543	**1,223**	–21%
• Skalisty mine	90	**90**	0%
• Taymirsky mine	83	**73**	–12%
• Komsomolsky mine	40	**41**	3%
• Oktyabrsky mine	14	**5**	–64%
• Talnakh Enrichment Plant (TOF-3)	194	**123**	–37%
• Capitalised repairs	222	**93**	–58%
• Purchase of equipment	322	**219**	–32%
• Other Polar Division projects	578	**579**	0%
Kola MMC	350	**233**	–33%
Environmental program (Sulfur Program at the Nadezhda Smelter)	893	**454**	–49%
South cluster	298	**248**	–17%
Energy and gas infrastructure modernization	465	**408**	–12%
Bystrinsky project (Chita)	72	**65**	–10%
Other production projects	607	**355**	–42%
Other non-production assets	70	**52**	–6%
TOTAL	**4,298**	**3,038**	**–29%**

In 2023, CAPEX decreased 29% (or -USD 1,260 million) to USD 3,038 million driven by the effect of the Russian rouble depreciation against US Dollar, optimization of settlements with contractors as well as the rescheduling of investment projects as voluntary self-sanctions imposed by foreign suppliers of equipment and technologies resulted in redesign of investment projects.

Debt and liquidity management

Debt and liquidity, USD MILLION

Indicators	As of 31 December 2022	As of 31 December 2023	Change USD million	%
Non-current loans and borrowings	7,189	**5,377**	–1,812	–25%
Current loans and borrowings	4,295	**4,335**	40	1%
Lease liabilities	233	**520**	287	2x
Total debt	**11,717**	**10,232**	**–1,485**	**–13%**
Cash and cash equivalents	1,882	**2,139**	257	14%
Net debt	**9,835**	**8,093**	**–1,742**	**–18%**
Net debt /12M EBITDA	1.1x	**1.2x**	0,1x	n.a

As of December 31, 2023, the Company's total debt decreased by 13% to USD 10,232 million compared to December 31, 2022 partly following the depreciation of Russian rouble against US Dollar in 2023.

As of December 31, 2023, the Company's net debt decreased by USD 1,742 million due to decrease in total debt.

The Company fully honors its financial obligations in line with transactional documentation and fully complies with existing regulations.

In November 2023, Russian rating agency "Expert RA" confirmed the Company's credit rating at the highest investment level "ruAAA".