



Consolidated Report
2022

POWER OF TRANSFORMATION

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APPENDICES

(provided as a separate document)

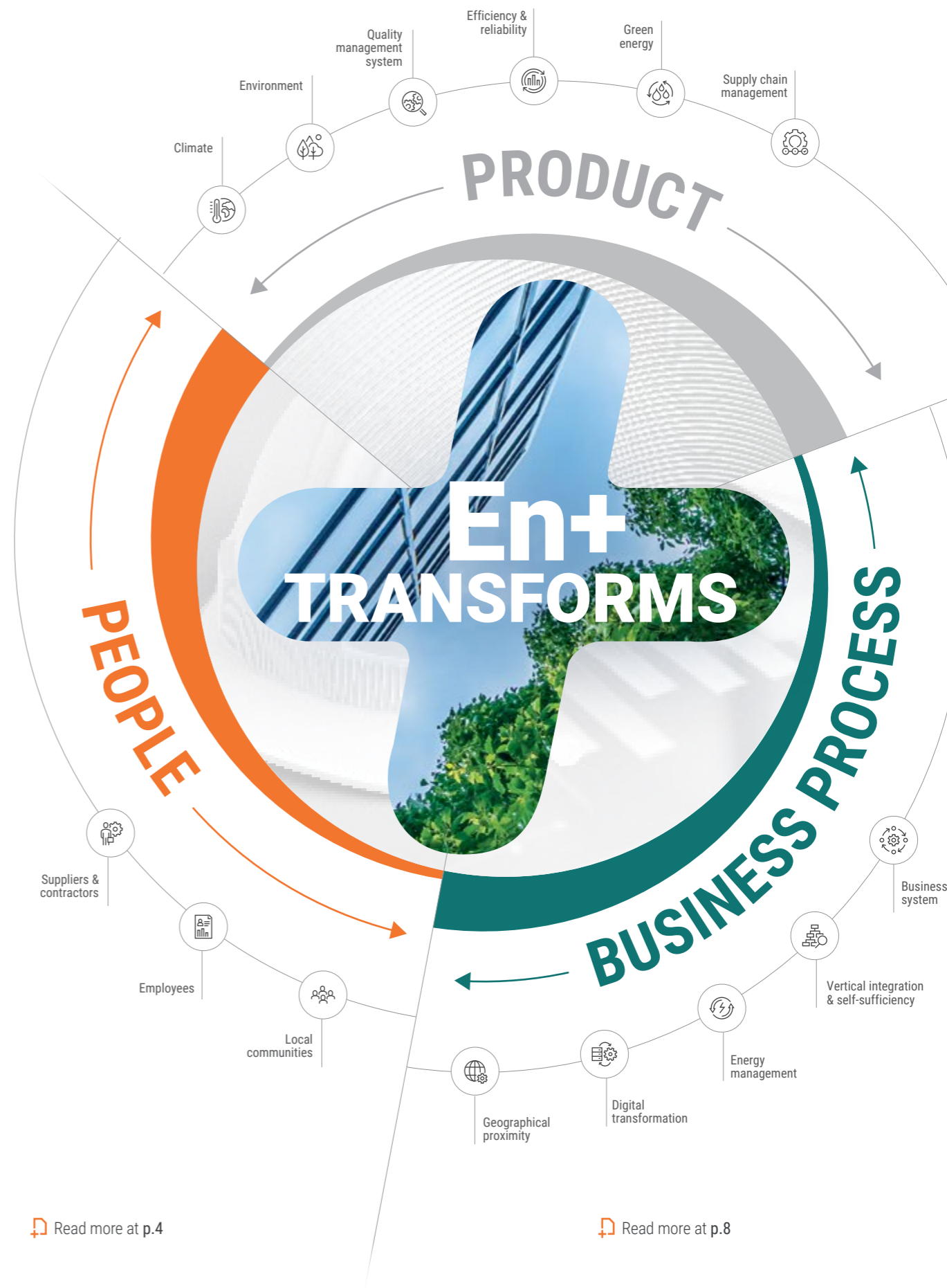
Appendix No.1:
Report on compliance with the Russian Corporate Governance Code

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List of the Company's branches



For more on our Company please visit our webpage at www.enplusgroup.com/en

Read more at p.6



Read more at p.4

Read more at p.8

ABOUT THE REPORT

GRI: 2-3

We are pleased to present the first Consolidated Report of En+ (the "Report"). It reflects the key achievements of En+ and covers its financial and sustainability performance from 1 January 2022 to 31 December 2022.

Previously, En+ has published both Sustainability and Annual Reports on a regular basis annually. In subsequent reporting periods, the Company will adhere to the practice of issuing Consolidated Reports in order to optimise sustainability and financial reporting, providing information more conveniently for stakeholders.

By publishing the Report, En+ underlines its commitment to transparency as the Report presents the most reliable and complete information about the Company. En+ pays great attention to the operational and financial efficiency as well as the environmental, social and governance (ESG) agenda.

By preparing the Report, En+ seeks to provide accurate and relevant information, and to improve the quality of the information provided. Topics are included in the report if the Company believes they are significant within the stakeholder and business impact issues.

The Report outlines, inter alia, the Company's strategy, business model and corporate governance structure, as well as its sustainability management and internal control and risk management processes.

The En+'s consolidated financial statements for the year ended as at 31 December 2022, are prepared in accordance with IFRS and accompanied by a report from the Group's auditors, included in the document.

In order to reflect the ongoing progress of the Company's sustainable development activities, En+ provides balanced, comparable, understandable complete, reliable and accurate information in the Report. The information in Sustainable development section and in Additional ESG data section is presented for 2020, 2021 and 2022 that is independently verified by B1. Moreover, the Health, Safety, and Environment Committee (the "HSE Committee") has reviewed and approved the Consolidated Report to ensure that all material ESG topics related to the Group's activities have been covered.

[Read more about independent verification of ESG data in Independent assurance report, p.317](#)

GRI: 2-4

The Report was preliminarily approved by the Company's Board of Directors on 27 April 2023 (Minutes No. 63 dated 27 April 2023).

The Report is prepared in accordance with the following laws and regulations, standards and recommendations:

- Federal Law No. 39-FZ On Securities Market dated 22 April 1996;
- Regulations No. 714-P On Disclosing Information by Securities Issuers dated 27 March 2020;
- The Code of Corporate Governance, recommended for use by joint-stock companies by the Bank of Russia Letter No. 06-52/2463 dated 10 April 2014 (the "Russian Corporate Governance Code");
- The Listing Rules (the "LRs") published by the UK's Financial Conduct Authority (the "FCA") in its capacity as a competent authority under the Financial Services and Markets Act 2000 (as amended) (the "FSMA") and the FCA's Disclosure Guidance and Transparency Rules (the "DTRs"). The LRs and the DTRs are hereinafter together referred to as the "Rules", unless otherwise specified;
- Global Reporting Initiative (GRI) Standards;
- The Sustainability Accounting Standards Board (SASB), including standards for the Metals & Mining and the Electric Utilities & Power Generators industries;
- The recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD);
- The Streamlined Energy and Carbon Reporting (SECR) technical guidelines;
- The EU Taxonomy for Sustainable Finance metrics;
- The requirements and recommendations of the London Stock Exchange;
- The requirements of Directive 2014/95/EU implemented through the UK Companies, Partnerships and Groups (Accounts and Non-Financial Reporting) Regulations 2016 No.1245;
- The Aluminium Carbon Footprint Technical Support Document;
- Moscow Stock Exchange guidance for issuers on how to comply with best sustainability practices.

Additionally, throughout the Report the Company has disclosed the progress of its sustainability-related activities towards attaining the United Nations Sustainable Development Goals (UN SDGs).

GRI: 2-4

During the reporting period, a number of changes took place in the methodology for calculating sustainable development indicators. The report contains a number of adjustments to data from previous years, comments on changes and updated methods are included in the text. Due to rounding, some totals in the tables, charts and diagrams in this Report may not correspond with the sum of the separate figures.

This Report may also contain discrepancies in the calculation of shares, percentages, and total amounts as a result of the application of different rounding methods. Data provided in the Report may differ marginally from previous disclosures, also as a result of rounding.



The Company's reports are available on the corporate website



Additional information about sustainability performance is available here

BOUNDARIES OF THE REPORT

GRI: 2-1 2-2

In the Report, the terms "En+", "the Company" in various forms refer to EN+ GROUP IPJSC and its subsidiaries whose results are included in the Company's consolidated financial statements prepared in accordance with the International Financial Reporting Standards (IFRS).

The Report reflects information about the Company's two segments – the Metals segment comprising RUSAL, including the power assets of RUSAL, and the Power segment, mainly comprising power assets. The Report also contains consolidated information about the Company's entities. Financial information included in the Report is presented and calculated based on the consolidated financial statements of the Company as of 31 December 2022, prepared in accordance with IFRS unless the notes indicate otherwise. Sustainable development section and Additional ESG data include results of the Company's and its subsidiaries included in the Group's consolidated financial statements prepared in accordance with IFRS, which have significant ESG impact.

In the reporting period, the Aluminum Rheinfelden enterprises located in Germany and acquired by RUSAL in April 2021 are included in the reporting boundaries. Queensland Alumina Limited, a joint venture (Australia) is excluded from the reporting boundaries due to the fact that since April 2022, the Australian government has imposed a ban on the export of alumina and bauxite to Russia. Data on the Nikolaev Alumina Refinery (Ukraine) is not considered in the Report¹, since production at it has been suspended. KRAMZ LLC and Strikeforce Mining and Resources PLC (SMR) were included as part of the Metals segment for the health and safety data.

¹ / Except HR and health and safety data.

LIMITATION OF LIABILITY

Unless otherwise stated, the information presented in the Report reflects the Company's status during the review period from 1 January 2022 to 31 December 2022 (the "Review Period") and, in some instances, discloses significant events that took place up to the moment of publication of this report. Therefore, all forward-looking statements, analyses, reviews, discussions, commentaries and risks presented in the Report (save for this section, or unless otherwise specified) are based upon information on the Company covering the Review Period only.

The Report includes statements that are, or may be deemed to be, forward-looking statements. In the Report, information about Company's strategy, plans, objectives, goals, future events, or intentions as well as the terms "believes", "estimates", "plans", "projects", "anticipates", "expects", "intends", "may", "will" or "should" in various forms shall indicate forward-looking statements. Nevertheless, forward-looking statements may and often do vary from the Company's actual results. Any forward-looking statements are exposed to risks relating to future events and other risks, uncertainties and assumptions relating to the Company's business, results of operations, financial position, liquidity, prospects, growth, or strategies.

The data presented in the Report on industry, market and competitive position comes from official or third-party sources. It is generally stated that the data from any third-party industry publications, studies and surveys was obtained from the sources believed to be reliable, but that there is no guarantee of the accuracy or completeness of such data. Although the Company reasonably believes that each of these publications, studies and surveys was prepared by a reputable party, neither the Company nor any of its respective directors, officers, employees, agents, affiliates, advisors, or agents, have independently verified the data contained therein. Moreover, certain industry, market and competitive position data reflected in the Report comes from the Company's internal research and estimates based on the knowledge and expertise of the Company's management. Although the Company reasonably believes that such research and estimates are accurate, they and their fundamental methodology and assumptions have not been verified for accuracy by any independent source.

After the Report was prepared, the Company's operations, its operating and financial results may have been affected by external or other factors, including the geopolitical conflict in Ukraine and sanctions imposed by the other nations against the Russian Federation, Russian individuals and legal entities. These and other factors are beyond the Company's control and may have a negative impact on the producing capabilities of En+.



Read more on Asset Disclosure at Consolidated Financial Statements for the year end 31 December 2022

GRI 2-3

To provide your feedback, suggest a comment or ask a question, please contact:

IR and ESG Department



Tel.: +7 495 642 7937



Email: ir@enplus.ru



En+ celebrated its 20th anniversary in 2022. Through the years the main focus of the Group's social agenda has been the comprehensive development of Russian regions and the improvement of the living standards of the Company's employees.

WAGES AND SALARIES, USD mn

2022	1,898
2021	1,446
2020	1,253

LOCAL COMMUNITIES

EN+ TRANSFORMS WELL-BEING AND SOCIAL LIFE OF ALL THE REGIONS WHERE THE COMPANY OPERATES BY:

- Developing infrastructure
- Investing in regional environmental projects
- Supporting active lifestyle
- Promoting education for future generations

More than **USD 53 mn**

were allocated for social investments and charitable projects

[Read more about Community engagement at p.126](#)

EMPLOYEES

EN+ TRANSFORMS WORKING CONDITIONS FOR EMPLOYEES THROUGH:

- Expanding and developing social and labour relations through collective bargaining agreements
- Solving housing problems: building microdistricts and providing corporate preferential mortgage programme
- Proving access to high-quality medical centres
- Improving of the corporate safety management system, built on the best global practices and development of the corporate safety culture
- Investing in training and development of professional skills

73.8%

is satisfaction level of employees according to survey conducted

over **96,000 employees** on 5 continents

[Read more about Employees at p.115](#)

SUPPLIERS & CONTRACTORS

En+ transforms suppliers and contractors by implementing obligatory H&S requirements for all suppliers and contractors in 2022

40

audits of new business partners were organised

[Read more about Supply chain management at p.176](#)



INDUSTRY AVERAGE
Industry average smelter emissions in 2021
12.9 t of CO₂e/t Al
(smelter emissions, Scope1&2, IAI Level 1)

EN+ TODAY
ALLOW has a guaranteed low-carbon footprint of less than
4 t of CO₂e/t Al
(smelter emissions, Scope1&2, IAI Level 1)

EN+ EXPECTS
0 t of CO₂e/t Al
(on average)

ENVIRONMENT **CLIMATE**

Carrying out environmental friendly modernisation using best available environmental technologies

EN+ PARTICIPATES IN THE CLEAN AIR NATIONAL ECOLOGY PROJECT SINCE 2018

36%
decrease in volatile organic compound emissions in 2022 (compared to 2020)

Realising climate strategy measures to achieve net zero GHG emissions by 2050

IN 2022, EN+ RELEASED THE FIRST PATHWAY TO NET ZERO PROGRESS REPORT

12.5%
decrease in intensity of GHG emissions from electrolysis operations from 2.28 t of CO₂e/t Al (compared to 2014 baseline)

QUALITY MANAGEMENT SYSTEM

Constantly improving internal quality management system

Read more about Quality management system at p.182

13
ASI certified plants

EFFICIENCY & RELIABILITY

IMPROVING RELIABILITY AND SAFETY OF EQUIPMENT:

- Participating in the state programmes for CHP modernisation, providing En+ with a guaranteed return on investment
- New Energy programme aimed at modernising the power plants of the Angara and Yenisei HPP cascade

Read more about Investment programme and modernisation at p.58-61

Reliability and safety of
33.7%
of total Group's CHP capacity will be improved through CHP modernisation programme

USD 298.6 mn
is total investments in New Energy programme until 2026

SUPPLY CHAIN MANAGEMENT **GREEN ENERGY**

Creating sustainable supply chain to improve quality of the product by implementing ESG principles and responsibly selecting contractors and suppliers

100%
new suppliers were screened using social criteria

Read more about Supply chain management at p.167

- Hydrogen Options Research: developing opportunities of giga-scale green hydrogen production using electricity from captive new-build renewable projects (hydro and wind) both in Siberia and in the Far East of Russia
- Analysing opportunities for the extension of the Abakan Solar Power Plant by approximately 15 MW backed by the Capacity Allocation Contracts
- Supporting development of domestic Renewable Energy Certificates



En+ constantly transforms business processes to maintain resilient operating activities and support stable financial results.

BUSINESS SYSTEM

En+ supports initiatives from its employees for Business system's improvement projects. This allows the Company to improve efficiency and decrease costs.

USD 50.6 mn
total economic effect of business system projects

[Read more about Business system at p.170](#)

VERTICAL INTEGRATION & SELF-SUFFICIENCY

- En+ was established 20 years ago with a predominant focus on the production of aluminium and alumina. Over time, the Company fully integrated world-class hydro power assets that reliably and sustainably supply the energy required to produce aluminium and has developed into a global leader in aluminium production and renewable energy.
- The Company enjoys high level of self-sufficiency when it comes to alumina (c.75%)¹ and more than 85%¹ in terms of bauxite and nepheline.

The main source of electricity for aluminium production is the Group's hydro power plants.

~99%
of the aluminium produced by En+ is made using renewable energy sources

[Read more about En+ history at p.10-11](#)

ENERGY MANAGEMENT

En+ implements various energy efficiency measures that reduce energy and process fuel costs.

2.233 mt of CO₂e
emissions prevented due to the partial replacement of prior thermal power generation volumes

[Read more about Energy management at p.82](#)

DIGITAL TRANSFORMATION

- En+ applies advanced digital solutions to improve business processes efficiency.
- In 2022, En+ updated its Digital transformation strategy.

[Read more about Digital transformation at p.184](#)

GEOGRAPHICAL PROXIMITY

A well-thought-out geography of assets located on

5 continents
with strong operational hub in Siberia allows En+ to achieve a unique synergy effect

^{1/} Taking into account the shutdown of alumina production at the Nikolaev Alumina Refinery and the ban of the Australian government on the export of alumina and aluminium ores to Russia.

COMPANY ACROSS THE DECADES

20 YEARS' HISTORY OF EN+

RUSAL AND RUSHYDRO ENTERED INTO A COOPERATION AGREEMENT to jointly launch the BEMO Project, which include the construction of the Boguchany HPP on the Angara river and the Boguchany aluminium smelter in the Krasnoyarsk Region.

EN+ ACQUIRED A CONTROLLING STAKE IN IRKUTSKENERGO, a power company that owns the Irkutsk (0.7 GW), Bratsk (4.5 GW) and Ust-Ilimsk (3.8 GW) HPPs and several CHPs in the Irkutsk Region of Russia.

RUSAL completed the acquisition of a 25% plus one share interest in Norilsk Nickel, the world's second largest producer of nickel, the world's largest producer of palladium and one of the world's leading producers of platinum and copper. This is a strategic investment for the Company.

THE GROUP SUCCESSFULLY COMPLETED THE BIGGEST IPO AMONG RUSSIAN COMPANIES ON THE LONDON STOCK EXCHANGE DURING THE PREVIOUS FIVE YEARS.

The offer price was set at USD 14 per share.

The total amount of attracted capital accounted for

USD 1.5 bn

RUSAL launched ALLOW, its low-carbon aluminium brand, which significantly reduces the carbon footprint of customer's products.

Allow

En+ re-domiciled in Kaliningrad, Russia.

RUSAL signed the first sustainability-linked syndicated pre-export finance facility in Russia for over USD 1 bn. Improvement of its sustainable development KPIs allowed the Company to reduce the costs of borrowing.

TARGET: NET ZERO
by 2050

2022

En+ had acquired 66% of the Krasnoyarsk HPP with 6 GW of installed electricity capacity. In 2016, En+ fully consolidated the Krasnoyarsk HPP, the HPP is currently the tenth largest globally.

In 2012, the first hydropower units were put into operation at the Boguchany HPP. On 1 December 2012, the HPP began commercial supplies of electricity to the wholesale electricity and capacity market. In the period from 2012 to 2014, all nine hydropower units were put into operation and are currently operating with a total capacity of 3.0 GW.

2012-2014
2010
2016
2017
2018
2019
2020
2021

Under the operation management of RUSAL, the first half of the first stage of Boguchany Aluminium Smelter launched its operations with the production capacity of 149 kt. The second half of the first stage was launched in 2019. Current production capacity is 298 ktpa.

In the period from April 2018 to January 2019, the Company operated under OFAC sanctions. At the end of 2018, an agreement was reached with OFAC to remove the Company from an SDN List. The Company made substantial changes to its corporate governance practices as part of this agreement.

2020
The Company announced its target to reduce greenhouse gas emissions by at least 35% by 2030 and to achieve net zero by 2050 (compared to 2018). En+ also published Pathway to net zero report that provides a full and detailed decarbonisation roadmap.

Metals segment announced the launch of the first stage of Taishet aluminium smelter with production capacity 428.5 ktpa.

The Metals segment of En+ successfully produced aluminium with the industry's lowest carbon footprint.

<0.01 tonnes of CO₂ per 1 tonne of aluminium

applying inert anode technology

Geopolitical tensions since the beginning of the year have affected the Company's operations and priorities. In the Metals segment, RUSAL announced that due to unavoidable logistical and transport challenges on the Black Sea and surrounding area, it has been obliged to temporarily halt production at the Nikolaev Alumina Refinery located in the Nikolaev Region, Ukraine. Moreover, RUSAL noted that on 20 March the Australian Government imposed an immediate ban on exports of alumina and aluminium ores, including bauxite, to Russia. This action affected the alumina export from Australia that comprises almost 20% of RUSAL's total alumina demand.

The London Stock Exchange suspended the admission to trading of En+ GDRs.

The Company continued to adhere to its climate goals, held an event in September and reported on its first year on the Pathway to Net Zero.

RUSAL became the first company to issue Yuan bonds in Russia.

In May, En+ became one of the initiators of the creation of the Baikal Plastic Free Association.

RUSAL launched several aluminium products: aluminium alloy for space, "SAYANA" premium foil, "Wheels Up" alloy wheels, aluminium panels for facade cladding and aluminium alloy for anodized coils and sheets.

In September, En+ announced the possibility of building an export-oriented wind farm in the Amur Region. The technology partner of the project will be the Chinese state corporation, PowerChina.

The Company simplified its ownership structure through the USD 1.58 bn acquisition of VTB Group's 21.37% stake in En+.

EN+ COMMENCED TRADING OF INTERNATIONAL RENEWABLE ENERGY CERTIFICATES (I-RECS).

In 2021, En+ signed Russia's largest ever one-million certificates supply deal for I-RECs and became a full-service provider and trader of these certificates.

En+ completed the listing of ordinary shares on MOEX (ticker: ENPG).

EN+ WAS CREATED to bring aluminium and power assets together. Over time, through a process of strategic acquisitions, asset consolidations and organic growth, the Company has developed into a leading global vertically integrated aluminium and hydropower producer.



www.baikalplasticfree.ru



KEY FIGURES

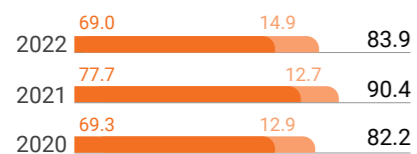
Current geopolitical tensions and the introduction of restrictive economic measures are facilitating the growth of volatility in financial, commodities, and currency markets, changes in supply chains and the refusal of some suppliers to fulfil previously undertaken obligations.

Nevertheless, thanks to an efficient management model, the Company was able to quickly restructure raw material supplies and supply chains, as well as successfully diversify sales channels.

OPERATING FINANCIAL

POWER SEGMENT

Electricity production¹, TWh



■ HPPs ■ CHPs

Heat production, mn Gcal



METALS SEGMENT

Aluminium production and sales, kt

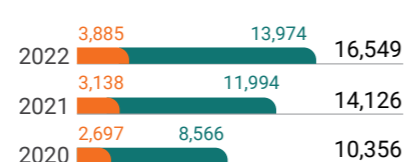


■ Aluminium production
■ Aluminium sales

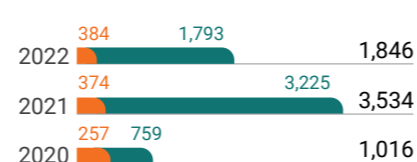
Read more at pp.24-35 / Business review

■ Power segment ■ Metals segment

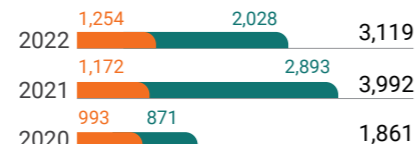
Revenue, USD mn



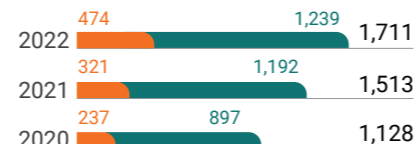
Net profit, USD mn



Adjusted EBITDA², USD mn



Capital expenditure, USD mn



Adjusted EBITDA margin, %



Read more at pp.36-57 / Financial review



ESG

Environment

12.5%

reduction in greenhouse gas intensity of primary aluminium in 2022 compared to 2014

~99%

of energy used for primary aluminium production are made with hydropower

45%

increase in environmental investments (RUB 16.6 bn in 2022, compared to 2021)

97%

of hazardous waste used and recycled

25%

reduction in volatile organic compound emissions (compared to 2021)

13 ASI

certified production facilities

Social

27.6%

women in Company

0.16

Lost time injury frequency rate (LTIFR)¹

86.3%

of employees were covered by collective bargaining agreements

USD 53 mn

amount of social investments

12%

increase in government payments (compared to 2021)

31%

increase in total wages and salaries (compared to 2021)

Governance

64%

share of independent directors as at 31 December 2022

36.3%

female representation on the Board of Directors as at 31 December 2022

USD 3.1 mn

(RUB 216.1 mn) allocated to R&D projects²

398 total employee's messages on the Signal Hotline

39.1%

of purchases from local suppliers

USD 50.6 mn

(RUB 3,476.3 mn) overall economic effect of implementing improvement projects²

ESG RATINGS

Sustainalytics
ESG risk rating – 27.5 ("Medium" risk), where 1 is the lowest risk, 100 is the highest risk as at 6 March 2023

CDP Climate
RUSAL "A-"
Eurosibenergo "C", as at 2021

ISS Quality Disclosure rating
4-Social, 2-Environmental, where 1 is the highest level of disclosure and 10 is the lowest level of disclosure as at 1 December 2022

ESG RANKINGS AND INDEXES

Russian Union of Industrialists and Entrepreneurs Indexes
"A" in the Sustainability Vector Index, "B+" in the Responsibility and Openness Index

National credit ratings
High level at ESG index of Russian business

Expert RA
One of the leaders at "ESG transparency ranking among Russian companies and banks". Company received a diploma in the category "Higher level of ESG transparency"

ESG AWARDS

RAEX Analytics
Sustainable Development Report 2021 was recognised as the best at "XIX Annual Practical Conference Annual reports: the experience of leaders"

Moscow Stock Exchange
Sustainable Development Report 2021 took 3rd place at "Best Disclosure of information on Sustainable Development" of the XXV Annual Reports Competition 2022

¹ / Per 200,000 hours worked.
² / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

STRATEGIC REPORT : OUR PRESENCE AND SCALE

En+ is the largest producer of low-carbon aluminium globally.

No. 1
aluminium producer
(excluding China)

5.6%
of the world's alumina
production

69.0 TWh
low-carbon hydropower
generation

19.4 GW
Total installed electricity
capacity⁶

GRI: 2-1

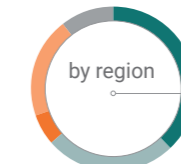
With a well-established presence across five continents and a strong operational hub in Siberia, combining the assets of both our Metals and Power segments, the Group is able to capture opportunities arising from its world-class assets and scale.

The Group's Metals segment has a well-diversified sales platform which allows it to access and operate efficiently in all key aluminium markets. The Group has a world-class market research and analytics platform which provides valuable input to the Group's long-term operational and financial planning.

At the same time, our Power segment operates the largest and the most cost efficient network of power plants in the Siberian region, which allows it to cater efficiently and reliably to its core clients in Siberia, including the largest smelters operated by our Metals segment.

FY 2022 Revenue⁷, %

Read more
at p.36



USD 16,549 mn

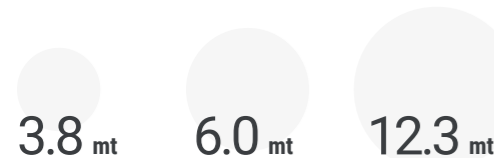
11 Aluminium smelters¹
9 Alumina refineries²
7 Bauxite production sites



Total capacity



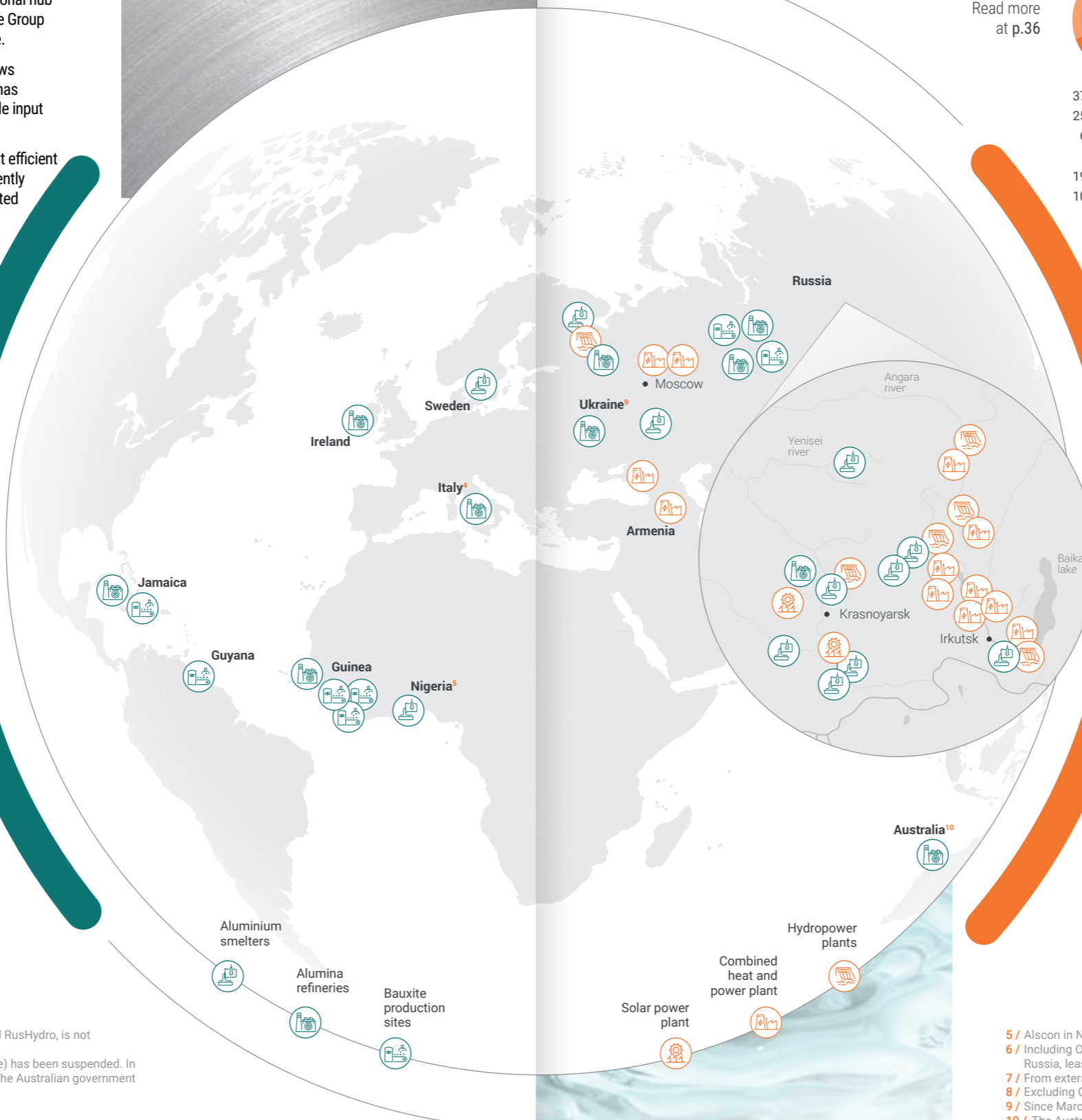
Production level, 2022



Read more at p.24 / Our Metals segment

1 / Excluding Boguchany Aluminium Smelter (BoAZ), a joint 50/50 project of RUSAL and RusHydro, is not included.
2 / Eurallumina in Italy is mothballed. Since March 2022, production at Nikolaev (Ukraine) has been suspended. In addition, the Company owns a 20% participation share in QAL, located in Australia. The Australian government banned alumina and bauxite exports to Russia since April 2022.
3 / RUSAL attributable capacity.
4 / Eurallumina in Italy is mothballed.

METALS SEGMENT

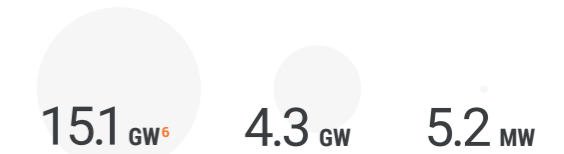


POWER SEGMENT

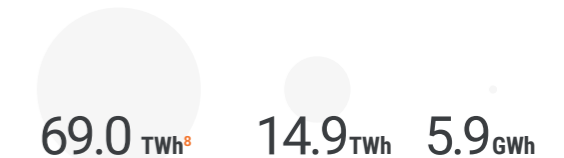
5 Hydropower plants⁶
16 Combined heat and power plant
1 Abakan solar power plant



Total installed capacity



Production level, 2022



Read more at p.32 / Our Power segment

5 / Alcon in Nigeria is mothballed.
6 / Including Onda HPP with installed power capacity of 0.08 GW (located in European part of Russia, leased to UC RUSAL).
7 / From external customers
8 / Excluding Onda HPP.
9 / Since March 2022, production at Nikolaev has been suspended.
10 / The Australian government banned alumina and bauxite exports to Russia since April 2022.

BUSINESS REVIEW

INDUSTRY POSITIONING

En+ Group is a market-leading, vertically integrated low-carbon aluminium and hydroelectric power producer.

The composition of the Group's assets and operations, both in terms of industries and geographies, enables it to achieve strategic synergies. Its scale allows it to actively manage the flow of aluminium products, alumina and other raw materials within the Company and proactively plan electricity production and consumption targets. This allows the Group to optimise capacity utilisation and maximise efficiency at smelters, refineries and generating assets.

Based on the current management structure and internal reporting system, the Group has defined two business segments:



Metals segment:

Comprising RUSAL, including the power assets of RUSAL



Power segment:

Mainly comprising power assets

METALS SEGMENT

En+ Group's Metals segment, represented by RUSAL, produced approximately 5.6% of global aluminium output in 2022, and around 4.5% of the world's alumina. In 2022, RUSAL remained among the largest producers of primary aluminium and alloys globally.

RUSAL is about 75%¹ self-sufficient in alumina capacity and more than 85%¹ self-sufficient in bauxites and nephelines.

RUSAL's production chain includes bauxite and nepheline ore mines, alumina refineries, aluminium smelters and casting houses, foil mills, and packaging and wheel production centres.

RUSAL has a diversified product mix with a strong share of Value Added Products (VAP) in the portfolio (1.70 mtpa out of 3.90 mt of total sales in 2022).

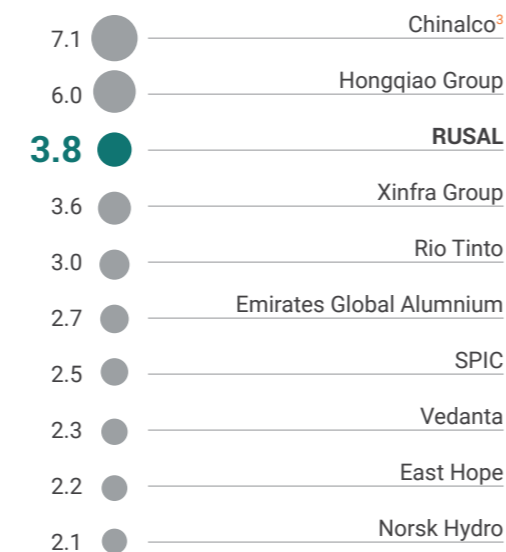
In terms of RUSAL's sales geography, the Company delivers aluminium products to the domestic market and across all key global consuming regions (Europe, South and North America and Asia).

1 / Taking into account the shutdown of alumina production at the Nikolaev Alumina Refinery and the ban of the Australian government on the export of alumina and aluminium ores to Russia.
 2 / Based on the Company's internal data and peer companies' publicly available results, announcements, reports and other information.
 3 / Since 2019, Chinalco has consolidated production of Chalco and Yunnan Aluminium Co., Limited.

To achieve the Group's ambitious carbon neutrality commitment, RUSAL plans to upgrade all of its production facilities, and introduce innovative technologies throughout the production chain. This involves conversion to pre-baked anode technology across half of the capacity at Krasnoyarsk, Bratsk, Irkutsk and Novokuznetsk smelters during the period between 2025 and 2030. Once implemented, the programme will also help massively reduce the smelters' emissions of fluorides and resinous substances, including benzo(a) pyrene. This will also reduce energy consumption by 11–18%.

RUSAL is actively developing groundbreaking inert anode technology. This technology will allow the significant reduction of GHG emissions from primary aluminium production. Only a few Scope 3 emissions will remain related to indirect emissions from the production of raw materials used for the making of inert anodes. These efficient smelting technologies together with low-cost input material and utilities mix secure the Company's global leadership on the cost curve.

Top aluminium producers globally², mt



POWER SEGMENT

En+'s Power segment is the largest independent power producer in Russia by installed capacity and the largest independent hydropower generator in the world.

Russia has a well-developed power sector, essential for the country's high energy-consuming economy. The total installed capacity of the Unified Energy System of Russia was 247.6 GW in 2022, with total electricity production of 1,121.5 TWh. The Russian electricity market is dominated by thermal assets, which represent 66% of the total installed capacity in Russia, while the Siberian region's capacity is roughly equally split between hydro (48.5%) and thermal (50.7%), with a minor share of solar (0.8%).

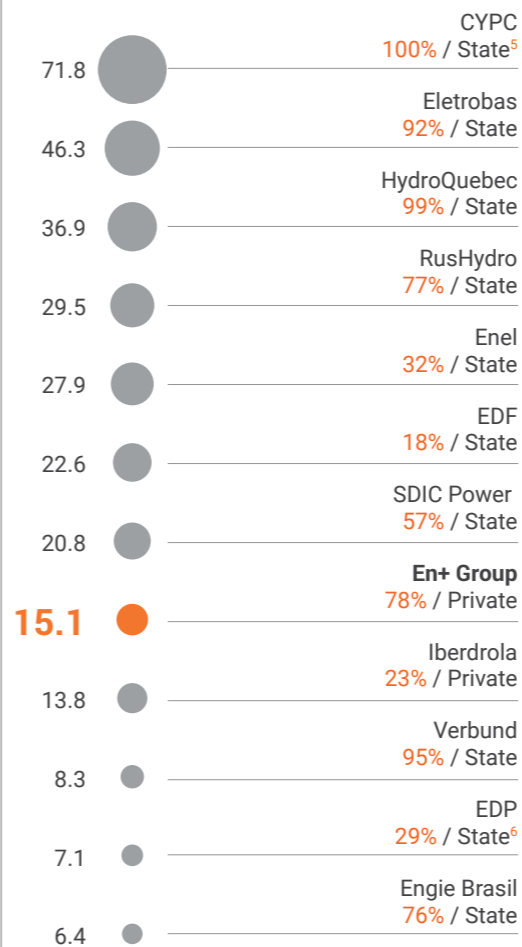
The Group's power generation assets are located in the Eastern Siberia and Volga Regions, and the Company is engaged in all of the major areas of the power industry in Russia: electricity and heat generation; electricity, capacity and heat sales; heat distribution; retail energy trading and supply; engineering services; and electricity distribution and transmission.

Hydropower generation is a key area of the Power segment's business, with the majority of its assets located in Siberia. In 2022, En+ remained the largest producer in Siberia, with a 36% share of installed capacity. Furthermore, 77.8% of its total capacity is represented by hydropower assets, and it enjoys utilisation priority over the regulatory range of thermal power plants.

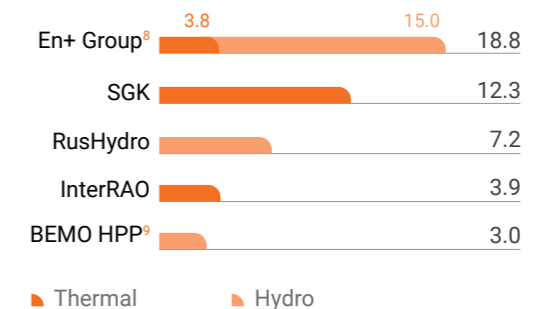
Coal prices are the main driver of day-ahead market prices since CHPs are the marginal producers. The output of HPPs, driven by weather conditions, is also relevant, as it affects the production volumes required from CHPs.

The Group's key priority for its Power segment is to provide a low-carbon hydropower supply to further reduce overall carbon footprint and to achieve carbon neutrality by 2050. As part of this, the Group is planning to construct new power stations such as Krapivinskaya HPP, Nizhneboguchanskaya HPP and Telmamskaya HPP. En+ is also continuing its New Energy programme for HPPs modernisation, as well as the modernisation programme for its CHPs.

Power companies by installed hydro capacity globally⁴, GW



Competitive landscape in Siberia by installed capacity⁷, GW



36%
share of En+ in installed capacity of Siberia

77.8%
share of hydro in En+ total capacity

4 / Based on latest filings.
 5 / Subsidiary of China Three Gorges Corporation.
 6 / State owned China Three Gorges Corporation owns 21.08% stake.
 7 / Based on the Company's internal data and peer companies' publicly available results, announcements, reports and other information.
 8 / The Company's assets capacity provided for Siberia only. The Company's total capacity is 19.4 GW, including 15.1 GW in hydropower.
 9 / BEMO (Boguchany HPP) is a 50:50 JV between UC RUSAL and RusHydro. It is operated by RusHydro.

CHAIRMAN'S AND CHIEF EXECUTIVE OFFICER'S STATEMENT



The Honorable Christopher B. Burnham,
Chairman of the Board

Vladimir Kiriukhin,
Chief Executive Officer

GRI: 2-22

En+ remains the world's leading independent hydropower company, the largest aluminium producer outside of China, and the third largest in the world. We produce more than six percent of the world's aluminium and consistently offer recyclable aluminium with the least carbon footprint.

We do this with more than 96,000 employees scattered across five continents.

At En+, we are committed to producing the lowest-carbon aluminium, and our premium low-carbon brand, ALLOW, leads the world in responsible and sustainable aluminium production. We also are working assiduously to develop leading inert anode technology, which is crucial to producing zero-carbon aluminium. Our commitment to net-zero emissions is not just our deep responsibility, but also our commitment to the highest level of corporate stewardship, and reflects our passion to ensure a cleaner and more sustainable environment for future generations.

Amid great uncertainty in the midst of this global geopolitical crisis, we continue in this mission. In January 2021, En+ was one of the first Russian companies to set the goal of becoming carbon-neutral by 2050. Its mid-term targets we believe to be the most ambitious climate change targets in the aluminium industry. Despite growing external challenges related to disrupted supply

chains, severed ties with international organisations, and limited access to sources of green finance, we remain committed to our carbon-neutrality goals and follow the pathway our previous Chairman, Lord Barker, presented a year ago.

Decarbonisation projects are being implemented across all segments – more than 99% of our metal is now made using hydropower. However, with almost all our smelting entirely powered by renewable energy, our biggest decarbonisation challenge as a Group is in alumina refining, and here, work is underway in all areas: from improving the thermal insulation and energy efficiency of equipment and pipelines to measures to improve production processes.

An example of this effort is the implementation of the project for the transfer of the electric boiler from hydrocarbon fuel to renewable energy sources at Aughinish Alumina in Ireland. At Windalco in Jamaica, RUSAL is implementing projects to convert outdoor lighting to solar panels and modernise the lighting system of production sites, warehouses and premises.

At our plant in Achinsk, Russia, experimental developments are underway to capture carbon dioxide using alkaline bottom-sludge water. Injection of liquid CO₂ into reliable underground geological formations holds strong potential for use and recovery in our power businesses.

TRANSFORMING HOW WE OPERATE

To say the least, operational challenges have been extensive this year as the macroeconomic environment impacted us, but we have successfully persevered through these major challenges through ongoing restrictions to business operations. This involved replenishing alumina volumes which decreased due to the ban on alumina and bauxite exports to Russia imposed by the Australian government, together with the suspension of production at Nikolaev Alumina Refinery as a result of the terrible conflict in Ukraine.

Protecting shareholder interests, fulfilling our fiduciary duty, and duty of loyalty to our tens of thousands of employees remains our top priority at En+. It goes without saying that along with that duty is our unwavering commitment to heating the homes and businesses of millions of people across greater Siberia.

We were the first in the Russian market to place bonds in yuan, and as of the end of the year had approximately 34% of our debt portfolio denominated in yuan, which diversifies the currency structure of our corporate debt while diversifying currency risk.

We deeply value the contribution of all our employees across five continents and around the world. It is by mobilising and supporting the extraordinary skills of our committed global workforce, that the Group has flourished through the extreme challenges this past year.

TRANSFORMING MARKETS

Overall, aluminium demand stayed relatively healthy, supported largely by new demand in electromobility, renewable energy infrastructure, and packaging. Global demand for primary aluminium in 2022 increased by 0.3% to 69 mt, with the automotive industry being the largest sector of aluminium consumption, accounting for around 24% of global aluminium demand. The sector recorded 2.7% growth and was driven mainly by the rapidly increasing demand for electric vehicles (EVs), particularly in the sport utility vehicle segment, where aluminium content is higher due to the requirement to lower weight to meet mileage goals on a single charge.

Aluminium consumption in construction, the second-largest sector of aluminium demand, decreased by 3.9% globally, with price pressures, rising interest rates, and supply chain issues all weighing heavily on construction volumes. However, demand in the packaging and container sector increased by 4.6% globally, as the use of aluminium in the packaging industry expands as environmentally friendly, sustainable, and fully recyclable

packaging solutions become a core strategy of global brands. In addition, aluminium demand in the electric sector grew 9.4%, driven by the expansion of renewable energy capacity, particularly solar and wind power generation, and updating aging transmission infrastructure.

TRANSFORMING COMMUNITIES

In honour of its twentieth anniversary, the Group organised a three-day festival of culture called "Energy" in Irkutsk. The outstanding space of the festival brought together a constellation of distinguished writers, actors, musicians, and talented creators. More than 10,000 people visited the festival, which became the biggest cultural event for the capital of Eastern Siberia.

The festival marked the start of a new segment of the Company's social investment – supporting culture and the arts. En+ has actively supported cultural and artistic projects across the many communities in which we operate. This has included supporting the country's leading theatre award, the 'Golden Mask', supporting the Baikal Dance Festival, the Jazz on Baikal Festival, and many other cultural events and institutions.

The Company also finances and supports charitable projects and systematically provides assistance to those who need it most – adults and children with disabilities, children from needy families, and to children without parental care or with serious illnesses. We do this in all the countries in which we have facilities.

For example, in the Republic of Guinea, we provided charitable assistance and supported local infrastructure projects in the Fria prefecture. For our employees at KUBAL in Sweden, we donated to the Children's Oncology Fund and to Doctors Without Borders (MSF), as well as medical and humanitarian aid to children from vulnerable families. In Ireland at Auginish, fundraising events resulted in more than 500 families receiving food parcels for Christmas and New Year.

TRANSFORMING OUR FUTURE

Again, as we navigate the uncertainties and challenges of today's world, we want to stress our sincere gratitude to all our stakeholders, including our employees, customers, partners, and shareholders. Your unwavering support and loyalty have been essential to the En+ Group overcoming the challenges of 2022. Thank you.

BUSINESS MODEL

SASB: IF-EU-000.C IF-EU-000.D

CAPITAL

NATURAL

20.6 mtpa total bauxite capacity
 10.8 mtpa total alumina capacity¹
 664.4 m³ water consumption

BUSINESS

19.4 GW total installed electricity capacity
 4.2 mtpa aluminium production capacity²
 41,792 km of power lines in our networks

FINANCIAL

USD 30.7 bn Total assets
 USD 1.7 bn Capital expenditure

INTELLECTUAL

100 professional training and development programmes to En+ employees
 "A" Sustainable corporate governance rating by Da-Strategy consulting firm

HUMAN

>96,000 employees on 5 continents
 73.8% level of employees satisfaction

SOCIAL AND RELATIONSHIP

A- Credit rating
 27.5 ("Medium") ESG risk rating by Systainalitics

OUTPUT

POWER SEGMENT

PRODUCTION

Hydropower
 69.0 TWh

Heat
 27.6 mn Gcal

Thermal
 14.9 TWh

ELECTRICITY TRANSMISSION AND DISTRIBUTION

54.9 TWh of electricity distributed

ELECTRICITY TRADING AND RETAIL

23.1 TWh sales

Read more about value chain creation at pp.278-279

METALS SEGMENT

PRODUCTION

Bauxite 12.3 mt
 Nepheline 4.4 mt

Alumina 6.0 mt
 Aluminium 3.8 mt

SALES

3.9 mt aluminium sales
 1.7 mt VAP sales

VALUE FOR STAKEHOLDERS

EMPLOYEES

USD 351 mn retirement costs
 USD 1,898 mn employee wages

CUSTOMERS

1.2 mt low-carbon ALLOW aluminium sold
 4.17 (out of 5) average customer satisfaction score

SUPPLIERS

c. USD 9,649 mn total amount of purchases
 c. 39.1% purchases from local suppliers

SHAREHOLDERS AND INVESTORS

USD 3.3 bn market capitalisation
 USD 3.1 bn Adjusted EBITDA

LOCAL COMMUNITY AND NGOS

USD 53 mn social investments
 USD 697 mn payments to government

Read more about Stakeholder engagement at p.192

STRATEGY

- 1 ENSURING MAXIMUM EFFICIENCY
- 2 INCREASING PRODUCTION CAPACITY
- 3 IMPLEMENTING INNOVATIONS

- 4 ENSURING A STABLE FINANCIAL POSITION
- 5 COMMITTING TO SUSTAINABILITY

Read more about key risks at p.136 and about strategy at p.22

2/ Excluding Boguchany Aluminium Smelter (BoAZ), a joint 50:50 project of RUSAL and RusHydro. 10 aluminium smelters in operation (Alscon in Nigeria is mothballed).

STRATEGY

GROWTH AND LEADERSHIP

STRATEGIC OBJECTIVES

GRI: 3-3

ENSURING MAXIMUM EFFICIENCY

VERTICAL INTEGRATION FOR MAXIMUM EFFICIENCY

Almost 100% of the electricity supply to our aluminium smelters is provided by the Group's own hydropower plants. This ensures revenues for the Power segment by creating basic demand for electricity and reduces the carbon footprint of the primary aluminium production as almost 100% of energy used for smelting is renewable.

~99%
level of hydropower supply for aluminium smelting in 2022



PRODUCTION COST SAVING

We pursue cost-cutting initiatives across the Group. A high-level of self-reliance in both bauxite and nepheline is achieved in the Metals segment. We develop and implement new projects for inhouse production of alumina. In addition, the second phase of the Taishet anode plant is meanwhile under active construction.

>85%
self sufficiency in bauxites and nepheline¹



c.75%
self-sufficiency in alumina¹

HIGHER PROFITABILITY

The Metals segment's development priority is raising VAP production capacity. To achieve that, the Aluminium division expands its VAP manufacturing facilities with new capacities in wire rod. The Downstream division produces foil, extrusion and car wheels which are sold at a high premium.

44%
the share of VAP in aluminium sales in 2022

111.3kt
of foil produced in 2022



INCREASING PRODUCTION CAPACITY

ALUMINIUM PRODUCTION CAPACITY RAMP-UP

The first phase of the Taishet aluminium smelter was partly commissioned during 2022, becoming the Group's most modern and high-tech aluminium smelter equipped with cutting-edge electrolysis facilities.

78kt
of metal produced on Taishet aluminium smelter



DEVELOPMENT OF GENERATING CAPACITY

The Company has continued to pursue the development of new hydropower generation capacity. The project portfolio includes four HPPs, i.e., Nizhneboguchanskaya, Motynginskaya, Telmamskaya and Krapivinskaya, with a 2.5 GW aggregate capacity. The Company also continues development of both solar and wind power projects.

2.5GW
the aggregate capacity of the new hydropower projects



5.9MWh
electricity produced at Abakan solar plant in 2022



ENSURING A STABLE FINANCIAL POSITION

ENSURING STABLE FCF

The Metals segment managed to achieve strong sales revenue at the level of 2021 despite the aluminium market price falling almost twice between Q1 and Q3. The Power segment outperformed the previous year and earned record high revenues.

USD 14.0bn
sales revenue of Metals segment²



USD 3.9bn
sales revenue of Power segment²

IMPLEMENTING INNOVATIONS

INNOVATIONS IN METALS SEGMENT

The Metals segment is seeking to introduce inert anode technology on an industrial scale, which is the key technological development vector for the segment. Inert anode difference from conventional technology in that electrolytic smelting of one tonne of aluminium produces 2 tonnes of oxygen instead of carbon dioxide emissions. Tests on inert anode electrolysis cells are underway at the Krasnoyarsk aluminium smelter; the electrolytic cells are supposed to emit no greenhouse gases (GHGs) upon transition.

0.01 tonnes of CO₂e
per tonne of aluminium produced with inert anode in accordance with Scope 1 and Scope 2



R&D PROJECTS IN POWER SEGMENT

The Power segment's R&D projects involved into development of tank containers for transportation of liquid hydrogen and a small-capacity nuclear reactor.



The Group's strategy aims to lead the Company to become the world's largest vertically integrated producer of high value-added products from low-carbon aluminium using our own renewable energy and raw materials.

We adhere to the Group's sustainable development strategy aligning with the international agenda through improvement of production technology and asset modernisation in both Metals and Power segments while at the same time raising the output of low-cost aluminium, which positively affects margins, financial stability and deleveraging.

COMMITTING TO SUSTAINABILITY

ALIGNING WITH SDGS

The Group's sustainability focus extends to climate leadership, environmental stewardship, human development, and collaboration with stakeholders in support of sustainability principles both nationally and internationally. From programmes aimed at reducing the Group's environmental impact, to research around ecosystem impact in our regions of operation, to social initiatives supporting healthcare and education, the Group's operations align with the Group's priority SDGs.

SDG 11 was included in the priority SDGs



NET ZERO TRANSITION

In early 2021, the Company announced its ambition to achieve a reduction in GHG emissions by at least 35% by 2030, and net zero GHG emissions by 2050 (compared with 2018). In September 2022, the Company reported for the first time on progress in achieving these climate targets.



Pathway to net zero progress report was published



CLOSED LOOP ECONOMY DEVELOPMENT

The Metals segment is developing new products to be manufactured from secondary aluminium alloys to further reduce carbon footprint in response to the Group's clients declaring their own Scope 3 reduction goals.

Three of the Group's plants have recycling projects underway, with a substantial share of production to involve recycled aluminium in the future



¹ Taking into account the shutdown of alumina production at the Nikolaev Alumina Refinery and the ban of the Australian government on the export of alumina and aluminium ores to Russia.

² Including intra-group revenue.

BUSINESS REVIEW

METALS SEGMENT REVIEW

MARKET OVERVIEW

Global aluminium demand

2022 was a year full of challenges for the aluminium industry. Whilst the global economy had not yet recovered fully after the pandemic, continued struggling with rising inflation, the energy crisis, which started to emerge in Europe in autumn 2021, clouded prospects of economic growth. The conflict in Ukraine and political tensions have since then added uncertainty in sustainable power supply and sent the price of natural gas into a skyrocketing rise. Power costs became a trigger for rapidly growing costs of production for energy intensive industries and logistics, boosting inflation. Also, the Zero-COVID policy¹, drought and power shortage in China continued to constrain global supply chains. Fears of an approaching recession became more and more widespread globally in the second half of the year.

Amid the negative macro environment, aluminium demand stayed relatively healthy, supported by new demand in electromobility, renewable energy infrastructure, packaging and all applications related to the green energy transition and sustainable development. Global demand for primary aluminium in 2022 increased by 0.3% y-o-y to 69 mt, where China contributed to 0.3% y-o-y to 40.6 mt and the Rest of the World (World ex-China, the "RoW") to 0.3% y-o-y to 28.4 mt.

In 2022, the automotive industry reconfirmed its status of the largest sector of aluminium consumption, amounted to approximately 24% of global aluminium demand. The sector recorded 2.7% growth and was driven mainly by rapid increasing of electric

vehicle production and gaining share by SUV segment, where aluminium content is above industry average.

Aluminium consumption in the construction, second largest sector of aluminium demand, decreased by 3.9% globally. Price pressures, rising interest rates and supply chain issues have all weighed heavily on construction volumes, leading to delays and higher costs of new projects.

The demand in packaging sector has increased by 4.6% globally, reflecting on ongoing process of industry transition from plastic and glass to aluminium along with general increasing consumption of bottled or canned drinks per capita. The use of aluminium in the packaging industry is expanding as environmentally friendly and sustainable packaging solutions become a core strategy of global brands, supported by end consumers preferences, and stimulated by regulators.

Aluminium demand in the electric sector grew 9.4%, driven by expanding of renewable energy capacity, particularly solar and wind power generation, and updating the old transmission infrastructure. REPowerEU programme and the Inflation Reduction Act (IRA) in the USA aim to reduce dependence on gas and stimulate investments into green technology starting from power generation and transmission to charging infrastructure for electrical vehicle. Those initiatives create a solid ground for further aluminium demand growth in electrical sector.

Global aluminium supply

The worldwide supply of primary aluminium rose by 1.4% y-o-y in 2022 to 68.1 mt. The RoW production declined by 0.8% to 28.0 mt. High gas prices in Europe caused significant disruption to the aluminium

68.1 mt
worldwide supply of primary aluminium in 2022

smelting production due to smelters' negative cash margins. Nine European smelters with 1.63 mt per annum capacity executed or announced approximately 1 million of operating aluminium capacity cuts starting from the fourth quarter of 2021. At the same time, since EU gas prices had declined significantly by the end of 2022, with current aluminium price levels and lower costs, some smelters might consider restarts in 1H 2023.

Aluminium production in China increased by 3% y-o-y in 2022 at 40.1 mt and is expected to grow further in 2023 as new capacity comes online. In China, despite power supply tightness in certain provinces, the Chinese aluminium industry registered around 2.6 mt of net capacity increase by the end of 2022 due to 2.1 mt of new capacity and the additional restart of previously closed production.

Overall, the global aluminium market was 0.9 mt in deficit during 2022 with 0.4 mt deficit in the RoW and 0.5 mt in China.

China shipped a record volume of aluminium to the RoW in 2022. China's exports of unwrought aluminium, alloy and aluminium products rose 17.6% y-o-y to 6.6 mt in 2022.

This result was largely due to attractive export arbitrage, rising overseas demand and tightened global supply. At the same time, China's imports of unwrought aluminium and alloy fell during 11M 2022 by 31.6% y-o-y to approximately 1.7 mt.

During August 2022, aluminium inventories in the LME dropped to their lowest level since 1990, and after rising in October, ended the year at 447 kt, also a multi-year low. Metal held outside of LME warehouses (off-warrant reported stocks) wavered during the year and fell to 189 kt by the end of November and rebounded to 297 kt at the end of December 2022.

Overall, regional aluminium premiums rose during 1H 2022, but during 2H 2022 mostly fell due to bearish sentiment amid LME prices falling added to rising fears of a global economic recession. In December 2022, premiums stabilised and rose to approximately USD 200-230 per tonne for European P1020 Duty Unpaid premium at Rotterdam warehouse and approximately 23-25 c/lb for the U.S. Midwest aluminium premium amid improving sentiment, low LME stocks and high near-by contango on the LME.

297 kt
of metal held outside of LME warehouses at the end of December 2022

LME aluminium price dynamics², USD/t



² / LME data.

¹ / ZERO-COVID policy – Zero-COVID, also known as COVID-Zero and "Find, Test, Trace, Isolate, and Support" (FTTIS), is a public health policy that has been implemented by some countries, especially China, during the COVID-19 pandemic.

BUSINESS REVIEW

GRI: 2-6 SASB: EM-MM-000.A

OPERATIONAL PERFORMANCE

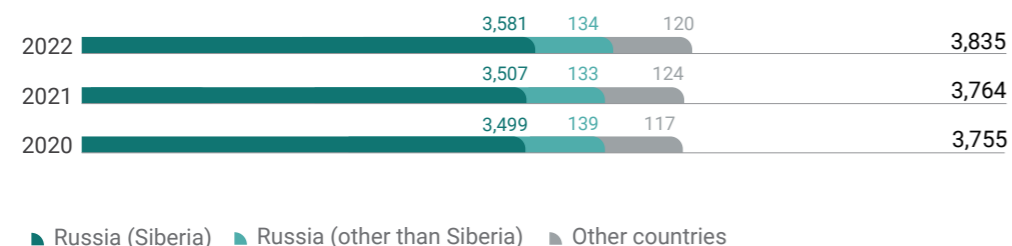
Aluminium

RUSAL owns 11¹ aluminium smelters, which are located in three countries: Russia (nine plants), Sweden (one plant) and Nigeria (one plant). The Company's core asset base is located in Siberia, Russia and accounted for approximately 93% of the Company's aluminium output in 2022. Among those, BRAZ and KrAZ together accounted for more than half of RUSAL's aluminium production. The Company also owns an 85% stake in a smelter located in Nigeria.

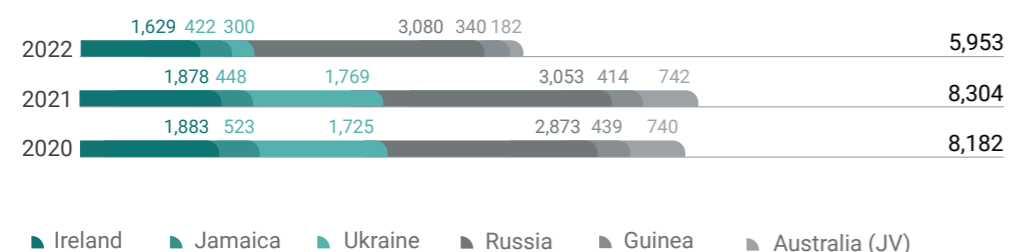
During 2022, RUSAL continued to implement a comprehensive programme designed to control costs and optimise production processes to strengthen the Company's position as one of the world's most cost-efficient aluminium producers.

The Group's primary aluminium production for the year ended 31 December 2022 was stable compared to the previous year and totalled 3,835 kt. During 2022, VAP sales decreased 16.3% y-o-y to 1,702 kt, with VAP share in total sales mix at 44%, compared to 52% in 2021.

Aluminium production, kt



Alumina production³, kt



1 / Aluminium operation is mothballed at the Alscor smelter, located in Nigeria.
 2 / Alumina operation is mothballed at the Eurallumina, located in Italy.
 3 / Pro-rata share of production attributable to the Group.

Alumina

The Group owned nine² alumina refineries as of the end of 2022. RUSAL's alumina refineries are located in six countries: Ireland (one plant), Jamaica (two plants, one legal entity), Ukraine (one plant), Italy (one plant), Russia (four plants), and Guinea (one plant). In addition, the Company held a 20% equity stake in QAL, an alumina refinery located in Australia.

RUSAL's total attributable alumina output decreased 28.3% y-o-y to 5,953 kt in 2022 mostly due to:

- Stopping the production of alumina at the Nikolaev Alumina Refinery, in connection with the introduction of martial law on the territory of Ukraine;
- The introduction of sanctions by the Australian government, which resulted in the inability to supply alumina from Queensland Alumina Ltd to the Company's enterprises.

44%

VAP share in total sales mix

Bauxites and nephelines

Bauxites and nephelines are key raw materials for alumina production. In 2022, the Group was more than 85%⁴ self-sufficient in both.

Bauxites

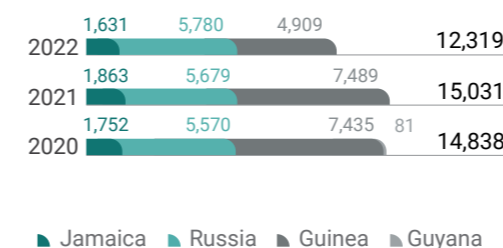
The Group operates seven bauxite mines. RUSAL's bauxite mines are located in four countries: Russia (two mines), Jamaica (one mine), Guyana (one mine), and Guinea (three mines). The Company's long position in bauxite capacity helps secure sufficient supply for existing operations and the prospective expansion of the Company's alumina production capacity. In addition, the Group sells low volumes of bauxite to third parties.

The Group's total attributable bauxite output⁵ was 12,319 kt in 2022, as compared to 15,031 kt in 2021. The main reason for the decline in production was the decrease in the need for bauxite with a drop in alumina production (the suspension of alumina production at the Nikolaev Alumina Refinery).

Nephelines

RUSAL's nepheline syenite production was 4,363 kt in 2022, as compared to 4,390 kt in 2021.

Bauxite production⁶, kt



Nepheline mines (Achinsk), kt Wet



4 / Taking into account the shutdown of alumina production at the Nikolaev Alumina Refinery and the ban of the Australian government on the export of alumina and aluminium ores to Russia.
 5 / Bauxite output data was:
 • Calculated based on a pro-rata share of the Company's ownership in the corresponding bauxite mines and mining complexes. The total production of the Company's fully consolidated subsidiary, Bauxite;
 • Company of Guyana Inc., is included in the production figures, notwithstanding that minority interests in each of these subsidiaries are held by third parties;
 • Reported as wet weight (including moisture).
 6 / Pro-rata share of production attributable to the Group.

Downstream projects

Foil and packaging

The volume of foil produced by the Group's facilities in 2022 amounted to 111.3 kt, a 2.47 kt or 2.3% increase from 2021. Domestic supply of plain foil, converted foil and tape increased by 3.97 kt or 6.0% due to increased demand. At the same time, the output of plain foil for export fell by 1.53 kt or 3.7% compared to 2021, due to a decrease in demand for foil from the manufacturer of the Russian Federation.

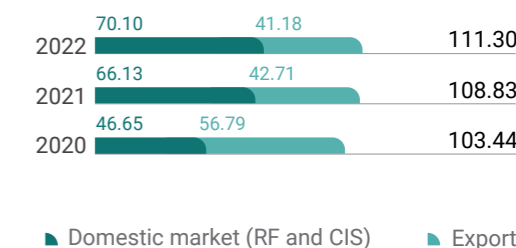
Wheel business

The output of wheels in 2022 decreased by 46% due to a sharp demand drop in the main consumption channels.

Production drop paired with disruption of spare parts supply chains, which continued in 2022, reduced new passenger car sales by 59% in 2022. Sales of new cars are the main driver for the consumption of wheels, thus the after-market demand dropped by 49%.

Despite the above, thanks to diversification of the product mix (new products), SKAD increased its share in the Russian after-market from 45% in 2021 to 56% in 2022.

Foil production, kt



Wheel business, ths pcs



BUSINESS REVIEW

Other business

Powders

Powder production volumes in 2022 decreased by 4.0% compared with 2021 due to a decrease in market demand for powders and gas-forming agents. EBITDA exceeded the previous year by 29.5% due to the sale of high-margin products and the growth of product premiums.

Secondary alloys

The amount of dross and aluminium-containing waste converted into secondary aluminium increased in 2022 by 0.4 kt or 3.3% compared to the previous year due to the growth of the volume of waste received for processing from the Company's enterprises.

Silicon production

Compared to 2021, production volumes in 2022 increased by 27.5% to 44.0 kt due to the resumption of silicon production at RUSAL Kremny Ural LLC from 1 July 2021.

Other mining assets

RUSAL owns and operates 15 mines and mine complexes, including bauxite mines (the resources of which are described above), two quartzite mines, one fluorite mine, two coal mines, one nepheline syenite mine and two limestone mines.

The long position in alumina capacity is supported by RUSAL's bauxite and nepheline syenite resource base.

RUSAL jointly operates two coal mines with SamrukEnerg, the energy division of Samruk-Kazyna through a 50/50 joint venture, Bogatyr Coal LLP.

Bogatyr Coal LLP

Bogatyr Coal LLP, located in Kazakhstan, is a 50/50 joint venture between RUSAL and Samruk-Energ.

Bogatyr Coal LLP produced approximately 42.47 mt of coal in 2022.

As of 31 December 2022, the volume of balance coal reserves of 1,2,3 layers by Bogatyr Komir LLP was at the level of 1,997 billion tonnes. Bogatyr Coal LLP generated sales of approximately USD 2,413 million in 2021 and USD 247 million in 2022. Russian and Kazakh customers contributed to approximately 33% and 67% of sales respectively.

Investment in Norilsk Nickel

Norilsk Nickel is the world's largest palladium producer, the largest high-grade nickel producer, and one of the leading producers of platinum, copper, and cobalt. RUSAL held a 26.39% shareholding stake in Norilsk Nickel as at the latest practicable date¹.

RUSAL's shareholding in Norilsk Nickel allows for significant diversification of earnings through Norilsk Nickel's exposure to PGMs² and non-ferrous metals (nickel, copper, cobalt), and broadens RUSAL's strategic opportunities.

Norilsk Nickel's profile and financial results³

As of 31 December 2021, Norilsk Nickel's resource base on the Taimyr and Kola Peninsulas consisted of 1,293 mt of Proven and Probable Ore Reserves and 1,824 mt of Measured and Indicated Mineral Resources. Its key assets are located in the Norilsk Region, the Kola Peninsula, and the Trans-Baikal Territory in Russia, and in Finland. In 2021, Proven and Probable Ore Reserves

Compared to 2021, in 2022, the Silicon production volumes increased by

27.5%

in Taimyr and Kola Peninsula increased significantly mainly due to new mining project launches and the development of design documents.

In 2022, Norilsk Nickel produced 219 kt of nickel (up 13% compared to 2021), 433 kt of copper (up 6% compared to 2021), 2,790 koz of palladium (up 7% compared to 2021) and 651 koz of platinum (up 2% compared to 2021). Metals production in 2022, compared with 2021, increased mainly due to the low production base of previous year as a result of natural groundwater inflow at Oktyabrsky and Taimyrsky underground mines and accident at Norilsk Concentrator⁴.

Norilsk Nickel's metal sales are highly diversified by region: Europe, Asia, North and South America, Russia and the CIS; and by product: nickel, copper, palladium, platinum, semi-products and other metals.

The market value of RUSAL's investment in Norilsk Nickel amounted to USD 8,775 million as of 31 December 2022, which decreased in comparison with the market value as at 31 December 2021 (USD 12,395 million). The significant decrease in the market value of Norilsk Nickel was due to geopolitical tensions and economic restrictions imposed on Russia.

BEMO project

The Boguchany involves the construction of the 3,000-MW Boguchany HPP (average annual electricity output: 17.6 billion kWh) and the Boguchany Aluminium Smelter capable of producing 600 kt of metal per annum in the Krasnoyarsk Territory in Siberia.

The construction of the Boguchany Aluminium Smelter is divided into two stages (each stage with capacity for 298 kt of aluminium per annum). The first part of the first stage (149 kt of aluminium per annum, 168 pots) was launched in 2015, and the second part of the first stage was launched in March 2019. In May 2019, the first stage of the smelter reached its design capacity. In 2022, 298 kt of aluminium and alloys were produced, which is an increase of 6 kt compared to 2021.

The second stage of the Boguchany Aluminium Smelter is to be considered with a strategic partner, RusHydro, subject to the state of the market and the availability of project financing.

Boguchany HPP is the fourth step in the Angara Hydroelectric Power Chain, the largest hydropower plant project ever completed in Russia. Construction of the power plant was suspended in Soviet times due to a lack of financing, but was resumed in May 2006 by RUSAL and RusHydro, after they jointly agreed to complete it.

The project's 79-metre-high and 2,587-metre-long composite gravity, rock-fill dam was completed at the end of 2011, and nine 333-MW hydropower units of the Boguchany HPP commenced operation between 2012 and 2014. The total installed capacity of all nine hydropower units in operation amounts to 2,997 MW.

The hydropower plant started the commercial supply of electricity to the wholesale electricity and capacity market on 1 December 2012. In 2022, the hydropower plant produced and delivered 20.040 TWh to the wholesale electricity and capacity market, which is 16.9%, or 2.9 TWh, higher than in 2021.

26.39%

RUSAL's shareholding in Norilsk Nickel

¹ / Latest Practicable Date means 31 March 2023.

² / PGMs are platinum group metals.

³ / Production, financial and operational data in this section are derived from <https://nornickel.com/>.

⁴ / Norilsk Concentrator is one of the production units of Norilsk Nickel.

BUSINESS REVIEW

Assets overview

	Location	Installed capacity	2021 production	2022 production	Capacity utilisation rate
ALUMINIUM SMELTERS					
Bratsk Aluminium Smelter	Russia (Irkutsk Region)	1,009 ktpa	1,009 kt	1,005 kt	100%
Krasnoyarsk Aluminium Smelter	Russia (Krasnoyarsk Territory)	1,019 ktpa	1,019 kt	1,017 kt	100%
Sayanogorsk Aluminium Smelter	Russia (Republic of Khakassia)	542 ktpa	536 kt	539 kt	99%
Novokuznetsk Aluminium Smelter	Russia (Kemerovo Region)	215 ktpa	215 kt	213 kt	99%
Khakas Aluminium Smelter	Russia (Republic of Khakassia)	297 ktpa	303 kt	306 kt	103%
Irkutsk Aluminium Smelter	Russia (Irkutsk Region)	422 ktpa	424 kt	424 kt	100%
Taishet Aluminium Smelter ¹	Russia (Irkutsk Region)	428 ktpa	0	78 kt	18%
Kandalaksha Aluminium Smelter	Russia (Murmansk Region)	76 ktpa	63 kt	64 kt	84%
Volgograd Aluminium Smelter	Russia (Volgograd Region)	69 ktpa	70 kt	70 kt	107%
KUBAL	Sweden	128 ktpa	124 kt	120 kt	94%
ALSCON ²	Nigeria	-	-	-	0%
Boguchany Aluminium Smelter ³	Russia (Krasnoyarsk Territory)	298 ktpa	292 kt	298 kt	100%
ALUMINA REFINERIES					
Achinsk Alumina Refinery	Russia (Krasnoyarsk Territory)	1,069 ktpa	907 kt	913 kt	85%
Bogoslovsk Alumina Refinery	Russia (Sverdlovsk Region)	1,030 ktpa	977 kt	994 kt	96%
Ural Alumina Refinery	Russia (Sverdlovsk Region)	900 ktpa	917 kt	917 kt	102%
PGLZ Alumina Refinery	Russia (Leningrad Region)	265 ktpa	253 kt	256 kt	97%
Friguia Alumina Refinery	Guinea	650 ktpa	414 kt	340 kt	52%
Queensland Alumina Ltd. ⁴	Australia	3,950 ktpa	742 kt	182 kt	5%
Eurallumina ²	Italy	1,085 ktpa	-	-	0%
Aughinish Alumina Refinery	Ireland	1,990 ktpa	1,878 kt	1,629 kt	82%
Winalco	Jamaica	1,210 ktpa	448 kt	422 kt	35%
Nikolaev Alumina Refinery ⁵	Ukraine	1,759 ktpa	1,769 kt	300 kt	17%
BAUXITE MINES					
Timan Bauxite	Russia (Republic of Komi)	3,300 ktpa	3,405 kt	3,542 kt	107%
North Urals Bauxite Mine	Russia (Sverdlovsk Region)	3,000 ktpa	2,274 kt	2,238 kt	75%
Kindia Bauxite Company	Guinea	3,500 ktpa	2,652 kt	831 kt	24%
Friguia Bauxite & Alumina Complex	Guinea	2,100 ktpa	1,544 kt	1,253 kt	60%
Bauxite Company of Guyana Inc. ²	Guyana	1,700 ktpa	-	-	0%
Winalco	Jamaica	4,000 ktpa	1,863 kt	1,631 kt	41%
Bauxite Company of Dian-Dian	Guinea	3,000 ktpa	3,293 kt	2,825 kt	94%

1 / Pre-operation verifications and testing began in December 2021.

2 / Mothballed.

3 / A 50/50 joint venture of RUSAL and RusHydro. Capacity and production volumes of the BEMO project are not included to the Company's consolidated operating data.

4 / Pro-rata share of capacity and production attributable to RUSAL. The Australian government banned alumina and bauxite exports to Russia since April 2022.

5 / Since March 2022, production at Nikolaev (Ukraine) has been suspended.

RUSAL STARTS PRODUCTION OF MASTER ALLOYS FOR HIGH-TECH ALLOYS

In February 2023, RUSAL announced that it had started its own production of master alloys which are used to make alloys; master alloy is an alloy of two or more components designed for adding high-melting elements to liquid metal. Master alloys are used in the production of alloys with an accurate chemical composition to achieve desired properties. For example, aluminium-scandium master alloy is used to produce alloys used in shipbuilding. With zirconium – for electrical industry. Strontium master alloys – for casting alloys modifications.

The new production was launched at Krasnoyarsk Aluminium Smelter; investment in the project amounted to USD 7.5 million. The capacity of the production facility is over 5 kt of melted master alloys per year.

Customers of the new production are primarily RUSAL's own smelters. The new project will cover half of the Company's need for master alloys and is also intended for supply to external customers. RUSAL is the largest consumer of master alloys in Russia and previously, the company had purchased alloying components in Europe and China. External clients are major Russian metal makers.

Employees of the RUSAL Engineering and Technology Centre have been working on the master alloy production project for several years. The project started with the creation of a technology to produce aluminium-scandium master alloys, which are the most technologically complex among melted master alloys. A unique, unparalleled technology was developed, Russian and international patents were obtained. RUSAL launched the production of commercial batches of aluminium-scandium master alloys in 2019, and today it leads in production and sales of this type of master alloys. The next stage of development was creating technologies to produce other types of master alloys. They include master alloys with strontium, manganese, titanium, nickel, iron, cobalt, and rare earth metals.

RUSAL BEGINS PRODUCTION OF LOW-CARBON ALLOYS FOR CAR MANUFACTURERS

In February 2023, RUSAL announced that it had started using end of life aluminium scrap in the production of foundry alloys for the automotive industry. This production enabled RUSAL to reduce the full scope carbon footprint of the new product by nearly 20%.

RUSAL's Primary Equivalent Foundry Alloys (PEFA) contain 20% of aluminium scrap, which is added into molten aluminium during the production process. The Company plans to expand production of PEFA during the second half of 2023 and increase recycled content up to 30%. The new product is in full alignment with OEMs' requirements, meeting both the need for low-carbon footprint, and recycled content. This product will address the strategic requirements linked to carbon neutrality commitments and ensure active participation of RUSAL, partners and customers in the circular economy of automotive industry.

BUSINESS REVIEW

POWER SEGMENT REVIEW

MARKET OVERVIEW¹

Overview of the Russian power sector

The Russian Federation's power sector is among the largest in the world, with installed electricity capacity of the Unified Energy System (UES) of Russia of 247.6 GW in 2022, and electricity output of 1,121.6 TWh. The UES of Russia covers the most populated areas of the country. Grid interconnections between different energy systems are limited by long distances, with the Russian wholesale power and capacity market split into two market pricing zones and four non-market pricing zones.

The first pricing zone (European-Ural)² includes the integrated energy systems (IES) of the North-West, Centre, Middle Volga, Urals and South in the European part of Russia.

The second pricing zone, the Siberian IES, encompasses Siberia. The electricity prices of the two market price zones are driven by the differences in capacity and fuel mix in the respective price zones, while grid limitations are yet another factor affecting prices in the second pricing zone.

Zones where special rules are used to set prices instead of the market environment include the Kaliningrad and Arkhangelsk Regions, Komi Republic and the Russian Far East.

The Group's power generation facilities are mostly located in the second price zone, the Siberian IES, which covers 4,944,300 km² and has a population of c. 19 million. The Siberian IES includes 120 power plants with an aggregate installed capacity of 52.2 GW, with 25.3 GW (48.5%) provided by HPPs, 26.5 GW (50.7%) by CHPs and 400.2 MW (0.8%) by SPPs (solar). The backbone grids of the Siberian IES consist of 102,807 km² of HV power lines of 110, 220, 500 and 1,150 kV³.

A unique feature of the Siberian IES is the significant role of HPPs in both the installed electricity capacity mix and electricity output. Thermal power in the Siberian IES is generated mostly through coal-fired power plants, which are primarily located near regions where the coal is mined.

Electricity demand

Electricity consumption in the UES of Russia in 2022 increased by 1.5% y-o-y to 1,106.3 TWh. Electricity consumption in the European-Ural zone grew 0.8% to 837.1 TWh, and by 3.4% to 224.7 TWh in the Siberian IES.

Electricity supply

The total installed electricity capacity of the UES of Russia as of 1 January 2023 amounted to 247.6 GW and increased by 1.0 GW in 2022. The increase can be explained by the commissioning of 1.6 GW of new capacity, decommissioning of 1.0 GW of old capacity, and a 0.4 GW capacity increase linked to remarking, corrections, etc.

In 2022, electricity output in the UES of Russia increased by 0.6% y-o-y to 1,121.6 TWh.

Electricity and capacity prices

In the Siberian IES, electricity spot prices are effectively determined by the production costs of the least efficient coal-fired generation plants, with HPPs acting as price takers. Over the long term, electricity prices tend to move with prices of thermal coal. A significant proportion of the power generated by Siberian CHPs is produced using locally sourced brown coal.

Due to seasonality in demand and the intermittency of hydropower, the price of electricity can significantly fluctuate throughout the course of the year.

247.6^{GW}

installed electricity capacity of the Unified Energy System (UES) of Russia in 2022

One of the major factors exerting significant influence in the medium term is the water inflow to and water volumes in the reservoirs of Siberian HPPs, which determines the availability of low-cost hydropower for the wholesale market.

Due to its long-term nature, the capacity market functions rather differently from the electricity market, with annual auctions carried out to determine the price and select an optimal set of generating facilities to meet the forecast demand in each pricing zone. Capacity

prices are currently determined through to 2026, and prices are indexed annually at the previous year's Consumer Price Index (CPI) minus 0.1% – the indexation is applied starting from 1 January of the year when the auction was conducted, until 1 January of the year when the capacity is supplied.

Capacity prices

Price determined in capacity auctions (ex. CPI, RUB '000/MW/month):

	2021	2022	2023	2024	2025	2026
Second pricing zone	225	264	267	279	303	299

	2022	2021	Change, %
CAPACITY PRICE (INCL. CPI MINUS 0.1% INDEXATION):			
First pricing zone RUB '000/MW/month	190.4	151.0	+26.1
Second pricing zone	299.9	253.2	+18.4

The CCO price for the European-Ural (first) pricing zone grew by 26.1% y-o-y in 2022 (including CPI minus 0.1% indexation). The capacity price for the Siberian IES (second) zone increased by 18.4% y-o-y in 2022 (including CPI minus 0.1% indexation).

An increase in demand (+15%), considered for CCO procedure, was the key factor of the CCO price y-o-y growth in 2022.

Electricity prices

	2022	2021	Change, %
SPOT PRICES OF ELECTRICITY⁴:			
First pricing zone RUB/MWh	1,444	1,406	+2.7
Second pricing zone RUB/MWh	1,162	934	+24.4
Nizhny Novgorod Region RUB/MWh	1,470	1,454	+1.1
Irkutsk Region RUB/MWh	987	807	+22.3
Krasnoyarsk Region RUB/MWh	1,157	857	+35.0

In 2022, the average electricity spot price on the day-ahead market in the second price zone increased by 24.4% to 1,162 RUB/ MWh y-o-y. This dynamic was driven by lower HPP generation volumes, the increase in the supply of CHPs, CHP price bids levels, and a change in market demand structures on the market along with electricity consumption growth amid remaining transmission constraints on the transit between East and West Siberia.

In 2022, average electricity spot prices in the Irkutsk Region and Krasnoyarsk Territory increased by 22.3% to 987 RUB/ MWh and by 35.0% to 1,157 RUB MWh, respectively. Lower price growth rates in the Irkutsk Region reflected ongoing transmission constraints on the transit between East and West Siberia.

¹ / Unless otherwise stated, data for the Power segment's "Market overview" section is sourced from ATS, Association "NP Market Council", System Operator of the Unified Energy System of the Russian Federation.

² / Comprises the Central, Central Volga, Urals, North-West and South Energy systems.

³ / According to the System Operator of the Unified Energy System of the Russian Federation (www.so-ups.ru/).

⁴ / Day ahead market prices, data from ATS and Association "NP Market Council".

STRATEGY

OPERATIONAL PERFORMANCE

GRI: 2-6

As at 31 December 2022, the total installed electricity capacity of the Group's power assets amounted to 19.4 GW¹, while its total installed heat capacity amounted to 14.6 Gcal/h. As of 31 December 2022, 77.8% of the installed electricity capacity was represented by HPPs, with the remaining 22.2% accounted for by CHPs (which are predominantly coal-fired) and one solar plant.

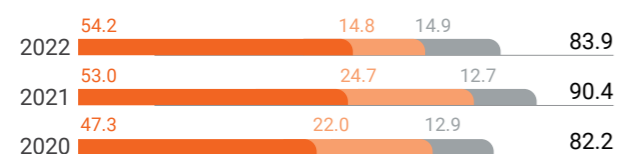
The Company produced 83.9 TWh² of electricity in 2022, which represented 7.5% of total electricity generation in the UES of Russia.

Hydropower generation

Hydropower generation is the main focus of the Group's Power segment. The Group operates five HPPs³, including three of the five largest HPPs in Russia and of the twenty largest HPPs globally, in terms of installed electricity capacity. In 2022, the Power segment's HPPs produced 69.0 TWh of electricity, which accounted for 82.24% of the total electricity generated by the Group.

Total electricity output by the Angara cascade HPPs (Irkutsk, Bratsk and Ust-Ilimsk HPPs) increased by 2.3% y-o-y to 54.2 TWh in 2022, due to existing water reserves in Lake Baikal, the Bratsk reservoir and high water levels in the HPPs' reservoirs of the Angara cascade. Water levels in Lake Baikal reached 456.86 metres (which is 9 cm higher than long-term average) in 2022 vs. 457.23 metres in 2021. Water levels in the Bratsk reservoir reached 401.28 metres in 2022 (which is 2.3 metres higher than long-term average) vs. 402.03 metres in 2021.

In 2022, Krasnoyarsk HPP's total power generation decreased by 40.1%, from 24.7 TWh in 2021 to 14.8 TWh. The decrease was the result of a less intensive state-regulated drawdown in the Krasnoyarsk reservoir due to low water reserves, which resulted from abnormally low water inflows in the Yenisei River. The maximum mark of the headwater level of the Krasnoyarsk reservoir was 8.6 metres lower than last year and 5.7 metres lower than long-term average.

Total Electricity Production⁴, TWh

- Angara cascade HPPs⁵
- Yenisei cascade HPP⁶
- CHPs

Combined heat and power plants

The Group's CHPs increased electricity output in 2022 by 17.3% y-o-y to 14.9 TWh, mainly due to an 8.8% increase in power consumption in the Irkutsk energy system compared to the same period last year. Heat generation amounted to 27.6 million Gcal (down 3.2% y-o-y) reflecting weather conditions – the average temperature during 2022 was 1.2°C higher than during 2021 as well as due to the reduction of steam consumption by large consumers.

Abakan Solar Power Plant generated 5.9 GWh in 2022 (down 3.3% y-o-y) due to a fewer number of sunny days during the reporting period.

Heat generation, mn Gcal



Retail

The Company, through its subsidiaries Irkutskenergosbyt LLC, Volgaenergosbyt JSC and MAREM+ LLC, purchases electricity on the wholesale market (from both the generating facilities of the Group and third parties), and then resells it on the retail market to both industrial consumers that do not have access to the wholesale market and residential consumers. The Group is involved in heat and electricity sales directly to end-users.

In 2007, the Group's subsidiaries in the Irkutsk and Nizhny Novgorod Regions were granted the status of guaranteeing suppliers within these regions. In accordance with this status, the Group is under an obligation to conclude an electricity supply contract with any consumer located within the boundaries of these operational areas that applies for such a contract.

- 1 / Including Onda HPP, with installed power capacity of 0.08 GW (located in the European part of Russia, leased to UC RUSAL); excluding Boguchany HPP with installed power capacity of 2,997 MW (50/50 JV between UC RUSAL and RusHydro).
- 2 / Excluding Onda HPP, with installed power capacity of 0.08 GW (located in the European part of Russia, leased to UC RUSAL); excluding Boguchany HPP (50/50 JV between UC RUSAL and RusHydro).
- 3 / Including Onda HPP.
- 4 / Excluding Onda HPP, with installed power capacity of 0.08 GW (located in European part of Russia, leased to UC RUSAL); excluding Boguchany HPP, with installed power capacity of 2,997 MW (50%/50% JV of UC RUSAL and RusHydro).
- 5 / Includes Irkutsk, Bratsk, Ust-Ilimsk HPPs.
- 6 / Krasnoyarsk HPP.

Electricity transmission and distribution

As at 31 December 2022, the Group operated a transmission and distribution system of approximately 41,800 km of high and low voltage lines with an annual output of approximately 54.9 TWh. Through this system the Group transmits electricity generated at the Angara cascade HPPs to wholesale and retail consumers, including RUSAL's aluminium smelters. Other generation facilities of the Group,

such as Krasnoyarsk HPP and Avtozavodskaya CHP, do not use this transmission network, as they are not located within close geographical proximity to the network.

Coal production

The Coal segment provides the Group's CHPs with a self-sufficient coal resource base and covers En+'s internal coal demand. A portion of the coal production is sold to third parties.

GRI: EU-1

ASSETS OVERVIEW

	Location	Installed capacity	2021 production	2022 production
HYDROPOWER PLANTS				
Irkutsk HPP	Russia (Irkutsk Region)	705.7 MW	4.8 TWh	4.7 TWh
Bratsk HPP	Russia (Irkutsk Region)	4,500 MW	28.5 TWh	25.9 TWh
Ust-Ilimsk HPP	Russia (Irkutsk Region)	3,840 MW	19.6 TWh	23.7 TWh
Krasnoyarsk HPP	Russia (Krasnoyarsk Territory)	6,000 MW	24.7 TWh	14.8 TWh
COMBINED HEAT AND POWER PLANTS				
CHP-10	Russia (Irkutsk Region)			
- Electricity		1,110 MW	3.0 TWh	4.6 TWh
- Heat		571.3 Gcal/h	0.3 mn Gcal	0.4 mn Gcal
CHP-9	Russia (Irkutsk Region)			
- Electricity		540.0 MW	1.8 TWh	2.0 TWh
- Heat		2,398.6 Gcal/h	6.2 mn Gcal	5.8 mn Gcal
Novo-Irkutsk CHP	Russia (Irkutsk Region)			
- Electricity		726 MW	2.7 TWh	2.8 TWh
- Heat		2,056.3 Gcal/h	5.8 mn Gcal	5.8 mn Gcal
Ust-Ilimsk CHP	Russia (Irkutsk Region)			
- Electricity		515 MW	0.8 TWh	0.9 TWh
- Heat		1,015.0 Gcal/h	1.8 mn Gcal	2.0 mn Gcal
CHP-11	Russia (Irkutsk Region)			
- Electricity		320.3 MW	0.5 TWh	0.8 TWh
- Heat		1,056.9 Gcal/h	1.0 mn Gcal	1.0 mn Gcal
CHP-6	Russia (Irkutsk Region)			
- Electricity		282 MW	0.7 TWh	0.7 TWh
- Heat		1,995.1 Gcal/h	3.7 mn Gcal	3.5 mn Gcal
Novo-Ziminskaya CHP	Russia (Irkutsk Region)			
- Electricity		260 MW	1.1 TWh	1.2 TWh
- Heat		818.7 Gcal/h	1.6 mn Gcal	1.5 mn Gcal
Avtozavodskaya CHP	Russia (Nizhny Novgorod Region)			
- Electricity		480 MW	1.8 TWh	1.6 TWh
- Heat		2,172.0 Gcal/h	3.7 mn Gcal	3.3 mn Gcal
SOLAR POWER PLANT				
Abakan solar power plant	Russia (Republic of Khakassia)	5.2 MW	6.1 mn kWh	5.9 mn kWh
OTHER ASSETS⁷				
- Electricity		142.4 MW	0.7 TWh	0.7 TWh
- Heat		2,804.7 Gcal/h	4.5 mn Gcal	4.5 mn Gcal

7 / Other assets include Onda HPP and small scale generators and heat producers.

FINANCIAL REVIEW

KEY HIGHLIGHTS

The following table sets forth selected data from the Group's key financial information:

	As at or year ended 31 December	
(USD mn)	2022	2021
Revenues	16,549	14,126
Gross profit	4,493	4,952
Gross profit margin	27.1%	35.1%
Results from operating activities (EBIT)	2,006	2,898
Operating profit margin	12.1%	20.5%
Pre-tax profit	2,453	4,138
Profit for the year	1,846	3,534
Net profit margin ¹	11.2%	25.0%
Adjusted EBITDA²	3,119	3,992
Adjusted EBITDA margin ³	18.8%	28.3%
Net debt ⁴	10,123	8,581
Net working capital ⁵	4,474	2,753
Free cash flow ⁶	(633)	1,705
Basic earnings per share ⁷	2.156	4.264
Equity attributable to shareholders of the Company	7,480	5,775

1 / Net profit margin for any period represents net profit or loss for the relevant period divided by total revenues for the relevant period and expressed as a percentage, in each case attributable to the Group, Power or Metals segment, as the case may be.

2 / Adjusted EBITDA for any period represents the results from operating activities adjusted for amortisation and depreciation, impairment of non-current assets and gain/loss on disposal of property, plant and equipment for the relevant period, in each case attributable to the Group, Power or Metals segment, as the case may be.

3 / Adjusted EBITDA margin for any period represents adjusted EBITDA for the relevant period divided by total revenues for the relevant period and expressed as a percentage, in each case attributable to the Group, Power or Metals segment, as the case may be.

4 / Net debt represents the sum of loans and borrowings and bonds outstanding less total cash and cash equivalents as at the end of the relevant period, in each case attributable to the Group, Power or Metals segment, as the case may be.

5 / Net working capital represents inventories plus short-term trade and other receivables (excluding dividend receivables from related parties) less trade and other payables as at the end of the relevant period, in each case attributable to the Group, Power or Metals segment, as the case may be.

6 / Free cash flow means, for any period, the cash flows generated from operating activities less net interest paid, capital expenditures, restructuring fees and other payments related to issuance of shares, adjusted for payments from settlement of derivative instruments plus dividends from associates and joint ventures.

7 / The earnings per share calculation is based on a 502 million weighted average number of shares in 2022 and 2021.

FINANCIAL OVERVIEW

The results of the Group's operations are divided into the Power and Metals segments. The Power segment comprises the power industry, including power generation, power trading and supply. It also includes supporting operations engaged in the supply of coal resources to the Group. The Metals segment consists of RUSAL, which includes RUSAL's equity investment in Norilsk Nickel.

In 2022, RUSAL accounted for approximately 5.6% of the world's aluminium output, and about 4.5% of the world's alumina production. RUSAL's offices are operating across 5 continents.

The Company's management believes that the division of the results of the Group's operations into the Power and Metals segments enables investors and analysts

to assess the parts of the Group's business which are under the Company's direct day-to-day operational management.

In its comparison of period-to-period results of operations, the Group presents its results of operations on a consolidated basis after inter-segmental eliminations, in order to analyse changes, developments and trends by reference to the individual segment's results of operations (the Power and Metals segments). Amounts attributable to the segments are presented prior to inter-segmental eliminations between them.

REVENUES

The following table sets forth the Group's revenue from sales, broken down by each product sold by the Group, for the years indicated:

	Year ended 31 December	
(USD mn)	2022	2021
Sales of primary aluminium and alloys	11,384	9,766
Sales of electricity	1,844	1,525
Sales of alumina and bauxite	557	612
Sales of semifinished products and foil	921	767
Sales of heat	525	465
Other revenues	1,318	991
Total revenues	16,549	14,126

USD 16,549 mn
the Group's
Revenues in 2022

FINANCIAL REVIEW

The following table sets forth the Group's revenue by business segment for the years indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Metals segment	13,974	11,994
Power segment	3,885	3,138
Business segment revenues	17,859	15,132
Elimination of inter-segmental revenues	(1,310)	(1,006)
Total revenues	16,549	14,126

The Group's revenue is mainly attributable to the Metals segment's operations. In 2022 and 2021, its revenue (before inter-segmental elimination) accounted for 78.2% and 79.3% of the Group's revenue, respectively. In 2022 and 2021, the Power segment's revenue (before inter-segmental elimination) accounted for 21.8% and 20.7% of the Group's revenue, respectively.

The Group's revenue increased by USD 2,423 million, or 17.2%, from USD 14,126 million in 2021 to USD 16,549 million in 2022. This increase was primarily due to a rise in RUSAL's revenue, following a 9.4% increase in the LME aluminium price to an average of USD 2,707 per tonne in 2022, from USD 2,475 per tonne in 2021. The Group's revenue

was also affected by an increase in the Power segment's revenue, mainly following the increase of average electricity spot price on the day-ahead market in the second price zone.

COST OF SALES

The following table sets forth the Group's cost of sales by business segment for the years indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Metals segment	10,770	8,273
Power segment	2,422	1,821
Business segment cost of sales	13,192	10,094
Elimination of inter-segmental cost of sales	(1,136)	(920)
Total cost of sales	12,056	9,174

The cost of sales in the Power and Metals segments reflect costs incurred directly by the sale and production of the principal products and services of both groups of companies. For the Power segment, the cost of sales primarily includes costs for electricity and capacity purchased for resale, the cost of raw materials, fuel, personnel expenses, depreciation and amortisation. For Metals segment, the cost of sales mainly consists of the cost of energy, alumina, bauxite, other raw materials, personnel expenses, depreciation and amortisation.

The Group's cost of sales increased by USD 2,882 million, or 31.4%, from USD 9,174 million in 2021 to USD 12,056 million in 2022.

The increase was primarily attributable to the increase in the cost of sales of RUSAL by USD 2,497 million, or by 30.2%, to USD 10,770 million for the year ended 31 December 2022, as compared to USD 8,273 million for the year ended 31 December 2021. The increase was primarily driven by increase in alumina purchase price by 14.9% as well as the increase in alumina purchase volume by 263.4% between the periods following the ban of Australian government for the export of alumina and bauxite to Russia introduced in March 2022

and suspension of production at Nikolaev Alumina Refinery due to developments in Ukraine starting from 1 March 2022.

In addition, in 2021 and 2022, En+ gradually increased employee wages in both segments.

GROSS PROFIT

The Group's gross profit for 2022 decreased by USD 459 million, or 9.3%, to USD 4,493 million from USD 4,952 million in 2021.

The Group's gross profit margin decreased from 35.1% in 2021 to 27.1% in 2022.

DISTRIBUTION, GENERAL AND ADMINISTRATIVE EXPENSES

The Group's distribution, general and administrative expenses for 2022 increased by USD 295 million, or 18.8%, to USD 1,864 million from USD 1,569 million in 2021 following the increase in transport tariffs, as well as increase in personnel costs.

ADJUSTED EBITDA, ADJUSTED EBITDA MARGIN AND RESULTS FROM OPERATING ACTIVITIES

The following table sets forth a reconciliation of the Group's adjusted EBITDA to the Group's results from operating activities for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
RECONCILIATION OF ADJUSTED EBITDA		
Results from operating activities	2,006	2,898
Add:		
Amortisation and depreciation	720	822
Loss on disposal of property, plant and equipment	23	5
Impairment of non-current assets	370	267
Adjusted EBITDA	3,119	3,992

USD 3,119 mn
the Group's
adjusted EBITDA
in 2022

FINANCIAL REVIEW

The Group's results from operating activities for 2022 decreased by USD 892 million, or 30.8%, to USD 2,006 million from USD 2,898 million for 2021.

Results from operating activities attributable to Metals segment decreased by USD 763 million, or 36.7%, from USD 2,079 million in 2021 to USD 1,316 million in 2022; results from operating activities attributable to the Power segment decreased by USD 40 million, or 4.5%, from USD 889 million in 2021, to USD 849 million in 2022.

The Group's operating profit margin decreased from 20.5% in 2021 to 12.1% in 2022.

(USD mn)	Year ended 31 December	
	2022	2021
Adjusted EBITDA Metals segment	2,028	2,893
Adjusted EBITDA Power segment	1,254	1,172
Consolidation adjustment	(163)	(73)
Adjusted EBITDA	3,119	3,992
Adjusted EBITDA margin Metals segment	14.5%	24.1%
Adjusted EBITDA margin Power segment	32.3%	37.3%
Adjusted EBITDA Margin Group	18.8%	28.3%

In 2022, the Group's adjusted EBITDA decreased by USD 873 million, or 21.9%, to USD 3,119 million from USD 3,992 million in 2021. The decrease in 2022

as compared to 2021 was mainly due to the same factors that influenced the operating results of the Group.

SHARE OF PROFITS OF ASSOCIATES AND JOINT VENTURES

(USD mn)	Year ended 31 December	
	2022	2021
Share of profit in Norilsk Nickel, with	1,440	1,762
Effective shareholding of	15.01%	15.01%
Share of profit in BEMO project, with	102	58
Effective shareholding of	28.44%	28.44%
Share of profit in other associates/joint ventures	11	(18)
Share of profits of associates and joint ventures	1,553	1,802

Adjusted EBITDA is defined as results from operating activities adjusted for amortisation and depreciation, impairment charges and loss on disposal of property, plant and equipment.

The following table sets forth the Group's adjusted EBITDA and adjusted EBITDA margin by segment (before inter-segmental elimination) for the years indicated:

The Group has a number of associates and joint ventures, which are accounted for in the Financial Statements under the equity method. The principal associates and joint ventures include Norilsk Nickel, Queensland Alumina Limited and the BEMO Project.

The Group's share of the profit of its associates and joint ventures decreased by USD 249 million, or 13.8%, to USD 1,553 million in 2022 from USD 1,802 million in 2021.

The deviation in the share of the profits of the associates and joint ventures in 2022 as compared to 2021 can primarily be attributed to the decrease of profit from the Group's investment in Norilsk Nickel.

In 2021, the Group has participated in the repurchase of Norilsk Nickel shares to raise additional funds to finance its own investment programme. The Group sold 3,691,465 shares for RUB 27,780 per share, with the aggregate consideration of USD 1,418 million. The carrying

value of the shares sold amounted to USD 313 million, and USD 613 million of currency translation reserve attributed to the shares sold was reclassified to profit/(loss) for the period, resulting in net gain of USD 492 million recognised in the consolidated statement of profit or loss and other comprehensive income.

The fair value of the investment in Norilsk Nickel amounted to USD 8,775 million and USD 12,395 million as at 31 December 2022 and 31 December 2021, respectively, and is determined by multiplying the quoted bid price per share on the Moscow Exchange on the year-end date by the number of shares held by the Group.

FINANCE INCOME AND COSTS

The Group's finance income primarily consists of interest income and net foreign exchange gain. The Group's finance costs primarily consist of interest expense on interest-bearing liabilities and net foreign exchange loss.

(USD mn)	Year ended 31 December	
	2022	2021
FINANCE INCOME		
Interest income	115	65
Dividend income	38	22
Revaluation of financial assets and liabilities	31	-
Total finance income	184	87
FINANCE COSTS		
Interest expense	(988)	(709)
Net foreign exchange loss	(111)	(33)
Change in fair value of derivative financial instruments	(191)	(352)
Revaluation of financial assets and liabilities	-	(47)
Total finance costs	(1,290)	(1,141)

USD 1,553 mn
the Group's
share of profits
of associates
and joint ventures

FINANCIAL REVIEW

The Group's finance income for 2022 increased by USD 97 million, or 111.5%, to USD 184 million from USD 87 million in 2021, mainly as result of interest income increase driven by change of the Bank of Russia key rate.

The Group's finance costs for 2022 increased by USD 149 million, or 13.1%, from USD 1,141 million in 2021 to USD 1,290 million in 2022 as a result of interest expense increase driven by change of the Bank of Russia key rate.

PROFIT BEFORE TAXATION

For the reasons inscribed above, the Group recorded a profit before taxation of USD 2,453 million in 2022 as compared to USD 4,138 million in 2021. In 2022, the Power segment generated a profit before taxation of USD 619 million compared to USD 566 million in 2021. In 2022, Metals segment generated a profit before taxation of USD 2,166 million as compared to USD 3,641 million in 2021.

METALS SEGMENT

In 2022 and 2021, Metals segment accounted for 78.2% and 79.3% of the business segments' revenues (before adjustments), respectively. As at 31 December 2022 and 31 December 2021, the assets of the Metals segment accounted for 68.0% and 66.5% of the Group's total assets (before adjustments), respectively.

(USD mn)	Year ended 31 December	
	2022	2021
Revenues	13,974	11,994
Gross profit	3,204	3,721
Gross profit margin	22.9%	31.0%
Pre-tax profit	2,166	3,641
Profit for the period	1,793	3,225
Net profit margin	12.8%	26.9%
Adjusted EBITDA	2,028	2,893
Adjusted EBITDA margin	14.5%	24.1%
Adjusted net profit ¹	725	1,536
Recurring net profit ²	2,165	3,298
Recurring net profit margin ³	15.5%	27.5%

¹ / Adjusted net (loss)/profit for any period represents net (loss)/profit for the relevant period adjusted for the net effect from the share in the results of Norilsk Nickel, the net effect of embedded derivative financial instruments and the net effect of non-current assets impairment.

² / Recurring net profit represents adjusted net (loss)/profit for the relevant period plus RUSAL's effective share of Norilsk Nickel's profits, net of tax.

³ / Recurring net profit margin represents recurring net profit for the relevant period divided by total revenues and expressed as a percentage for the relevant period attributable to Metals segment.

INCOME TAX EXPENSE

The Group's income tax expense was flat in comparable periods.

PROFIT FOR THE YEAR

For the reasons inscribed above, the Group's profit for the year ended 31 December 2022 was USD 1,846 million, as compared to profit for the year ended 31 December 2021 of USD 3,534 million.

SELECTED FINANCIAL DATA

The following table sets forth selected data of Metals segment (before inter-segmental elimination) for the periods indicated:

REVENUES

The following table sets forth components of Metals segment's sales data (before

inter-segmental elimination) for the years indicated:

	Year ended 31 December	
	2022	2021
SALES OF PRIMARY ALUMINIUM AND ALLOYS		
Revenue (USD mn)	11,593	9,966
Sales volumes (kt)	3,896	3,904
Average sales price (USD/t)	2,976	2,553
SALES OF PRIMARY ALUMINA		
Revenue (USD mn)	550	610
Sales volumes (kt)	1,169	1,677
Average sales price (USD/t)	470	364
SALES OF FOIL AND OTHER ALUMINIUM PRODUCTS (USD MN)	581	515
OTHER REVENUE (USD MN)	1,250	903
Total revenues	13,974	11,994

Metals segment's revenue increased in 2022 by USD 1,980 million, or by 16.5%, to USD 13,974 million from USD 11,994 million in 2021.

Revenue from sales of primary aluminium and alloys increased by USD 1,627 million, or by 16.3%, to USD 11,593 million in 2022, as compared to USD 9,966 million in 2021, primarily due to 16.6% increase in the weighted-average realised aluminium price per tonne (to an average of USD 2,976 per tonne in 2022 from USD 2,553 per tonne in 2021) driven by an increase in the LME aluminium price (to an average of USD 2,707 per tonne in 2022 from USD 2,475 per tonne in 2021), while sales volumes remained almost flat in the compared periods.

Revenue from sales of alumina decreased by 9.8% to USD 550 million for the year ended 31 December 2022 from USD 610 million for the year ended 31 December 2021, due to a decrease in the alumina sales

volume by 30.3% which was partially offset by a 29.1% increase in the average sales price.

Revenue from sales of foil and other aluminium products increased by USD 66 million, or by 12.8%, to USD 581 million in 2022, as compared to USD 515 million in 2021 due to an increase in revenue from sales of foil by 26.2% between the comparable periods.

Revenue from other sales, including sales of other products, bauxite and energy services increased by 38.4% to USD 1,250 million for the year ended 31 December 2022 as compared to USD 903 million for the previous year, due to a 40.9% increase in sales of other materials (such as anode blocks by 73.6%, aluminium powder 20.7%, silicon by 22.2%, hydrate by 19.0%) that was a result both by the increase in sales volumes along with the increase in average sales price.

USD 13,974 mn
Metals segment
revenues in 2022

FINANCIAL REVIEW

COST OF SALES

The following table sets forth components of Metals segment's cost of sales (before inter-segmental elimination) for the years indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Cost of alumina	1,847	741
Cost of bauxite	331	506
Cost of other raw materials and other costs	3,835	3,387
Purchases of primary aluminium from joint ventures	940	696
Energy costs	2,658	2,070
Depreciation and amortisation	481	572
Personnel expenses	781	618
Repair and maintenance	532	407
Net change in provisions for inventories	171	28
Change in finished goods	(806)	(752)
Total cost of sales	10,770	8,273

Metals segment's cost of sales increased by USD 2,497 million, or by 30.2%, to USD 10,770 million for the year ended 31 December 2022, as compared to USD 8,273 million for the year ended 31 December 2021.

The cost of alumina increased by USD 1,106 million, or by 149.3%, to USD 1,847 million in 2022 as compared to USD 741 million in 2021 primarily due to the increase in alumina purchase price by 14.9% as well as the increase in alumina purchase volume by 263.4% between the periods following the ban of Australian government on the export of alumina and bauxite to Russia introduced in March, 2022 and suspension of production at Nikolaev Alumina Refinery due to developments in Ukraine starting from 1 March 2022.

The cost of bauxite decreased by USD 175 million, or by 34.6%, to USD 331 million in 2022 as compared to USD 506 million in 2021.

The cost of raw materials (other than alumina and bauxite) and other costs increased by 13.2% for the year ended 31 December 2022 as compared to the same period of 2021, due to an increase in raw materials purchase price (price for the raw petroleum coke increased by 52.9%, pitch by 33.7%, anode blocks by 63.8% and caustic soda by 87.9%).

Energy costs increased by USD 588 million, or by 28.4%, to USD 2,658 million for the year ended 31 December 2022, as compared to USD 2,070 million for the year ended 31 December 2021 due to increase by 23.2% in the average electricity tariff between the comparable periods that was caused by both a 14.7% change in electricity tariffs in rouble equivalent and a 6.9% strengthening of the rouble exchange rate against the US dollar during the reporting period.

The finished goods mainly consisted of primary aluminium and alloys (c.96%). The dynamic of change between the reporting periods was driven by the fluctuations of primary aluminium and alloys physical inventory between the reporting dates: 33.3% increase in 2022 and 96.9% increase in 2021.

ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

In 2022, Metals segment's adjusted EBITDA (before inter-segmental elimination) decreased by USD 865 million, or 29.9%, to USD 2,028 million from USD 2,893 million in 2021. The factors that contributed to the decrease in adjusted EBITDA margin were the same as those influenced the operating results.

The following table sets forth a reconciliation of Metals segment's adjusted EBITDA to its results from operating activities for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
RECONCILIATION OF ADJUSTED EBITDA		
Results from operating activities	1,316	2,079
Add:		
Amortisation and depreciation	503	596
Loss on disposal of property, plant and equipment	13	9
Impairment of non-current assets	196	209
Adjusted EBITDA	2,028	2,893

The following table sets forth a reconciliation of Metals segment's adjusted net profit

and recurring net profit to its net profit for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
RECONCILIATION OF ADJUSTED NET PROFIT		
Net profit for the period	1,793	3,225
Adjusted for:		
Share of profits and other gains and losses attributable to Norilsk Nickel, net of tax effect	(1,440)	(1,762)
Change in derivative financial instruments, net of tax (20%)	176	356
Gain from partial disposal of investment in associate	-	(492)
Impairment of non-current assets, net of tax	196	209
Adjusted net profit	725	1,536
Add back:		
Share of profits of Norilsk Nickel, net of tax	1,440	1,762
Recurring net profit	2,165	3,298

Adjusted net (loss)/profit for any period is defined as the net (loss)/profit adjusted for the net effect of the Company's investment in Norilsk Nickel, the net effect of derivative financial instruments and the net effect of impairment of non-current assets.

Recurring net profit for any period is defined as adjusted net (loss)/profit plus the Company's net effective share in Norilsk Nickel results.

USD 2,028 mn
Metals segment
Adjusted EBITDA
in 2022

FINANCIAL REVIEW

POWER SEGMENT

In 2022 and 2021, the Power segment accounted for 21.8% and 20.7% of the business segments' revenues (before adjustments), respectively. As at 31 December 2022 and 31 December 2021, the assets of the Power segment accounted for 32.0% and 33.5% of the Group's total assets (before adjustments), respectively.

SELECTED FINANCIAL DATA

The following table sets forth selected data of the Power segment (before inter-segmental elimination) for the periods indicated:

	Year ended 31 December	
(USD mn)	2022	2021
Revenues	3,885	3,138
Gross profit	1,463	1,317
Gross profit margin	37.7%	42.0%
Results from operating activities (EBIT)	849	889
Operating profit margin	21.9%	28.3%
Pre-tax profit	619	566
Profit for the period	384	374
Net profit margin	9.9%	11.9%
Adjusted EBITDA	1,254	1,172
Adjusted EBITDA margin	32.3%	37.3%

REVENUES

The following table sets forth components of the Power segment's sales data (before

inter-segmental elimination) for the years indicated:

	Year ended 31 December	
(USD mn)	2022	2021
Average rate RUB/USD	68.55	73.65
SALES OF ELECTRICITY		
Revenue (USD mn)	1,861	1,453
Sales volumes (TWh)	105.5	108.4
Average sales price (RUB/MWh)	1,209	988
SALES OF CAPACITY		
Revenue (USD mn)	598	500
Sales volumes (GW/year)	163.3	172.8
Average sales price (RUB '000/MW)	251	213
SALES OF HEAT		
Revenue (USD mn)	471	417
Sales volumes (mn Gcal)	24.0	24.5
Average sales price (RUB/Gcal)	1,322	1,257
Sales of semi-finished products (USD mn)	341	268
Other revenues (USD mn)	614	500
Total (USD mn)	3,885	3,138

USD 3,885 mn
Power segment
Revenues in 2022

The Power segment's revenue increased by USD 747 million, or 23.8%, to USD 3,885 million in 2022 from USD 3,138 million in 2021, mainly reflecting increase in average electricity price.

Revenue from electricity sales increased by 28.1% y-o-y to USD 1,861 million in 2022. The increase was driven mainly by an increase in the average electricity spot price on the day-ahead market in the second price zone.

Capacity sales increased by 19.6% y-o-y to USD 598 million in 2022. The increase was mainly driven by higher capacity sales prices compared to 2021.

Heat sales increased by 12.9% y-o-y to USD 471 million in 2022 reflecting growth in heat prices.

The Power segment's electricity generation decreased from 90.4 TWh in 2021 to 83.9 TWh in 2022. In 2021, HPPs generated 77.7 TWh of electricity, or 86.0% of the total electricity generated by the Power segment, while in 2022 they generated 69.0 TWh of electricity, or 82.2% of the total electricity generated by the Power segment. The decrease in HPP generation can be primarily explained by less intensive state-regulated drawdown in the Krasnoyarsk reservoir due to low water reserves, which resulted from abnormally low water inflows in the Yenisei River.

FINANCIAL REVIEW

COST OF SALES

The following table sets forth components of the Power segment's cost of sales (before inter-segmental elimination) for the years indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Electricity and capacity	641	427
Personnel expenses	498	354
Depreciation and amortisation	211	216
Cost of raw materials and fuel	363	257
Aluminium	217	182
Electricity transmission costs	194	160
Other	298	225
Total cost of sales	2,422	1,821

The Power segment's cost of sales increased by USD 601 million, or by 33.0%, to USD 2,422 million for the year ended 31 December 2022, as compared to USD 1,821 million for the year ended 31 December 2021.

Growth in the Power segment's cost of sales was driven mainly by increase in personnel costs in 2021 and 2022 and increase in raw materials purchase price due to inflationary pressure.

ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

The following table sets forth the Power segment's adjusted EBITDA and adjusted EBITDA margin for the years indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Adjusted EBITDA (HPP's)	1,257	1,076
Adjusted EBITDA (CHP's)	42	38
Adjusted EBITDA (Other and unallocated)	(45)	58
Adjusted EBITDA (Power segment)	1,254	1,172
Adjusted EBITDA margin (HPP's)	84.0%	86.4%
Adjusted EBITDA margin (CHP's)	5.0%	5.2%
Adjusted EBITDA margin (Power segment)	32.3%	37.3%

In 2022, the Power segment's adjusted EBITDA (before inter-segmental elimination) increased by USD 82 million, or 7.0%, to USD 1,254 million, from USD 1,172 million in 2021. The change was largely driven by rouble appreciation (the average USD/RUB exchange rate for the reporting period decreased by 6.9%).

As power operations account for a sizeable portion of the revenues, assets and liabilities attributable to the Power segment, and are, therefore, a predominant contributor

to the adjusted EBITDA of the Power segment, the low-cost operation of HPPs will positively affect the overall adjusted EBITDA of the Power segment. The proportion of HPPs' contribution to the adjusted EBITDA of the Power segment in particular was 100.3% in 2022 and 91.8% in 2021.

The following table sets forth a reconciliation of the Power segment's adjusted EBITDA to the Power segment's results from operating activities for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
RECONCILIATION OF ADJUSTED EBITDA		
Results from operating activities	849	889
Add:		
Amortisation and depreciation	221	229
Gain on disposal of property, plant and equipment	10	(4)
Impairment of non-current assets	174	58
Adjusted EBITDA	1,254	1,172

USD 1,254 mn
Power segment
Adjusted EBITDA
in 2022

FINANCIAL REVIEW

NET ASSETS

(USD mn)	Year ended 31 December	
	2022	2021
GROUP		
Non-current assets	20,176	17,090
Current assets	10,502	8,967
Non-current liabilities	(11,479)	(9,897)
Current liabilities	(6,467)	(5,849)
Net assets	12,732	10,311
METALS SEGMENT		
Non-current assets	14,516	12,470
Current assets	10,115	8,436
Non-current liabilities	(7,733)	(5,790)
Current liabilities	(4,591)	(4,592)
Net assets	12,307	10,524
POWER SEGMENT		
Non-current assets	10,770	9,725
Current assets	816	824
Non-current liabilities	(3,758)	(4,121)
Current liabilities	(2,065)	(1,461)
Net assets	5,763	4,967

In 2022, the Group's net assets increased by USD 2,421 million to USD 12,732 million as at 31 December 2022, from USD 10,311 million as at 31 December 2021.

In 2022, Metals segment's net assets increased by USD 1,783 million, or by 16.9%, to USD 12,307 million as at 31 December 2022, from USD 10,524 million as at 31 December 2021. This was mainly caused by an increase in total assets, driven primarily by the increase in interests in associates, inventories, trade and other receivables, cash and cash equivalents and increase in total liabilities mainly due to the increase in outstanding financial debts.

In 2022, the Power segment's net assets as at 31 December 2022 increased by USD 796 million, or by 16.0%, to USD 5,763 million, from USD 4,967 million as at 31 December 2021 mainly due to increase in property, plant and equipment following investing activities as well as appreciation of rouble against US dollar by 5% as at 31 December 2022 compared to 31 December 2021.

NET WORKING CAPITAL

Net working capital is defined as inventories plus short-term trade and other receivables (excluding dividend receivables), less trade and other payables.

The following table sets forth the calculation of the net working capital of the Group, Power segment and Metals segment as at the dates indicated:

(USD mn)	As at 31 December	
	2022	2021
GROUP		
Inventories	4,383	3,731
Short-term trade and other receivables	2,514	2,655
Dividends receivable	-	(827)
Trade and other payables	(2,423)	(2,806)
Net working capital	4,474	2,753
METALS SEGMENT		
Inventories	4,489	3,692
Short-term trade and other receivables	2,263	2,473
Dividends receivable	-	(827)
Trade and other payables	(1,919)	(2,408)
Net working capital	4,833	2,930
POWER SEGMENT		
Inventories	161	158
Short-term trade and other receivables	363	306
Trade and other payables	(693)	(602)
Net working capital	(169)	(138)

As at 31 December 2022, the Group's net working capital amounted to USD 4,474 million, compared to USD 2,753 million as at 31 December 2021.

In 2022, net working capital increased by 63% compared to 2021 mainly due to restrictive measures against the Russian Federation which resulted in decrease in advances received from customers, and accumulation of finished metal products.

USD 4,474 mn
the Group's net working capital as at 31 December 2022

FINANCIAL REVIEW

LIQUIDITY AND CAPITAL RESOURCES

GENERAL

In 2022, the Group's liquidity requirements primarily related to funding working capital, capital expenditures and debt service. The Group used a variety of internal and external sources to finance operations. During the periods under review, short- and long-term funding sources included predominantly the rouble and foreign currency denominated secured and unsecured loans from Russian and international banks, as well as debt instruments issued in both the Russian and international capital markets.

Liquidity was managed separately in both segments – Power and Metals.

DIVIDENDS

During the years ended 31 December 2022 and 31 December 2021, the Company did not declare and pay dividends.

In 2022, Metals segment declared dividends. In November 2022, dividends of USD 131 million were paid to Metals segment's non-controlling shareholders.

CASH FLOWS

The following table sets forth the Group's selected cash flow data for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Cash flows from operating activities	572	2,168
Cash flows from/(used in) investing activities	47	285
Cash flows from/(used in) financing activities	742	(2,691)
Net change in cash and cash equivalents	1,361	(238)
Cash and cash equivalents at the beginning of the period, excluding restricted cash	2,328	2,549
Effect of exchange rate changes on cash and cash equivalents	(215)	17
Cash and cash equivalents at the end of the period, excluding restricted cash¹	3,474	2,328
Free cash flow	(633)	1,705

Cash flows from operating activities

The Group's cash flows from operating activities for 2022 were USD 572 million, a decrease of USD 1,596 million, or 73.6%, compared to USD 2,168 million in 2021 caused by an increase in working capital.

Cash flows generated from/(used in) investing activities

The Company generated USD 47 million net cash from investing activities for the year ended 31 December 2022 as compared to USD 285 million in the previous year primarily due to increase of CAPEX by 13%. Another factor is the proceeds from a partial disposal of Norilsk Nickel shares of USD 1,421 million in 2021.

Cash flows generated from/(used in) financing activities

The Group's cash flows from financing activities for 2022 were USD 742 million, an increase by USD 3,433 million (in 2021 cash flows used in financing activities were USD 2,691 million) was primarily due to the net proceeds from borrowings of USD 2,122 million for the year ended 31 December 2022 as compared to net repayment of borrowings of USD 1,593 million for the preceding year.

Free cash flow

The following table sets forth a reconciliation of the free cash flow to the cash flows from operating activities for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
RECONCILIATION OF FREE CASH FLOW		
GROUP		
Cash flows generated from operating activities	572	2,168
Adjusted for:		
Capital expenditures (acquisition of property, plant and equipment and acquisition of intangible assets)	(1,711)	(1,513)
Dividends from associates and joint ventures	1,639	620
Proceeds from partial disposal of associate	-	1,421
Interest received	104	63
Interest paid	(987)	(703)
Restructuring fees and expenses related to issuance of shares	(21)	(36)
Settlement of derivative financial instruments	(229)	(315)
Free cash flow	(633)	1,705
RECONCILIATION OF FREE CASH FLOW		
METALS SEGMENT		
Cash flows generated from operating activities	(412)	1,146
Adjusted for:		
Capital expenditures (acquisition of property, plant and equipment and acquisition of intangible assets)	(1,239)	(1,192)
Dividends from associates and joint ventures	1,639	620
Proceeds from partial disposal of associate	-	1,421
Interest received	70	37
Interest paid	(428)	(380)
Restructuring fees	(17)	(34)
Settlement of derivative financial instruments	(229)	(315)
Free cash flow	(616)	1,303

¹ / Restricted cash of USD 3 million and USD 2 million is included in cash and cash equivalents as at 31 December 2022 and as at 31 December 2021, respectively.

FINANCIAL REVIEW

RECONCILIATION OF FREE CASH FLOW

POWER SEGMENT		
Cash flows generated from operating activities	986	1,022
Adjusted for:		
Capital expenditures (acquisition of property, plant and equipment and acquisition of intangible assets)	(474)	(321)
Interest received	34	26
Interest paid	(559)	(323)
Restructuring fees and expenses related to issuance of shares	(4)	(2)
Free cash flow	(17)	402

Capital expenditures

In 2022 and 2021, the Group's capital expenditures (comprising the acquisition of property, plant and equipment, as well as the acquisition of intangible assets) were USD 1,711 million¹ and USD 1,513 million, respectively. The Group's subsidiaries financed their cash requirements through a combination of operating cash flows

and borrowings. The table below sets forth the capital expenditures (before adjustments) of Metals and Power segments for the periods indicated:

(USD mn)	Year ended 31 December	
	2022	2021
Metals segment	1,239	1,192
Power segment	474	321

Metals segment recorded a total capital expenditure of USD 1,239 million for the year ended 31 December 2022. Metals segment's capital expenditure in 2022 was aimed at maintaining existing production facilities. Maintenance CAPEX amounted to 67% of the aggregate CAPEX in 2022.

In 2022, capital expenditure by the Power segment amounted to USD 474 million. Maintenance CAPEX accounted for 42% of total capital expenditure.

Cash

As at 31 December 2022 and 31 December 2021, the Group's cash and cash equivalents, excluding restricted cash, were USD 3,474 million and USD 2,328 million, respectively. As at 31 December 2022 and 31 December 2021, the Power segment's cash and cash equivalents were USD 281 million and USD 346 million, respectively. Meanwhile, the Metals segment's cash and cash equivalents were USD 3,196 million and USD 1,984 million, respectively.

¹ / After inter-segmental elimination.

LOANS AND BORROWINGS

The nominal value of the Group's loans and borrowings was USD 8,764 million as at 31 December 2022, not including bonds, which amounted to an additional USD 4,859 million.

Set out below is an overview of certain key terms of selected facilities in the Group's loan portfolio as at 31 December 2022:

Facility / Lender	Principal amount outstanding as at 31 December 2022	Tenor/Repayment schedule	Pricing
METALS SEGMENT			
Credit facilities			
PXF facilities	USD 848 mn	Until November 2024, equal quarterly repayments starting from January 2022	3 month LIBOR plus 1.7% – 2.1% p.a.
Russian Bank Loans ¹	CNY 8.2 bn	Bullet repayments at final maturity dates, the last repayment – July 2025	3.75% – 4.2% p.a.
	USD 2.1 bn	December 2027, quarterly repayments starting from September 2024	3 month LIBOR plus 3.0% p.a.
	RUB 31.2 bn	Quarterly repayments, the last repayment – December 2035	Key rate of the Bank of Russia plus 1.9% – 3.15% p.a.
Bonds			
Eurobonds ²	USD 943 mn	2023, repayment at final redemption date	4.85% – 5.3% p.a.
RUB bonds	RUB 28.5 bn	3 tranches, the last repayment is May 2030, repayments at final redemption dates, subject to bondholders' put option	6.5% – 9.5%
CNY bonds	CNY 22.9 bn	9 tranches, the last repayment is July 2027, repayments at final redemption dates	3.75% – 3.9% p.a. / LPR1Y+0.2% p.a.
POWER SEGMENT			
Credit facilities – Corporate loans			
Russian Bank Loans	RUB 205.4 bn	Quarterly repayments, the last repayment – December 2026	The key rate of the Bank of Russia +1.5% – 2.0% p.a.
Bonds			
CNY bonds	CNY 2.1 bn	December 2025	4.45% p.a.

¹ / In February 2023, RUSAL entered into a new credit facility with the Russian bank in the total amount of up to USD 4.4 billion and maturity – 24 December 2027. On 3 February 2023, the funds in the amount of 15.8 billion Chinese yuan were partially drawdown with an interest rate of 4.75% and were used to refinance the principal outstanding under the existing debt with the Russian bank.

² / On 8 February 2023, pursuant to the extraordinary resolution of the noteholders RUSAL redeemed the Eurobond with a coupon of 4.85% to noteholders who hold Eurobond through NSD and other Russian custodians being the NSD direct participants in the amount of USD 418 million.

FINANCIAL REVIEW

SECURITY

As of 31 December 2022, the Metals segment's debt (save for several unsecured loans and bonds) is secured, among others, by assignment of receivables under specified contracts, certain pledges of shares and interest of a number of the Group's subsidiaries, designated accounts, shares in Norilsk Nickel (representing 25% +1 share of Norilsk Nickel's total nominal issued share capital).

As of 31 December 2022, the Power segment's debt is secured, among others, by pledges of shares and interests in certain operating and non-operating companies and property, plant and equipment.

CONTINGENCIES

The summary of the Group's principal contingencies is set out below. For a detailed discussion of the Group's contingencies in 2022, including environmental contingencies, risks, and considerations, see Note 22 of the Annual Financial Statements.

TAXATION

Russian tax, currency and customs legislation is subject to varying interpretations, and changes, which can occur frequently. Management's interpretation of such legislation, as applied to the transactions and activities of the Group, may be challenged by the relevant local, regional or federal authorities. Notably recent developments in the Russian environment suggest that the authorities in this country are becoming more active in seeking to enforce, through the Russian court system, interpretations of the tax legislation, in particular in relation to the use of certain commercial trading structures, which may be selective for particular tax payers and different from the authorities' previous interpretations or practices. Recent events within the Russian Federation suggest that the tax authorities are taking a more assertive and substance-based position in their interpretation and enforcement of tax legislation.

Tax risks attributable to the Group, together with an estimate of the maximum possible additional amounts which may reasonably become payable in respect of such risks, are disclosed in Note 22 (a) of the Annual Financial Statements.

LEGAL CONTINGENCIES

The Group's business activities expose it to a variety of lawsuits and claims which are monitored, assessed and contested on an ongoing basis. Where management believes that a lawsuit or another claim would result in an outflow of economic benefits for the Group, a best estimate of such outflow is included in provisions in the consolidated financial statements (Note 22 (c)). As at 31 December 2022, the amount of claims where management assesses outflow as possible approximates USD 33 million (31 December 2021: USD 21 million).

FINANCIAL RATIOS

GEARING

The Group's gearing ratio – the ratio of total debt (including both long-term and short-term borrowings and bonds outstanding) to total assets – as at 31 December 2022 and 31 December 2021, was 44.3% and 41.9%, respectively.

RETURN ON EQUITY

The Group's return on equity – the amount of net profit as a percentage of total equity – was 14.5% and 34.3% as at 31 December 2022 and 31 December 2021, respectively.

INTEREST COVERAGE RATIO

The Group's interest coverage ratio – the ratio of earnings before interest and taxes to net interest – for the years ended 31 December 2022 and 31 December 2021, was 2.3x and 4.5x, respectively.

GOING CONCERN

The Group closely monitors and manages its funding position and liquidity risk throughout the year, including monitoring forecast results, to ensure that it has access to sufficient funds to meet forecast cash requirements. Cash forecasts are regularly produced and sensitivities considered for, but not limited to, changes in power and aluminium prices, foreign exchange rates, production rates and costs. These forecasts and sensitivity analyses allow management to mitigate liquidity or covenant compliance risks in a timely manner. The situation with Australian government and situation in Ukraine, as well as the volatility

of commodity markets, stock, currency markets and interest rates, create material uncertainty in the Group's ability to meet its financial obligations on time and continue as a going concern entity. Management constantly evaluates the current situation and prepares forecasts taking into account different scenarios of the events and conditions development. The Group's management expects that prices on the world commodity markets will grow and improve the results of operating activities. The Group is also revising its supply and sales chains, ensuring an optimal equity and debt ratio, searching for resolutions of logistic difficulties, as well as the ways to survive its obligations in order to adapt the current economic changes to maintain the continuance of the Group's operations. For a detailed discussion of the Group's going concern in 2022, see Note 1(e) of the Annual Financial Statements.

REPORT ON PAYMENTS TO GOVERNMENTS

The table below shows the amounts paid by the Group's entities to public authorities (primarily in the form of miscellaneous

taxes and levies) in connection with their extraction activities:

Type of payment 2022 (USD '000)	Russia	Kazakhstan	Ukraine	Guinea	Guyana	Jamaica	Total
Production fees	-	-	-	-	-	-	-
Taxes or levies on corporate sales, production or profits	72,392	28,209	149	4,891	3	7,925	113,569
Royalties	-	-	-	-	-	610	610
Dividends	-	-	-	-	-	-	-
Signing-on, discovery and production bonuses	-	-	-	-	-	-	-
Licence fees, rental charges, entry fees and other consideration for licences and/or concessions	5,772	1,059	48	-	169	100	7,148
Infrastructure improvement payments	1,337	255	-	-	-	-	1,592
TOTAL	79,501	29,523	197	4,891	172	8,635	122,919

INVESTMENT PROGRAMME AND MODERNISATION

Please see detailed information about strategy at Strategy section p.22

The investment programme and modernisation are being implemented in accordance with the strategic objectives of the Group



METALS SEGMENT

TAISHET

GOALS

- To increase production capacity
- To reach raw material security
- To reduce primary aluminium production costs

428.5 ktpa

aluminium production capacity of the TAZ's first stage

RESULTS

One of RUSAL's major projects is the Taishet aluminium smelter (TAZ) in the Irkutsk Region. The first stage of the smelter was launched at the end of 2021.

The Company is also continuing its investment project to construct the Taishet Anode Factory (TAF-1) with a capacity of approximately 400 kt of prebaked anodes per year.

Key sustainability benefits:

- Use of pre-baked anode technology
- 100% of its required electrical power will be derived from the HPP, therefore it will produce clean "green" aluminium
- A closed-loop water cycle which helps to reduce costs and environmental impact
- Use of modern gas cleaning equipment represented by dry alumina scrubbers with purification efficiency of 99.5%

CONVERSION TO PRE-BAKED ANODE TECHNOLOGY

GOALS

- To significantly reduce power consumption
- To reduce GHG emissions, such as fluoride and benzo(a)pyrene
- To improve gas removal efficiency
- To reduce pollutant emissions into the environment of the potroom by 30%

Successfully tested RA-550 engineering solutions are currently deployed across existing pre-baked pots. The plan envisages the construction of new facilities using modern technology for baked and pre-baked anodes, with the simultaneous dismantling or modernisation of old workshops.

RESULTS

In 2022, energy-efficient and environmentally friendly modernisation of aluminium plants in Bratsk, Shelekhov, Krasnoyarsk, and Novokuznetsk continued and received positive conclusions from state environmental experts. Construction of the new buildings is to start in 2023 and will continue in the medium term.

100%

reduction of benzo(a)pyrene emissions

IN-HOUSE FLAME RETARDANT PRODUCTION

GOAL

To replace imports with domestic production of flame retardants

RESULTS

RUSAL completed the implementation of a project to build a plant for the production of environmentally friendly flame retardants. The Company started industrial production of VOGA 205 commercial products. These products are high-quality, eco-friendly, halogen-free flame retardants. They suppress combustion and smoke formation in cables widely used in nuclear, aviation, shipbuilding and automotive industries.

CONVERSION TO ECO-SODERBERG TECHNOLOGY

GOALS

- To improve the post-combustion treatment of the anodic gas
- To ensure the tightness of the electrolysis
- To significantly improve the air quality due to the improved automated alumina feed system

14%

average reduction in pollutant emissions

RESULTS

The conversion of electrolyzers to Eco-Söderberg technology is underway at Bratsk, Irkutsk, Novokuznetsk and Volgograd aluminium smelters and has already been completed at Krasnoyarsk Aluminium Smelter. Switching to Eco-Söderberg allows the significant reduction of emissions of perfluorocarbons (PFCs).



POWER SEGMENT

THE NEW ENERGY MODERNISATION PROGRAMME

GOALS

- To modernise the power plants of the Angara and Yenisei HPP cascade
- To ramp up the energy output from the same volume of water passing through the hydropower turbines
- To improve safety and reliability of the HPPs, which will mitigate the risks associated with cavitation and address the HPP generator wear problem
- To reduce the Company's environmental footprint by curbing the greenhouse gas emissions of the Company's coal-fired power plants

Starting from 2026:
2.4 TWh per year additional generation
 at least **2.8** mt of CO₂e per year the GHG emissions from coal fired power generation prevented annually

The New Energy Programme assumes large-scale overhaul and replacement of the core equipment at the Company's largest Siberian HPPs, i.e., Krasnoyarsk, Bratsk, Irkutsk and Ust-Ilimsk. The programme envisages the modernisation of hydropower generation units and the replacement of runners. Increased efficiency will be provided by the new runners' improved blades and by utilising new materials, with an efficiency rate increase of up to 8% depending on the runner.

will positively impact the environment in the Siberian regions where we operate. Hydropower energy is used to partially replace the energy generated by coal-fired power plants, and thus prevent GHG emissions. The modernised turbines also incorporate an up-to-date runner design that prevents the leakage of turbine oil into water.

The New Energy Programme, when completed, will provide better reliability and higher quality power supply to our Siberian consumers. On top of the expected economic improvement, the New Energy Programme

The modernisation programme investment is expected to total RUB 21 billion in the period to 2026 (around USD 298.6 million¹), including funds already invested in the project (RUB 16 billion²).

RESULTS IN 2022

In 2022, the Company launched a new hydropower unit at Irkutsk HPP. The Company replaced one runner and started works for the replacement of another runner at Bratsk HPP. Two new runners were replaced at Krasnoyarsk HPP, and works on the next runner replacement began.

Increase in power output **2** TWh
 Prevented GHG emissions **2.233** mt of CO₂e

	Bratsk HPP	Ust-Ilimsk HPP	Krasnoyarsk HPP	Irkutsk HPP
Generation units	18	16	12	8
Runners replaced	14 (2007–2022)	4 (2014–2018)	4 (2016–2022)	3 (2019–2022)
Remaining runners to be replaced	4 by 2026	0 (100% of planned work completed)	4 by 2025	1 by 2023
Total amount of additional power generation by hydraulic units with new impellers, MWh	1,204,194	345,161	253,496	123,861

¹ / Calculated based on USD/RUB exchange rate of 70.3375 as at 31 December 2022.
² / USD 227.5 million, calculated based on USD/RUB exchange rate of 70.3375 as at 31 December 2022.

SMALL HPP PROJECTS

GOALS

- To increase in energy generation produced by small HPP

As part of the strategic goal of developing generating HPP capacity, En+ has formed a portfolio of projects with total installed capacity of about 200 MW. Depending on the results of the project feasibility studies, a decision will be made on when these projects will be implemented.

As part of the state programme backed by the CAC mechanism for renewable projects, En+ Group is implementing the small-scale Segozerskaya HPP in Karelia (Russia).

Total expected CAPEX for small HPP construction is approximately RUB 2 billion (USD 29 million¹).

Segozerskaya HPP

Expected generating capacity

8.1 MW

RESULTS IN 2022

In 2022, construction and installation work on the Segozerskaya HPP are continued: the excavation of the HPP building pits (70% of the design volume) and the discharge channel (50% of the design volume). In 2023, construction work building a HPP is planned.

CHP MODERNISATION PROGRAMME

GOALS

- To improve the reliability and safety of 1,445 MW of En+'s CHP capacity (33.7% of total CHP capacity)
- To improve the environmental situation in the Irkutsk Region

The Group participated in state programmes for CHP modernisation, providing us with a guaranteed return on investment. The Capacity Allocation Contracts (CAC) will be signed between buyers, market regulator (ATS) and generating companies in the wholesale market, setting the key criteria for modernisation, parameters of capacity supply after the modernisation and return on investment. The current approved generating facilities should be completed and launched by 2026, with the project's internal rate of return at 14%.

Total expected CAPEX for CHPs is RUB 19.7 billion (USD 280 million¹) in the period to 2026.

Modernising

33.7% of total CHP capacity

RESULTS IN 2022

- Construction, installation and commissioning work were carried out, preparations are underway for a comprehensive testing on the upgraded TA-1 at CHP-6.
- A new turbogenerator was put into operation at power unit No. 2, and the furnace and superheaters of KA-4 were replaced at CHP-10.
- Work on the boiler unit was completed and the equipment was put into operation at Novo-Irkutsk CHP.
- Work continues on other modernisation facilities (including Novo-Irkutsk CHP, CHP-9, CHP-10, CHP-11 and Ust-Ilimsk CHP).

Building an export-oriented wind farm in the Amur Region

En+ announced the possibility of building an export-oriented wind farm with Russian and Chinese partners in the Primorskaya advanced socio-economic development zone, with the support of the Far East and Arctic Development Corporation and the Government of the Amur Region. The technology partner for the project will be the Chinese state-owned company PowerChina. The partners are currently assessing the wind potential of the region to select the optimal configuration of the wind farm and the capital costs for the implementation of the project in different configurations. The construction period will be about two years.

Read more about Company's research and development projects at R&D management at p.192

SUSTAINABILITY MANAGEMENT

APPROACH TO SUSTAINABILITY MANAGEMENT



THE BOARD OF DIRECTORS

- strategic sustainability management
- consideration of issues and identification of the most significant areas related to the environmental impact, social policy and corporate governance of the Company
- approval of the Company's Report on sustainable development



HSE (HEALTH, SAFETY AND ENVIRONMENT) COMMITTEE

- takes part in the development of HSE policies
- prepares recommendations to the Board on formulating HSE strategies, policies, and task setting
- controls the Company's compliance with the international HSE standards and applicable laws
- oversees the Group's HSE performance



CEO

- overall sustainability management



SUSTAINABLE DEVELOPMENT DIRECTORATE

- performs initial assessment of sustainability issues
- prepares draft decisions and measures to minimise environmental and climate risks
- initiates projects in the field of biodiversity conservation
- collaborates with sustainability oriented stakeholders (associations, partnerships, NGOs, international organisations)
- performs sustainability data analysis

GRI: 2-12) 2-14)

Sustainability management is an integral part of the En+ corporate governance system. Relevant responsibility is divided across all the levels of the Company's management.

Sustainability achievements at En+ are monitored through the system of key performance indicators (KPIs) related to various areas of activity – growth of economic profit, increase in labour productivity, minimisation of accidents at work, improvement of energy efficiency and the reduction of GHG emissions in CO₂ equivalent.

GRI: 2-13) 2-23)

En+ systematically manages all ESG impacts and implements responsible practices in its business processes. The Company made a significant contribution to the implementation of Russia's national projects in the field of healthcare, ecology, urban environment, employment support, science and supports leading international and Russian initiatives in the field of sustainable development. En+ continues to demonstrate significant progress towards achieving the UN SDGs.



Read more at page 62-65

and on the Company's website: <https://www.enplusgroup.com/en/sustainability/un-sdgs/>

WHY SUSTAINABILITY IS IMPORTANT FOR EN+

GENERATING LONG-TERM VALUE

En+ develops sustainable solutions and uses advanced best available technologies to create long-term value. RUSAL offers its customers low-carbon aluminium ALLOW, which significantly reduces the carbon footprint of products. ALLOW is produced using carbon-free energy sources, primarily, hydropower, and helps customers to achieve the global climate goals.

Read more at p.75

SUPPORTING OUR BUSINESS MODEL

En+ strives to use the principles of sustainable development in all areas of its activity. Commitment to the highest standards of corporate governance and social responsibility strengthens both the Group's strategy and business model and provides the Company with a competitive advantage.

Implementing the ASI standards that cover the entire value chain – from ore mining to aluminium production – is one of the tools for adapting the best world practices in sustainable development. By 2022, 13 RUSAL production and office sites were successfully re-audited against the ASI Performance Standard and ASI Chain of Custody Standard.

PART OF OUR CULTURE

In operations, En+ adheres to globally accepted moral and ethical standards, ensures transparency of activities, respects human rights and supports environmental initiatives. Compliance with the principles of sustainable development is an integral part of operations and development of En+.

Read more at p.167-169

MITIGATING OUR RISKS

As part of strategic planning and risk management, En+ separately identifies ESG risks, the management of which takes into account the Company's economic, environmental and social impacts. ESG risks include risks associated with occupational health and safety, climate change, environmental and legal risks, etc. Risk management in the field of sustainable development is carried out according to the vertical principle based on the identification of risks of business processes of individual enterprises with subsequent consolidation at the segment level, and then at the Company level.

Read more at p.160-166

MEETING INTERESTS AND EXPECTATIONS OF STAKEHOLDERS

The sustainable development of En+ is based on compliance with the principles of fair business conduct and responsible behaviour towards all stakeholders. Moving towards strengthening and building capacity in the field of sustainable development, En+ demonstrates the seriousness of intentions in achieving important tasks for all stakeholders.

Read more at p.170-173

13

RUSAL production and office sites have been successfully re-audited against the ASI Performance Standard and ASI Chain of Custody Standard by 2022

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS

GRI: 2-23

En+ systematically promotes the global sustainability agenda laid out by the UN SDGs. The Company has integrated SDGs into its business strategy and set measurable targets for a sustainable future. Progress across the targets is monitored by the HSE Committee.

KEY PROGRESS



The Company's priority SDGs are grouped into four thematic tracks of action. Each track also aligns with the National Development Goals of the Russian Federation. By analysing the key parameters, En+ regularly monitors progress against the SDGs and adjusts its activities accordingly.



The SDG Report 2022 is available on the website www.enplusgroup.com

Learn more on En+ support for human rights related to its key SDGs at p.120

TRACK	CLIMATE LEADERSHIP		ENVIRONMENTAL STEWARDSHIP			HUMAN DEVELOPMENT			COLLABORATION AND PARTNERSHIPS
National Development Goals	<ul style="list-style-type: none"> - Preservation of the Population, the Health and Welfare of the People - Comfortable and Safe Environment - Digital Transformation 		<ul style="list-style-type: none"> - Preservation of the Population, the Health and Welfare of the People - Comfortable and Safe Environment 			<ul style="list-style-type: none"> - Preservation of the Population, the Health and Welfare of the People - Conditions for Self-Fulfilment and the Unlocking of Talent - Comfortable and Safe Environment - Decent and Effective Jobs and Successful Enterprise - Digital Transformation 			
UN SDGs									
SDG Targets	7.1, 7.2, 7.3, 7.a	13.1, 13.2	6.3, 6.4, 6.5, 6.6, 6.b	12.2, 12.5, 12.6, 12.7, 12.8, 12.b	15.1, 15.2, 15.4, 15.5, 15.9, 15.a	3.2, 3.4, 3.8, 3.9, 3.b, 3.c, 3.d	8.2, 8.3, 8.6, 8.8, 8.9	11.1, 11.2, 11.3, 11.4, 11.6, 11.7, 11.a, 11.c	17.4, 17.5, 17.6, 17.14, 17.15, 17.16
GRI	GRI 302	GRI 302, 305	GRI 303, 304, 306	GRI 302, 303, 305, 306, 417	GRI 304, 305	GRI 203, 305, 306, 401, 403	GRI 2-7, 201, 202, 203, 204, 401, 403, 404, 405, 408, 409, 414	GRI 203, 207	GRI 2-25, 2-26
SASB	EM-MM-130a.1 IF-EU-000.E	EM-MM-110a.1 EM-MM-110a.2 IF-EU-110a.1 IF-EU-110a.2 IF-EU-110a.3 IF-EU-110a.4	EM-MM-140a.1 EM-MM-140a.2 IF-EU-140a.1 IF-EU-140a.2 IF-EU-140a.3	EM-MM-150a.4 – EM-MM-150a.10	EM-MM-160a.3	EM-MM-120a.1 EM-MM-320a.1 IF-EU-120a.1 IF-EU-320a.1	EM-MM-310a.1 EM-MM-000.B IF-EU-320a.1	EM-MM-210a.3 EM-MM-210b.1	
Description	En+ has committed to achieve net zero GHG emissions by 2050 and has published one of the industry's most ambitious net zero strategies. The nature of the business ensures a tight link between clean energy and decarbonisation of the Metals sector.		The Group recognises its broader impacts on ecosystems today. This is why En+ is dedicated to define, assess and measure its impact, setting scientifically justified corporate commitments.			En+ ensures that its people remain at the forefront of all decisions across the whole management structure. The Company cares about the well-being of employees and local communities and invests in the communities and cities where it operates. Social investments by En+ are aimed at promoting public health, creating conditions for physical activity, providing equal access to quality and innovative education, providing accessible infrastructure, and supporting individuals in difficult situations.			To support the UN Sustainable Development Goals more effectively, En+ boosts cooperation and partnerships for sustainable development. The Company actively engages with local and international stakeholders as well as the scientific community.
Projects	<ul style="list-style-type: none"> - ALLOW - Inert Anode technology - Advancing Solar Energy - Green Hydrogen Development - Forest aerial protection - GHG Inventory of Hydro Reservoirs - New Energy Programme 		<ul style="list-style-type: none"> - Clean Air Federal Ecology Project - CHP Modernisation - Transition to Closed Water Supply System - Reconstruction of Wastewater Treatment Facilities - Reclamation, Reuse and Repurpose of Bauxite Residue - Grants Supporting Innovative Ecological Projects 			<ul style="list-style-type: none"> - Leading Medical and Emergency Healthcare - Preferential Mortgage lending and Housing Programme - Sport programmes - Investing in Local Communities - Corporate University - Responsible Tourism - Regional Development 			<ul style="list-style-type: none"> - Advocacy - Transparency and Certification - Energy Transition - Climate
Key results	<p>over 3,960 tonnes of aluminium with the lowest carbon footprint in the world produced using inert anode technology for the entire duration of the project</p> <p>505,000 ha of the Krasnoyarsk Territory wild forests are under aerial protection</p>		<p>RUB 16.6 bn (USD 243 mn) environmental investments in 2022¹</p> <p>36% decrease in volatile organic compound emissions in 2022 (compared to 2020)</p> <p>4 HPPs were certified in accordance with the international ISO 14001 standard in 2022</p> <p>97% of hazardous waste are reused and recycled in 2022</p>			<p>130 employees have purchased flat/house or refinanced a dwelling under preferential mortgage lending</p> <p>RUB 3.6 bn (USD 53 mn) total social investments¹</p> <p>RUB 157 mn (USD 2.3 mn) allocated in 2022 to purchase recreation vouchers for employees and their families in the Power segment¹</p> <p>more than 100 professional retraining and development programmes are available for En+ employees</p>			<p>Co-founded Association "Baikal Plastic Free"</p> <p>Among founding members of the national ESG Alliance</p>

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

MATERIALITY ASSESSMENT

GRI: 3-1 3-2 3-3 2-14

En+ conducts regular materiality assessments based on its own methodology. It includes a comprehensive analysis of the organisational context and multi-channel communications with Stakeholders. In 2022, the Company modified its approach to materiality assessment following the revised GRI Standard. The Company moved the focus from identifying material topics to defining impacts its business has on the economy, environment and people, including impacts on their human rights.

The Company conducted an online survey to assess and prioritise its impacts. Stakeholders were asked to assess the scale of En+ impacts: from no impact to the critical negative or significant positive impact. Overall, 475 stakeholder representatives participated in the survey.

[Read more about materiality assessment process in Additional ESG data p.277-279](#)

The results grouped the impacts into 17 topics, divided by three distinct priority levels based on their significance. Relative to the previous year, two material topics 'Environmental compliance and the best available technologies (BAT)' and 'Innovation management' were added to the list. The material topic 'Compliance with legislation and anti-corruption' was merged with 'Business ethics'.

The HSE Committee of the Board reviewed and approved the final list of material topics.



MATERIAL TOPICS

PRIORITY 1

- Economic performance
- Sustainable supply chain
- Business ethics
- Corporate governance
- Human rights
- Employees management and engagement
- Local community engagement
- Health and safety

PRIORITY 2

- Social and cultural diversity and equal opportunity
- Innovation management
- Environmental compliance and BAT
- Energy management
- Water and wastewater management
- Safe waste management
- Air quality

PRIORITY 3

- Climate change
- Biodiversity

EN+ STAGES OF MATERIALITY ASSESSMENT

IDENTIFYING THE COMPANY'S IMPACTS

Outcome: Actual and potential impacts listed

Steps

- analysing En+ business activities by the Company's experts: bauxite mining, alumina refining, energy and heat production, aluminium production key inputs, outputs, effects, and measures to mitigate negative effects
- analysing feedback from stakeholders, including suggestions and concerns raised through grievances mechanisms

[Read more about Value creation model at p.278](#)

[Read more in the Additional ESG data p.277-279](#)

- conducting comparative analysis (benchmark) of material topics and related impacts disclosed in the reports of Russian and international metals and mining, and energy companies
- analysing the requirements of international industry standards and recommendations

ASSESSING THE SIGNIFICANCE OF THE IMPACTS

Outcome: The impacts assessed involving stakeholders

- selecting the most convenient interaction forms with stakeholders
- conducting an online survey involving stakeholders to determine the most significant negative and positive impact

PRIORITISING THE IMPACTS AND GROUPING THEM INTO TOPICS

Outcome: The most significant impacts determined and grouped into material topics

- setting a threshold to exclude less significant impacts
- grouping impacts into material topics
- prioritising the material topics based on their significance
- testing the material topics against international standards, best sector practices, and recommendations

APPROVING THE LIST OF MATERIAL TOPICS





























Outcome: The list of material topics approved

- reviewing and approving the final list of material topics by senior management and Board of Directors

GRI: 3-3 Management of material topics

Priority	Material topic	Importance for En+	Policies	Related SDGs	Goals, targets and commitments	Progress toward the goals and targets in 2022	Actions to manage the topic and related impacts
Priority 1	Economic performance	The Company's priority is ensuring business continuity, making strategic and commercial progress, increasing sales volumes of value-added products, improving cost efficiency.	Quality Policy Stakeholder Engagement Policy		- To raise the effectiveness of activities and achievement of strategic objectives	USD 16,549 Revenue (+17.2% y-o-y) ¹	Financial review, p.36
	Sustainable supply chain	Building a sustainable and transparent supply chain is an essential element of En+ long-term success.	Supplier Standards		- To work in partnership with the suppliers, contractors and others with whom the Company does business to ensure adherence to Supplier Standard's principles	100% of new suppliers having no significant actual and potential negative social impacts	Supply chain management, p.176
	Business ethics	En+ values its business reputation and strives to promote high standards of business conduct both among its employees and business partners.	Corporate Code of Ethics Anti-bribery and Corruption Policy		- To prohibit and prevent the Company, employees and third parties from engaging in bribery and corruption - To create a consistent perception of the Company and employees as committed to the principles of zero tolerance towards corruption in all forms and manifestations - To build mutually beneficial relationships with all stakeholders based on the principles of partnership and mutual respect	No confirmed cases of corruption No terminations of contracts with business partners as a result of corruption violations	Ethics and compliance, p.167 www.enplusgroup.com/en/sustainability/ethics/
	Corporate governance	Strong corporate governance is a crucial element for gaining trust of the Company's stakeholders, attracting new investment and protecting its reputation.	Regulations on the Board of Directors Board of Directors Diversity Policy Corporate Code of Ethics Anti-bribery and Corruption Policy		- To maintain high standards of corporate governance	64% of independents directors on the Board of Directors of En+ Group as at 31 December 2022	Corporate governance, p.136
	Human rights	Respect for human rights is a fundamental value for the Company in ensuring its sustainable development.	Policy on Human Rights		- To support the principles reflected in the Human Rights Policy	No incidents of child labour No incidents of forced or compulsory labour	Employees, p.115 www.enplusgroup.com/en/sustainability/people/
	Employee management and engagement	Human capital is a key factor in the Company's successful development.	Corporate Code of Ethics		- To comply with all requirements of the employment laws and terms and conditions of employment contracts	No significant incidents of non-compliance with labour laws and regulations in the Company resulting in legal action	Employees, p.115 www.enplusgroup.com/en/sustainability/people/
	Local communities engagement	En+ pays special attention to ensuring the sustainable economic development of regions.	Stakeholder Engagement Policy		- To ensure that all communities in operating regions benefit from the Company's presence - To establish close cooperation with local communities, government agencies and non-profit organisations	USD 53 mn social investment ¹ RUSAL developed an analytical tool 'the Sustainable Cities Responsibility Index' to assess the appeal of cities and prioritise the projects	Community engagement, p.126 www.enplusgroup.com/en/investors/esg/social/
Priority 2	Health and safety	Safety is the core value at the heart of performance across the Company. En+ manages impacts of its activities and maintains a safe working environment for employees, contractors and partners.	Health, Occupational, Industrial and Fire Safety Policy		- To achieve zero fatalities as well as zero serious work-related injuries related to production processes	5 employee's fatalities 0.16 LTIFR per 200,000 hours worked	Health and safety, p.108 www.enplusgroup.com/en/sustainability/health-and-safety/
	Social and cultural diversity and equal opportunities	Promoting social and cultural diversity and equal opportunity plays a crucial role in establishing a comfortable environment for all En+ employees. This includes ensuring equal opportunities for representatives of vulnerable groups of people.	Diversity and Equal Opportunities Policy		- To promote and maintain diversity, create conditions for effective performance and provide equal opportunities for all En+ employees - To maintain zero tolerance of any form of discrimination, workplace harassment, or any other conduct that could be considered offensive and unacceptable	No incidents of discrimination 1.13 ratio of the basic salary of men to women at Russian enterprises in the Power segment and 1.26 in the Metals segment	Employees, p.115
	Innovation management	En+ constantly strives to improve its performance by implementing new technologies and continuing constant improvement projects.	R&D Policy Patent Policy		- To introduce new technologies and develop green energy projects	RUB 216.1 mn (USD 3.2 mn) allocated for R&D projects ¹	Innovation management, p.192

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

	Material topic	Importance for En+	Policies	Related SDGs	Goals, targets and commitments	Progress toward the goals and targets in 2022	Actions to manage the topic and related impacts
Priority 2	Environmental compliance and BAT	To reduce the negative impact on the environment and increase production efficiency the Company invests in the development of new technologies, implementation of BAT, and modernisation of equipment throughout the production chain.	Environmental Policy	 	<ul style="list-style-type: none"> To provide BAT to meet the Company's environmental goals To ensure environmental security and compliance with all relevant environmental legislation 	In 2022, projects for the environmental modernisation of aluminium smelters were assessed for compliance with best available technologies	 Environmental stewardship, p.84
	Energy management	En+ actively develops new ways to generate electricity, optimise power generation, and make production processes more efficient to address its carbon footprint and other issues related to the environment and climate change.	Environmental Policy	 	<ul style="list-style-type: none"> To increase the use of alternative energy sources by 2030 To reduce the average carbon intensity of generated and consumed electricity To increase clean electricity generation by improving hydropower plant efficiency by 2.5 TWh, from the same amount of water passing through the turbines, and prevent over 2.5 mt of CO₂ emissions per annum from 2025 To purchase at least 95% of electricity from HPPs and other carbon-free sources of power generation for aluminium smelters by 2025 To reduce specific electric power consumption by aluminium smelters by 7% vs. the 2011 level by 2025 	~ 99% share of alternative energy sources used for aluminium smelters of the Metals segment 2,486 Energy intensity of Power segment (GJ/MWh) 2,233 mt of CO ₂ e prevented GHG emissions due to partial replacement of thermal energy ~99% aluminium is produced using hydropower 4.1% reduction of average specific electric power consumption by aluminium smelters	 Climate leadership and energy efficiency, p.74  www.enplusgroup.com/upload/iblock/c6b/EN_Pathway-to-net-zero.pdf  www.enplusgroup.com/upload/iblock/c6b/EN_Pathway-to-net-zero.pdf
	Water and wastewater management	A key area of En+ water resource management is aimed at increasing the efficiency of water resource usage and preventing the pollution of water bodies to reduce the environmental impact.	Environmental Policy	 	<ul style="list-style-type: none"> To eliminate untreated wastewater discharge generated by the Power segment by 2030 To minimise non-production water losses through technological optimisation by 2030 To deploy recycled water systems for main processes in the Metals segment by 2025 	Started developing a comprehensive programme to minimise wastewater discharges and losses Started an inventory of water consumption Transferred RUSAL Kamensk-Uralsky Aluminium Smelter to a water recycling system	 Environmental stewardship, p.84  www.enplusgroup.com/en/investors/esg/environment/
	Safe waste management	En+ increases waste recycling and ensures the safe disposal of waste at disposal facilities to reduce environmental impact.	Environmental Policy	 	<ul style="list-style-type: none"> To decommission equipment with PCBs (polychlorinated biphenyls) and ensure their safe disposal by 2025 	Developed plans for the complete decommissioning of equipment and disposal of waste containing PCBs for all RUSAL enterprises Completed withdrawal of equipment containing PCBs at Power segment	 Environmental stewardship, p.84  www.enplusgroup.com/en/investors/esg/environment/
	Air quality	The Company strives to minimise emissions of air pollutants to reduce the impact on the environment and climate change.	Environmental Policy	 	<ul style="list-style-type: none"> To comply with the requirements of environmental legislation 	36% reduction in volatile organic compound emissions compared to 2020	 Environmental stewardship, p.84  www.enplusgroup.com/en/investors/esg/environment/
Priority 3	Climate change	The Company is constantly expanding renewable energy sources, improving production efficiency, and reducing its impact on the environment and climate change.	Environmental Policy		<ul style="list-style-type: none"> To become net zero by 2050 and to reduce greenhouse gas emissions by at least 35% by 2030 	~1 increase in GHG emissions (compared to 2018)	 Climate leadership and energy efficiency, p.74  www.enplusgroup.com/en/investors/esg/environment/  www.enplusgroup.com/upload/iblock/c6b/EN_Pathway-to-net-zero.pdf
	Biodiversity	The Company strictly complies with environmental legislation and cooperates with research institutes and non-governmental organisations to develop effective measures to preserve ecosystems where impacts occur.	Environmental Policy Biodiversity policy	 	<ul style="list-style-type: none"> To assess and minimise biodiversity risks 	Power segment began work on its Biodiversity Conservation programme for the Irkutsk, Bratsk and Ust-Ilimsk HPPs up to 2030	 Environmental stewardship, p.84  www.enplusgroup.com/en/investors/esg/environment/

CLIMATE AND ENVIRONMENT

CLIMATE LEADERSHIP AND ENERGY EFFICIENCY

CLIMATE LEADERSHIP



REGULATORY DOCUMENT

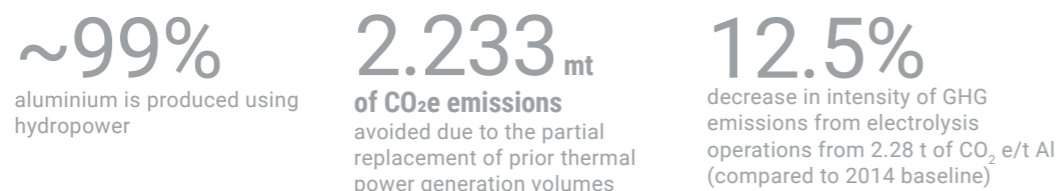
Environmental Policy

MATERIAL TOPICS

- Climate change
- Energy management

En+ continued its efforts to combat climate change in 2022. The approach to tackling this problem was also preserved – the Metals segment relies on renewable, clean energy generated by the Power segment.

KEY FACTS



KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To purchase at least 95% of electricity from hydropower plants and other carbon-free sources of power generation for aluminium smelters	Completed	The energy mix at RUSAL aluminium smelters was as follows: <ul style="list-style-type: none"> - hydropower (HPP): 99.03% - nuclear (NPP): 0.03% - wind: 0.57% - fossil fuels (CHP): 0.37%
To reduce direct specific greenhouse gas emissions by 15% at existing aluminium smelters (compared to 2014 baseline)	On track	There was a 12.5% reduction in the specific GHG emissions as compared to the 2014 level
To reduce direct specific GHG emissions by 10% in existing alumina refineries (compared to 2014)	Completed	The reduction in the specific GHG emissions was 10% compared to the 2014 level
To reduce specific electric power consumption by aluminium smelters by 7% (compared to 2011)	On track	The reduction of average specific electric power consumption by aluminium smelters stood at 4.1%
To use an internal carbon price when making strategic and investment decisions, starting in 2017	On track	Since 2017, the Company has been applying an internal carbon price in the process of making strategic and investment decisions
To support Russian and international initiatives and associations advocating for actions to prevent climate change and backing carbon prices, provided they are aligned with the Company's strategic goals	On track	The Company actively participates in a number of climate initiatives
To reduce GHG emissions by 35% by 2030 (compared to 2018)	On track	~1% increase in GHG emissions (compared to 2018)
To achieve net zero GHG emissions by 2050	On track	

GOVERNANCE

GRI: 3-3

The Company's governing bodies continue to engage in the climate change agenda. The Board of Directors controls the implementation of all ESG-related corporate policies, oversees the progress on achieving the Company's environmental protection and climate-related goals. The HSE Committee assists the Board in managing climate change issues.

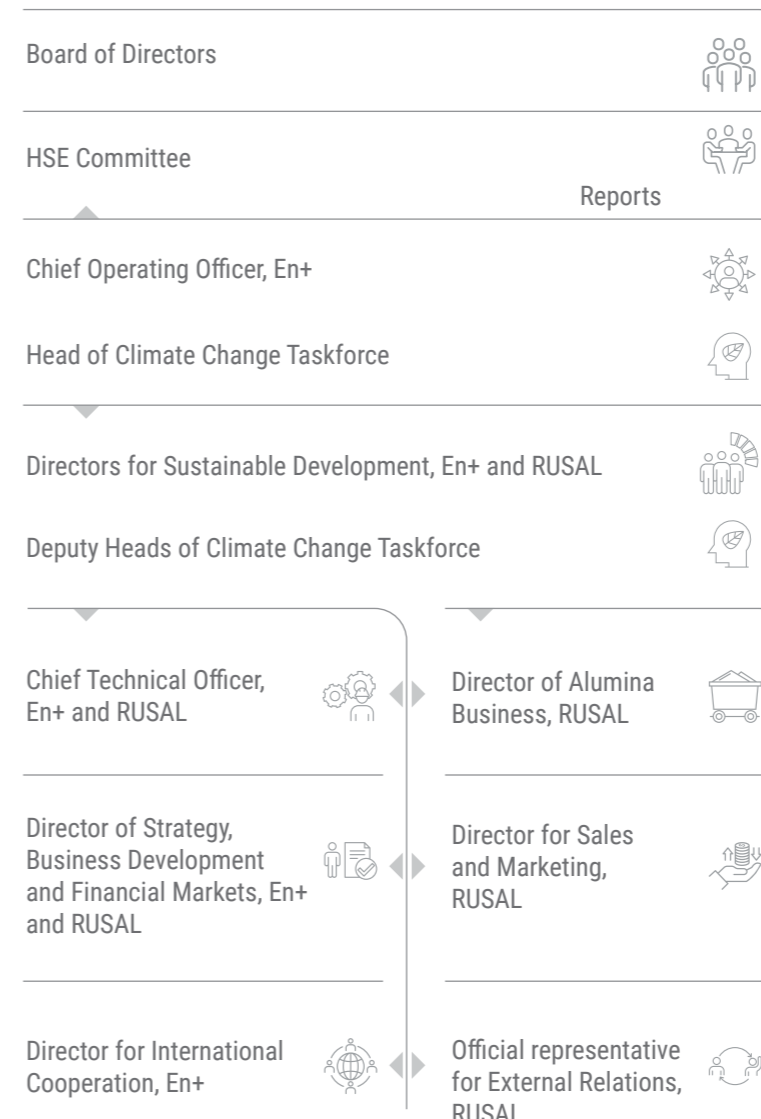


Read more in Sustainable Development Report 2021 at pp.64-65

GRI: 2-13

Climate Change Taskforce manages the pathway to net zero and provides incentives to the transformation in the Group. The Taskforce is headed by the Chief Operating Officer and reports to the HSE Committee. Each of the transformational verticals is led by a senior executive from the top management team.

Climate Change Taskforce



The Environmental Policy of En+ remains the main regulatory document. In order to prevent climate change, the Company takes actions according to the task outlined in the Policy. En+ implements a number of programmes and strategies to reduce negative impact on climate through the reduction of direct and indirect greenhouse gas emissions, the increase of their absorption, and the increase in energy efficiency, in order to minimise the carbon footprint of products. The internal document that regulates its activities related to climate is Risk Management Regulation describing the main stages, tools and methods of identification, analysis, assessment and mitigation of risks.

Read more about climate-related risks at pp.80-81

The ALLOW brand of aluminium with a low-carbon footprint has been developed and is promoted on the market. The start of PEFA casting alloys production using ALLOW aluminium helps customers to introduce sustainable procurement into their supply chains. The use of ALLOW aluminium has made it possible to achieve a reduction in the carbon footprint of new products by almost 20%. The Company sold 1.2 mt of low-carbon ALLOW aluminium in 2022.

The use of ALLOW aluminium has made it possible to achieve a reduction in the carbon footprint of new products by almost 20%

CLIMATE AND ENVIRONMENT

STRATEGY

GRI: 3-3 SASB: EM-MM-110a.2 IF-EU-110a.3

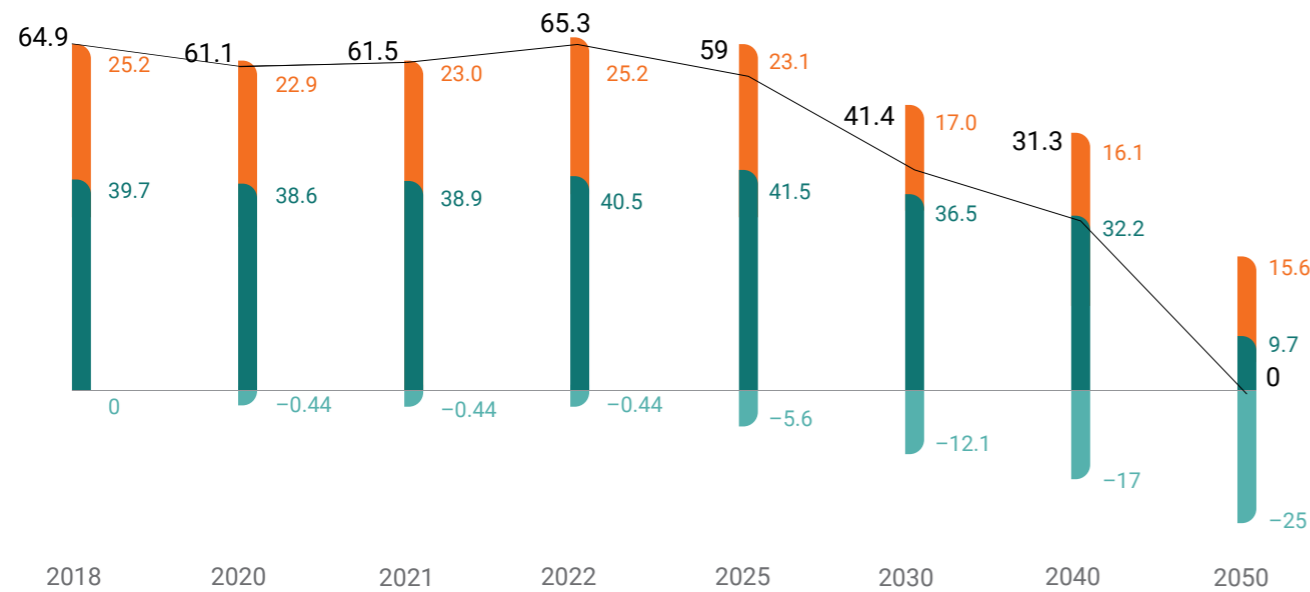
En+ facilitates the transformation process within the hard-to-abate sectors on the way to a low-carbon business model and adheres to its strategic Pathway to net zero plan, which outlines measures to be taken to achieve climate goals.

To reduce GHG emissions and achieve carbon neutrality, En+ adheres to the Strategy. To achieve the climate goals as outlined in the Strategy, En+ relies on the following basic principles:

- reduction of emissions
- prevention of emissions
- compensation and neutralisation of impacts

The Company annually discloses progress in achieving climate goals in Pathway to Net Zero report, in the Carbon Disclosure Project (CDP) report, as well as in the Annual Report, the Sustainability Report¹ and the SDG Report.

Decarbonisation Roadmap



Metals segment Compensation
Power segment Balance

Read more on the Company's decarbonisation approach and mitigation strategy in the Pathway to net zero Report and in the Pathway to net zero progress report available on the Company's website

¹ Starting from 2023, En+ transferred from Annual Report and Sustainability Report to Consolidated Report.

KEY STEPS TAKEN BY EN+

The main priorities in the Metals segment:

- A gradual transition to the primary use of electricity obtained only from renewable sources is carried out
- Measures are taken to reduce perfluorocarbon emissions from aluminium production
- Aluminium production technologies with low specific energy consumption are developed and implemented
- Environmentally safe aluminium production technology using an inert anode is on R&D stage

GRI: 305-5

Metals segment's progress in achieving net zero emissions

	Project	Project status	Target year
Alumina division	Measures to capture CO ₂	At the Achinsk Alumina Refinery (AGK) and at other alumina refineries, experimental developments are underway to capture CO ₂ using alkaline bottom-sludge water; using different options for wet scrubbing of gases. The implementation of such measures is primarily considered for the calcination process, as well as for CHP's emissions.	2050
	Energy efficiency measures	<ul style="list-style-type: none"> - Implementation of measure plans to improve energy efficiency in all business units of the division. - Implementation of a project for the transfer of steam production from hydrocarbon fuel to electricity using renewable energy sources (electric boiler construction) at Aughinish (Ireland) continues. - Winalco (Jamaica) is implementing projects to convert outdoor lighting to solar panels and modernise the lighting system of production sites, warehouses and premises. The effect is a reduction of up to 200 tonnes of CO₂ annually. 	2050
Aluminium plants	Switching to Eco-Söderberg	The conversion of electrolyzers to Eco-Söderberg technology is underway.	2025
	Transition to pre-baked anode technology	The conversion of electrolyzers to pre-baked anode technology is underway.	2030
	Conversion of capacities to inert anode technology	<ul style="list-style-type: none"> - Achieved further improvements in electrolysis technology at the pilot site for aluminium electrolysis on inert anodes. - Registered ALLOW INERTA trademark. Industrial pots with inert anodes at KraZ have already produced over 3,960 tonnes of aluminium with the lowest carbon footprint in the world. 	2050
Recycling		<ul style="list-style-type: none"> - RUSAL initiated the creation of a recycling and sustainable development sector within the framework of the Aluminium Association. - During 2021, RUSAL, together with Ecoplatform and Legends of Baikal, participated in a joint project to place reversible vending machines in retail stores. - Pilot projects have been launched at two RUSAL plants: KUBAL in Sweden and the Volgograd Aluminium Smelter. 	2050
Transportation	Decarbonisation of logistics	In 2021, RUSAL entered into an agreement with Transcontainer PJSC on strategic cooperation for the purpose of low-carbon development in logistics. The companies are committed to jointly develop and implement new low-carbon technologies for the transportation of raw materials and aluminium products.	2050

CLIMATE AND ENVIRONMENT

The main priorities in the Power segment:

- modernisation of HPPs under the New Energy programme. It is aimed to increase electricity production, thereby replacing electricity production from coal-fired generation CHP and reducing greenhouse gas emissions
- development and construction of new renewable sources of electricity and heat production: hydropower, biofuels and hydrogen fuel

GRI: 305-5




The Power segment's progress in achieving net zero emissions

Project	Project status	Period
 HPP modernisation	New Energy Programme - In 2022, the New Energy Programme allowed prevention of 2.233 mt of CO ₂ e GHG emissions due to partial replacement of thermal energy. Read more at p.60	2026
	Measurement of GHG emissions from HPP reservoirs In 2022, as part of the long-term programme, instrumental measurements of GHG emissions from the Bratsk and Irkutsk HPP reservoirs were carried out to confirm the comparability and reliability of the results of previously performed measurement cycles (monitoring results carried out for at least three years are considered reliable). The emission coefficients obtained are among the lowest in the range of global averages for boreal reservoirs. In 2023, based on the results of the studies performed, it is planned to initiate the development of national Tier 2 GHG emission factors with the involvement of the Institute of Global Ecology and Climate and further use of the factors in the national inventory of GHG emissions.	
	Construction of HPPs At the small-scale Segozerskaya HPP, the installation of outlet and inlet channels is underway. Execution of construction works is scheduled for 2023. The Nizhne-Boguchanskaya, Motynginskaya, Krapivinskaya and Telmamskaya HPP projects are at different stages of development. The Company is assessing possible financing mechanisms, environmental and social risks for the projects. Construction of the Motynginskaya HPP is tied to the implementation of plans for the development of green hydrogen.	2050
 Hydrogen production	Development of cryogenic tank containers for transportation of liquid hydrogen - Assessment of sales markets. - Development the layout of the technological line for the small series production. - R&D to develop the design of a tank container.	2027
	Development of the concept of hydrogen transport infrastructure for Krasnoyarsk - Completed preliminary feasibility study of the project. - Assessed the possibility of public-private partnership (attracting subsidies).	2027
 CHP modernisation	CHP conversion to gas - Gasification of the region requires significant investments. - A dialogue to assess the feasibility of implementing the project, which includes relevant negotiations with authorities, is underway. - A decision is required on the value of the tariff and a solution to the social problem of monotowns that are dependent on the extraction of coal used in CHPs is needed.	2050
	Energy efficiency measures - In 2022, under the Energy Efficiency Improvement Programme, 116,366,000 kWh were saved due to reduction of electricity losses (total losses were 6.8%) through technical measures and organisational measures. - In 2022, as part of optimising the energy consumption of pumping stations of heating networks for the period GHG emissions reduced by 7,480 t of CO ₂ e. - An increase in the throughput capacity of heat networks made it possible to transfer the heat load from an inefficient boiler house to a thermal power plant with significantly better technical and economic indicators, thereby reducing emissions by 49,201 t of CO ₂ e in 2022. - The implementation of a set of measures for optimal loading, exclusion from operation of low-cost CHP equipment allowed to reduce emissions by 82,201 t of CO ₂ e in 2022.	2050
 CHP and distribution infrastructure modernisation		

Taken together, the following measures will help reduce the absolute GHG emissions of Scope 1, 2 and 3 at En+ enterprises by 60% from current levels by 2050. About 40% of emissions cannot

be eliminated using current technologies and costs – these emissions need to be compensated by various technical and nature-based solutions:

The following measures will help reduce the absolute GHG emissions of Scope 1, 2 and 3 at En+ enterprises by 60% from current levels by 2050

Project	Project status	Period
 Carbon capture, use and storage technology (CCUS)	Together with partners, the Company is exploring the possibility of implementing the project in Irkutsk Region that has a proper potential for CO ₂ storage.	2050
 Forestry projects	<ul style="list-style-type: none"> - 505,000 hectares in the Krasnoyarsk Territory are under aerial forest protection. - 1.1 million trees planted in Krasnoyarsk Territory and Irkutsk Region. - 440 kt of CO₂ offset annually. - Forest projects related to effective forest management are being considered. - En+ Forest Climate Strategy is underway to form. 	2050
 National green certificates	<ul style="list-style-type: none"> - En+ actively participates in projects to support the development of voluntary green instrument markets and encourages the introduction of national legislation to create a national certificate system. 	

ESG ASPECTS OF A POTENTIAL DEMERGER OF RELATIVELY HIGH CARBON ASSETS WITHIN RUSAL

While the perimeter of the potential demerger of a low and relatively high carbon assets within RUSAL are still being determined, two fundamental approaches seem to be the cornerstone for decision-making in this context:

- assets with a relatively low-carbon footprint at this stage (total GHG emissions of 8.1 mt per year¹, a carbon footprint of no more than 5.2 tonnes of CO₂e per tonne of aluminium) will allow monetisation of green characteristics of such products in export markets, minimising the risks of cross-border carbon taxation

- assets currently characterised by a relatively higher carbon footprint (total GHG emissions of 20.2 mt per year¹, a carbon footprint of 12.5 tonnes of CO₂e per tonne of aluminium, which is much lower than industry averages, 16.6 tonnes of CO₂e per tonne of aluminium)² will allow focusing efforts on fulfilling social and environmental obligations, supported by relevant programmes and action plans

1 / Scope 1, 2 and 3.
 2 / According to the data for 2021 by International Aluminium Institute at <https://international-aluminium.org/statistics/greenhouse-gas-emissions-intensity-primary-aluminium/>.

CLIMATE AND ENVIRONMENT

RISK MANAGEMENT

Climate risk governance structure



The HSE Committee within the agenda oversees the management of the climate-related risks and reports them to the Board of Directors for expeditious consideration.

The risk assessment is carried out by the Department of Environmental and Climate Risk Management and includes the following stages:

- 1/ Matching and integration of any data associated with climate-related risks and opportunities
- 2/ Assessment of the climate-related risks and opportunities, and their priority:
 - consideration of current/emerging regulations, technologies, legislation, markets, reputation, risks and opportunities, focusing on higher-risk areas and regions
 - prioritisation of risks and opportunities that may have significant financial and strategic impacts on En+ operations
 - using a scenario approach to create reliable factual base on the time frame of risks, opportunities and the range of potential effects
- 3/ Analysis of compliance of identified risks with the general risk management in the Company. Planning of measures if the identified risks are prioritised jointly with the Directorate for Control and Internal Audit as part of a unified risk management approach

As prescribed by the TCFD disclosure requirements, the analysis of the climate-related risks of the Metals and Power segments was implemented on the scale of the Company's consolidated activities in 2021. A scenario analysis based on climate models developed by the Intergovernmental Panel on Climate Change (IPCC) was conducted.

The following scenarios for climate risk assessment were chosen:

- SSP 126 "Sustainability scenario" corresponds to a warming of 1.5–2 °C;
- SSP 245 "Middle of the road scenario" corresponds to a warming of 2–4 °C;
- SSP 585 "Fossil Fuel Economy scenario" corresponds to a warming of 4–7 °C.

Climate risk assessment was carried out for more than 50 enterprises of the Company in different climatic regions, including assets in the CIS countries, Africa, and Jamaica. Climate-associated risks and factors have been identified, analysed and evaluated to make strategic decisions related to global climate change.

En+ has identified the climate-related risks and opportunities in the short, medium, and long term. The short term is defined as 0–1 year. The medium term stands for 2–3 years. The long term is up to 10 years.

Climate risk assessment was carried out for more than

50 enterprises

The Company has identified and assessed the most significant potential risks and the risks that have materialised and developed corrective action plans to minimise consequences of those risks which have materialised plus preventive action plans to prevent the occurrence of risks in the future. Based on a qualitative risk assessment in the long term, there will be physical and transitional risks with a significant impact.

PHYSICAL RISKS AND OPPORTUNITIES

The En+ physical risk register contains risks that may potentially affect En+ operations and supply chain. The register will be updated on a regular basis. Among the physical risk factors, the Company has considered the likelihood of severe events (acute risks) such as precipitation and flooding anomalies, abnormal heat and abnormal cold, as well as the chronic risks relevant to the Company's activities such as increased average annual temperature and precipitation.

In 2022, the Company analysed the occurred physical risk, destruction of railway embankment and road from Kiya-Shaltyrsky nepheline mine and AGK due to heavy precipitation.

Measures to reduce climate-related risk:

- 1/ Design documentation for modernisation and new building construction necessarily includes analysis of possible effects of natural hazards. The impact of such risks is considered in the short and long term
- 2/ Also, climate-related risks are mandatorily considered when developing emergency response plans. For example, heavy precipitation is now included in the risk analysis for modernisation projects, after the case when the destruction of the railway track on the railway on which nepheline is transported, as well as after other cases of flooding in Siberia

In addition, En+ has identified some opportunities, such as reduced fuel and energy consumption and decreased need for heating energy capacity because of a shorter heating season, increased amount of low-carbon electricity supply using solar energy, increased demand for heat supply to heat dwellings due to abnormal cold causing profit growth, etc.

TRANSITIONAL RISKS AND OPPORTUNITIES

Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risks to the Company's business processes.

In 2022, the Company analysed the most significant potential and occurred risks which include:

- 1/ Revision of the ASI standards
- 2/ Development of IAI Aluminium sectors Pathway
- 3/ Development of legislation of the Russian Federation in the field of carbon dioxide emissions management
- 4/ Introduction of the EU Taxonomy, the draft ISO 14030-3 standard and Cross-Border Adjustment Mechanism (CBAM)

A significant transition risk is the introduction of new regulations. It may lead to non-observance and increase compliance costs. New legislation may result in carbon pricing which in turn leads to increase in production costs due to investments in modernisation. The Company constantly monitors all changes in legislation in all countries of operations and actively participates in public hearings.

The development and implementation of new technologies have the risk of unstable production or an increase in greenhouse gas emissions associated with the use of new materials or solutions. This risk was considered as significant due to the high potential financial consequences.

Read more about transition risks in Additional ESG data at p.285



Read information on the Company's governance, strategy and risk management in the field of climate change problem in the Sustainable Development Report for 2021 at pp.70-71

Read more about risk management at pp.160-167

Read more about physical risks in Additional ESG data at p.283

CLIMATE AND ENVIRONMENT

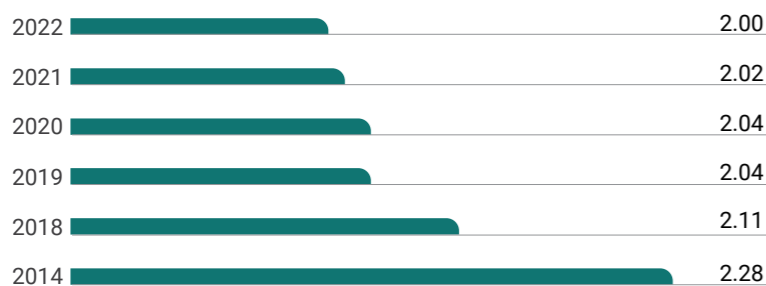
METRICS AND TARGETS

En+ discloses the metrics used to assess and manage relevant climate-related risks and opportunities where such information is material. Additional metrics are also provided and aligned to SASB and GRI as appropriate in Additional ESG data p.280-282.

The Company continues to reduce direct specific GHG emission by 15% relative to the 2014 baseline (2.28 t of CO₂ e/t Al) at aluminium smelters by 2025. In 2022, the intensity of GHG emissions under Scope 1 from electrolysis operations was 2.0 t of CO₂ e/t Al – 12.5% down from the 2014 baseline due to implementation of a targeted programme to reduce anode paste consumption (reducing CO₂ emissions), as well as frequency and duration of anode effects (reducing PFCs emissions).

GRI: 305-4

Intensity of GHG emissions from electrolysis operations for the Metals segment, t CO₂e/ t Al

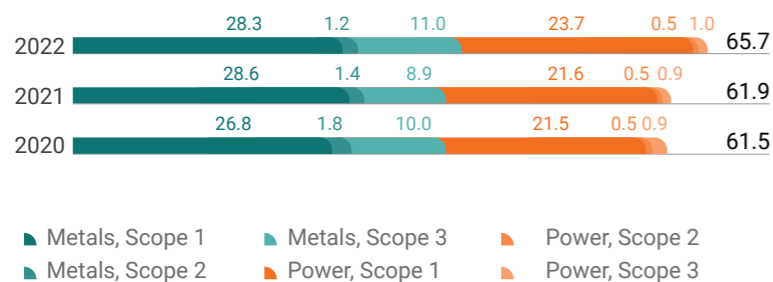


GHG emissions of En+ increased by 6% compared to 2021 mainly due to the hydrological situation and the decrease in electricity generation at the Group's HPPs, and it's replacement by CHP's generation in 2022.

GRI: 305-1 305-2 305-3

SASB: EM-MM-110a.1 IF-EU-110a.1 IF-EU-110a.2

Direct (Scope 1) and indirect (Scope 2 and Scope 3) greenhouse gas emissions, mt CO₂e



SASB: IF-EU-110a.3

GHG emissions of Metals segment increased by 4% compared to 2021 mainly due to increase in Scope 3 emissions. The decrease in the Scope 1 and Scope 2 emissions in the Metals segment is caused by modernisation of equipment, as well as rationalisation of fuel and energy resource consumption.

The increase of GHG emissions in the Power segment was due to a 40% decrease in electricity generation at Krasnoyarsk HPP due to low water storage in the reservoir. CHP plants generated 17.3% more electricity, resulting in a 9% increase in GHG emissions of Power segment.

En+ estimates Scope 3 greenhouse gas emissions for category associated with the production and transportation of fossil fuels categories under the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

The introduction of a special climate-related KPI system for all operational management is the most significant decision taken in this area of the climate strategy of the Company. KPIs are cascaded, starting with the goals and objectives of the highest level of the Company, up to the lowest level of management and personnel (if necessary) based on the analysis of the impact of specific processes and personnel on achieving climate goals at the Company and plant level.

ENERGY MANAGEMENT

GRI: 3-3

The Company continuously improves its energy efficiency practices in electricity generation and aluminium production to address environmental and climate change issues.

En+ takes steps to improve its energy consumption management system at all its assets. The issues of energy efficiency are considered at the level of senior management and the Board of Directors of the Company within the HSE Committee. Each employee takes responsibility for achieving energy efficiency goals through KPIs and other indicators recorded in internal documents.

En+ strategy on energy production and consumption

Uninterrupted supply of electricity and heat to third-party consumers | Increasing electricity generation at HPPs | Reducing network losses and internal energy consumption of energy at generating facilities

GRI: 302-4

In 2022, the Company's energy consumption totalled 367.2 million GJ increased by 10.5% compared to 2020 due to the reduction in the amount of energy generated by HPPs and its compensation by CHPs.

GRI: 302-1

Energy consumption, mn GJ¹



Read more at p.280-281

METALS SEGMENT

GRI: 3-3

SASB: EM-MM-130a.1

Over 99% of the Company's aluminium is produced using renewable hydropower. Auginish has an ISO 50001 certificate, which allows the organisation to follow a systematic approach in achieving consistent improvement of the energy system, including energy efficiency, energy security and energy consumption.

Reduction in energy intensity of Metals segment was achieved due to implementation of energy efficiency measures. Energy efficiency measures are currently being implemented at all business units of the Metals segment which has already undertaken plans of energy efficiency improvement at Russian alumina plants, and continues projects for the modernisation of aluminium smelters.

Read more at p.58

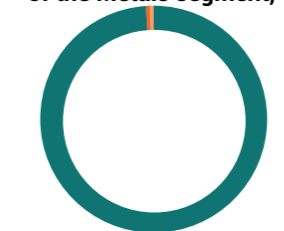
GRI: 302-3

Energy intensity, GJ/t²



1 / Hereinafter energy data does not include Onda HPP. The energy consumption for 2020 and 2021 was restated due to corrections in fuel and electricity consumption and improvement of methodology.
2 / The energy data used in calculation includes purchased electricity and heating.

Sources of electricity used for aluminium smelters of the Metals segment, %



GOALS FOR 2023 AND ONWARDS

In the medium term, the Company intends to continue to implement measures stipulated in the roadmap to achieve zero emissions.

POWER SEGMENT

In 2022, the Company continued to improve energy efficiency and develop electricity production derived from renewable energy sources. By implementing the New Energy modernisation programme – one of the most advanced energy management programmes – En+ increases energy production from the same amount of water passing through the turbines.

Read more at p.58

Further promising outcomes are the reduction of electricity losses during energy transmission from power plants to consumption facilities and optimisation of energy consumption of pumping stations.

Read more at p.78

GRI: 302-3

Increase in energy intensity of Power segment is explained by increase of CHPs generation in 2022.

Energy intensity, GJ/MWh

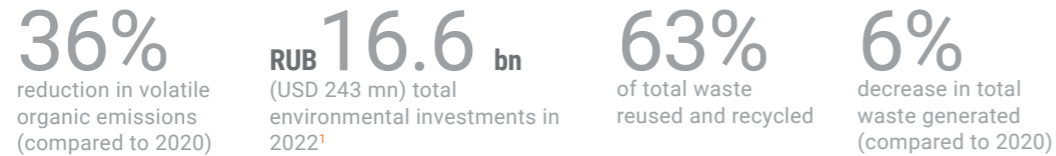


CLIMATE AND ENVIRONMENT

ENVIRONMENTAL STEWARDSHIP



KEY FACTS



KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
AIR QUALITY		
To reduce air emissions in the Metals segment by 2025 in accordance with regulatory requirements (a 100% reduction in excess air emissions)	On track	<ul style="list-style-type: none"> participated in the implementation of comprehensive plans for Krasnoyarsk, Bratsk and Novokuznetsk under federal Clean Air project continued conversion to Eco-Söderberg technology
To perform technical re-equipment of ash dust collector units at Novo-Irkutsk and Ust-Ilimsk CHPs, and at CHP-6	On track	<ul style="list-style-type: none"> continued re-equipment of ash collectors at Ust-Ilimsk CHP and CHP-6
By 2030, to ensure air quality and an acceptable level of pollutants for the health of residents in the regions where the Company operates in the Metals segment	On track	<ul style="list-style-type: none"> continued the transition of aluminium plants to pre-baked anode technology
WATER USE		
By 2025, to implement water recycling systems for the main processes in the Metals segment	On track	<ul style="list-style-type: none"> transferred RUSAL Kamensk-Uralsky Aluminium Smelter to a water recycling system
By 2030, to eliminate the discharge of untreated wastewater generated by the Power segment	On track	<ul style="list-style-type: none"> started developing a comprehensive programme to minimise wastewater discharges and losses completed engineering assessments for the Angarsk HPPs to determine the required technical solutions and implementation methods, and started technical and operational design carried out preliminary feasibility studies for the Onda and Krasnoyarsk HPP, started cost calculation and implementation planning
By 2030, to minimise non-productive water losses by optimising technological systems in the Power segment	On track	
WASTE AND TAILINGS		
By 2025, to decommission equipment with PCBs ensuring that they have been disposed of safely	On track	<ul style="list-style-type: none"> developed plans for the complete decommissioning of equipment and disposal of waste containing PCBs for all RUSAL enterprises completed withdrawal of equipment containing PCBs at Irkutsk Electric Grid Company (IESK)
To implement initiatives according to the plan of Baikal Energy Company LLC (BEK) for the introduction of large-scale use of ash and slag waste in the Power segment	On track	<ul style="list-style-type: none"> implemented the environmental assessment phase of the project to use waste for mines restoration completed testing of canvas under the project on using waste as a material in road construction
By 2030, to ensure safe disposal of waste that cannot be returned to the economic cycle, reuse and recycle at least 15% of alumina waste and at least 95% of aluminium and silicon waste, bring at least 20% of post-consumer scrap back to cycle (for the Metals segment)	On track	<ul style="list-style-type: none"> approved Waste Management Strategy until 2030 for RUSAL obtained documentation on placement and recycling of dismantling and operating waste of the KraZ, BraZ, IrkaZ and NkaZ (as part of the environmental modernisation projects) implemented the project for dry storage of large-capacity waste

REGULATORY DOCUMENT

Environmental policy

MATERIAL TOPICS

- Air quality
- Water and wastewater management
- Safe waste management

MANAGEMENT APPROACH

GRI: 3-3

The Company is aware of the impact of its production activities on biodiversity, air quality, and water and land resources. Environmental protection remained a key focus for the Group in 2022.

En+ conducted R&D, implemented best-available technologies and performed equipment upgrades to prevent or minimise its environmental impact in all areas of its activity. The Company continued implementing environmental federal projects such as the Clean Air project, Improvement of the Volga project, the project on preservation of Lake Baikal, the federal Clean Water project, the Preservation of Unique Water Bodies project, and the Clean Country project.

To meet the requirements of government authorities, En+, among other things, carries out an environmental impact assessment at each of its production sites.

The main document that regulates environmental management issues at the Group is the Environmental Policy, developed according to international ISO 14001 standard. The policy is binding on all corporate governance bodies of the Company and relevant bodies of its entities.

In addition, contracts that the Company's manufacturing facilities sign with contractors require the contractors to comply with the Company's Environmental Policy.

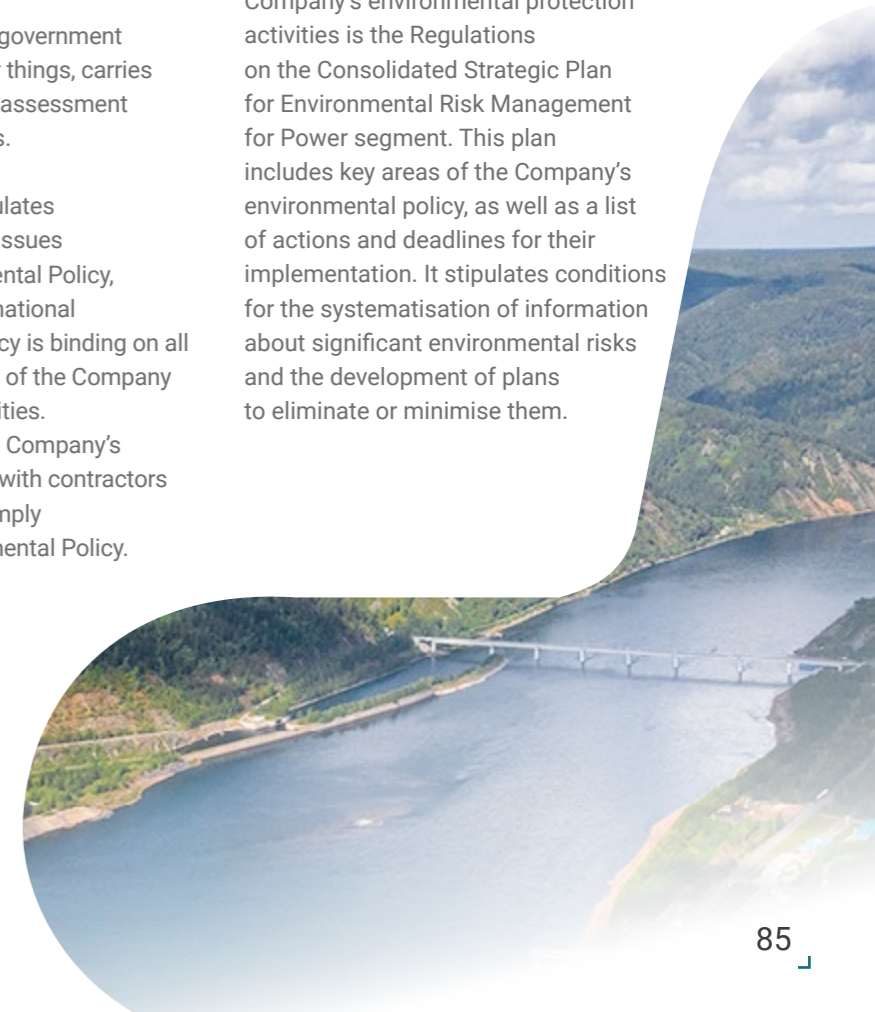
In the Metals segment, environmental management issues are also governed by RUSAL's Environmental Policy, which was updated in 2022 to reflect its corporate ESG strategy. Additionally, in 2022, a set of policies was developed and prepared for approval that formalise the RUSAL's responsible approach to environmental protection and sustainability:

- Policy on safe management of sludge storage facilities
- Policy on decommissioning and reclamation of disturbed lands
- Policy on water management and related risks

Another instrument that governs Company's environmental protection activities is the Regulations on the Consolidated Strategic Plan for Environmental Risk Management for Power segment. This plan includes key areas of the Company's environmental policy, as well as a list of actions and deadlines for their implementation. It stipulates conditions for the systematisation of information about significant environmental risks and the development of plans to eliminate or minimise them.



The Company's Environmental Policy is available on the Company's website



CLIMATE AND ENVIRONMENT

Strategic Plan for Environmental Risk Management of Power segment

Key actions	Term
Risk assessment <ul style="list-style-type: none"> - Comprehensive audit of environmental risk assessment (completed) - Development and implementation of a plan of corrective measures, its regular monitoring - Updating of the environmental risk plan and register based on the results of audits and other circumstances where risks are identified 	2021–2032
Minimisation of air emissions <ul style="list-style-type: none"> - Continuous monitoring of changes in environmental regulations - Minimisation of risks of exceeding the acceptable level of air emissions and reduction of sulphur dioxide emissions - Gasification of major CHPs 	2023–2032
Minimisation of water consumption and discharge <ul style="list-style-type: none"> - Development and implementation of a long-term programme to reduce discharge of untreated wastewater and lower non-production losses of water - Implementation of projects to upgrade the sewage treatment facilities of BEK and to modernise the local treatment facilities of Zavodskie Seti LLC and at HPPs - Implementation of projects to achieve technological indicators of the best available technologies at Vostsibugol facilities 	2021–2031
Increase in the share of waste recycling and reuse and its safe disposal, accumulation and recovery <ul style="list-style-type: none"> - Development and implementation of a long-term waste management programme - Improvement of the environmental safety of Company's own waste accumulation and disposal sites - Maximisation of ash waste recovery and assurance of the absence of ash dumps with a residual capacity of less than three years - Implementation of measures to handle ash waste and their large-capacity use - Introduction of environmental criteria for purchasing goods and services to minimise waste generation - Prioritisation of the acquisition of materials and goods made from secondary raw materials or capable of being processed or recycled to obtain secondary raw materials 	2022–2029
Decommissioning of equipment with PCBs and their safe recovery or destruction	2023
Minimisation of negative impacts on biodiversity and promotion of biodiversity conservation across operating regions <p>Read more at p.100-105</p>	2021–2032
Consistent improvement of the environmental management system <ul style="list-style-type: none"> - Implementation and certification of the environmental management system to ISO 14001 requirements: En+ Management Company, Eurosibenergo-Hydrogeneration, IESK, Volgaenergo, BEK, Kompaniya Vostsibugol LLC 	2022–2026
Active participation in initiatives on environmental protection <ul style="list-style-type: none"> - Using partnerships to promote the Company's priority SDGs by 2030, to position En+ as an industry leader in sustainable development - Adaptation of the Company's public reporting to the new reporting requirements of the UN Global Compact - Preparation of the annual SDG report <p>Read more at p.173-175</p>	2022–2032
Increased involvement of management and personnel in environmental protection and climate change mitigation activities and raising awareness among personnel <ul style="list-style-type: none"> - Assessment of the initial level of employee's knowledge - Improvement of the competence of environmental officers and other personnel in subsidiaries - Holding of educational workshops for environmental officers and other personnel 	2022–2032
Increased involvement of suppliers and consumers in environmental protection and climate change mitigation activities <ul style="list-style-type: none"> - Development of recommendations on environmental and climate risk management for service suppliers 	2022–2032

In 2022, En+ updated its approach to environmental management by adopting the Waste Management Standard that applies to all enterprises in the Power segment.

Read more at pp.94-97

GRI: 2-13

The Company's structure provides for management bodies to deal with environmental protection, both at the level of the Board of Directors and at the level of executive management. On behalf of the Board of Directors, HSE Committee considers issues associated with the functioning of an appropriate risk management system, including those pertaining to environmental protection. The committee's functions are described in detail in the relevant regulations on the committee.

Read more at p.62-63

Environmental protection activities at the Metals and Power segments of the Company are carried out by environmental protection departments. To prioritise the task of reducing environmental risks within the Company, En+ also includes environmental indicators in the KPIs of managers at all levels who are responsible for the implementation of environmental measures and investment programmes.

En+ implemented an environmental management system based on the international ISO 14001:2015 standard and the Russian national GOST R ISO 14001-2016 standard, Environmental Management Systems, in all entities that are part of the Group or in which En+ is a major shareholder. In 2022, the Company continued to expand the environmental management system. The Company implemented this system in IESK, subsidiary of the Power segment.

In the reporting year, the Company had its HPPs certified in accordance with the international ISO 14001 standard. In 2023, the Company plans to certify this system and start similar activities at Volgaenergo. In Metals segment, 21 plants are certified for compliance with the ISO 14001 standard of their environmental management systems.

The Company is also to introduce an centralised information and reporting system for environmental protection. In 2021, En+ negotiated with developers of the relevant software and pre-tested the system, and in 2022 implementation of the 1C system at HPPs started.

During the reporting year, there were no environmental incidents (accidents, violations) at the Company's facilities that, if occurred, could have significantly contaminated the soil, air and water and also lead to fines imposed by court decision (after all stages of the appeal process) with a compensation exceeding USD 1 million. Neither were there official complaints from the public and interested parties.

In 2022, spending on environmental protection increased compared to the previous year. Total environmental costs amounted to RUB 16.6 billion (USD 243 million): RUB 1.8 billion (USD 26.3 million) related to the Power segment and RUB 14.85 billion (USD 216.7 million)² – to the Metals segment. The main share of costs falls on the protection of atmospheric air.

The Company continued to work to eliminate all incidents identified by supervisory authorities in previous periods.

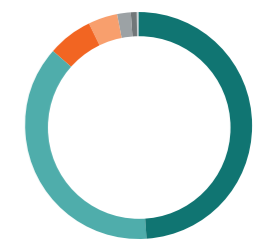
¹ / Due to rounding, some totals may not correspond with the sum of the separate figures. Calculated based on average for 2022 USD/RUB exchange rate of 68.55.
² / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.



Read more in the 2021 Sustainability Report, pp.76-77

RUB
16.6 bn
 total environmental investments in 2022

Total environmental protection costs¹, %



Atmospheric air protection	49
Waste management	37.5
Water protection	6.5
Environmental equipment maintenance	4.2
Other expenditures	1.9
Land rehabilitation	0.8
PCB management	0.1

CLIMATE AND ENVIRONMENT

AIR QUALITY

GRI: 3-3

Understanding that its activities affect air quality, En+ strives to reduce and minimise the pollutant emissions into the atmosphere by realising a range of initiatives and measures. RUSAL and BEK are responsible for the majority of the Company's emissions.

In order to comply with environmental legislation and reduce the burden on the air, En+ focuses on the following measures:

construction and upgrade of highly-efficient gas treatment and dust collection units

development and implementation of advanced technologies and methods to reduce emissions

air quality monitoring

participation in emission reduction programmes

GRI: 305-7 SASB: EM-MM-120a.1 IF-EU-120a.1

Significant changes in performance

Changes	Explanations of the dynamics
↑3% increase in total air emissions (excluding GHG emissions compared to 2020)	The total amount of emissions (excluding GHG emissions) into the atmosphere has increased due to the growth of production
↓1% decrease in total air emissions (excluding GHG emissions compared to 2020)	The total amount of emissions (excluding GHG emissions) into the atmosphere has decreased due to measures to prevent sulphur oxides pollutants

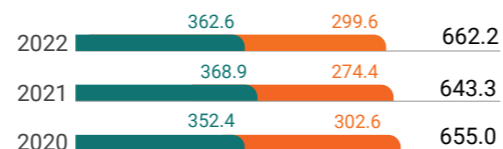
Metals segment Power segment

The majority of the Metals segment's air emissions come from carbon monoxide (68% in 2022) and for the Power segment – from sulphur oxides (58% in 2022).

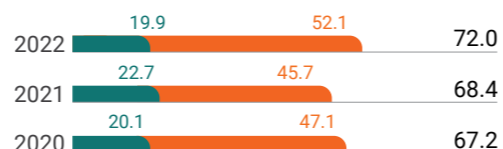
1/ In the section "Environmental stewardship – Air quality" hereof, data for the Friguia Bauxite and Alumina Complex, which may be relevant for consolidated indicators, are excluded due to the lack of measurement systems and relevant requirements in national legislation.

Metals segment Power segment

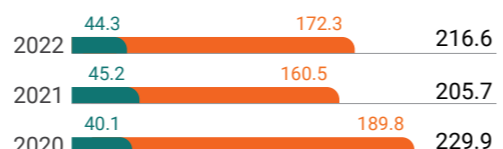
Total air emissions (excluding GHG)¹, kt



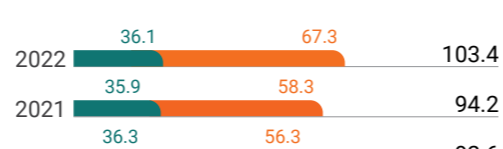
NOx air emissions, kt



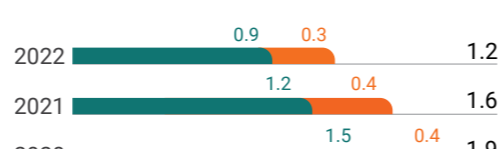
SOx air emissions, kt



Particulate matter (PM) air emissions, kt



Volatile organic compounds (VOCs) air emissions, kt



Air emission intensity indicators²

Pollutant	Metals segment (kt/kt)			Power segment (kt/bn kWh)		
	2020	2021	2022	2020	2021	2022
NOx	0.0054	0.006	0.0052	0.4149	0.3698	0.4477
SOx	0.0107	0.0120	0.0116	1.6721	1.2988	1.4806
PM	0.01	0.01	0.01	0.4960	0.4718	0.5783
VOCs	0.0004	0.0003	0.0002	0.0035	0.0032	0.0026

METALS SEGMENT

RUSAL set the following goals under RUSAL's Sustainability Strategy:

- By 2027, to achieve full compliance of the Company's air pollutant emissions with regulatory requirements (no excess of the established limits)
- By 2025, to achieve a significant reduction in air pollutant emissions per tonne of aluminium, including a 25% reduction in total fluoride emissions

GRI: 3-3

To achieve the goals, RUSAL is implementing the 'Atmospheric air quality normalcy' project. KraZ, BraZ, and NkaZ are involved in the federal Clean Air project. As part of the project³, the Company is participating in the implementation of comprehensive plans approved by the Russia's Ministry of Natural Resources to reduce emissions of pollutants in cities where the Company operates.

In 2022, RUSAL presented its first voluntary report on the contribution to the implementation of the federal Clean Air project. The report provides detailed information on the progress and results of RUSAL's programmes implemented under the project starting in 2019.

RUSAL is paying particular attention to the modernisation of its aluminium smelters. In 2022, projects for the environmental modernisation of aluminium smelters were assessed for compliance with the best available technologies. All projects received positive conclusions from the state environmental experts.

RUSAL is implementing the following key measures:

Project	Expected results
INTRODUCING A NEW ANODIC MASS TECHNOLOGY In partnership with pitch manufacturing companies, RUSAL is replacing traditional coal-based raw materials (the main source of tar emissions) with more environmentally friendly raw materials (Eco Pitch) with no or insignificant benzo[a]pyrene content. In the reporting year, En+ proceeded with plans to fully convert the electrolyzers of the KrAZ to environmentally friendly aluminium pitch by 2024.	> 60% the reduction of the harmful benzo[a]pyrene emissions
BUILDING NEW AND UPGRADING EXISTING GAS TREATMENT UNITS RUSAL is implementing an advanced electrolytic gas purification system of its own design. The system consists of two stages: dry and moist. RUSAL is carrying out a project to introduce its own more efficient "dry" gas purification systems, which has been awarded the V. I. Vernadsky Prize in the Innovative Eco-Efficient Technologies in Industry and Energy category. In addition to the best environmental performance, the new gas treatment technology is also highly cost-effective. Fourteen gas treatment systems are currently in operation, of which one was commissioned in the reporting year. Moreover, RUSAL is implementing programmes to install automatic emission control systems for all aluminium gas treatment units.	> 99.5% of hydrogen fluoride and solid fluorides
EXPANDING THE USE OF THE ECO-SØDERBERG TECHNOLOGY Conversion to Eco-Søderberg technology helps to massively reduce smelter' emissions at aluminium plants.	14% average reduction in pollutant emissions > 32% reduction in fluoride emissions
EXPANDING THE USE OF PRE-BAKED ANODE TECHNOLOGY Conversion to pre-baked anode technology helps to massively reduce smelters' emissions at aluminium plants.	73% reduction of fluoride emissions 100% reduction of benzo(a)pyrene emissions

Read more at p.60

2/ In order to track progress in reducing its negative impact on the environmental components, the Company calculates intensity indicators linked to the volume of aluminium produced (for the Metals segment) and the amount of heat and energy generated (for the Power segment). The denominator data are indicated in the appendices and are common to all specific environmental indicators of the segments in the section "Environmental stewardship".

3/ The project aims to reduce emissions in 12 industrial centres in Russia by at least 20% by the end of 2026 compared to 2017 (the project duration was extended by two years).

EN+ SUPPORTS ASSESSMENT OF IMPACT OF THE YENISEI RIVER ON AIR QUALITY

As a section of the Yenisei River downstream of the Krasnoyarsk HPP does not freeze, polynya is formed in the area. To determine the possible impact of the polynyas on air quality in Krasnoyarsk, the Institute of Computational Modelling of the Siberian Branch of the Russian Academy of Sciences, supported by En+, conducted a study. The study will make it possible to develop solutions to improve the quality of the environment for people living downstream of the Krasnoyarsk HPP.



Read more about at Company's 2022 SDG Report, p.26

POWER SEGMENT

GRI: 3-3

Principal initiatives to reduce pollutant emissions from the Power segment include the increase in efficiency of electricity generation and upgrade of the technology of dust collection equipment. The automatic emission control system of air emissions will be installed at all CHPs subject to emission quotas. In the reporting period, an automatic emission control system was installed in chimney No. 1 at CHP-6. In 2022, the design of the same system for chimney No. 2 was started. It is planned for completion in 2023, with a possible launch of construction and installation works.

Project	Expected results
INSTALLING MORE EFFICIENT ELECTROSTATIC PRECIPITATORS In 2022, the Company worked on installing more efficient electrostatic precipitators at CHP-6. The Company installed one electrostatic precipitator at CHP-6 in the reporting period and aims to complete the installation of two more in 2023. The project is part of the federal Clean Air project. The Industrial Development Fund provided a preferential loan to BEK under the Environmental Projects Programme.	over 99% of ash emissions are captured
RE-EQUIPPING ASH COLLECTORS In 2022, activities initiated in the previous period to re-equip ash collectors at Ust-Ilimsk CHP and CHP-6 continued.	The reduction of ash emissions
TRANSFERRING OF HEAT SUPPLY FROM BOILER HOUSE In 2022, the Company also completed the transfer of heat supply from the Galachinskaya boiler house in Bratsk. Now, heat and hot water in the homes of residents of the central district of the city are supplied solely from CHP-6.	The transfer of heat supply to a more efficient CHP enabled the reduction of pollutant emissions.

WATER RESOURCES

GRI: 3-3

An important task of En+ is to increase the proportion of water reused in production and to improve the quality of discharged wastewater.

GRI: 303-1 SASB: IF-EU-140a.1 EM-MM-140a.1

According to the [Aqueduct Water Risk Atlas](#) En+ operates mainly in regions where there is no issue of fresh water scarcity, with the exception of facilities of the Metals segment in Armenia and Italy¹ and the entities of the Power segment (EnSer JSC) in Miass (Chelyabinsk Region). To reduce the pressure on water resources in these regions, En+ uses modern technologies, such as closed water supply systems, wastewater treatment units. For instance, a closed water supply system was installed at RUSAL Armenal in 2020. In 2022, Enser JSC decreased the discharge of wastewater into the Miass river, increased the degree of wastewater treatment and started to use industrial water (after treatment) in production cycles to reduce Enser's impact on water scarcity in Miass.

SASB: IF-EU-140a.3

The Company works on minimising cases of non-compliance with legal requirements in terms of the amount of water collected and discharged, as well as its quality. Particular attention is paid to compliance with the maximum permissible concentrations of pollutants during discharges into surface water bodies.

To comply with the legislation, the Group is committed to:

Requirements:

- state requirements for wastewater quality
- sanitary and epidemiological requirements
- municipal requirements for water discharge into public networks

Documents:

- Environmental impact declaration
- Decision on the granting of water bodies for use
- Standards for permissible discharges of pollutants into water bodies
- Permission to discharge pollutants and microorganisms into water bodies

GRI: 303-2 SASB: IF-EU-140a.2 EM-MM-140a.2

In the reporting year, there were no significant spills or emergency discharges of pollutants into water bodies, which caused significant financial losses for the Group². There were also no reports of serious violations of environmental laws relating to water resources.

To reduce all the water-related risks at all stages of the production process, En+ pays attention to:

- monitoring water quality (especially in natural water bodies)
- increasing the amount of recycled water by modernising the production processes and implementing water recycling systems
- conducting regular inspections of water supply systems to prevent leaks and losses as part of industrial environmental control
- reducing the amount of waste water and the level of hazardous substances in waste water by improving the quality of treatment processes

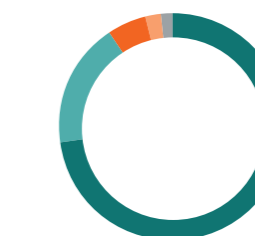
Significant changes in performance

Changes	Explanations of the dynamics
↓36% decrease in fresh water discharge compared to 2020	Decrease in freshwater discharge compared to 2020 was achieved due to implementation of best available technologies
↑16% increase in total water withdrawal (compared to 2020)	The increase in water withdrawal was mainly due to an increase in electricity generation by 22% in BEK LLC due to the regime set by the system operator

■ Metals segment ■ Power segment

GRI: 303-3 SASB: IF-EU-140a.1 EM-MM-140a.1

Total water withdrawal by source, 2022³, mn m³



Surface water	724.3
Third-party organisations	177.0
Ground water	53.1
Seawater	22.8
Other	15.7

¹ / RUSAL Armenal and Eurallumina, the Italian asset on mothballing.

² / More than USD 1 million.

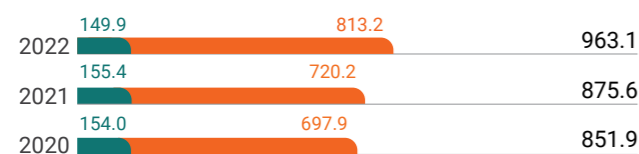
³ / In the section "Environmental stewardship – Water resources" hereof, data for total and freshwater withdrawals and discharges exclude quarry, mine, drainage, storm, and other water that is not used in the production process.

CLIMATE AND ENVIRONMENT

Metals segment Power segment

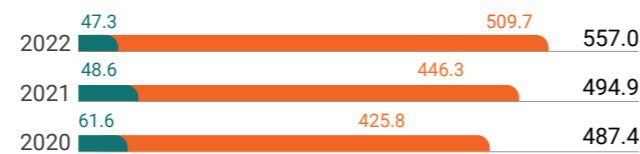
GRI: 303-3 SASB: IF-EU-140a.1 EM-MM-140a.1

Freshwater withdrawal¹, mn m³



GRI: 303-4

Total water discharge³, mn m³



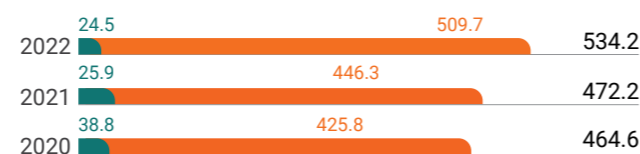
GRI: 303-3 SASB: IF-EU-140a.1 EM-MM-140a.1

Total water withdrawal, mn m³



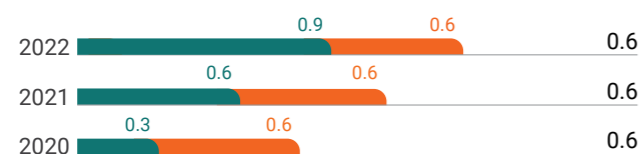
GRI: 303-4

Freshwater discharge, mn m³



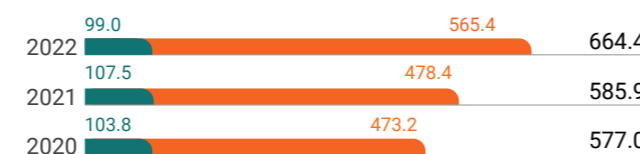
GRI: 303-1 SASB: IF-EU-140a.1 EM-MM-140a.1

Percentage of water withdrawn from all water stressed areas, %



GRI: 303-5 SASB: IF-EU-140a.1 EM-MM-140a.1

Total water consumption², mn m³



Water-related intensity metrics

Indicator	Metals segment (mn m ³ /kt)			Power segment (mn m ³ /bn kWh)		
	2020	2021	2022	2020	2021	2022
Total water withdrawal	0.047	0.047	0.045	6.21	5.88	7.05
Total water discharge	0.016	0.013	0.012	3.75	3.61	4.38

1 / In the section "Environmental stewardship – Water resources" hereof, data for total water discharges exclude quarry, mine, drainage, storm, and other water that is not used in the production process.

2 / Represents water for production needs.

3 / Data of Metals segment for 2021 were recalculated and included only water for production needs.

METALS SEGMENT

GRI: 303-1

The Metals segment facilities regularly assess water-related risks and impacts on water resources. In 2022, RUSAL did not identify any significant impacts and risks related to water and problems with water supply for production needs in the Metals segment.

RUSAL set the following goal within its Sustainability Strategy:

- By 2027, to bring the share of water recycling in alumina refining, aluminium smelting and the manufacturing of finished aluminium products up to 100%.

RUSAL plans to achieve this result by implementing the best available practices in two main directions:

Project	Expected results
CLOSED WATER CIRCULATION WITHIN THE MAIN PRODUCTION PROCESSES The largest amount of water is consumed by the Alumina division companies (84% in 2022), due to the specifics of production. To reduce the impact on water resources, the Company is in the process of converting its facilities to a closed water supply system	RUSAL has completed the transition of the in RUSAL Krasnoturyinsk and AGK, Armenal to a closed water supply system. In 2022, the company also transferred the RUSAL Kamensk-Uralsky alumina plant to this system. 91.5% the share of reused and reusable water at RUSAL
CONSTRUCTION AND RECONSTRUCTION OF WASTEWATER TREATMENT PLANTS RUSAL implements measures for the construction and reconstruction of treatment facilities	The launch of an ultraviolet disinfection station at the RUSAL Krasnoturyinsk in 2018 has made it possible to abandon the use of chlorine in the process of cleaning domestic wastewater.

POWER SEGMENT

GRI: 303-1

To prevent impact on water bodies in the form of changes in water levels and the way they fluctuate, En+ regulates the water regime of HPPs in accordance with the regulations of the Russian Federal Water Resources Agency. The Company carries out industrial and environmental monitoring of wastewater and surface water.

All water intake sources are included in the assessment of the impact of the Company's Power segment on water resources, which is conducted one to three times a month. Special attention is paid to the control of pollutant concentrations in reservoirs and discharged waters. Water sampling and analysis upstream and downstream of the HPPs is carried out by accredited laboratories. The focus is on pollutants

specific to these plants (suspended particles and petroleum products). In order to prevent technical malfunctions that could result in water pollution, the condition of generating and auxiliary equipment is closely monitored at all Company's plants. This approach contributes to the timely elimination of threats, known as industrial accidents, and minimises the risks.

In 2022, the Company started developing a comprehensive programme to minimise wastewater discharges and losses. Treatment units are currently in various stages of implementation at the Power segment's facilities.

IMPROVING WASTEWATER TREATMENT PROCESSES

PROJECTS

- **Improving HPP's wastewater treatment processes**
Decrease in the water pollution construction and installation of modern treatment facilities is scheduled at all the Company's HPPs (in Irkutsk, Bratsk, Ust-Ilimsk, Krasnoyarsk and Onda). In 2022, the Company completed the design of the treatment facilities at the Irkutsk HPP.
- **Improving CHP wastewater treatment and coal's mining wastewater**
The Company continues the modernisation of wastewater treatment at CHPs. The project at the Kompaniya Vostsibugol LLC enterprises is fully completed. In 2022, the Company carried out pilot tests of the installation to achieve the regulatory parameters for effluents from the Irbey coal mine.

EXPECTED RESULT

Zero discharge of untreated wastewater by 2030



Read more in the Company's 2022 SDG Report, p.13

CLIMATE AND ENVIRONMENT

WASTE AND TAILINGS

GRI: 3-3 306-1

En+ increases the amount of waste and tailings recycled and reused, implements measures to organise their safe storage and disposal, and develops and implements new technologies in this area.

The main waste of the Power segment is ash and slag waste, waste of the mining industry (overburden) while waste of the Metals segment (RUSAL) are red and nepheline slime, which is formed from production of bauxites and nephelines and also the fulfilled coal lining of electrolyzers. The Company strives to minimise risks at all stages of the life cycle of waste disposal facilities: design, construction and renovation, operation and maintenance, conservation.

The main update to the management approach in this area in 2022 consisted in the approval of the Waste Management Standard. There, En+ defined the general procedure for the collection, placement, accounting, storage, and disposal of waste across the Company. This standard was approved at the corporate level at En+ and then adopted by internal instructions at all the Company's entities. During the reporting year, the Power segment performed internal audits to check the compliance of enterprises with the Standard. A list of measures was developed to ensure that the identified inconsistencies were eliminated. In 2023 it is planned to conduct several more internal audits to verify the implementation of this standard and to study the results of the implementation.

In 2022, RUSAL adopted a strategy for waste management until 2030. RUSAL defined the following key issues in the strategy:

- strategic priorities in the area of waste generation and management
- waste management hierarchy
- major industrial waste and promising methods for its treatment
- waste management facilities and priorities for their development
- priority waste management projects

RUSAL also approved key performance indicators (KPIs) and waste management programmes for 2024–2029 in all its companies to implement the provisions of the strategy.

SASB: EM-MM-150a.9

Hazardous waste management is carried out on the basis of licences in accordance with legislative requirements. During the reporting period, En+ did not transport any waste across national borders. There were no significant incidents related to the management of waste and hazardous materials in the Group's companies in 2022.



Read more in the 2021 Sustainability Report, pp. 86-87

The Metals segment also processed 14.24 tonnes of waste containing PCBs. In addition, plans for the complete decommissioning of equipment and disposal of waste containing PCBs have been developed for all 11 RUSAL entities that have existing or decommissioned equipment and waste containing PCBs for the period 2022-2025. For the Power segment, the year 2022 was also marked by a significant event in this area: the decommissioning of PCB-containing equipment at all production sites of IESK JSC was completed. It was replaced with environmentally friendly equipment.

Significant changes in performance

Changes	Explanations of the dynamics
↓11.5% of total volume waste generated (compared to 2021)	In the Metals segment, waste generated (excluding overburden) in 2022 decreased by 11.5% compared to 2021 and reached 13.8 mt. The volume of waste generated is directly related to the dynamics of production, and also depends on factors such as the depth of ore deposits and the percentage of alumina in the processed ore and bauxite. The most significant waste by volume in the Metals segment are red and nepheline sludges, which result from alumina production and are classified as non-hazardous and non-toxic. They represent 87% (90% in 2021) of the RUSAL total waste volume, or 12.0 mt (7.7% of which was recycled or reused). At the same time, 6% (4.5% in 2021) of the RUSAL's total waste amount (excluding overburden), or 0.8 mt (96.8% of which was recycled or reused), is hazardous waste, which requires special attention for its storage and disposal. This includes in particular spent refractory lining.
↑4.6% increase in total volume of waste (compared to 2021)	In the Power segment, waste increased by 4.6% compared to 2021 mainly due to a higher volume of tailings and overburden in SMR main types of waste in the Power segment are ash and slag waste (ASW) and mining waste (stripping and tailings). Most of them are waste from the mining industry. Overburden is mainly used for filling underground workings and is not disposed.

■ Metals segment ■ Power segment

■ Metals segment ■ Power segment

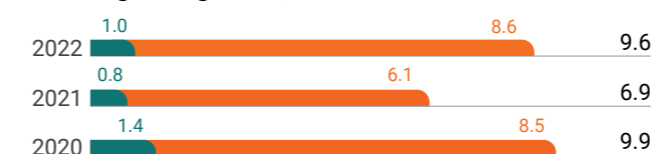
GRI: 306-2 306-4 306-5

Total volume of non-hazardous waste reused and recycled, mt



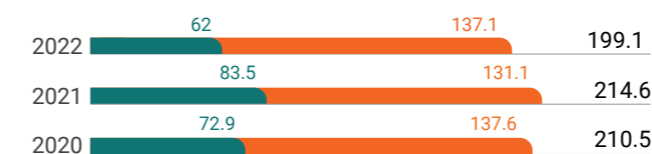
GRI: 306-3

Total volume of non-hazardous waste generated, excluding mining waste, mt



GRI: 306-3

Total volume of non-hazardous waste generated, mt



GRI: 306-3

SASB: EM-MM-150a.7

Total volume of hazardous waste generated, kt

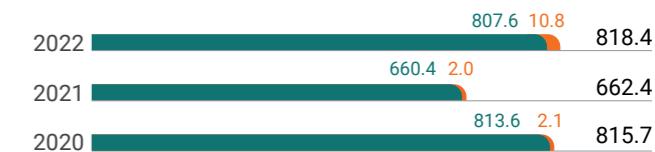


Waste intensity metrics

Indicator	Metals segment (kt/kt)			Power segment (kt/bn kWh)		
	2020	2021	2022	2020	2021	2022
Total volume of waste generated intensity	0.02	0.022	0.016	1.21	1.06	1.18

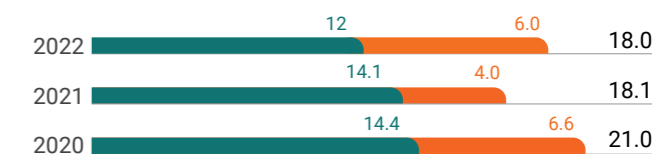
GRI: 306-2 306-4 306-5 SASB: EM-MM-150a.8

Total volume of hazardous waste reused and recycled, kt



SASB: EM-MM-150a.5

Total weight of tailings waste generated, mt



Percentage of tailings waste recycled, %



SASB: IF-EU-150a.1

Amount of coal combustion residuals (CCR) generated, mt



CLIMATE AND ENVIRONMENT

METALS SEGMENT

GRI: 306-1 306-2 SASB: EM-MM-150a.4 EM-MM-150a.6 EM-MM-150a.10

RUSAL's strategic priorities are minimising production waste wherever possible and maximising the involvement of waste in the economic cycle of recycling.

RUSAL set following goals within its Sustainability Strategy:

- By 2030, to ensure a gradual reduction of waste-to-landfill by at least 10% per tonne of metal and safe disposal of 100% of such waste.

The Company continues to implement the 'Safe operation of red mud disposal sites and other waste disposal sites' project and a range of measures aimed at increasing the proportion of recyclable waste and finding new ways to reduce the volume of waste generated.

Project	Expected results
<p>CONSTRUCTING A MODERN SLUDGE FIELD MAP</p> <p>In 2022, the Company announced the completion of the construction of the first sludge site at the Urals Aluminium Smelter. The new facility meets the world safety and environmental requirements.</p>	
<p>CREATING PRODUCTS FROM RED MUD</p> <p>Aughinish and RUSAL ETC are key participants in the European Removal project, within which we have developed a technology for making it suitable for creating products from red mud in various industries (construction materials, production of Fe-Si alloys, cement additives, rare elements, mineral fillers and heat insulations). The project completed pilot tests at the Aughinish and Aluminium of Greece production facilities in 2022, confirming the reduction of Na₂O content from 4–5% to ≤ 0.5% and achieved technology targets: moisture ≤ 25%; lime consumption ≤ 160 kg. De-alkalised mud batches were tested by other participants of the REMOVAL project to produce construction materials and other products.</p>	Reducing red mud residual alkali content down to 0.5%



Read more in the 2022 SDG Report pp.20-21

POWER SEGMENT

GRI: 306-1 306-2 SASB: EM-MM-150a.4 EM-MM-150a.10

The Power segment continues cooperation with leading research institutes and manufacturing companies to introduce the latest methods of ash and slag waste disposal. The Company develops and implements advanced methods of ash and slag waste management and takes measures aimed at improving its waste management system.

In 2023, in line with the Directive of the Government of the Russian Federation No. 1557-r dated 15 June 2022 'On approval of a comprehensive plan to increase the volume of disposal of ash and slag waste of hazard class V', the Company plans to join a taskforce with the Federal Agency on Technical Regulating and Metrology (Rosstandart) to promote their own designs. A national standard in this area, in which developments of En+ may be used, is a part of prospective activities.

Ongoing projects to use ash and slag waste

Projects	Expected results
<p>AS A COMPONENT OF RECLAMATION MIXTURES FOR COAL MINES AND RECLAMATION OF WASTE LANDFILLS</p> <p>The project is aimed at using ash and slag waste as a component of reclamation mixtures for coal mines reclamation of waste landfills. Currently, the project is undergoing a state environmental assessment. After the completion of it, the Company will be able to apply the project at its facilities.</p>	<ul style="list-style-type: none"> - maximising disposal of ash and slag waste - ensuring the absence of ash dumps with a residual capacity of less than three years
<p>AS A MATERIAL FOR ROAD CONSTRUCTION</p> <p>The project provides for the use of ash and slag waste as a material in road construction. In 2022, the testing stage of a roadbed in the Irkutsk Region was completed and guidelines were developed, which will become regulation after research work finalisation.</p>	
<p>OTHER INITIATIVES</p> <p>The Company develops and implements other advanced methods of ash and slag waste management:</p> <ul style="list-style-type: none"> - increasing the volume of fly ash utilisation through modernisation of the dry ash unloading unit at Novo-Irkutsk CHP - selling ash and slag waste to producers of construction materials - extracting iron-containing concentrate as a pilot project at CHP-9 	

TRANSITION TO THE 'GREEN OFFICE' CONCEPT

In 2022, the Company launched the Green Office initiative. This involves the creation of a workspace where environmentally efficient solutions are implemented to reduce resource consumption and increase recycling volumes.

At the beginning of 2022, the En+ head office in Moscow introduced separate collection of household waste (glass, metal, plastic and composite packaging) and completely stopped using disposable plastic tableware. During the year, the system of separate collection of household waste was also

implemented at the Company's offices in Irkutsk, at the Irkutsk, Bratsk, Ust-Ilimsk and Krasnoyarsk HPPs.

Some of the Company's offices arranged their own waste collection and separation facilities. For the remaining offices, the Company, in cooperation with regional operators, modernised urban sites that were accessible to both employees and local residents.

In 2023, the Group plans to implement similar solutions in some of the enterprises of BEK and RUSAL. During the reporting year, the companies carried out preparatory analytical work.

Over the next year, En+ will work with its employees to educate them about waste management. Through training and publicity in the offices, employees will learn why it is important to separate waste and why the Company does so.

2022

En+ Group offices in Moscow and Irkutsk, as well as the Irkutsk, Bratsk, Ust-Ilimsk and Krasnoyarsk HPPs:

- moved to separate collection of household waste (glass, metal, plastic and composite packaging)
- terminated use of disposable plastic tableware (Moscow office only)

Launch of the initiative

2023

Baikal Energy Company and RUSAL:

- transition to separate waste collection in businesses

En+ Group's offices:

- educating employees: training courses and publicity (posters) explaining why it is important to separate waste and why the Company does it

Expanding the initiative

CLIMATE AND ENVIRONMENT

LAND REHABILITATION AND RECLAMATION

Land reclamation is an important Company obligation, which facilitates biodiversity conservation by restoring vegetation cover and habitats of biological species where necessary.

The Metals segment performs land reclamation after completing mining operations in accordance with RUSAL's operational policy "Decommissioning Assets and Restoring the Environment: Requirements for Organising Work and Assessing Obligations". RUSAL applies unified corporate approaches and requirements to the reclamation of disturbed lands and unified rules for assessing

obligations in decommissioning facilities and restoring the environment around the production sites. The Metals segment plans to fully meet its obligations to restore disturbed lands and lands after waste disposal by 2030.

The enterprises of the coal business regularly carry out land reclamation operations after the completion of coal mining activities and ash and slag storage facilities closing.

The life cycle of a production facility includes the following stages:

Completion of open-pit mining and decommissioning of waste disposal sites

Development and approval of reclamation plans that consider potential risks for particular facilities, amounts of work needed, and the required resources

Carrying out the following activities:

Restoration of disturbed terrain and soil after the completion of open-pit mining

Reclamation of waste disposal sites (ash and slag dumps and landfills)

Reclamation of disturbed and polluted lands

Subsequent monitoring in areas where forest ecosystems are restored:

Re-planting of seedlings instead of those that have not taken root

Weed removal

Creation of a firebreak zone in the corresponding territory

EM-MM-160a.2

En+ keeps track of both the integrity and qualitative characteristics of land cover. As changes in the chemical composition of the soil cover can lead to degradation of the vegetation cover over vast areas, the Company carefully monitors the sites to ensure they

do not emit acidic waste. The appearance of acidic wastewater is not typical of the developed nepheline and bauxite deposits as these deposits do not contain sulphidic rocks.

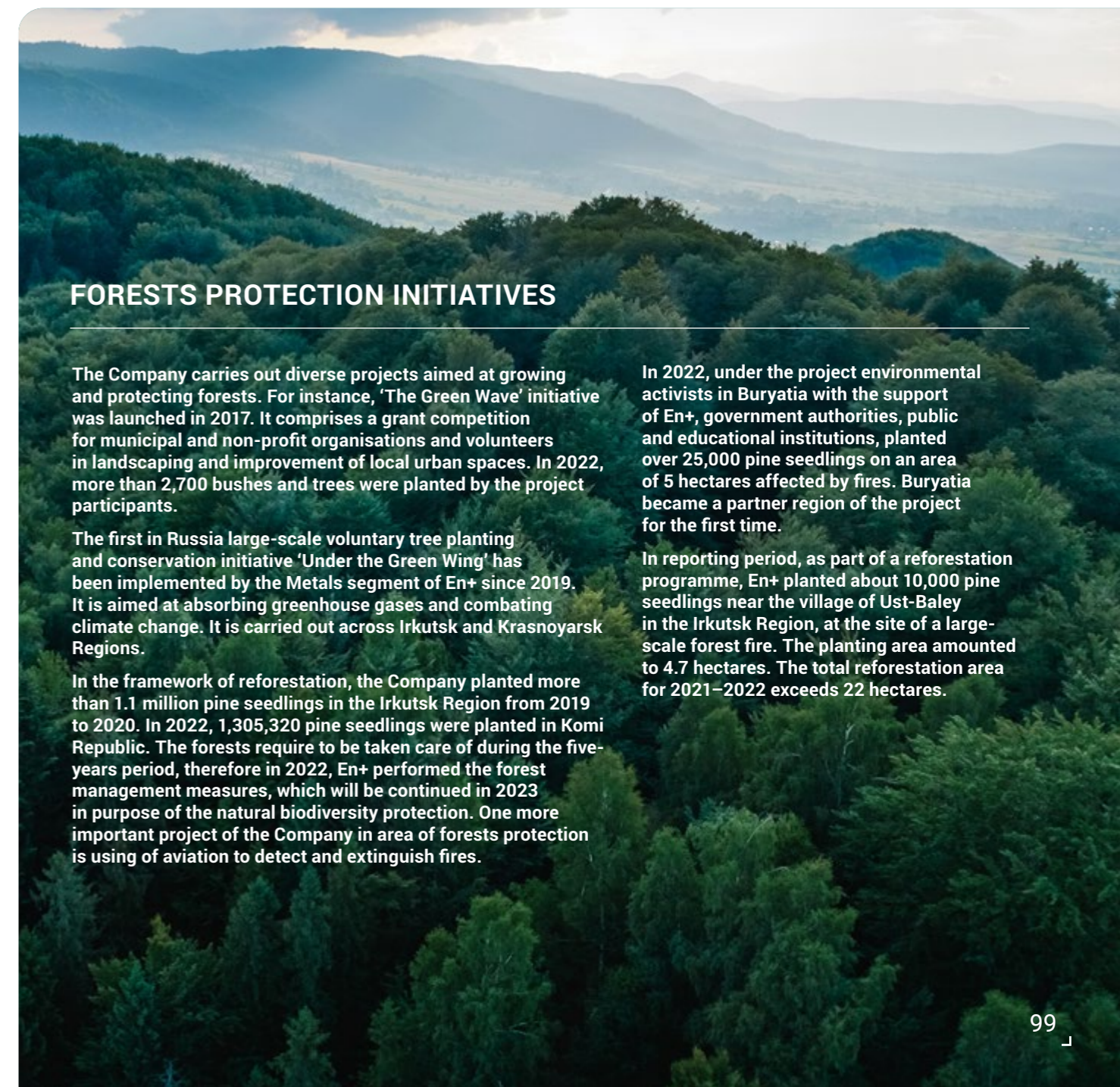
GRI: 304-3

The Company uses different types of remediation depending on the original land use, but reforestation is particularly important as

Company engages in mining activities. One of our most important land management tasks is to boost the volume of reforestation.

TOTAL AREA OF DISTURBED AND RESTORED LAND, 2022

Changes	Total area of land disturbed as a result of open-pit mining but not reclaimed, as at 1 January 2022	Total land area disturbed by open-pit mining, 2022	Total area of land reclaimed, 2022	Total area of land disturbed as a result of open-pit mining, but not reclaimed, as at 31 December 2022
Metals segment	12,104	45	77	12,072
Power segment	11,995	227	0	12,221
En+	24,099	272	77	24,293



FORESTS PROTECTION INITIATIVES

The Company carries out diverse projects aimed at growing and protecting forests. For instance, 'The Green Wave' initiative was launched in 2017. It comprises a grant competition for municipal and non-profit organisations and volunteers in landscaping and improvement of local urban spaces. In 2022, more than 2,700 bushes and trees were planted by the project participants.

The first in Russia large-scale voluntary tree planting and conservation initiative 'Under the Green Wing' has been implemented by the Metals segment of En+ since 2019. It is aimed at absorbing greenhouse gases and combating climate change. It is carried out across Irkutsk and Krasnoyarsk Regions.

In the framework of reforestation, the Company planted more than 1.1 million pine seedlings in the Irkutsk Region from 2019 to 2020. In 2022, 1,305,320 pine seedlings were planted in Komi Republic. The forests require to be taken care of during the five-years period, therefore in 2022, En+ performed the forest management measures, which will be continued in 2023 in purpose of the natural biodiversity protection. One more important project of the Company in area of forests protection is using of aviation to detect and extinguish fires.

In 2022, under the project environmental activists in Buryatia with the support of En+, government authorities, public and educational institutions, planted over 25,000 pine seedlings on an area of 5 hectares affected by fires. Buryatia became a partner region of the project for the first time.

In reporting period, as part of a reforestation programme, En+ planted about 10,000 pine seedlings near the village of Ust-Baley in the Irkutsk Region, at the site of a large-scale forest fire. The planting area amounted to 4.7 hectares. The total reforestation area for 2021–2022 exceeds 22 hectares.

CLIMATE AND ENVIRONMENT

BIODIVERSITY

GRI: 3-3

Preservation of biodiversity is an essential part of Company's activities.

GRI: 304-1

En+ do not operate in protected areas or the high biodiversity value areas outside protected areas. In case of indirect impact on them, the Company conducts monitoring to fully comprehend if there is effect of Company's activities.

EM-MM-160a.1

In carrying out its biodiversity conservation activities, En+ is guided by the requirements of a wide range of internal and external regulations and documents:

- National legislation of the countries where the Company operates
- Russian Federal Law No. 16-FZ "On the ratification of the Convention on Biological Diversity" dated 17 February 1995
- Other applicable regulatory legal acts
- International Finance Corporation Performance Standard 6 "Conservation of Biological Diversity and Sustainable Management of Living Natural Resources"
- En+ Environmental Policy
- En+ Biodiversity Conservation Policy

En+ Biodiversity Conservation Policy, outlining the core principles and views, covers both the Metals and Power segments. In 2022, the Metals segment put into effect a biodiversity policy, and the Power segment started developing an appropriate corporate programme.

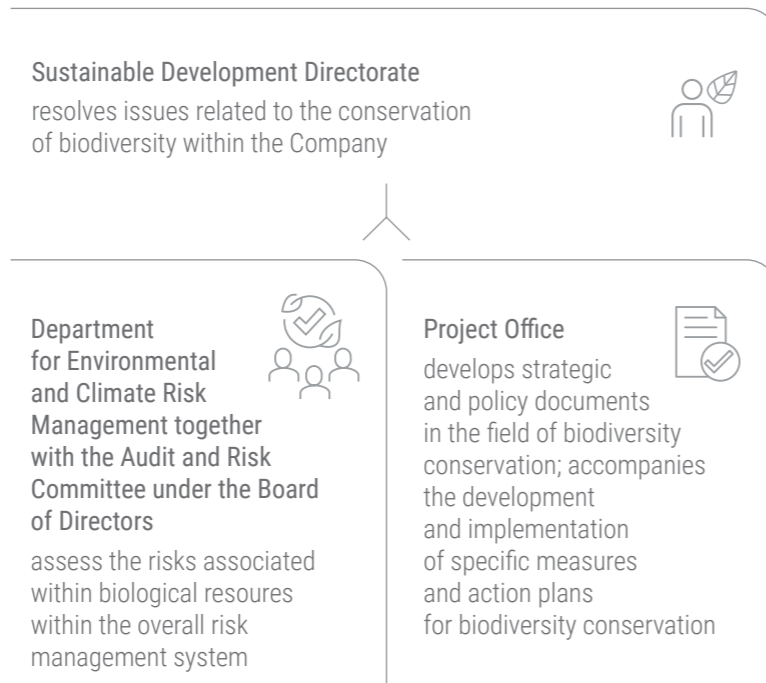
GRI: 2-28

En+ actively engages in international initiatives and contributes to the development of international standards:

- En+ is a member of the Business and Biodiversity Conservation Working Group under the Ministry of Natural Resources and Environment of the Russian Federation
- En+ entities participate in the ASI Biodiversity and Ecosystem Services Working Group jointly with the International Union for Conservation of Nature (IUCN), Fauna & Flora International (FFI) and the Chimbo Foundation
- En+ is also engaged in the development of the Science-Based Targets for Nature

Read more about participation in international initiatives at p.173

The Department for Environmental and Climate Risk Management and the Project Office, which are part of the Sustainable Development Directorate, and the Audit and Risk Committee under the Board of Directors are responsible for managing biodiversity conservation issues.



Employees are guided by KPIs as part of the corporate biodiversity conservation management system. In 2022, the KPIs of the Power segment ensured the implementation of research on the impact of the operation of HPP's on the state of aquatic biological resources and the development of the Biodiversity conservation programme for the Angara HPP cascade.

The Metals segment's KPIs correlate with the natural change drivers described by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and include indicators for land use, implementation of biodiversity impact assessment measures, compensatory stocking, forest planting, gardening, co-operation with protected areas and other stakeholders to study and protect biodiversity. As part of the development of corporate programmes, the Company plans to develop indicators for biodiversity conservation activities.

GRI: 2-25

En+ applies a precautionary approach to the conservation of biodiversity as part of the overall risk management system and the environmental impact assessment. To prevent negative impacts and protect species and their habitats, the Company strives to:

- Follow a hierarchy of mitigation measures aimed at preventing, minimising, restoring or offsetting negative impacts on biodiversity
- Asses the risks of significant impacts of the Company's activities on biodiversity and, in case of detection of such risks, set goals for the conservation of biological resources and create appropriate action plans based on interaction with stakeholders
- Actively cooperate with research institutes and NGOs on projects aimed at studying the causes of threats to ecosystems and biodiversity and reducing the anthropogenic impact on biodiversity
- Carry out planning and monitoring in the field of biodiversity conservation: determine goals and budgets, finance activities, control obtaining permits, conduct risk assessments for biodiversity, publish reports

Biodiversity risks are considered and managed as part of a strategic risk management plan of the Power segment, which includes activities to develop corporate programmes for biodiversity preservation, improve management of biodiversity conservation issues, conduct consultations with stakeholders and compensate for the negative impact on aquatic biological resources.

Read more at p.167

The Metals segment has a Regulation on Conducting an Initial Assessment of Risks and Significance of Impacts on Biodiversity for Operating Enterprises, which is used as a guideline for the Company's biodiversity conservation activities. According to RUSAL's Biodiversity Policy, biodiversity conservation risks are identified in areas such as the use of natural resources, habitat transformation and the introduction of alien species. If a significant risk is identified, the Company takes steps to prevent or minimise it or to implement compensatory measures.

To promote the approaches of En+ to biodiversity conservation and ecosystem services, the Company interacts with a wide range of stakeholders, including scientific and educational institutions, public authorities, non-profit organisations, by publishing reports, forming an environmentally responsible worldview amongst colleagues and in the Company's regions of operation, holding events aimed at the exchange of relevant knowledge.

In 2022, En+ held a seminar to discuss the first results of the development of the Biodiversity Conservation Programme, which was attended by representatives of the scientific community, protected area directorates and public organisations. Stakeholders' suggestions and comments were taken into account when determining impact zones, analysing impact factors, and selecting indicator species.

The En+ Sustainable Development Directorate responds to questions and requests from stakeholders, including those related to conservation of biodiversity and ecosystems, via the email and telephone.



Contact information for the Sustainable Development Directorate is available on the En+ website

GRI: 413-1

MONITORING AND ASSESSING IMPACTS ON BIODIVERSITY

Long-term studies of biodiversity in the Krasnoyarsk Stolby National Park continued in 2022. Experts discovered ten new species of zooplankton (rotifers and copepods), 16 species of higher vascular plants and recorded presence of a small bird – the booted warbler (*Iduna caligata*) – for the first time.

The monitoring material collected represents a unique scientific database on specially protected natural areas.

JOINING THE ALL-IRELAND POLLINATOR PLAN (AIPP)

In 2022, Auginish conducted lowland meadow surveys and insect observations, counted the region's winter bird population, and participated in tree planting, roosting hedgehogs, bats and birds, and weed control. The actions were taken under the All-Ireland Pollinator Plan jointly with the National Biodiversity Data Centre.

RUSAL developed a plan detailing practical measures to improve and preserve biodiversity across the protected areas located in the immediate vicinity of the enterprise. An annual report on its progress was published on the Irish Environmental Protection Agency website.

GRI: 413-1

PROMOTING SNOW LEOPARD CONSERVATION

The Metals segment carries out long-term monitoring of the population and habitats of snow leopard – a rare species of large felids, listed as Vulnerable in the Red List of the International Union for Conservation of Nature (IUCN).

In 2022, six adult snow leopards were regularly recorded – four males and two females. Two transiting specimens were also noted.

The effectiveness of the actions taken by RUSAL was confirmed by the fact that three snow leopard cubs were born in the reporting period.

METALS SEGMENT

GRI: 304-2

In accordance with the RUSAL Biodiversity Policy, RUSAL performs a mandatory assessment of the Company's activities impact on biodiversity.

Under one of its largest projects, the environmental restructuring of the largest Siberian aluminium smelters in Krasnoyarsk, Bratsk, Shelekhov and Novokuznetsk, RUSAL assessed the impact of all project stages on the flora and fauna of affected territories. According to the assessment, taking into account the absence of protected species within the boundaries of the site of the proposed activity, the impact is considered to be acceptable, and due to the reduction in emissions of significant pollutants during the operational phase, the impact on the flora and fauna of the adjacent territories is also expected to be reduced. By 2035, RUSAL aims to ensure a holistic approach to conserving biodiversity and supporting the effectiveness of priority ecosystem services by introducing its own biodiversity and ecosystem service quality programmes across the company's operations. As part of achieving the goals of RUSAL's Sustainability Strategy, the Company is implementing the 'Biodiversity Conservation and Enhancement of Ecosystem Services' project.

POWER SEGMENT

GRI: 304-2

In 2022, the Power segment began work on its Biodiversity Conservation programme for the Irkutsk, Bratsk and Ust-Ilimsk HPPs to 2030. The programme will make it possible to implement the provisions of the En+'s unified Biodiversity Conservation Policy at these facilities, focusing on key industry specific directions for biodiversity conservation associated with the potential impacts of the operation of the Angara cascade HPPs.

Activities under the Biodiversity Conservation programme will be aimed at:

- identifying negative and positive potential impacts of the Company's facilities on biological diversity
- defining the nature, geographical coverage, extent and duration of potential impacts
- establishing indicators for the state of biodiversity and for the effectiveness of the programme activities
- developing and implementing a set of measures to mitigate the identified effects of potential impacts to ensure the stable state of aquatic and terrestrial ecosystems in the areas affected by HPPs' operation

Types of potential impact on biodiversity considered in the programme for the Angara HPPs

DIRECT

- the potential impact that directly influences the elements of biodiversity affected by economic activity
- may have negative, neutral or positive consequences, resulting in a change in the state (response) of biodiversity or the volume of ecosystem services produced in the area under consideration

INDIRECT

- the potential impact on the environmental parameters of the affected area or on the ecosystems adjacent to the affected area, which, through chains of interrelated influences of abiotic and biotic factors, may lead to changes in biological diversity and ecosystem services in the affected area
- has negative, neutral or positive consequences

Once in force, the programme will be integrated through the implementation of separate biodiversity action plans for the Irkutsk, Bratsk and Ust-Ilimsk HPPs. The Company plans to monitor the effectiveness of actions using a system of custom indicators. Approval and entry into force of the programme are scheduled for 2023.

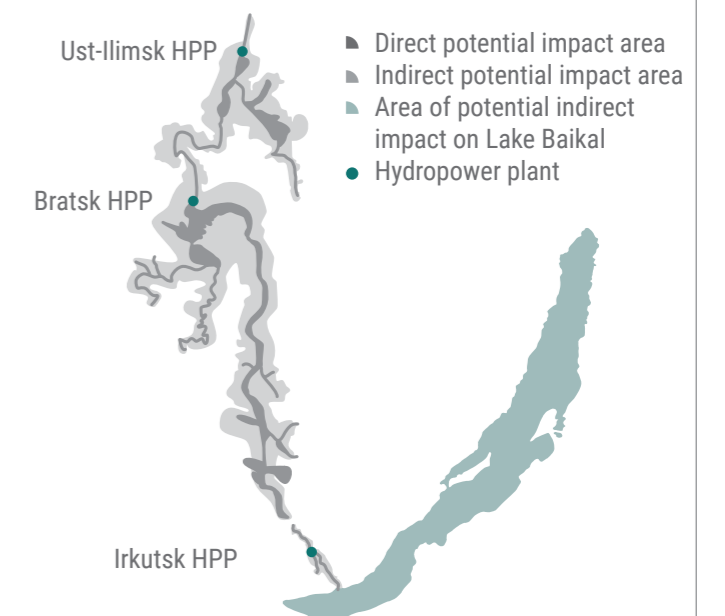
In 2022, as part of the initial stage of developing the Biodiversity Conservation Programme for the Angara cascade HPPs, the Company determined areas of direct and indirect potential impacts on biodiversity. In doing so, multi-factorial approach and regulatory documents and international standards were used.

Three proposed areas of potential biodiversity impact were identified:

- a direct potential impact area
- an indirect potential impact area
- an area of potential indirect impact on Lake Baikal

Once the programme is approved, the impact areas will be used to develop biodiversity conservation measures.

Schematic map of potential impact areas of the Irkutsk, Bratsk and Ust-Ilimsk HPPs on biodiversity



In 2023, the Power segment plans to start developing a corporate biodiversity programme for the Krasnoyarsk HPP.



LONG-TERM ENVIRONMENTAL MONITORING OF LAKE BAIKAL

GRI: 413-1

Some production facilities of the Power segment are located on the Angara River, which originates in Lake Baikal, a UNESCO World Heritage Site, and in the ecological zone of atmospheric influence of the Baikal natural territory. To understand whether there is any impact on ecosystem of the Baikal, En+ jointly with leading scientific institutions (Lomonosov Moscow State University, A. N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow Institute of Physics and Technology, etc.) conducts long-term monitoring of the state of biological species and the environmental situation of the lake plus its main tributaries.

Based on its findings, a conclusion was made in 2022 on the interrelation between water quality of the coastal zone of Lake Baikal and the inflow of pollutants and contamination with metals from the Selenga River, which originates in Mongolia and flows into it. The Company expanded the monitoring area to the Russian-Mongolia border and the Selenga River tributaries to track the paths of contaminants.

In 2023, the Company plans to extend cooperation to research institutions in Mongolia to study the state of the Selenga River basin.



INSTALLING BIRD-PROTECTING DEVICES

In 2022, IESK installed 1,500 bird-protecting devices on power transmission towers in the environmental areas of the Baikal natural territory.

Advantages of using bird-protecting devices:

- preventing the death of birds from contacting power lines and deterring them from landing on power line pylons
- minimising the risks of outages and reducing the number of short-circuits on lines caused by birds

DEVELOPING INTERNAL INSTRUCTIONS FOR ENCOUNTERS WITH WILD ANIMALS

En+ takes care of the safe interaction of employees of enterprises and wild animals, whose habitats intersect with production facilities of the Company. To this end, En+ has developed an Instruction for employees to follow when encountering wild animals. All employees familiarised with these instructions, which are displayed on information stands on the premises of En+ enterprises.

ASSESSING THE IMPACT OF HPP OPERATION ON AQUATIC BIORESOURCES

In 2022, a comprehensive assessment of the impact of the operation of the Angara cascade HPPs on the state of aquatic biological resources in the areas of their impact was carried out in two stages. During the first stage, field studies done out as part of research work to determine the impact of HPPs on aquatic biological resources: hydrobiological sampling and ichthyological studies were carried out. During the second stage, a compensation plan for the HPPs was developed to minimise the impact on aquatic biological resources.

In 2023, the following activities are planned:

- implementation of the compensation plan developed under the project at the Bratsk HPP
- design of fish-protection facilities at the water intake of the Avtozavodskaya CHP, Segozerskaya HPP
- assessment of the background condition of the reservoir prior to the construction of the Segozerskaya HPP

GOALS FOR 2023 AND ONWARDS

In the medium term, En+ aims to:

continue the modernisation of aluminium production facilities (implementing an advanced gas purification system, prebaked anode method, the Eco-Söderberg technology, a new anodic mass)

continue the design and installation of electric filters, work on the conversion of ash collectors at the CHP

continue the design work for local treatment facilities at the HPPs plants at Angara and at the Krasnoyarsk HPP and for enterprises of BEK

apply the practice of improving the coal mine effluent indicators developed at the Irbey coal mine to other coal mines

ENVIRONMENTAL STEWARDSHIP

BAIKAL

In carrying out economic activities within the Baikal natural territory, a unique object of undeniable value on a global scale, En+ is aware of its responsibility for the preservation of regional natural ecosystems, the welfare of local communities, and the exchange of knowledge with and among its stakeholders on issues related to the sustainable ecosystems of Lake Baikal plus adjacent territories.



Activities of the enterprises of the Power segment depend on the ecosystem services provided by Lake Baikal and the Angara River. En+ therefore makes every effort to minimise the impact on biological resources and actively engages with stakeholders to identify and address the most pressing issues related to the conservation of Lake Baikal's unique ecosystem.



ESTABLISHMENT OF THE BAIKAL PLASTIC-FREE ASSOCIATION

In 2022, En+ co-founded the Baikal Plastic-Free Association. Its members advocate the immediate development of a set of measures to stop developing contamination of Lake Baikal with plastic and microplastic. First plans include measures to eliminate single-use plastic products from circulation in the central environmental area of the Baikal natural territory, provide the regions around Baikal with infrastructure for separate waste collection, develop a recycling system for them, and raise awareness of the importance of responsible behaviour among local people and tourists. One of the goals is to preserve original habitats for endemic species.

In the reporting year, the association developed a roadmap, held a series of public meetings and volunteer events and organised a large-scale advertising campaign. The roadmap includes 14 points describing a particular environmental problem of the lake – for each point specific solutions, implementation deadlines and members of the association responsible for execution are proposed. En+ is responsible for the implementation of a number of programme items.



SOCIAL EVENT PARTICIPATION

En+ actively engages in activities aimed at joint dialogue and informed decisions that can positively affect the Baikal natural territory.

In 2022, the Company took part in public events aimed at discussing issues related to the preservation of Lake Baikal' ecosystems:

- Forum 'Baikal-2022: on the way to save the lake', organised by the Russian Association of Managers.
- Conference 'Challenges 2030. Sustainable Development of the Regions'
- The Conference on Waste and the Problem of Microplastics in the Arctic
- 'MicroPlasticsEnvironment-2022'
- Seminar 'Lake Khuvsgul and Lake Baikal: environmental and economic problems'
- XI All-Russian scientific-practical conference with international participation 'Rivers of Siberia and the Far East' on the topic 'Conservation of river ecosystems in the era of global change'
- Round table 'Protection zones of water bodies of the Baikal natural territory. New legal reality' within the framework of the All-Russian Water Congress



COMMUNITY ENVIRONMENTAL PROJECTS

En+ implements projects aimed at identifying, discussing and solving environmental problems that exist in the Baikal natural territory jointly with the public.

Volunteer project '360' held for the 12th time

The '360' volunteer project was initiated by En+ in 2020. It is dedicated to the protection of Lake Baikal and other water bodies and natural areas across the Company's operating regions. Among key activities are the collection of litter on the shores of Lake Baikal, construction of eco-trails, tree planting, improvement of tourist infrastructure and assistance to nature sites.

In 2022, the project was carried out for the 12th time on the banks of Lake Baikal, the Angara and other water bodies in popular recreation spots in Irkutsk, Bratsk, Ust-Ilimsk, Divnogorsk, Miass, Nizhny Novgorod, and for the first time in Ulan-Ude, Severobaikalsk and Krasny Chikoy.

[Read more at p.129](#)



DEVELOPMENT OF A BIODIVERSITY CONSERVATION PROGRAMME

En+ started developing a comprehensive programme for the conservation of biological diversity in the area affected by the Angara cascade HPPs. In 2022, assessment of biodiversity impact was carried out.

[Read more at p.103](#)



ENVIRONMENTAL MONITORING OF LAKE BAIKAL

En+ has supported a research expedition tasked with the complex environmental monitoring of Lake Baikal since 2019.

In 2022, based on the monitoring results, conclusions were drawn on the reasons for certain qualitative characteristics of the coastal waters of Lake Baikal.

[Read more at p.104](#)

PEOPLE HEALTH AND SAFETY



REGULATORY DOCUMENTS

Health, Occupational, Industrial and Fire Safety Policy

MATERIAL TOPIC

- Health and safety

KEY FACTS

0.16

Lost time injury frequency rate (LTIFR)¹

8% reduction

in occupational illness cases compared to 2021 (from 205 to 188)

35

external audits were carried out to receive ISO 45001:2018 certificates

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To achieve zero work-related fatalities	Not achieved	<ul style="list-style-type: none"> - Power segment suffered one fatality - Metals segment suffered 4 fatalities
To reduce LTIFR	Not achieved	LTIFR remained stable- 0.16
To enhance the OHS management system, guided by international best practices	In progress	<ul style="list-style-type: none"> - Power segment carried out external audits for compliance of the OHS management system with the requirements of ISO 45001:2018

Management approach

GRI: 3-3

Ensuring the occupational health and safety of all employees and contractors is a priority for En+. The Company is fully committed to preserving lives and well-being of its people and always focuses on building a safe work environment. The Company's management is working hard to achieve the goal of zero fatalities and zero injury among employees.

En+ is conscious of all the negative impacts that its operational activities may have on personnel. The Company recognises that production and non-production processes cause risks to the health and safety of employees, which can lead to injury or occupational diseases.

These potential impacts may occur in the case of safety rules violation, accidents, and emergencies. To protect employees, who are the Company's main value, En+ is constantly improving its occupational

health and safety (OHS) management system and taking actions to prevent and mitigate negative impacts on workers.

En+ pays close attention to all its operations and endeavours to eliminate activities with a high risk of injury or death. The Company keeps records of all past accidents, incidents, and diseases, as well as near misses, and implements all necessary corrective actions based on this information in a timely manner. En+ collects and processes appropriate data and tracks OHS indicators to find new solutions for making work environment even safer. Furthermore, the Company works to develop OHS competencies of its employees and carries out evidence-based analysis to create a more predictive safety model.

The Company has a comprehensive management system that includes policies, standards, requirements, and best practices in health and safety. Under this system, En+ controls all processes associated with safety hazards and expects each site within the Company to implement and maintain necessary OHS programmes and practices.

GRI: 3-3

The Company's OHS management approach draws on the following fundamental principles:

- life and health are more important than production results economic indicators
- any incident that can be prevented must be prevented
- work must not start if it cannot be safely executed
- the safety agenda should be fully integrated into all business and production operations from daily routine
- an unwavering commitment to comply with the OHS legislation, and, where possible, be best in class should be met
- each employee must have or has the appropriate skills and knowledge to work safely
- safe behaviour must be supported and motivated
- suppliers and contractors must follow our safety requirements

The Company's stance on health and safety is based on Health, Occupational, Industrial and Fire Safety Policy, which regulates OHS issues. The Policy applies to all employees and contractors of En+ and formalises the basic principles of industrial safety, commitments of the Company's CEO.

GRI: 403-1 403-8

All the Company's sites and 100% of employees, as well as all the contractors, are covered by occupational health and safety management system (OHSMS).

In 2022, the OHS system was verified and updated to comply with the requirements of ISO 45001:2018 standards:

- En+ certified all sites of the Power segment to ISO 45001:2018, with a consecutive assessment of OHSMS of these facilities. To receive those certificates, 30 external audits were carried out in the reporting period.
- En+ conducted re-certification to ISO 45001:2018 at those enterprises of the Metals segment that had been certified in previous years. External audits were carried out at five sites of the Metals segment in 2022.

In the reporting period, the Company also developed its Occupational Safety Strategy until 2030 for the Metals segment. It is aimed at promoting all health and safety elements to ensure safe work condition for personnel and reduce injuries. By 2025, RUSAL plans to ensure safe working conditions for company employees and contractors' personnel accessing the company's production sites and offices, with a 50% reduction in the frequency of work-related injuries.

GRI: 2-13 403-4

The Board of Directors is actively involved in health and safety issues. The HSE Committee of the Board has been operating since 2019. It comprises five members and sits at least once a quarter. Committee members are responsible for the consideration of all strategic OHS issues and preliminary consideration of issues pertaining to proper functioning of OHSMS.

Read more at p.152

The Health and Safety (HS) Directorate is the governance body that ensures an appropriate operation of OHSMS. The Directorate controls all facilities in the Power and Metals segments, coordinates local health and safety functions, and conducts internal audits. Members of the Directorate also take part in employee training.

100%

of employees are covered by occupational health and safety management system

¹ / Per 200,000 hours worked.

PEOPLE

In 2022, the HS Directorate conducted 19 on-site audits in the Power segment and 14 in the Metals segment to assess the functioning of OHSMS, the implementation of the information system, and the organisation of communication with personnel. In addition, the Directorate conducted weekly visits to enterprises.

En+ uses the following mechanisms to evaluate its health and safety management approach:

- OHS KPIs for managers
- constant monitoring of health and safety performance of production sites
- conducting internal and external audits

In addition, En+ started digital transformation of occupational health and safety processes. In 2022, the Occupational Safety information system based on the 1C platform was put into operation at most enterprises of the Power segment. In the Metals segment, 10 technical specifications for the development of the automated information system Safety of Production Activities were developed and approved. In 2023, En+ will continue automation of OHS processes.

[Read more about Digitalisation at p.184-187](#)

CONTRACTOR HEALTH AND SAFETY MANAGEMENT

For En+ the safety of its contractors is no less important than the safety of its employees. For this reason, En+ recognises the importance of including contractors in OHSMS. The Company holds a mandatory security briefing with each new contractor, which outlines the corporate security requirements and the potential risks they may face. Contractors are introduced to the required PPE and other trainings as appropriate to their work.

Standard contractor agreement and the Agreement on the Respect for Occupational Health, Fire and Industrial Safety by Contractor are the main documents regulating performance of contractors in terms of health and safety. The latter agreement covers a long list of requirements for contractors, their duties, responsibilities, a list of violations and relevant penalties.

Dedicated En+ managers are responsible for contractors' OHS management, not limited to supervising contractors. The main role of the dedicated manager is to build an OHS system that ensures contractors' safety. All contractors are obliged to report their OHS performance monthly or until their withdrawal from the production site.

The Company closely analyses contractor companies with regard to their level of occupational health and safety and continues to work with those who meet all respective legislative requirements and hold all necessary licences, certificates and work permits.

In 2022, some changes were made to the process of engagement with contractors regarding their health and safety:

- introduced unified OHS requirements for tendering contractor organisations
- systematised the process of collecting reports from contractors
- implemented a single procedure for the admission of contract personnel to the territory of enterprises

HEALTH AND SAFETY PERFORMANCE

In 2022, in spite of all the seriousness En+ approaches safety management with, 5 people died as a result of safety incidents – one employee in the Power segment and four in the Metals segment.

The incident in the coal business of the Power segment was due to a violation of instructions when inspecting railway car coupling. En+ deeply regrets this loss and expresses its support to the family of the locomotive driver. The Company took corrective actions right away, including conducting unscheduled briefings on safety behaviour with employees, installation of video recording cameras, and amending the relevant regulatory documents. In addition, a prohibition on the use of mobile devices during production processes was introduced.

One of the most serious occurrences was at the BrAZ. A worker, who was not authorised to independently drive a diesel loader in electrolysis buildings, ran over an anode paste hopper. As a result, the hopper traverses overturned and crushed another worker to death. Right after the incident, En+ changed the system for distributing keys and equipped the loaders with individual locks across all sites of the Metals segment.

The Company deeply regrets all the irreparable losses suffered in the reporting year and expresses condolences to the families and friends of our passed colleagues.

To make enterprises safer, all incidents are subject to investigation. The Company finds root causes and takes them into account in the future. En+ conducts investigations in accordance with the national legislation and internal standards. En+ assesses all potential risks, including risks associated with the human factor. The corporate LTIFR within the En+ stood at 0.16, remained stable from 2021. LTIFR of Power segment contractors was 0.10.

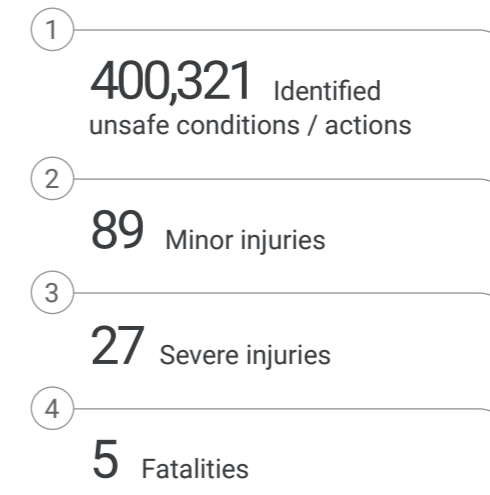
The LTIFR of the Power segment stood at 0.13, showing reduction to 7% through successful prevention of group injury cases. In the Power segment, 36 injuries were recorded among full-time employees and two among contractors in 2022. Injuries were primarily caused by falling from height and electrical trauma. In line with this, En+ published regulatory documents detailing additional measures for each area, including:

- personal participation of chief engineers (technical directors) in granting permits for the most comprehensive works associated with higher risks of electrical trauma
- keeping logs of the condition of fences at enterprises
- dismantling of fences and openings only in coordination with chief engineers (technical directors); installing temporary fences instead of dismantled during repair works

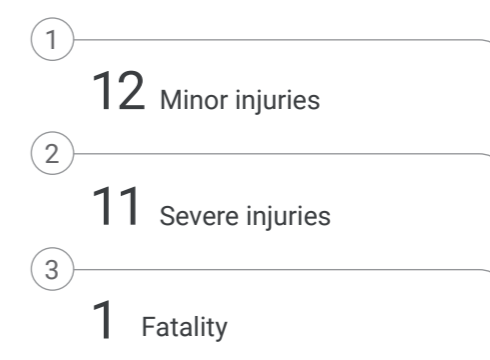
In the Metals segment, 85 accidents of work-related injuries were recorded among full-time employees and 22 among contractor employees. The most common type of occupational injury was minor injury leading to temporary disability. The injuries were primarily caused by falling as a result of slipping or stumbling. In the reporting period the LTIFR of Metals segment was 0.18, remained stable from 2021.

GRI: 403-9

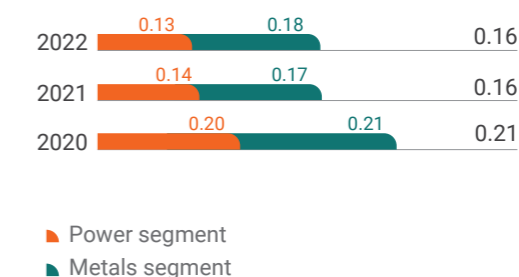
Work-related employee injuries



Work-related contractor's injuries



LTIFR¹



¹ / Per 200,000 hours worked.

33 audits conducted to assess the functioning of OHSMS

PEOPLE

OHS TRAINING

Basic Safety Rules

Employees	Managers
I am always sober while on duty. I do not carry alcohol, drugs or toxic substances and don't use them	
I always fully and reliably report all information about incidents that I'm aware of	
I never let myself and my colleagues: <ul style="list-style-type: none"> - perform hazardous work without a work permit and actual admission to work - arbitrarily turn on / connect equipment - perform repairs and maintenance of equipment without shutdowns, and the implementation of technical measures, preventing erroneous or spontaneous switching on - arbitrarily remove / switch off protective locks, posters, portable grounding, fences 	I do not organise hazardous works: <ol style="list-style-type: none"> a. without a work permit b. without the appropriate qualifications of the staff c. without a permit carried out at the work site d. without the necessary private protective equipment (PPE)
I operate machinery and vehicles only if I have the appropriate permission	I always stop work that poses a risk to employee's health and safety

Cardinal Safety Rules

Managers and employees	
I always work wearing/using appropriate PPE <ul style="list-style-type: none"> - I proceed with switching and repair of electrical equipment only in complete arc flash PPE - I always use safety devices when working at heights (at a distance less than 2 metres from an unsecured vertical drop of 1.8 metres height or greater) - I always wear a safety helmet securely fastened with a chin strap in the areas where a safety helmet is mandatory 	When working with lifting equipment, I use only proper strapping and cargo sling schemes. I keep away from possible drop zone of a load
I never change my work assignment without permission, I do not expand the work area. I am in no hurry and do not violate the technology of work	I always wear a seatbelt in a vehicle
I do not enter designated hazardous areas without permission	I use only established traffic routes. I cross the road and railway tracks in a specially designated/equipped pedestrian crossings

In the reporting period, the Unified regulations for conducting behavioural safety audits were introduced. The Company conducts behavioural safety audits, which comprise observation of employees at work and evaluation of their safety behaviour. Such audits incorporate the human factor while using a risk-based approach.

In 2022, audits were primarily held for 100% of engineering and technical employees responsible for organising the safe performance of work and safe work support. Subsequently, audits for 15% of both engineering and technical employees and workers were organised on a monthly basis.

GRI: 403-4, 413-1

En+ encourages its employees to always stay vigilant and report any safety hazards they notice right away. Employees may report directly to their supervisors or through other communication channels, including anonymously:

- Commission on labour disputes
- Incident warning system for executives
- Monthly OHS meetings
- OHS Commission
- Hotlines
- Problem-solving boards

For many years, En+ has invested a lot of effort in the development and maintenance of a strong and effective safety culture. It is possible to achieve the demonstrated high level of employee engagement through initiatives that encourage workers to become increasingly interested in their own safety and that of their co-workers.

Key implemented OHS initiatives in Power segment in 2022:

Competence Development Programme for OHS leaders	Labour Safety Leader contest	Act Safely comic strips
The Corporate University and the OHS Directorate implemented the Competence Development Programme for OHS leaders, which, in addition to the development of professional skills, includes issues on emotion, personnel and time management, as well as communication.	The Labour Safety Leader contest for Power segment enterprises was launched. Those with the most outstanding results over a quarter or a year received commendation from the management, a monetary award for distinguished employees, and additional funding for enhancing work conditions at enterprise.	Two Act Safely comic strips that illustrate how employees must behave when working at height and with lifting equipment were created and published in the Vestnik En+ corporate newspaper in the reporting period.

HEALTH PROTECTION

GRI: 403-7, 403-3, 403-6

Health protection is a priority for En+. The Company believes that workers have the right to a high level of protection of their health. That is why En+ provides a voluntary medical insurance policy for all employees. Moreover, they have the opportunity to be assisted by corporate medical centres for free. Each En+ facility has a special medical post to carry out checks before and after shifts and provide first aid and other medical care to employees.

All respective employees submit to annual medical examination prior to commencing work as required by national legislation. En+ also covers expenditures related to different medical procedures if they are required for an employee.

Employees of the Metals segment and their families are entitled to high-quality medical services provided by 14 branches of medical centres are located in most regions of the Company's operation. All Metals segment facilities cooperate with the Izmerov Research Institute of Occupational Health. This enables conducting comprehensive medical examinations of the Company's workers and detecting occupational diseases.

GRI: 403-10

The Power segment also has an extensive network of medical centres, which provide employees with high-quality treatment and preventive care. Employees obtain first aid, pre-shift and post-shift checkups, alcohol tests and preventive medical examinations. In addition, En+ provides annual vaccinations against flu and tick-borne encephalitis.

In 2022, the most common occupational illnesses were vibration disease and hearing loss for the Power segment and vibration disease, joint diseases, sensorineural hearing loss and intoxication with fluorine compounds for the Metals segment.

THE LOOK AROUND PROJECT IN METALS SEGMENT

The Look Around project was launched in the Downstream division of the Metals segment in 2019. The initiative aims to involve all employees of RUSAL in the process of detecting safety hazards. They will be required to send information about dangerous situations using a special programme.

In 2022, the implementation of the project continued. In total, a quarter of the Downstream division headcount (1,312 people) took part in this initiative in 2022. This increased the number of identified safety hazards by 37% compared to 2019.

37%

increase in the number of identified safety hazards in Downstream division

PEOPLE

Emergency preparedness

En+ complies with all national legislation requirements and ensures the Company preparedness to emergencies of any kind. All facilities have Actions Plans for the Localisation and Liquidation of the Consequences of Accidents, which include information on facility inherent risks and required measures to respond to emergencies in a proactive way.

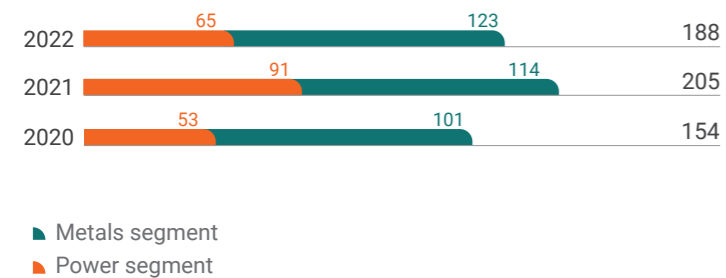
En+ pays special attention to local communities. Some facilities of the Company are located in areas exposed to natural risks, including floods, earthquakes and wildfires. These facilities are required to develop and regularly update their Emergency Response Plans that include measures to minimise this kind of risks for local communities and business itself.

Facilities of En+ take the following actions to prevent emergencies and eliminate consequences of accidents:

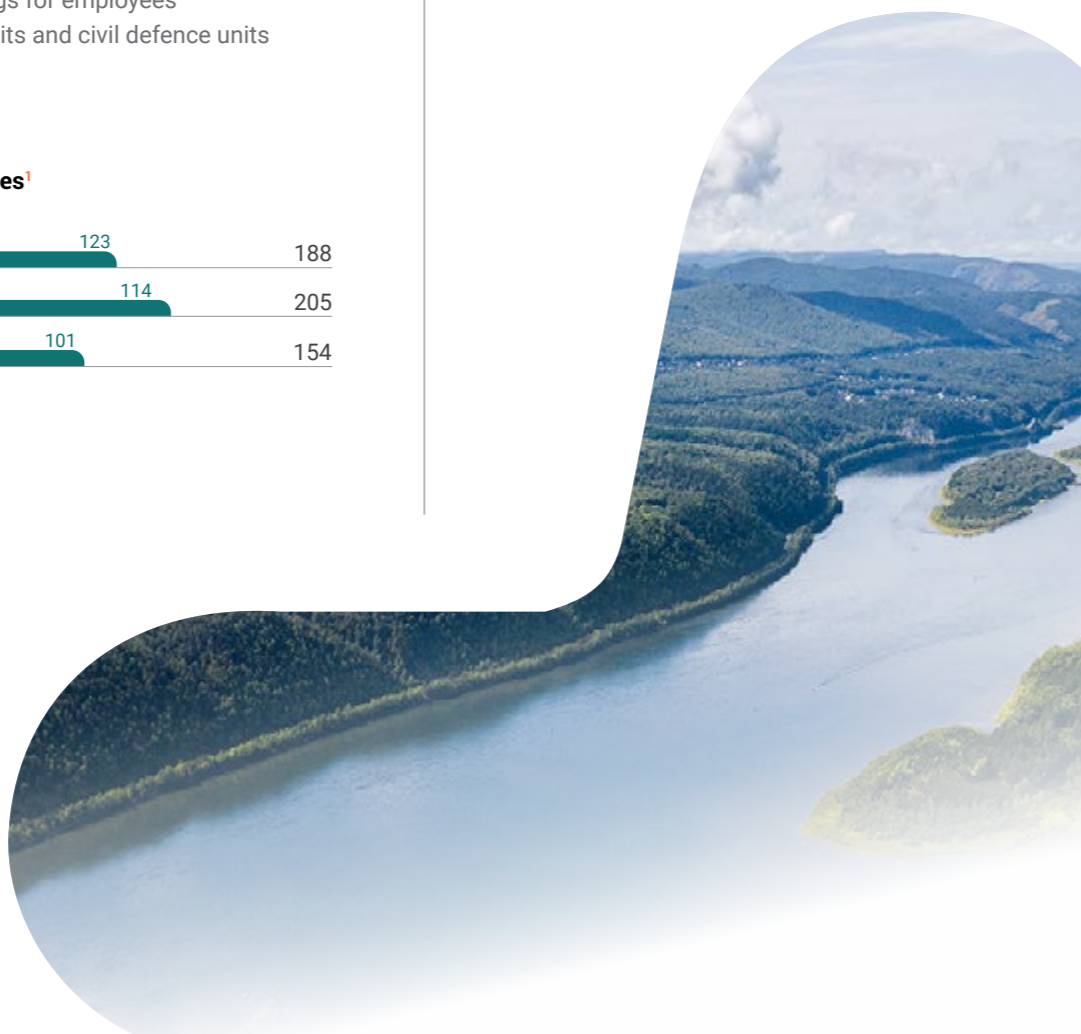
- creation of commissions for prevention and liquidation of emergency situations and ensuring fire safety
- permanent operation of the Bureau for Civil Defence and Emergencies
- day-to-day operation of the Duty Dispatch Service
- creation of material and financial reserves to use in case of emergencies
- use of communication, warning and information support systems
- emergency preparedness trainings for employees
- creation of emergency rescue units and civil defence units

GRI: 403-10

Employee occupational illness cases¹



¹ Hereinafter in the section "Health and safety" in the Metals segment cases of occupational illness identified in the post-contract period are not included.



GOALS FOR 2023 AND ONWARDS

In the medium term, the Company aims to:

Decrease LTIFR by 10%

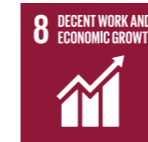
Achieve zero work-related fatalities

Conduct an external audit of the safety culture and approve the 2024–2026 Strategic Action Plan

Conduct a recertification audit of OHSMS across all enterprises

Develop a corporate system of vocational training in health and safety for all categories of personnel. The process includes revision of existing educational programmes and development of additional ones

EMPLOYEES



REGULATORY DOCUMENTS

- Code of Corporate Ethics
- Diversity Policy of the Board of Directors
- Human Rights Policy

MATERIAL TOPICS

- Employees management and engagement
- Social and cultural diversity and equal opportunity

KEY FACTS

96,617 employees as of 2022

86.3% of employees covered by collective bargaining agreements in 2022

27.6% female in Company

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To ensure the implementation of automation projects of the main HR units according to the approved schedule	Completed	En+ has been systematically automating HR business processes for several years, and all planned measures have been fully implemented
To automate work with the talent pool based on the UNIVER e-learning portal	On track	Documents and processes were developed
To ensure the development of the mortgage programme and its expansion to all the Company's enterprises	Completed	The Company continues to implement this programme
To expand the list of infrastructure projects and cooperate with worker's and youth councils	Completed	In 2022, the Workers' and Youth Councils proposed a number of initiatives to improve the social and living conditions of employees and their families. All the main proposals were reflected in the activities that were implemented
To ensure the expansion of the staff of production teachers being recruited, including among the retired	Completed	46 people were recruited as production teachers

PEOPLE

Management approach

GRI: 3-3

People are the Company's most important asset. Respect for human rights and individual freedom is a fundamental value of En+ in achieving its strategic and sustainability goals.

The Company's approach to human resources management is enshrined in a comprehensive set of corporate instruments such as the Diversity and Equal Opportunities Policy, the Human Rights Policy and the Corporate Code of Ethics. Policies are mandatory for application by all management bodies of the Company, including the Board of Directors and its committees, and by all structural divisions of En+. The Company also expects its business partners, consultants and other business agents to adhere to the principles of the policies and the Code.



Read more on the Company's website

The efficiency of human resources management is confirmed by the positive dynamics of labour productivity, low staff turnover and the results of the annual employee satisfaction and engagement surveys, which have consistently shown an increase in these indicators in recent years.

GRI: 2-27

There were no significant incidents of non-compliance with labour laws and regulations in the Company resulting in legal action in 2022.

In 2022, significant improvements in HR management included the automatization of HR assessment and training processes on the UNIVER platform and HR data collection, including gathering information for ESG standards, on the 1C platform.

PERSONNEL STRUCTURE

SASB: EM-MM-000.B

En+ has representative offices on five continents. The Company employed 96,617 people at the end of 2022. Compared to 2021, the total number of employees has increased by 3.7% in 2022.

GRI: 2-7 401-1

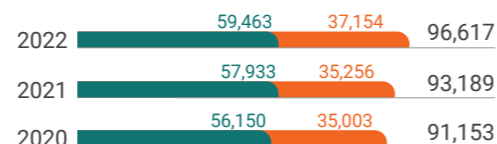
The majority of the Company's employees lived in Russia (89.5%), worked full-time (97.9%) under permanent employment contracts (93.6%). Most of the employees in 2022 were in the 30-50 years age group.

GRI: 401-1

In 2022, the Company's turnover was 10.5% (decreased by 1.6 p.p. from 12.1% in 2021)². The Company hired 13,706 people, with 30.8% of new hires being women.

GRI: 2-7 SASB: EM-MM-000.B

Total number of employees at the end of the year¹



Metals segment
Power segment

GRI: 2-8

The most common types of workers who are not employees and whose work is controlled by En+ are contractors and subcontractors. They work under civil contracts and perform work such as building, technological development, repairing, teaching, marketing.

¹ / The total number of employees at the end of the year does not include external secondary job employees. The data was collected using the HR data collection system.
² / In the Power segment, employee turnover is calculated as follows: the number of employees who resigned from their job during the reporting period (in accordance with section 3, part 1, article 77 of the Russian Labour Code)/ the number of employees as of 31 December, while in the Metals segment, employee turnover is calculated using the formula: the number of employees who left the Company during the reporting period, irrespective of the reason and the article of the Labour Code/the number of employees as of 31 December.

DIVERSITY, EQUAL OPPORTUNITIES AND INCLUSION

GRI: 3-3

En+ encourages and supports the diversity of its employees, creating the conditions for effective work and providing equal opportunities for all employees of the Company. En+ exercises due diligence and prevents violations of human rights and freedoms, harassment and discrimination on various grounds, such as age, gender, sexual orientation, ethnicity and nationality, disability and other legally defined characteristics. Equal opportunities and non-discrimination are provided throughout recruitment, remuneration, job evaluation and training. By 2025, Metals segment plans to achieve the Dream Employer (No.1) status for young people by creating a value proposition based on the principle of equal opportunity and rejection of bias in the workplace.

When recruiting employees, the Company gives preference to candidates from the local community. This practice is followed at all levels and at all enterprises.

The proportion of women in the workforce increased to 27.6% in 2022 and by 3.3% to 36.3% on the Board of Directors (compared to 2020). The proportion of women in the workforce is close to the natural level in the industry. During the reporting year, the ratio of the average basic salary of men and women at the Russian enterprises of the Company in Power segment was 1.13 compared to 1.26 Metals segment (0.7 in the other countries of operation). The reason for this difference is that the participation of women in hazardous production activities is restricted by law in the countries of operation, particularly in Russia and the CIS countries.

In 2022, 61.5% of employees were in the age group 30-50, while 25.3% of the total workforce were over 50 and 13.2% under 30.

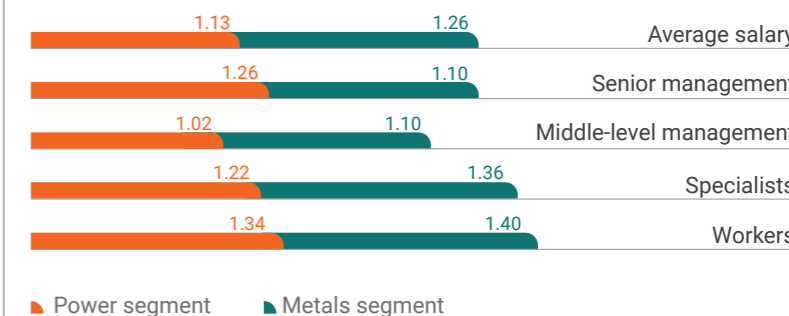
Read more at Additional ESG data at pp.294-301

In 2022, 772⁵ employees with disabilities worked in the Group. En+ also offers the possibility of transfer and retraining to employees who have suffered an accident at work without a reduction in salary.

Read more at Additional ESG data p.298

GRI: 405-2

Ratio of the basic salary of men to women at Russian enterprises, 2022³



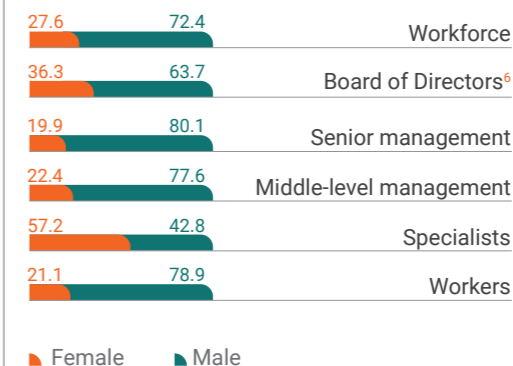
GRI: 202-2

Senior managers recruited from local population in Russia and other countries⁴, 2022, %

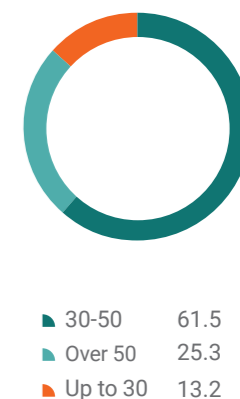


GRI: 405-1

Gender diversity, 2022, %



Employees by age, 2022, %



³ / The basic salary excludes any additional remuneration, such as payments for overtime or bonuses.
⁴ / The geographical definition of 'local population' includes the country of operation. Senior managers include a president, vice-presidents, directors of enterprises, production units and other functions, as well as their deputies.
⁵ / To enforce the Federal Law 'On social protection of disabled persons in the Russian Federation' in terms of the required number of people with disabilities employed in quota jobs RUSAL recently decided to enter into agreements with local branches of the All-Russian Society of the Disabled People in Company operating regions. This allows enterprises to meet the quota through the agreements rather than by directly employing people with disabilities on a full-time basis.)
⁶ / Board of Directors of En+ Group without RUSAL

WOMEN'S COUNCILS

GRI: 413-1

Women's councils have been set up and operate in Metals segment and at the En+'s Krasnoyarsk HPP. For example, the Women's Council of Krasnoyarsk HPP holds meetings with speakers, participates in events and charity projects and organises cultural and sporting leisure activities for female employees.

PEOPLE

HUMAN RIGHTS FEEDBACK MECHANISMS

En+ is always open to dialogue and is ready to answer any questions from employees, contractors, suppliers and representatives of local communities on human rights violations. The Company has a round-the-clock hotline, where everyone can contact with a proposal or complaint regarding the observance of rights. In 2022, En+ received no complaints on labour rights violations.

Signal Assurance Service

8-800-234-56-40

Signal@enplus.ru

HUMAN RIGHTS

In 2022, En+ identified:

GRI: 406-1

No incidents of discrimination

GRI: 408-1

No incidents of child labour

GRI: 409-1

No incidents of forced or compulsory labour

GRI: 3-3

En+ regularly assesses human rights risks as part of its risk management system and carries out comprehensive human rights audits and procedures. Human rights compliance is the responsibility of HR department.

The employees' and suppliers' rights and freedoms in En+

The right to work and to fair and favourable working conditions

The right to equality and non-discrimination

No forced, child or compulsory labour

The right to health

The right to safe environment

The right to privacy



SUPPORT THE RIGHT TO WORK AND TO FAIR AND FAVOURABLE WORKING CONDITIONS

En+ aims to create a positive working environment in which each employee feels respected and accepted. The Company complies with national and international legislation and industry standards on working hours, weekends and paid annual leave.



SUPPORT THE RIGHT TO EQUALITY AND NON-DISCRIMINATION

GRI: 406-1

En+ does not tolerate any form of discrimination or preferential treatment in employment on the basis of gender, nationality, religion or any other grounds. The remuneration system applied at the Company's production sites ensures the right of En+'s employees to fair remuneration and to equal pay for equal work, considering the specifics of the region, where the Company operates. Equal wages and remuneration for men and women in positions with the same skill requirements for work of the same value are ensured.

Read more p.123



NO FORCED, CHILD OR COMPULSORY LABOUR

GRI: 408-1 409-1

En+ neither uses nor supports the use of any form of forced or compulsory labour by its business partners, as well as the work of employees below the age permitted under national and international labour law.

Read more at p.177



SUPPORT THE RIGHT TO HEALTH

En+ is dedicated to maintaining the health and safety of its employees and to complying with relevant safety standards, health standards, rules and internal health and safety requirements for employees at all production sites and divisions of En+. The ultimate goal of the Company's approach is to achieve zero injuries and minimal negative environmental impact in the cities where En+ operates.

Read more at pp.108-114



SUPPORT THE RIGHT TO SAFE ENVIRONMENT

En+ recognises its impact on local communities and therefore seeks to engage in a dialogue on human rights with representatives of government and public organisations in the countries where it operates. En+ takes all necessary steps to reduce the impact of its operations on the environment. It also considers the culture, customs and values of local communities. When planning significant changes to existing projects and commissioning of new production facilities, the Company undertakes a mandatory preliminary assessment of the impacts, including potentially negative ones, of the planned initiatives on local communities and the environment.

Read more at pp.84-107



SUPPORT THE RIGHT TO PRIVACY

The Company respects the private and family lives of its employees and applicants and therefore ensures the protection of the personal data of all employees and other parties concerned.

Read more at pp.189-191

PEOPLE

GRI: 2-23

Human rights and the UN SDGs

Priority SDGs	Supported human rights	Key results
	<ul style="list-style-type: none"> The right to life, freedom and personal integrity The right to health Special protection of mothers and children 	14 branches of medical centres for employees are located in most regions of the Company's operation
	<ul style="list-style-type: none"> The right to safe water and sanitation Equal access to water and sanitation for women 	91.5% the share of reused and reusable water at RUSAL
	<ul style="list-style-type: none"> The right to an adequate standard of living 	10% increase in the salary level of the Company's employees
	<ul style="list-style-type: none"> The right to work and to fair and favourable working conditions The right to social security The right to education Prohibition of torture Prohibition of child labour 	27.6% of women in Company
	<ul style="list-style-type: none"> Protection of children from all forms of violence, abuse and exploitation The right to equality and non-discrimination Equal rights for women in employment and economic life Equal rights for women and girls in education Elimination of all forms of discrimination against women The right to decide on the number and spacing of children The elimination of violence against women and girls 	The ratio of the average basic salary of men and women at the Russian enterprises of the Company in Power segment was 1.13 compared to 1.26 Metals segment (0.7 in the other countries of operation).
	<ul style="list-style-type: none"> The right to adequate housing, including land and resources The right to participate in cultural life Access to transport Protection from natural disasters 	18 electric charging stations were opened The "Energy" cultural festival was organised in Irkutsk
	<ul style="list-style-type: none"> The right of all nations to freely dispose of their natural resources 	The design of the treatment facilities was completed at the Irkutsk HPP
	<ul style="list-style-type: none"> The right to health, including the right to a safe, clean, healthy and sustainable environment 	More than 100 environmental events, 13 scientific expeditions, and an online course for corporate volunteers were developed as part of the "Environmental Project" grant competition
	<ul style="list-style-type: none"> The right to adequate food and safe drinking water 	Kamensk-Uralsky Aluminium Smelter transferred to a water recycling system The Company continues the modernisation of wastewater treatment at CHPs
	<ul style="list-style-type: none"> The right of all peoples to self-determination The right of all peoples to development and international cooperation The right of everyone to enjoy the results of scientific progress The right to privacy 	En+ engaged in the development of the Science Based Targets for Nature through the partnership with the World Business Council on Sustainable Development in 2022

SOCIAL PROTECTION

GRI: 401-2

En+ constantly explores the needs of its employees and supplements the standard compensation package with options necessary for a comfortable standard of living. In the reporting period, the Company retained all social programmes for employees, added new ones and continued to raise salaries.

GRI: 403-6

Key social benefits

FINANCIAL AID

PREFERENTIAL MORTGAGE LENDING AND HOUSING PROGRAMME

The corporate housing programme covers employees of Power segment, including thermal power and coal companies. A unique condition of the En+ programme is that no down payment on the mortgage is required and 50% of the monthly annuity payment is compensated by the Company for the entire term of the loan agreement.

The actual mortgage rate is around 10%. The loan can be taken out for 10, 15 or 20 years, at the participant's discretion. During its existence, Power segment has approved more than 230 applications, under 130 of which employees have already purchased or refinanced a dwelling. The average age of programme participants is 34.

ACTIVE FUNDING OF LEISURE AND CHILDREN'S PROGRAMMES

In 2022, the Company allocated additional USD 0.5 million for the purchase of recreation vouchers (about USD 2.3 million in total)¹. The expenses include payment for employee wellness programmes at health resorts, weekend trips and vouchers for various recreation centres and boarding houses, as well as the organisation of recreational activities for employees' children. More than 5,000 employees and their family members were able to improve their health thanks to these funds. This figure includes 1,500 children who attended camps. En+ also agreed with partner hotels and sanatoriums to give employees discounts of up to 40%.

SPORTS AND HEALTHY LIFESTYLE SUPPORT

Sports grounds are being opened at the Company's enterprises, competitions are being held and new areas of activity are being developed. For example, tennis classes started in the reporting year at the Krasnoyarsk HPP. The Company is purchasing modern fitness and weight training equipment. An extra benefit for employees is a sauna where they can relax after a workout.

KEY FIGURES OF SOCIAL PROTECTION PROGRAMMES

By **50%** the meal allowance was increased for workers in the regions where the Company operates and was granted to workers who had not previously received this benefit

≈USD **2.3 mn (RUB 157 mn)** is the amount of funds En+ allocated in 2022 to purchase recreation vouchers for employees in Power segment and their families¹

No down payment under the preferential mortgage lending programme

USD **146 (about 10,000 RUB)** is the amount of the monthly supplement for each child paid to the families of employees raising disabled children, in force since June of the reporting year¹

SUPPORT FOR LARGE FAMILIES AND PARENTS OF SCHOOL CHILDREN

SUPPLEMENTARY PENSION PROGRAMMES

SUPPLEMENTARY HEALTH INSURANCE

In 2022, En+ continued its efforts to minimise the risk of COVID-19 and ARI infection and to support employees in case of illness. Regular employee communication and hotline activities were continued, and advice was provided by doctors at the enterprises.

ADDITIONAL MONTHLY PAYMENT FOR BRINGING UP DISABLED CHILDREN

DOBROSERVICE ADVISORY SUPPORT LINE

Since 2022, the Company have been cooperating with the Dobroservice employee support centre. The helpline can be addressed with various questions: psychological and legal support, personal finance. The client manager receives the question and arranges a convenient consultation time or, if the question is urgent, provides emergency communication with an expert. The service is available around the clock. All information and advice are confidential.

MEAL ALLOWANCE

A cash subsidy for food was introduced for all employees of Power and Metals segments.

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

PEOPLE

WORK COUNCILS

GRI: 413-1

En+ enterprises have established collective work councils. Their goal is to ensure effective interaction between the employer and the workforce on the issues of stable work, production development, working and living conditions of the employees. Each work council is governed by a separate regulation. These councils are usually formed from employees of an enterprise who have a significant work experience.

GRI: 413-1

YOUTH COUNCILS

Youth councils are a further form of employee association within the Company. By the end of 2022, 38 youth councils had been established. Compared to the previous year, the total number of employees involved in the councils increased from 200 to 300 people.

The master class at the September Youth Forum focused on issues such as engagement, the role of corporate culture in an uncertain environment, how to respond to these factors and whether the Company should care about the happiness of its employees. The purpose of the whole forum was to create mechanisms to increase the engagement of Company's employees, based on the opinions of representatives of youth councils. A total of 56 people attended the forum, including senior managers.

Main events of the youth councils in 2022

- 1
 - I am a Donor event
 - Support for an animal nursery
- 2
 - Charity events to protect the rights of minors
 - Promotion of law-abiding healthy lifestyles among schoolchildren
 - Organisation of visits to enterprises
- 3
 - Environmental campaigns to collect batteries and recyclable items
 - Planting trees with students
- 4
 - A project competition aimed at maintaining order in the workplace and developing business processes

SOCIAL PARTNERSHIP

An effective system of social partnership is crucial to the Company's operations as it provides for a dialogue with employees and an understanding of their interests. For this purpose, trade unions, workers' councils and an electronic proposal submission platform have been created in the divisions.

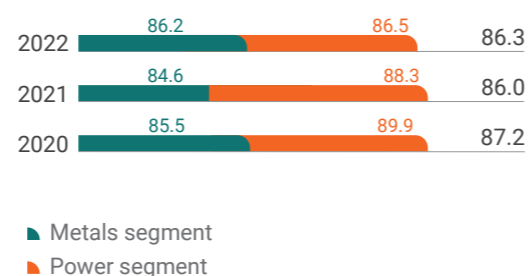
A constructive dialogue between employee representatives (union committees) and the Company's management remains in place, with the aim to further improve the efficiency of the production process and employee satisfaction.

GRI: 2-30

As a result of the joint activities of the Company and trade unions, 86.3% of employees were covered by collective bargaining agreements in 2022. Some subsidiaries have separate local regulations on payment and social benefits.

GRI: 2-30) SASB EM-MM-310.a.1

Employees covered by collective bargaining agreements, %



MOTIVATION AND REMUNERATION

Adequate remuneration is the most important tool for motivating employees to work effectively. Encouraging and rewarding employees who perform well is extremely important in maintaining a high level of motivation. En+ endeavours to ensure that its employees are paid at or above the average market rates.

Remuneration and benefits provided

EN+ MOTIVATION SYSTEM

SALARY

BASIC SALARY RATE

ADDITIONAL PAYMENTS

- Bonuses accrued by the heads of subsidiaries from a specially allocated funds
- Annual performance bonuses
- Payments to employees who actively participate in the Company's social projects
- Payments to employees who have received corporate, state and department awards
- Annual, quarterly and monthly bonuses to provide additional incentive

SOCIAL BENEFITS

Detailed information is provided in the subsection "Social protection", p.121

Metals segment raised the salaries of its employees in Russia by 10%. In March 2022, the management of Power segment decided to further increase the salary level of the Company's employees (by 10%), which ensured that the average income level is higher than the regional salary level.

Read more at Additional ESG data, pp.297-298

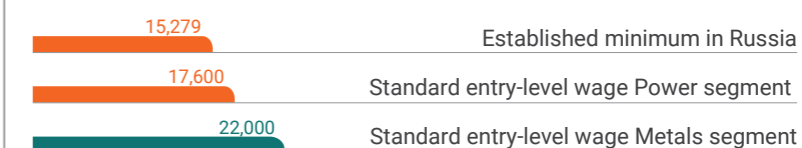
Efficiency and effectiveness of personnel management are assessed monthly, quarterly and annually. Each month initial analysis is held, reports are prepared each month or quarter and KPI fulfilment is assessed on an annual basis.

All KPIs are automatized and put on the UNIVER portal. Employees have access to their KPIs, which come down to them from their supervisor. Each employee reports on KPI fulfilment once every six months on the UNIVER portal. Based on the percentage of KPIs achieved by the employee, bonuses are paid to them.

The Company's career competence assessment is based on the SHL platform, a personality model assessment that describes an individual according to 32 essential parameters (scales). These scales reflect the most important aspects of professional work in modern organisations and are grouped into three key areas: Managing People, Managing Tasks and Managing One's Own Behaviour.

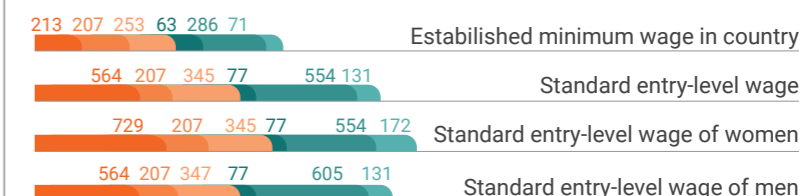
GRI: 202-1

Standard entry-level wage in Russia, 2022, RUB¹



GRI: 202-1

Standard entry-level wage in other countries (Metals segment), 2022², USD



- Republic of Armenia
- Ukraine
- Jamaica
- Guinea
- Guyana
- Nigeria

GRI: 3-3

Personnel management assessment

EFFICIENCY AND EFFECTIVENESS ASSESSMENT

MONTHLY	QUARTERLY	ANNUALLY
Initial analysis	Monthly or quarterly reports	On the basis of KPIs

¹ / Standard entry-level wage refers to the wage that is paid to a lower-level employee for full-time work (i.e., the minimum wage). This indicator excludes the salaries of trainees and students.
² / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

PEOPLE

EMPLOYEE ENGAGEMENT

Annual monitoring of employee engagement and satisfaction allows you to analyse the state of employees and the level of social tension. Since 2019, monitoring has been carried out by En+ employees through anonymous online surveys. Engagement is assessed through employee surveys. Information is also collected on the level of satisfaction and happiness of the En+ employees.

In 2022, more than 44,000 En+ employees (Power segment – more than 20,000, Metals segment – more than 24,000) took part in a satisfaction and engagement survey, and 66,287 employees participated in a public opinion survey. The results showed a level of engagement of 67.8% (1.2 p.p. higher than in 2019) and a level of satisfaction of 73.8% (3.1 p.p. higher). In addition to the surveys, employees can voice their concerns through a round-the-clock hotline, a feedback box or by contacting the Ethics Office.

SUCCESSION POOL AND TRAINING

As one of the largest employers in the countries where it operates, En+ takes care of its employees offering them many opportunities for comprehensive self-development. In 2022, for example, the Company contributed around RUB 203.9 million (USD 2.9 million)¹ to training and development of its employees, excluding travel expenses, and RUB 204.2 million (more than USD 2.9 million) to training of the external succession pool.

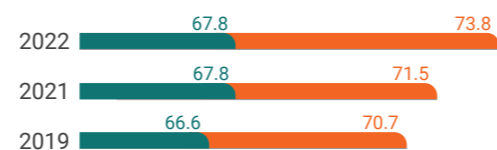
In 2022, the Company revised its policy on the training and development of the internal succession pool and regulations on working with the succession pool. En+ launched a self-nomination programme for the succession pool: any employee who wants to be promoted can apply for consideration. The participation of potential pool members in the Company's strategic projects is of particular importance.

GRI: 404-2

The Corporate University offers more than 100 professional retraining and development programmes to En+ employees. Professional development programmes are also implemented at the request of the Company's segments. In 2022, employees completed 22,322 educational person-courses².

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.
² / Number of courses completed by the staff in the reporting period.

Employee engagement and satisfaction, %



■ Engagement
 ■ Satisfaction

EN+'S SUPPORT FOR PROMISING PROFESSIONALS

MY CAREER 2.0
 The project bringing together the most promising talent from En+ enterprises across the country to pitch their ideas on a wide range of topics, including urban development, environment, health and safety, and digitalisation

PREFERENTIAL EDUCATION
 A co-funded university study programme for young En+ employees who are strongly motivated to continue their studies at university for new career opportunities

Employees receive higher education under the preferential programme

IRKUTSK STATE UNIVERSITY
 A cooperation agreement

MOSCOW STATE UNIVERSITY
 A training programme

UNIVER UNIVER TRAINING PORTAL
 A career development portal from Power and Metals segment, which is designed, among other clients, for the Company's employees and features various educational tools and job openings

Schoolchildren and students

En+ provides various educational facilities for young people in its regions of operation as they are future talents and the Company is interested in hiring them to maintain a high level of personnel qualification. Educational opportunities at En+ include its Energy Laboratory, School, Classes and cluster, corporate scholarship, IT Academy, corporate centres, participation in the Engineering Holidays and in the 'Professionals of the Future' case movement.

Read more at pp.126-135

Employees and newcomers

The UNIVER training portal

The career development portal allows you to get to know with digital training tools and to organise distance training. The external portal <https://career.enplusrusal.ru/> has been created for those who are interested in power and metals industries. Internal portal <https://univer.enplusrusal.com/> is designed to be used by current employees.

The UNIVER training portal offers

70 training courses, video lectures and recordings of webinars on different topics

Preferential education

All employees of En+ under the age of 35 have the opportunity to study at universities in the regions where the Company's production activities are conducted. The project participant only has to pay for the first term, and the Company pays for all the subsequent ones.

14 students received accelerated distance learning at INRTU and Bratsk University

9 people started distance learning on the basis of partner universities with an energy profile

My Career 2.0

The aim of the programme is to identify material project topics according to young employees and to give them the opportunity to work in project teams with a wide geography.

187 employees participated in the conference in such areas as ecology, health and safety, digitalisation

5 webinars were conducted within the online training marathon

180 participants pre-defended their implemented projects

22 finalists were appointed to higher positions

14 of 28 finalists from the previous My Career 2.0 session were included in the succession pool, as other participants were already enrolled

GOALS FOR 2023 AND ONWARDS

In the medium term, the Company aims to:

conduct employee appraisals

ensure a high level of qualification among current personnel, considering the specifics of the hazardous production industry, and strengthen the requirements for mandatory knowledge and skills

implement activities to engage high-potential employees in the Future Enterprise Leaders programme

develop the mentoring system in the Company

increase the level of collecting data on internal training through the automation of the UNIVER portal

increase the number of scholarship holders who have obtained or plan to obtain a job in the Company

PEOPLE COMMUNITY ENGAGEMENT



REGULATORY DOCUMENT

Stakeholder engagement policy

MATERIAL TOPICS

- Local communities engagement
- Social and cultural diversity and equal opportunity

KEY FACTS

RUB **3.6** bn
(USD **53** mn)
total social investments

More than
RUB **41** mn
invested in the 'Multilabs' project

Over
10,000
people attended the 'Energy' cultural festival

Over
151,000 people became the '360' campaign eco-volunteers over the life of the programme

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To allocate 100% of social investment of Metals segment based on the Sustainable Urban Development Index Methodology with measurable indicators of improved living standards as compared to other regions	Completed	In 2022, RUSAL developed the Sustainable Cities Responsibility Index, an analytical tool to assess the appeal of cities and prioritise the projects

Management approach

GRI: 3-3
En+ is dedicated to driving change for the future of local communities and aspires to make a significant positive contribution to the well-being and social life of all the regions where it operates.

GRI: 2-29 3-3
En+ has a Stakeholder Engagement Policy which sets out procedures and tools for working with local communities.

GRI: 203-2
En+ supports candidates from local communities and tries to recruit employees from among local residents, paying particular attention to respecting the rights of local communities, and only if there are no people with the necessary knowledge and skills in the local labour market, does the Company hire candidates from other regions. This practice is applied at all levels of the Company's operations.



The Stakeholder Engagement Policy is available on the Company's website

GRI: 3-29 413-1 SASB: EM-MM-210a.3

By investing in social projects, the Company aims to meet the needs of local communities and to create sustainable value for its business. En+ always takes into account the views of local communities on social issues such as the development of urban infrastructure, programmes and initiatives in the areas of health, education and sports, which helps the Company make decisions on investments and actions. Under its Sustainability Strategy by 2025 RUSAL plans to make 100% social investments according to the Sustainable Cities Index methodology and on the basis

of measurable indicators in order to ensure a meaningful quality of life (environment) improvement on the 3 most critical aspects of social and environmental well-being of the top 10 areas of responsibility that require improvement in such aspects.

Company's social projects aim to improve the living conditions and the well-being of its employees and the residents of the regions in which it operates. This is reflected in eight SDGs supported by En+.

En+ always takes into account the views of local communities on social issues

GRI: 2-13

The parties responsible for the implementation of En+ social projects are:

Deputy Chief Executive Officer for Public Affairs

- defining the Company's strategic approach to working with local communities
- analysing the results of social programmes implemented
- developing plans for future periods

Director of the Department of Communication and Social Projects

CSR Project Manager

Committees on Social Investments in the Metals and Power segments

- identifying social investment and financing priorities
- holding monthly meetings to develop tactical decisions on social investment projects
- approving funding requests received from the social projects committees at the enterprise level
- developing strategies for the implementation of social projects in a specific region of presence

Committees on Social Projects at the enterprise

- processing requests from local communities for charitable assistance
- making recommendations to social policy committees

PEOPLE

DEVELOPMENT OF INFRASTRUCTURE AND URBAN ENVIRONMENT

GRI: 203-1

En+ has unique experience in the implementation of social projects and regularly invests in the creation and renewal of regional infrastructure.

To determine the real needs of each region and to address a wide range of infrastructure issues, En+ conducts surveys of the local population in the regions where it operates.

To assess the attractiveness of cities and prioritise projects, in 2022, RUSAL developed an Index of Sustainable Development for the areas where the Company operates. The aim is to assess the attractiveness of the areas and to create a database to evaluate the effects of social projects.



Project	Goal	Investments ¹	Key results
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METALS SEGMENT

Social cooperation	To improve public areas, playgrounds, repair of educational and cultural institutions, construction of social facilities	RUB 2.7 bn (USD 39.4 mn)	Concluded 26 agreements on socio-economic cooperation in 12 cities
Taezhny village, Russia	To build social infrastructure facilities in the village of Taezhny in the Krasnoyarsk Region – a kindergarten, a school and a polyclinic	RUB 7 bn (USD 102.1 mn)	Built 13 comfortable residential buildings for 790 apartments with landscaped courtyards, engineering and infrastructure facilities, two kindergartens for 500 places, a school with a swimming pool, lifts for people with limited mobility, an assembly hall for 300 seats with a full set of musical equipment, and a polyclinic
Republic of Guinea	To build a new health centre		Health centre was built and equipped at the expense of the Kindia Bauxite Company
	To repair and restore the municipal sewage treatment plant in the city of Friya		Project is on track
	To improve public spaces in the city, reconstruct sports stadiums, and open four new artesian wells with drinking water at the Boke region		Project was completed
Jamaica	To rebuild cultural and sports centres and schools and improve the safety of children in the village		Cultural and sports centres were rebuilt. Reconstruction of the school bus stop was initiated
School of Urban Change	To identify, train and develop leaders of urban change who can improve the quality of life in the regions through implementation of territorial development projects		RUSAL held 32 educational events with 1,238 participants and 35 experts. 12 events and five online distance learning courses were offered to 352 participants

Project	Goal	Investments ¹	Key results
POWER SEGMENT			
Electric vehicles in Siberia	To develop network of charging stations and of 'green' technologies		Eight electric filling stations were opened in the Irkutsk Region in 2020 and 2021, and ten more in 2022. En+ purchased 19 Russian-made buses, some of which are electric vehicles
Modernised power grid	To improve the power supply situation in the Shelekhovsky district and significant improvement in the quality of electricity supply	RUB 1.1 bn (USD 16 mn)	Power grids in the Shelekhovsky district were upgraded
Participation in public-private partnership	To build effective interaction with the government on financing socially important initiatives	RUB 269 mn until 2025 (USD 3.9 mn)	The funds were used for social projects in the cities of the Krasnoyarsk (Divnogorsk), Irkutsk (Irkutsk, Angarsk, Bratsk, Ust-Ilimsk, Usolye-Sibirskoye, Zheleznogorsk-Ilimsky, Chermkhovo) and Chelyabinsk (Miass) Regions
Urban infrastructure improvements	To improve the Park of Hydrobuilders in Irkutsk	RUB 50 mn (USD 0.7 mn)	Lighting and small architectural forms – benches, chairs, lounges, litter bins, bike parks were installed

SUPPORTING PUBLIC ENVIRONMENTAL PROJECTS

GRI: 203-2 413-1

In regions of responsibility, En+ and RUSAL consistently approach the resolution of social and environmental issues by monitoring the environmental status of natural objects and performing systematic work to support and develop environmental initiatives. The Company's volunteers clean and sort waste, build and restore eco-trails, plant trees and support nature reserves.



Project	Goal	Investment ¹	Key results
'360' project	To preserve Lake Baikal and protect areas of the Russian Federation from negative environmental impacts		In 2022, the geography of the project was expanded – for the first time, volunteers from Ulan-Ude, Severobaikalsk and Krasny Chikoy took part in the programme. In addition, the events were traditionally held in Irkutsk, Ust-Ilimsk, Bratsk, Divnogorsk, Miass and Nizhny Novgorod <ul style="list-style-type: none"> - 1,248 face-to-face volunteers - 1,190 online eco-marathon participants - more than 4,300 bags of waste (34,664 kg)
Environmental project grant competition	To preserve aquatic ecosystems and biodiversity and maintain the ecological balance of natural areas in the regions under En+'s responsibility	RUB 10 mn (USD 0.146 mn)	In 2022, more than 100 environmental events, 13 scientific expeditions, and an online course for corporate volunteers were developed as part of the competition. More than 1,000 volunteers took part in the events

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

SUPPORTING EDUCATION

GRI: 203-2

En+ pays great attention to improving the accessibility and quality of education. Supporting talented young people in obtaining the necessary skills for professional training and development is an integral part of En+'s social policy.

En+ provides high-quality professional training for both specialists and young people within programmes such as the IT Academy programme, the Power Engineering Lab 2022, the UNIVER training portal for industry employees, and also has a corporate university, which is one of the largest educational centres of additional professional education in Eastern Siberia. RUSAL organises Olympiads for schoolchildren, pays special scholarships to gifted students, and provides targeted support to educational institutions. RUSAL also arranges practical training in its enterprises and in the Moscow office for young specialists. En+ also participates in open career guidance events for students at its partner universities, such as job fairs and career forums.



Project	Goal	Investment ¹	Key results
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METALS SEGMENT

Scholarships for Guinean students	To provide university scholarships to students from Guinea		50 representatives of Guinean youth will be able to receive free (including all costs related to flights, accommodation and training) higher education in a wide range of medical specialties at the Krasnoyarsk State Medical University
Science festival	To popularise science among schoolchildren and encourage interest in invention and scientific creativity		The festival took place in five Russian cities, bringing together 32,000 children and teenagers. The festival programme included an interactive scientific exhibition and workshops, a lecture hall with performances by Russian scientists from Moscow State University, Skolkovo and the Darwin Museum. In 2023, the Company plans to organise another large-scale science festival in the cities where its plants are located
Ireland and Sweden	To support education		Aughinish provided material support to libraries and schools and regularly arranges school trips KUBAL organised an internship for high school students and supported local schools by purchasing educational aids on environmental issues

POWER SEGMENT

Multilabs in Krasnoyarsk, Irkutsk and Divnogorsk	To ensure the growth of the quality of education in the regions, help students shape the trajectory of their individual development, and ensure the popularisation of engineering and IT-directions	RUB 41 mn	Three Multilab skills development centres with modern computer, audio and video equipment, as well as equipment for development in the sphere of robotics, 3D modelling (engineering design), electronics, the Internet of Things, and video production in Krasnoyarsk, Irkutsk and Divnogorsk were opened Additional capabilities of the centres: additional educational programmes, conferences and competitions, a popular science festival, additional courses for the retired, additional courses for schoolchildren and parents
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Project	Goal	Investment ¹	Key results
'Energy School'	To popularise the industry and core professions among high school students in the Irkutsk Region	RUB 0.411 mn	A total of 1,135 schoolchildren from 43 schools of Ust-Ilimsk and Angarsk were involved in the project in test mode. The first dozen of schoolchildren registered on the career.enplusrusal.ru platform and started mastering the programme.
'Energy in Every Drop'	To provide students with basic engineering skills, concepts of design and its main features, information culture, teaching and research skills, intelligence development and group interaction skills		<ul style="list-style-type: none"> - 130 schools from 30 regions - Educational camp on Lake Baikal for teachers of robotics and captains of robotics teams held - A series of educational webinars were held for participants in robotics competitions
'Energy classes'	To attract and prepare well-educated, motivated school graduates for admission to higher education institutions in the energy sector	RUB 2.211 mn	Eleventh-graders in the Irkutsk Region were prepared for their final exams free of charge. At the end of the training under the Energy Classes programme, 25 graduates received a certificate that provides additional points for admission to energy-related universities
Energy session on the basis of the educational centre 'Persei'			25 high school students studied natural sciences intensively, presented their own projects and visited En+'s enterprises. In the future, these young people will be able to join the Energy Classes programme for further university admission
'Polytechnic'	To find and develop talented young people and provide them with career guidance in the energy industry		Competition for schoolchildren and students of specialised professional institutions held in a wide range of subjects, and in 2022 – for the first time – in the field of 'Modern Energy', on the basis of INRTU
The 'Engineering Vacation'			Annual career guidance programme based at INRTU for regional schoolchildren who are interested in the field of energy
Energy Laboratory	To involve young talent in the search for promising technological ideas and implement them in the enterprises of the Power segment	RUB 2.9 mn	The Energy Laboratory is case study grant programme for solving cases. In 2022, 339 students from 12 educational institutions from nine cities in Russia joined the programme. A total of 783 people have participated in the programme over five years. The Energy Laboratory 2022 was one of the winners of the federal project 'University Technology Entrepreneurship Platform'. As a result, the Energy Lab will receive a grant of more than RUB 7 mn to further develop student initiatives and create innovative products
'Future Educator'	To train teachers with a deep understanding of the specifics of the En+ Power business for practice-oriented training of students whose skills and qualifications will meet the needs of enterprises.		Four postgraduate students from INRTU were selected through a competition and successfully completed the educational track and receive a scholarship of RUB 55,000 and after graduation are guaranteed employment as teachers with pay conditions not lower than the average in the energy industry. A total of 105 graduates in specialised professions started working at the Company's enterprises
Irkutsk Energy College	To offer targeted training of students in college for secondary vocational education and a working specialty and subsequent guaranteed employment in En+	RUB 20.9 mn	From 2013 to 2022, 180 people were trained and then employed by En+ under targeted contracts
Corporate training and research centre (on the basis of three universities)	To offer targeted additional training for students on the basis of three universities: INRTU, BrGU, IRGAU for higher education in energy areas with subsequent guaranteed employment in En+	RUB 46.6 mn	From 2008 to 2022, 662 people were trained and then employed by En+ under targeted contracts

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

PEOPLE

Project	Goal	Investment ¹	Key results
JOINT PROJECTS OF TWO SEGMENTS			
IT Academy	To strengthen the human resources potential of Russian regions required to digitalise En+ large-scale production enterprises in the Irkutsk and Krasnoyarsk Regions	RUB 41.1 mn	En+ and INRTU completed the training of the first group of students. After successfully defending their projects and receiving a higher education diploma, eight first-tier graduates started working at En+ Digital. In 2022, the IT Academy was already opened at two universities in Irkutsk – in INRTU, ISU, and also opened in Bratsk on the basis of BrSU and in Krasnoyarsk on the basis of SibFU
Scholarships for talented students	To support students in four fields: energy, metallurgy, medicine and pedagogy	RUB 9.4 mn	The programme covers all regions where the Company operates, 179 students were selected as winners and got corporate scholarships in the range of RUB 2,500 (USD 36) to RUB 25,000 (USD 364) per month. In 2022, 50 educational institutions from 18 cities of Russia participated in the programme
'Professionalitet' programme	To create a training and production centre for the energy sector	RUB 92.7 mn (USD 1.3 mn)	In 2023 En+ laboratories will be opened in industrial areas, production sites and training areas En+ Digital acts as a supporting employer for an IT cluster in the Krasnodar Territory. Upon successful completion of training, graduates of both clusters will be offered employment in their specialty EuroSibEnergO JSC acts as a supportive employer for the energy cluster in the Irkutsk Region

HEALTHY LIFESTYLE

Promoting a healthy lifestyle and popularising skiing among the Company's employees, their families and residents of the regions is an important for En+. The Company actively supports both professional and amateur sports, implements programmes to develop sports infrastructure and provides financial support to professional sports teams.



Project	Goal	Investment	Key results
Sweden	To support the local football club		KUBAL supported the local football club 'Sundsvall' in its social work with vulnerable children and the disabled and provided financial support to the women's football club 'SDFF' and the local hockey club 'Timrå IK'
Jamaica	To support the development of sports at the local and national levels		Company hosted football competitions and other sporting events at its sports complexes and sponsored youth table tennis competitions
Ireland	To support the local football club		Aughinish sponsored local athletics clubs and football club "Aughinish". Aughinish also has sports facilities, including tennis courts, basketball and indoor football pitches and a small gym for use by employees and members of the local community

GET ON YOUR SKIS EVERYONE!

En+ actively supports skiing in Russia. The large-scale project 'Get on your skis everyone' is aimed at modernising and building ski infrastructure, training ski coaches, supporting youth teams and promoting a healthy lifestyle and skiing.

The project has been successfully implemented in partnership with the Russian Ski Racing Federation for a long time and today covers 16 cities in the Irkutsk, Kemerovo and Krasnoyarsk Regions, the Komi and Khakassia Republics.



SKI BASES AND TRAILS OPENED

In January 2022, a completely reconstructed ski resort of the Divnogorsk Technical School of Forestry Technologies was opened as part of the 'Get on your skis everyone' programme. En+'s investment in the project amounted to more than RUB 35 million.

In addition, as part of the 'Get on your skis everyone' project, a new ski base of international standard was built in Tulun and Nizhneudinsk, the ski-biathlon complex in Angarsk was reconstructed, and the phased reconstruction of the Bratsk ski stadium is underway.

The official partner of the Russian national ski racing team



'GET ON YOUR SKIS EVERYONE' SPORTS DAY



21 cities



8,000 participants

- In March 2022 En+ organised sports events in Irkutsk, Angarsk, Bratsk, Shelekhov, Cheremkhov, Tulun, Nizhneudinsk, Abakan, Sorsk, and Miass as part of the 'Get on your skis everyone' project together with the Russian Ski Racing Federation.
- The sports day included ski races, master classes, competitions, interactivity and animation for children were organised. The winners of the competitions received prizes and souvenirs.



EN+ AND THE MATCH TV CHANNEL LAUNCH A TV PROGRAMME

In January 2022, with the support of En+, the first episode of the new TV project 'Get on your skis everyone' with Elena Vyalbe was broadcast on the Match TV channel. The aim of the project was to popularise and promote skiing. Through this programme, viewers could learn about the latest news from the world of skiing, as well as about the development of skiing in Russia.

The programme was hosted by Russian skier Elena Vyalbe, multiple Olympic champion, President of the Russian Ski Racing Federation since 2010 and the Head of the Russian Ski Sports Association since 2020.



CROSS-COUNTRY SKIING TO BE INCLUDED IN SCHOOL CURRICULUM

En+ signed a cooperation agreement with the administration of the Angarsk district, to include cross-country skiing in the school curriculum as a compulsory part of physical education. The project involves 21 schools of the Angarsk district, more than 3,000 schoolchildren. The Company invested more than RUB 7 million in the purchase of appropriate equipment and materials.

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

PEOPLE

CULTURAL DEVELOPMENT

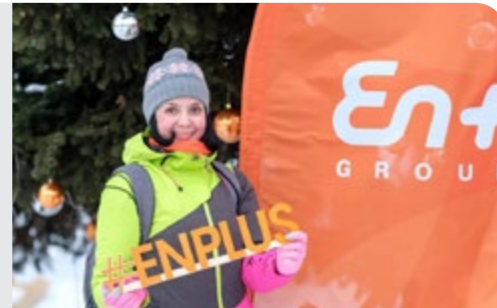
En+ and RUSAL actively promote the development of culture and the arts in the regions where they operate and support cultural and artistic projects. In this regard, they cooperate with the country's leading theatre award, the Golden Mask, organise tours of the capital's theatres as part of their own festivals, support the Baikal Dance Festival, the Jazz on Baikal Festival and other cultural events and institutions throughout the country.



Project	Goal	Investment	Key results
'Energy' festival	To organise cultural festival in Irkutsk		The biggest cultural festival since the beginning of COVID-19 was organised and brought together more than 20 well-known Russian cultural figures: leading writers, screenwriters, actors and creators. More than 10,000 guests visited the festival

VOLUNTEERING

En+ is working to create a culture of voluntary active participation among its employees in solving social problems of local communities and implementing various volunteer campaigns and projects.



Project	Goal	Investment	Key results
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METALS SEGMENT

'Helping is Easy' programme	To develop corporate and urban volunteering and support vulnerable groups through the social initiatives of city change leaders		Green Wave' campaign: more than 1,000 volunteers from 13 cities took part in the marathon, 1,316 trees and shrubs were planted 'River Day' eco-marathon: 1,617 volunteers collected 31 tonnes of rubbish from the banks of reservoirs in 13 cities; 10 tonnes were sent for recycling
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POWER SEGMENT

'World with a plus sign	To promote eco volunteering		In the Pribaikalski National Park, an entrance group on the route 'Big Baikal Trail – 1: Listvyanka – Bolshoye Goloustnoye' was equipped. In addition, volunteers improved 12 km of trails in the Baikal Nature Reserve and the Zapovednoe Podlemorye National Park. Another project is the construction of the first 2-km long urban eco-trail in Irkutsk
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JOINT PROJECT OF TWO SEGMENTS

New Year Charity Marathon	To strengthen the Company's systematic cooperation with social institutions		In the reporting year, teams of corporate volunteers from 16 cities of Metals segment and from five cities of Power segment took part in volunteer activities
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CHARITY

The Company finances and supports charitable projects, which are becoming an important part of the Company's policy, and systematically provides charitable assistance to those who need it most – adults and children with disabilities, children from needy families, orphans. The Company pays special attention to children without parental care or with serious illnesses.



Project	Goal	Investment	Key results
Republic of Guinea	To provide charitable assistance and support local infrastructure projects in the Fria prefecture		Financial assistance was provided to: <ul style="list-style-type: none"> - school supplies to 15 women's agricultural cooperatives in the Kindia region - 12 mosques and 23 territorial religious communities - 45 local communities at the end of the Muslim fasting period - women on the occasion of International Women's Day on 8 March
Sweden	To provide financial support		In 2022, KUBAL donated to the Children's Oncology Fund and to Doctors Without Borders (MSF), as well as medical and humanitarian aid to children from vulnerable families
Ireland	To support of local charities		In 2022, fundraising events were organised, as a result more than 500 families received food parcels for the Christmas and New Year holidays

GOALS FOR 2023 AND ONWARDS

In the near future, En+ plans to:

expand current social projects and interaction with shareholders, including active interaction with the Youth and Working councils and cooperation with NGOs and national parks

create new tools to attract the public (master classes, challenges, games, etc.)

open several sports infrastructure facilities, including a football pitch and a pump track for biking, scooter riding and skateboarding

develop a cultural support area for social investment

increase the number of scholarship holders who have obtained or plan to obtain a job in the Company

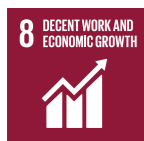
create an external succession pool and attract young talent

expand the volunteer movement

GOVERNANCE

CORPORATE GOVERNANCE

The Company is committed to high standards of corporate governance. The Group intends to continue to improve in this area and to adhere to internationally recognised standards of corporate governance, transparency, disclosure and accountability applicable to listed companies.



REGULATORY DOCUMENTS

- Regulations on the Board of Directors
- Code of Corporate Ethics
- Diversity policy of the Board of Directors

MATERIAL TOPIC

- Corporate governance

1 / As at the date of this Report.
 2 / As defined under Federal Law No. 290-FZ On International Companies and International Funds dated 3 August 2018.
 3 / Trade of the GDRs of the Company on the Main Market of the London Stock Exchange was suspended on 3 March 2022.

KEY FACTS

12 directors including 8 independent non-executive directors¹

All Board committees are chaired by independent non-executive directors

En+ has received a permit from the Government Commission on Control of Foreign Investments in the Russian Federation to continue the circulation of the Company's GDRs outside the Russian Federation until 7 November 2024 inclusive

6 Board committees

LSE suspended the admission to trading of the instruments for most Russian companies, including En+

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To conduct self-assessment and independent evaluation of the activities of the Board of Directors, its members and committees in order to evaluate the activities of the Board of Directors.	On track	Self-assessment has been carried out, an external assessment is planned for 2023.
To organise training to improve the qualifications of the Board of Directors, which were cancelled or postponed due to the COVID-19 pandemic.	On track	The trainings were planned, but postponed due to the current geopolitical situation.

GRI: 3-3

The Company has made substantial changes to its corporate governance practices, as a result of the OFAC Sanctions imposed on the Company and its subsidiaries on 6 April 2018, and their subsequent removal on 27 January 2019. Following these changes, the Company has proven its commitment to high international standards of corporate governance.

As a company incorporated in Russia, with GDRs listed on the Official List of the UK Financial Conduct Authority and traded on the Main Market of the London Stock Exchange³, the Company is not required to comply with the provisions of the UK Corporate Governance Code. However, the Company has chosen to comply with the UK Corporate Governance Code insofar as is appropriate and practicable in the Group's context.

As an international company², the Company aims to comply with the recommendations of the Russian Corporate Governance Code insofar as is appropriate and practicable within the Group's context. In corporate governance practices, the Company is also guided by the Listing Rules of the Moscow Exchange.

Adhering to high standards of corporate governance is an important element in attracting new investment, strengthening the Group's competitive position and enhancing shareholder value. Good

governance is based on clarity of roles and responsibilities, and the Company aims to ensure that its governance procedures are applied to all areas of decision-making across the Group.

The Board of Directors of the Company is responsible to all of Group's stakeholders for the strategic management of the Company. The day-to-day running of the Company falls within the competence of the CEO⁴. However, the Board retains responsibility for the approval of certain matters, which affect the shape and risk profile of the Company (see details below).

The Company's corporate governance system outlines the relationship between the Company's shareholders, the Board, the CEO and the management team, as well as the remit and duties of the Board committees.

4 / The Charter uses the term "General Director" which is used interchangeably with the term "CEO" in public disclosures made by the Company.

We consider the following corporate governance principles to be fundamental to our operations:

- Transparency
- Open and clear decision-making
- Legal compliance, including clear and robust compliance with requirements for the Company to be and remain clear from OFAC Sanctions
- Ongoing growth of the Company's value for the benefit of all stakeholders

In 2022, the Company did not register:

- GRI: 2-27 disputes and litigation regarding compliance with corporate governance standards and best practices
- GRI: 2-27 cases of improper behaviour of the Board members or the CEO
- GRI: 2-15 conflicts of interest affecting the Board members or the CEO

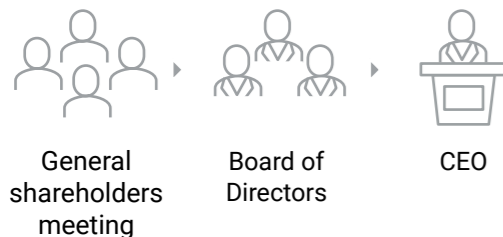
No disputes and litigation regarding compliance with corporate governance

GOVERNANCE

CORPORATE GOVERNANCE GENERAL SHAREHOLDERS MEETING STRUCTURE

GRI: 2-9

The Company's corporate governance structure includes the following key elements:



TIMELINE OF CORPORATE GOVERNANCE CHANGES 2022

7 March

Joan MacNaughton resigned from the Board.

25 March

Lord Barker resigned from his role as Executive Chairman of the Board and as a director, Christopher Burnham was elected as Chairman of the Board on the same date.

31 March

Carl Hughes has resigned from the Board.

18 May

Lyudmila Galenskaya and Steven Quamme were elected to the Board.

25 May

J.W. Rayder was elected to the Board.

5 July

Steven Quamme resigned from the Board.

3 April 2023

James Schwab was elected to the Board.

The general shareholders meeting (the "GSM") is the supreme governance body of the Company. The Charter details the matters which fall within the powers of the GSM.

Voting at a GSM is conducted on the basis of one vote per ordinary share. Decisions are generally passed by a simple majority of shareholders voting in favour of a motion at the meeting, save for a number of matters which, under the Charter, require the adoption of a special resolution (i.e., voting by a 2/3 majority), including, inter alia:

- the adoption of amendments to the Charter or approval of the restated Charter
- a change in the Company's status to non-public, or obtaining public status
- the reorganisation of the Company by way of consolidation, merger in the form of acquisition, division, or divestment
- the liquidation of the Company
- the fragmentation, conversion or consolidation of the Company's shares
- the acquisition of the Company's outstanding shares and
- an increase or reduction in the Company's share capital

The GSM is quorate if shareholders holding more than half of the votes attached to the outstanding voting shares in the Company participate.

If quorum for the holding of an annual GSM is not reached, an adjourned GSM with the same agenda shall be reconvened at a later date. If the quorum for an extraordinary GSM is not reached, an adjourned GSM with the same agenda may be reconvened at a later date. An adjourned GSM is quorate if attended by shareholders holding no less than 30% of outstanding voting shares in the Company.

Resolutions of the GSM may be adopted either in a meeting held in the form of joint presence of shareholders or by absentee voting.

If the agenda of a GSM includes issues relating to the election of the Board, approval of the Company's auditor for the audit of accounting (financial) statements prepared under the Russian Accounting Standards ("RAS"), or approval of the annual report and annual accounting (financial) statements of the Company, it may be conducted only with the joint presence of shareholders. However, due to the COVID-19 pandemic, from 2021 to 2023 the Russian joint-stock companies were permitted¹ to hold GSMs with the above-mentioned agenda via absentee voting.

¹ / In accordance with Federal Law No. 17-FZ dated 24 February 2021.

An extraordinary GSM may be held based on a resolution of the Board either adopted on its own initiative, or at the request of a shareholder (or shareholders) holding no less than 10% of voting shares in the Company as at the date of the request. An extraordinary GSM convened at the request of a shareholder (or shareholders) holding at least 10% of voting shares in the Company shall be held within 50 days from the date of the request to convene the extraordinary GSM.

Information (materials) which are to be provided to the GSM should be made available within 20 days prior to the GSM, and in the event of a GSM with an agenda item on the Company's reorganisation, within 30 days prior to the GSM.

ANNUAL GSM

The annual GSM must be convened by the Board between 1 March and 30 June of each year, and the agenda must include the following items:

- The election of the Board members
- The approval of the Company's auditor for the audit of accounting (financial) statements prepared in accordance with RAS
- The approval of the Company's annual report
- The approval of annual accounting (financial) statements of the Company
- The approval of distribution of profits of the Company, including the payment (declaration) of dividends, except for payment (approval) of any interim dividends

The Company's shareholders holding in aggregate at least 2% of voting shares in the Company may no later than 30 days from the end of the reporting year propose items for the agenda of the annual GSM and candidates for election to the Board.

REPORT ON MEETINGS HELD

In 2022, the annual GSM of the Company was held on 23 June 2022 in the form of absentee voting. Shareholders holding 77.79% votes participated in the annual GSM.

The annual GSM considered and passed the following resolutions:

1. "To approve the Company's Annual Report for 2021"
2. "To approve the Company's annual accounting (financial) statements for the 2021 reporting year"
3. "Not to distribute the net profit received by the Company for 2021 and not to pay dividends on shares for 2021"
4. "To elect the Board of Directors of the Company consisting of 12 members from the list of candidates approved by the Board of Directors of the Company:
 1. Christopher Burnham
 2. Timur Fidailevich Valiev
 3. Zhanna Sergeevna Fokina
 4. Lyudmila Petrovna Galenskaya
 5. Vadim Viktorovich Geraskin
 6. Thurgood Marshall Jr.
 7. Elena Valerievna Nesvetaeva
 8. Steven Quamme
 9. J.W. Rayder
 10. Andrey Vladimirovich Sharonov
 11. Andrey Vladimirovich Yanovsky
5. "To approve TSATR Audit Services Limited Liability Company as the auditor of the Company for the audit of accounting (financial) statements prepared in accordance with the legislation of the Russian Federation on accounting"

77.79%
votes participated
in the annual GSM
on 23 June 2022

GOVERNANCE

BOARD OF DIRECTORS

The Board adheres to the consistent approach that it aims to create a long-term value for the Company by supporting the balance between short and long-term objectives.

GRI: 2-11

In accordance with the Barker Plan¹ and as a condition to the removal of the Company from OFAC's SDN List, the Company announced on 28 January 2019 the immediate appointment of seven new independent non-executive directors, namely:

- Christopher Burnham
- Carl Hughes
- Joan MacNaughton
- Nicholas Jordan
- Igor Lojevsky
- Alexander Chmel
- Andrey Sharonov

On 8 February 2019, Lord Barker was appointed as Executive Chairman of the Board and Christopher Burnham as Senior Independent Director.

Lord Barker's appointment came with additional powers and responsibilities, designed to enhance the control of the Board over the corporate governance systems and procedures of the Company. The appointment was aimed at further increasing cooperation between the Board and the Company's management, with the ultimate objective of promoting the successful performance of the Company.

Most of the above directors were re-elected in 2021 by the annual GSM. On 26 May 2021, the annual GSM has elected two new independent non-executive directors: Thurgood Marshall Jr. and Zhanna Fokina. On 15 December 2021, following resignation of Anastasia Gorbatova, who has served as a director of the Company since May 2019, one new non-executive director, Olga Filina, was elected to fill in the vacant position.

On 7 March 2022, Joan MacNaughton resigned from the Board. On 25 March 2022, Lord Barker resigned from his role as Executive Chairman of the Board and as a director; Christopher Burnham was elected as Chairman of the Board on the same date. On 31 March 2022 Carl Hughes resigned from the Board.

On 18 May 2022, the Board elected Lyudmila Galenskaya and Steven Quamme to the Board.

On 25 May 2022, the Board elected J.W. Rayder to the Board.

All directors as of the date of the annual GSM in 2022 were re-elected to the Board.

On 5 July 2022, Steven Quamme resigned from the Board with effect from close of business.

On 3 April 2023, James Schwab was elected to the Board.

As at 31 December 2022, there were 11 directors on the Board, including seven independent non-executive directors, including the Chairman of the Board, and four non-executive directors. As of the date of this Report, there are 12 directors on the Board, including eight independent non-executive directors, including the Chairman of the Board, and four non-executive directors.

4
Non-executive
directors10
Independent
non-executive
directors

The quality and breadth of experience of the directors, and the balance of the Board's composition are intended to protect and promote the Board's effectiveness.

GRI: 2-10

The Nominations Committee recommends candidates for election to the Board based on such factors as independence, cultural and personal diversity, age,

impeccable reputation, skills, qualifications, as well as the experience of a person, his/her knowledge of business, industry areas of the Company and willingness to devote sufficient time to the duties of a member of the Board, with account of the existing composition, succession planning and the needs of the Board and its Committees and, in the light of such criteria, prepares a position description.

BOARD COMPOSITION AND ATTENDANCE

Board attendance and number of meetings in 2022

	Appointed on	Resigned on	Attendance ²
EXECUTIVE CHAIRMAN OF THE BOARD			
Lord Barker	17.10.2017	25.03.2022	13/13
CHAIRMAN OF THE BOARD (SINCE 25.03.2022)			
Christopher Burnham	27.01.2019	–	13/13
NON-EXECUTIVE DIRECTORS			
Olga Filina	15.12.2021	–	13/13
Vadim Geraskin	08.02.2019	–	13/13
Elena Nesvetaeva	08.02.2019	–	13/13
Timur Valiev	26.05.2021	–	13/13
INDEPENDENT NON-EXECUTIVE DIRECTORS			
Zhanna Fokina	26.05.2021	–	13/13
Lyudmila Galenskaya	18.05.2022	–	7/7
Carl Hughes	27.01.2019	31.03.2022	4/4
Joan MacNaughton	27.01.2019	07.03.2022	0/0
Thurgood Marshall Jr.	26.05.2021	–	13/13
Steven Quamme	18.05.2022	05.07.2022	1/3
J.W. Rayder	25.05.2022	–	5/6
Andrey Sharonov	27.01.2019	–	13/13
Andrey Yanovsky	25.09.2020	–	13/13
Total number of meetings			13



During 2022, the Board held 13 meetings and all of them were held in the form of absentee voting.

¹ / Lord Barker's plan regarding the removal of OFAC Sanctions from the Company was announced on 27 April 2018 and subsequently adopted by the Board on 18 May 2018. The plan provided for the reduction of Mr. Deripaska's shareholding to below 50% and the appointment of certain new directors such that the Board would include a majority of newly appointed independent directors. Further details in connection with the Barker Plan were disclosed, in particular, in the Company's 2018 Annual Report, available on the Company's website at <https://enplusgroup.com/en/investors/results-and-disclosure/annual-reports/>.

² / The number of meetings attended/maximum number of meetings the directors could have attended.

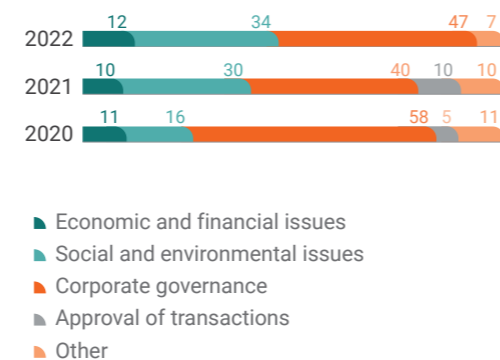
Board's focus during the year

Area of focus	Matters considered and decisions adopted
Strategy and risk	<ul style="list-style-type: none"> The Board preliminarily approved the Annual Report for 2021. The Board approved the Sustainability Report for 2021. The Board approved the Company's Business Plan for 2023. The Board considered updates on health and safety matters and updates on COVID-19.
Succession and leadership	<ul style="list-style-type: none"> The Board appointed Christopher Burnham as the Chairman of the Board. The Board elected new members of the Board: Steven Quamme, Lyudmila Galenskaya and J.W. Rayder. The Board updated the composition and appointed chairpersons of all Board committees after the Annual General Meeting of Shareholders. The Board updated the composition and appointed chairpersons of the Corporate Governance Committee, Nominations Committee, Audit and Risk Committee and Remuneration Committee on 17 August. The Board approved general levels of the members of the Company's Board of Directors' compensation. The Board appointed the Director of the Internal Audit Directorate of the Company.
Corporate Governance	<ul style="list-style-type: none"> The Board approved general levels of the D&O (Directors and Officers) insurance. The Board approved the results of assessment of achievement of key performance indicators (KPIs) by the General Director for 2021. The Board approved key performance indicators (KPIs) of the General Director for 2023. The Board took into consideration the results of the Board's self-evaluation. The Board approved revised versions of the Regulations on the Health, Safety and Environment Committee and the Audit and Risk Committee.
Financial performance	<ul style="list-style-type: none"> The Board approved the consolidated interim condensed financial information for the six months ended 30 June 2022. The Board preliminarily approved the Company's annual accounting (financial) statements for the 2021 reporting year. The Board approved the consolidated financial statements for the year ended 31 December 2021 prepared in accordance with IFRS.

Prior to the COVID-19 pandemic, many important issues in the field of sustainable development were considered by the Board in person. Since the beginning of the pandemic, such issues have been discussed via videoconference, where each director could give comments. In 2022, a strategic session of the Board, inter alia on sustainable development, was planned for October, and was postponed on the basis of the geopolitical situation.

GRI: 2-16

Nature and number of critical sustainability issues escalated to the Board of Directors, %



DIRECTORS' AND OFFICERS' INSURANCE

The liability of members of the Board of Directors related to execution of their duties at the Company is insured under a D&O liability insurance policy, which is renewed annually and represents insurance against any in-scope losses of the Directors.

BOARD RESPONSIBILITIES

The matters specifically reserved for the Board under the Charter include, inter alia, the following:

- The determination of the priority areas for the Company's activities
- The approval of the Company's long-term strategy and objectives and its overall management mechanism
- The day-to-day control over implementation of the Company's long-term strategy and objectives
- The approval of consolidated annual budgets and material amendments made thereto
- Control over the Company's core business and regular evaluation of its business in the context of the Company's long-term strategy and objectives and discharge of obligations contemplated by law and the Charter
- The convening of annual and extraordinary general meetings of shareholders
- The establishment and termination of committees, commissions, councils and other structural units of the Board, approval of their personal composition and regulations governing their operations

- The approval of internal documents of the Company (or making amendments or additions thereto) on the issues of environmental protection, insurance and risk management of the Company
- The approval of the Company's dividend policy
- The approval of certain transactions with a value exceeding USD 75 million
- The approval of share incentive plans and schemes provided to employees, as well as annual Key Performance Indicators for the CEO
- The approval of the register holder of the Company
- The approval of the Company's auditors (for the audit of financial statements in accordance with IFRS, or other internationally recognised rules other than IFRS)
- The appointment of the sole executive body (the CEO) of the Company

The Board has taken steps to ensure that members of the Board (in particular, the non-executive directors) develop an understanding of the major shareholders' views about the Company. The directors, including the Chairman, have direct face-to-face contact with shareholders at regular investor meetings.

EVALUATION OF THE WORK OF THE BOARD

In 2022, the Board carried out self-evaluation of the Board guided by best corporate governance practices, including the Corporate Governance Code of Russia and recommendations of the Bank of Russia on organisation and conduct of self-evaluation of effectiveness of the board of directors in public joint stock companies. The Board considered the report on self-evaluation on 25 May 2022.

- The members of the Board commended the performance of the Board in general, including the following positive features:
- Commitment to high standards of corporate governance
 - Significant attention to review of the financial performance of the Company
 - High quality of communication with the management

Based on the results of self-evaluation, the Board has identified certain areas for further improvement, including awareness of advanced technologies and due attention to interaction with local communities.

The Company plans to carry out an external assessment of the Board in 2023, results of which will be considered by the Board in 2024 and provided in the Annual Report for 2023.

TRAINING AND PROFESSIONAL DEVELOPMENT OF THE BOARD MEMBERS

Newly elected directors complete induction training upon their appointment.

The key elements of the programme include, inter alia:

- Personal meetings, in person or electronically, with the CEO, the Chairman of the Board, the Corporate Secretary, management team, and/or heads of corporate business units
- Familiarisation with operations, including on-site visits to the Group's production facilities with briefings on operational and managerial issues and meetings with local management
- Provision of Board information packages, including internal reporting documents for previous periods
- Provision of internal documents and Q&As with the management team
- Presence, as invitees, at meetings of all Board committees
- Mandatory training, including by external advisors, on matters relating to insider trading, regulatory disclosure and compliance with sanctions

GRI: 2-17

The Corporate Secretary runs the induction training programme for newly elected directors of the Company, and coordinates all involved parties with the assistance of the Corporate Governance Committee and the Nominations Committee.

As part of its Board training and professional development efforts, the Board also regularly conducts training sessions for Board members on various matters, often led by external advisors. In 2022, due to geopolitical situation all planned training sessions were postponed until 2023.

GRI: 2-18

As of the date of this Report, the Company is developing a procedure for evaluating the activities of members of the Board, the work of the Board and its committees.

BIOGRAPHIES OF THE DIRECTORS CURRENTLY SERVING ON THE BOARD

(A) (C)

Hon Christopher Burnham
Chairman of the Board, Independent Non-Executive Director

Appointed: 27 January 2019
Appointed as Chairman of the Board: 25 March 2022

Christopher has a distinguished career in government, diplomacy, banking and private equity. He is a globally recognised expert in the implementation of accountability and transparency, having served as Under Secretary General for Management of the U.N., Under Secretary of State for Management (acting), Assistant Secretary of State for Resource Management and CFO of the U.S. Department of State.

Christopher serves as Chairman of Cambridge Global Capital, which he founded. He is the former Vice Chairman and Managing Director of Deutsche Asset Management.

He studied at Georgetown's National Security Studies Program, graduated from Washington and Lee University, and Harvard University, where he earned an M.P.A. in 1990.

(N) (G)

James Schwab
Independent Non-Executive Director

Appointed: 3 April 2023

James has 30 years of general management and Private Equity experience across a variety of industries, including logistics, paper and forest products, telecommunications, government etc. James held board positions of CrimStone portfolio companies, Western Marketing, Cimcon Finishing, Waples Manufacturing, and Greenscape Landscaping.

James holds a bachelor degree (with distinction) in Mathematics from the United States Naval Academy and MBA from Harvard Business School.

(C) (G)

Olga Filina
Non-Executive Director

Appointed: 15 December 2021

Olga Filina has over 15 years of experience in internal control and compliance (including senior positions at Deloitte and KPMG).

Main areas of specialisation are investigations of complex cases of fraud, anti-corruption investigations (including in the field of financial investigations and audits for compliance with the US Foreign Corrupt Practices Act (FCPA)), formation and testing of the compliance function, outsourcing and support of hotlines, project management for internal audit and internal control.

(H) (G) (N)

Zhanna Fokina
Independent Non-Executive Director

Appointed: 26 May 2021

Zhanna Fokina has extensive experience working in environmental control and supervisory authorities.

Currently she heads the Environment Unit at RUSAL Krasnoyarsk. Ms. Fokina manages the company's environmental reporting and monitoring in the zone influenced by the enterprise, as well as programmes of industrial ecological control. She also supports government supervisory authorities' inspections in the environmental protection field.

Before joining RUSAL she worked in Rosprirodnadzor (Federal Service for Supervision of Natural Resources) and in pharmaceutical industry.

In 2009, she graduated from the Siberian Federal University.

(G) (H) (N)

Lyudmila Galenskaya
Independent Non-Executive Director

Appointed: 18 May 2022

At the beginning of her career, Lyudmila got a job at the Angarsk Polymer Plant. There were 150 people working in her subordination. After she moved from Angarsk to Irkutsk, she found a new job in Irkutskenergo. Today Lyudmila is engaged in ecological issues and environmental protection. She heads the Environmental Safety department. Supports all Company's activities in the field of ecology and environmental protection, works with government authorities. Interacts with the entire company and all branches. She is engaged in informing the public about environmental work, participates in environmental actions, discussions. Works on environmental issues with mass media. Actively exchanges experience with all environmental safety services within EN+. She is open to new ideas, participates in the development of new projects and in bringing them to implementation.

(H)

Vadim Geraskin
Non-Executive Director

Appointed: 8 February 2019

Vadim has significant experience in government relations at both a national and regional level.

Since September 2012, he has been the deputy CEO for Government Relations at Basic Element and heavily involved in pushing the company's socioeconomic development programmes in the regions where it operates.

Vadim headed RUSAL's Natural Monopolies Administration for eight years before joining Basic Element, and previously headed RUSAL's transport and logistics administration and Transport Department. From 1997 to 2000, he served as CEO of Zarubezhcontract, a company operating in the non-ferrous metals market. From 1993 to 1997, he worked for Aluminproduct Company.

Vadim graduated from Lomonosov Moscow State University with a degree in Physics.

(C) (R) (H)

Thurgood Marshall Jr.
Independent Non-Executive Director

Appointed: 26 May 2021

Thurgood Marshall Jr. has an extensive experience at the intersection of law, business, politics and policy.

Throughout his career, Thurgood served as an international law firm partner, was a member of the boards of listed companies and held a wide range of positions in the US Government: Staff Director and Chief Counsel to Senator Al Gore, Director of Legislative Affairs & Deputy Counsel to Vice President Al Gore, Cabinet Secretary.

Thurgood also practiced law in Washington DC when he completed his judicial clerkship.

He earned his Bachelor of Arts (BA) in 1978 and a Juris Doctor (JD) degree in 1981 in University of Virginia.

(R)

Elena Nesvetaeva
Non-Executive Director

Appointed: 8 February 2019

Elena has extensive experience working on investments and in the banking sector. She currently heads the Investment Department at Basic Element, which she joined in 2009. At Basic Element she manages the company's investment projects and portfolio, and is responsible for driving the group's investment strategy and asset valuation, acquisition projects and M&A transactions.

She worked in the banking sector and for a timber-processing holding.

Elena graduated with distinction from the Faculty of Economics of Syktyvkar State University, the Russian Academy of National Economy under the Government of the Russian Federation, and the Institute of Business and Business Administration with a degree in Management.

(G) (A) (N)

Andrey Sharonov
Independent Non-Executive Director

Appointed: 27 January 2019

Andrey is CEO of National ESG Alliance, Chairman of the Board of NefteTransService, Skolkovo Foundation, a member of several other boards.

He was a People's Deputy of the USSR, Chairman of the State Committee for Youth Affairs, served in the Ministry of Economic Development and Trade, was managing director and chairman of the Board of Troika Dialog, Deputy Mayor of Moscow for Economic Policy, Chairman of the Regional Energy Commission, and headed the Executive Committees of Moscow Urban and Open Innovations Forums.

He graduated from Ufa State Aviation Technical University and the Russian Academy of Public Administration, and holds a PhD in sociological science.

(C) (R)

Timur Valiev
Non-Executive Director

Appointed: 26 May 2021

Timur has extensive professional experience in managing court activities, claims and contracting, legal support of M&A projects and the creation of joint ventures.

From 2013 to 2019, he held the position of General Counsel of En+.

Prior to his career at En+, he served as Director for International Projects and M&A at Basic Element Limited.

Prior to joining Basic Element Limited, Mr. Valiev worked at international law firm Dewey & LeBoeuf, the legal department of TNK-BP, and at a number of Russian consulting firms.

He graduated from Lomonosov Moscow State University.

(A) (C) (R)

J.W. Rayder
Independent Non-Executive Director

Appointed: 25 May 2022

J.W. Rayder has been involved in or led significant corporate restructuring projects, financings, mergers and acquisitions, and had successfully negotiated numerous power supply and natural gas contracts on behalf of his clients.

J.W. Rayder also advises clients on a myriad of legislative, regulatory and transactional issues related to energy markets and federal taxation.

(R) (A) (H)

Andrey Yanovsky
Independent Non-Executive Director

Appointed: 25 September 2020

Andrey has been CEO of the Moscow-based hospital operator European Medical Centre and a member of the Board since 2014.

During his career, Andrey was CEO of the Coca-Cola Company franchise in Russia, CEO of Nidan Juices (2003-2009), vice-president for organisational development and personnel at TNK-BP (2009-2013), Director for strategy and organisational development at Nefteservice (2013-2014).

Andrey graduated from the Riga High Military School and received an MBA degree in Strategic Management from Kingston University.

Gender¹



Age¹



Independence¹



KEY

- (C) Committee chair
- (A) Audit and Risk Committee
- (C) Compliance Committee
- (G) Corporate Governance Committee
- (H) Health, Safety and Environment Committee
- (N) Nominations Committee
- (R) Remuneration Committee

¹ / As at 31 December 2022.



Full biographies can be found on the Company's website

GOVERNANCE

BIOGRAPHIES OF DIRECTORS WHO SERVED ON THE BOARD IN 2022 AND HAVE RESIGNED AS AT THE DATE OF THIS REPORT

Rt Hon The Lord Barker of Battle PC
Executive Chairman of the Board

Appointed: 17 October 2017
Resigned: 25 March 2022

After an early career spanning both international corporate finance and the Russian energy sector, Lord Barker entered the British House of Commons in 2001 through to 2015, during which time he served as UK Minister of State for Energy & Climate Change and Prime Minister David Cameron's special envoy on Climate Change.

He was made a life Peer in 2015. In February 2019, Lord Barker took a leave of absence from the House of Lords following his appointment as Executive Chairman of En+.

Lord Barker has served on the boards of the Environmental Defence Fund Europe and the Climate Group and also chaired the London Sustainable Development Commission for Mayor Boris Johnson in 2014–2016. He is also currently non-executive chairman of EVN Group, the leading UK developer of electric vehicle infrastructure.

Lord Barker was educated at Lancing College, London University and London Business School.

Carl D. Hughes
Independent Non-Executive Director

Appointed: 27 January 2019
Resigned: 31 March 2022

Throughout his career, Carl has specialised in the oil and gas, mining and utilities sectors. He joined Arthur Andersen in 1983 and became a partner in 1993. He was appointed the head of the UK energy and resources industry practice of Arthur Andersen in 1999 and subsequently of Deloitte in 2002. When Carl retired from the partnership of Deloitte in 2015, he was a vice-chairman, senior audit partner and leader of the firm's energy and resources business globally.

Carl holds a number of corporate and charitable appointments. He is a non-executive director and chairman of the audit committee of EnQuest Plc; a member of the finance and audit committee of the Energy Institute; a board member of the Audit Committee Chairs' Independent Forum; a member of the General Synod of the Church of England; and deputy chairman of the finance committee of the Archbishops' Council.

He holds an MA in Philosophy, Politics and Economics from the University of Oxford, is a Fellow of the Institute of Chartered Accountants in England and Wales, and a Fellow of the Energy Institute.

Joan MacNaughton CB Hon FEI
Independent Non-Executive Director

Appointed: 27 January 2019
Resigned: 7 March 2022

Joan is currently Chair of the Climate Group and of the Advisory Board of the New Energy Coalition of Europe. She sits on the Strategic Advisory Board of ENGIE UK, of the Grantham Institute at Imperial College and LSE, London.

Her former positions include Chair of the International Energy Agency and Executive Chair of the "World Energy Trilemma" of the World Energy Council and membership of many academic and corporate Boards.

Joan held a wide range of positions in the UK Government until 2007. As Director General of Energy, she played a key role in shaping UK energy policy, including leading the Clean Energy Action Plan of the 2005 Gleneagles G8 Summit.

Steven Quamme
Independent Non-Executive Director

Appointed: 18 May 2022
Resigned: 5 July 2022

Steven Quamme has extensive investing and operations expertise, and helps oversee Cartica's investments, portfolio construction, and operations.

Prior to forming Cartica, he was a co-founder and COO of a USD 1.0 billion activist fund as well as Senior Managing Director of an affiliated professional services firm focused on corporate governance, restructurings and turnarounds.

Steven has extensive experience in overseeing investments in Russian equities (Yandex, Ozon, TCS, X5).

GRI: 2-9

ESG competencies of the Board

	Power industry	Strategic management	Occupational health and industrial safety	Environmental management	Legal and corporate governance	Ethics and compliance with established requirements	Risk management and audit
Christopher Burnham	•				•	•	
Olga Filina						•	•
Vadim Geraskin	•				•		
Elena Nesvetaeva		•					
Timur Valiev					•		
Zhanna Fokina				•			
Lyudmila Galenskaya				•			
Thurgood Marshall Jr.					•		
Andrey Sharonov	•				•		
Andrey Yanovsky		•	•				
J.W. Rayder					•	•	•
James Schwab		•					

SOLE EXECUTIVE BODY – CEO

Under the Charter, the CEO acts as the sole executive body of the Company.

The CEO is responsible for directing the Company's day-to-day operations and holds all powers falling outside the exclusive competence of the GSM and the Board, including, inter alia:

- acting on behalf of the Company without a power of attorney (including by representing the Company and entering into transactions on its behalf)
- passing resolutions to establish branches and representative offices of the Company
- issuing powers of attorney, authorising their holders to represent the Company

The CEO is appointed by the Board for a period of five years unless another term of office is established by the Board.

Currently, the post of the CEO is held by Vladimir Kiriukhin.

Vladimir Kiriukhin
Chief Executive Officer (CEO)

Appointed: 1 November 2018
Joined the Group: January 2000

Vladimir oversees the Company's long-term strategy, business development and cooperation with key external stakeholders, including regulators.

A long-serving member of En+, previously Vladimir held several senior positions at EuroSibEnergo, including CEO. He held senior positions at Russian Aluminium and MAREM+. Vladimir was also a Chairman of the Board at Irkutskenergo, Chairman of the Board at Krasnoyarsk HPP, served in the Board of RUSAL.

He graduated from the All-Union Institute of Interindustrial Information with a PhD in engineering.

Vladimir does not hold any shares in the Company and has not entered into any transactions with the Company shares during 2022.

GOVERNANCE

CORPORATE SECRETARY

Pursuant to the Regulations on the Corporate Secretary, the Corporate Secretary of the Company is responsible for the Company's efficient ongoing interaction with shareholders, coordination of the Company's activities in protecting the rights and interests of shareholders, and support of the effective operation of the Board and Board Committees.

The functions of the Corporate Secretary include, inter alia:

- participating in preparation and holding of GSMs
- supporting the activities of the Board and the Board Committees
- implementing the Company's disclosure policy and ensuring the storage of the Company's corporate documents
- liaising between the Company and its shareholders, and preventing corporate conflicts
- improving the corporate governance system and practices of the Company

Sergey Makarchuk

Appointed as Secretary of the Board on 10 April 2019. Corporate Secretary of En+ on 14 November 2019.

After working at various law firms, Sergey worked for RUSAL Group from 2007–2010 at the Corporate Governance Department of RUSAL Global Management B.V., responsible for legal corporate support of the Group's entities, the RUSAL Board, and Board Committees support. He was also involved in the Hong Kong SE & NYSE Euronext IPO of RUSAL. From 2011–2013, Sergey was Deputy Director of the Corporate Governance Department at TNK-BP Management. After the acquisition of TNK-BP by Rosneft, he continued working at Rosneft as Deputy Head of the Foreign Assets Department/Project Director of the Corporate Governance Department.

Sergey Makarchuk graduated from the law faculty of Lomonosov Moscow State University in 2004.

The Corporate Secretary can be contacted with any queries at: CS@enplus.ru.

SHAREHOLDINGS OF CEO AND MANAGEMENT TEAM

As at the date of this Report, neither the CEO nor members of the management team directly or indirectly hold any shares in the Company. Throughout 2022, neither the CEO nor members of the management team concluded any transactions with the shares of the Company.

CONFLICTS OF INTEREST AND LOANS ISSUED TO MEMBERS OF THE BOARD AND THE CEO

In 2022 and up to the date of this Report, the Company has not been aware of any conflicts of interest affecting any member of the Board or the CEO (including in connection with their participation in the managing bodies of the Company's competitors).

In 2022, no loans were issued by the Company (or any Group company) to members of the Board or the CEO.

COMMITTEES OF THE BOARD

OVERVIEW

GRI: 2-9

As at the date of this Report, the Board has established six committees to assist it in exercising its functions:

- the Audit and Risk Committee (the "A&RC")
- the Compliance Committee (the "CC")
- the Corporate Governance Committee (the "CGC")
- the Health, Safety and Environment Committee (the "HSE Committee")
- the Nominations Committee (the "NC")
- the Remuneration Committee (the "RemCom")

All of the Committees are advisory bodies, whose primary function is to make recommendations to the Board on the matters falling within their remit.

The composition of the Company's existing Board committees was elected on 23 June 2022 and further amended on 18 August 2022 and 3 April 2023. The details regarding each of the Committees are set out below.

All members of the Board attended at least 75% of the meetings of the Board and meetings of the relevant committees.

Committees attendance and number of meetings in 2022 ¹						
	A&RC	CC	CGC	HSE Committee	NC	RemCom
EXECUTIVE CHAIRMAN OF THE BOARD						
Lord Barker (until 25 March 2022)		1/1				
CHAIRMAN OF THE BOARD						
Christopher Burnham	6/6	3/3				1/2
NON-EXECUTIVE DIRECTORS						
Olga Filina		3/3	1/1			
Vadim Geraskin				6/6		
Elena Nesvetaeva						3/3
Timur Valiev		3/3				3/3
INDEPENDENT NON-EXECUTIVE DIRECTORS						
Zhanna Fokina			1/1	6/6	1/1	
Lyudmila Galenskaya			1/1	4/4		
Carl Hughes (until 31 March 2022)	2/2	2/2			1/1	
Joan MacNaughton (until 07 March 2022)						
Thurgood Marshall Jr.		2/2		6/6		3/3
Steven Quamme (until 5 July 2022)						
J.W. Rayder	3/3					1/1
Andrey Sharonov	6/6		1/1		1/1	
Andrey Yanovsky	6/6			5/6		3/3
Total number of meetings	6	3	1	6	1	3

SHARE DEALING CODE

Upon admission to the Main Market of the London Stock Exchange in November 2017, the Company adopted a code or dealing in securities in relation to the GDRs, the ordinary shares, and any other securities of the Company, which is based on the requirements of EU Market Abuse Regulation (EU) 596/2014. This code applies to the directors and other relevant employees of the Group (to the extent it does not contradict the Charter and the applicable UK and Russian law provisions).

SHAREHOLDINGS OF DIRECTORS

As at the date of this Report Mr. Timur Valiev holds 64 shares of the Company. Aside from this, throughout 2022, Mr. Carl Hughes (resigned on 31 March 2022) held 5,000 GDRs in the Company. Other directors directly or indirectly held no shares in the Company and none of the directors concluded any transactions with the Company shares.

Neither the CEO nor members of the management team directly or indirectly hold any shares in the Company

¹ / The number of meetings attended/maximum number of meetings the directors could have attended.

GOVERNANCE

RESPONSIBILITY STATEMENT

The members of the Board confirm that, to the best of their knowledge:

The consolidated financial statements, prepared in accordance with IFRS as issued by the International Accounting Standards Board and as adopted by the European Union, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and its subsidiaries, taken as a whole.

This Annual Report includes a fair review of the development and performance of the business and the position of the Company and its subsidiaries, taken as a whole, together with a description of the principal risks and uncertainties that they face.

AUDIT AND RISK COMMITTEE

Composition

Pursuant to the revised Regulations on the Audit and Risk Committee, approved by the Board on 23 June 2022, the A&RC consists of members, all of whom have been determined by the Board to be independent non-executive directors, recognised as such pursuant to the Listing Rules of the Moscow Exchange. The Committee meets at least once per quarter of the Company's financial year.

The current composition of the A&RC is as follows:

- J.W. Rayder, as Chairman
- Christopher Burnham
- Andrey Sharonov
- Andrey Yanovsky

The A&RC is responsible, inter alia, for the following matters:

- Overseeing the integrity, completeness and accuracy of the financial statements of the Company and the consolidated financial statements of the Group
- Reviewing material aspects of the Company's and its subsidiaries' accounting policies to ensure that they are appropriate and consistently applied

- Reviewing the Company's annual report (including the annual consolidated financial statements) and making recommendations to the Board with respect to its contents
- Reviewing material matters and judgments (including significant financial reporting estimates and judgements) regarding the Company and the consolidated financial statements
- Monitoring the adequacy, reliability and effectiveness of operation of the Group's systems of risk management and internal control
- Reviewing and assessing the implementation of risk management and internal control policies to ensure that the systems of risk management and internal control are adequate and operating effectively
- Monitoring and assessing any important new systems (including IT systems) and ensuring that related controls are adequate, reliable and effective
- Ensuring that the internal audit function is independent and unbiased
- Assessing the effectiveness of the internal audit function
- Controlling the operating effectiveness of the system for reporting potential cases of fraud by the Group's employees and third parties, and other violations within the Group

GRI: 2-5

The A&RC is also responsible for reviewing the effectiveness of the external audit process and of the external auditor, in conjunction with any other relevant Board committees.

In 2022, the A&RC held six meetings. The A&RC meetings were held to consider financial statements, internal audit reports and plan for 2023, control and risk management reports, external audit reports.

Auditor's remuneration for audit and non-audit services

For the year ended 31 December 2022, the total fees for audit and non-audit services provided by the Group's external auditor, B1, are set out below¹:

	Power		Metals		En+	
	USD mn	%	USD mn	%	USD mn	%
Total audit services, incl.	0.7	87.5	4.2	91	4.9	86
- financial audit	0.7		4.2		4.9	
Total non-audit services	0.1	12.5	0.7	9	0.8	14
Total fees paid to the audit firm	0.8		4.9		5.7	

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

CORPORATE GOVERNANCE COMMITTEE

Composition

Pursuant to the Regulations on the CGC approved by the Board on 1 December 2020, the majority of CGC members are represented by independent directors recognised as such pursuant to the Listing Rules of the Moscow Exchange. The CGC meets at least three times a year.

The current composition of the CGC is as follows:

- Andrey Sharonov, as Chairman
- Olga Filina
- Zhanna Fokina
- Lyudmila Galenskaya
- James Schwab

The CGC's primary role is to oversee the Company's and the Group's corporate governance matters. The responsibilities of the CGC are the following:

- Determining the priorities of the Group in the area of corporate governance
- Reviewing the corporate governance system and corporate values of the Company for compliance with the goals and objectives of the Company, and the scale of its business and risks assumed

In 2022, the CGC held one meeting to consider D&O liability insurance policy of the Company.

NOMINATIONS COMMITTEE

Composition

Pursuant to the Regulations on the NC approved by the Board on 1 December 2020, the NC members are represented by independent directors recognised as such pursuant to the Listing Rules of the Moscow Exchange. The NC meets at least three times a year.

The current composition of the NC is as follows:

- James Schwab, as Chairman
- Zhanna Fokina
- Lyudmila Galenskaya
- Andrey Sharonov

The NC's primary role is to develop recommendations to the Board on Board performance evaluation and planning internal appointments.

The primary responsibilities of the NC are, inter alia, the following:

- Conducting a detailed formalised self-evaluation and external performance evaluation of the Board, its members, and the Board committees on an annual basis, and determining priority areas to improve the Board's capacity
- Organising external performance evaluation of the Board and its members and of the Board committees
- Interacting with shareholders (including minority shareholders) to develop recommendations to shareholders regarding voting on the Board elections
- Planning appointments so as to ensure the continuity of activities of the CEO, develop recommendations to the Board regarding nominations for the position of the Corporate Secretary (head of the unit functioning as the Corporate Secretary), and recommendations to the Board regarding nominees for the position of the head of the Internal Audit Service and the CEO of the Company
- Assessing the independence of the Board members
- Taking part in the ongoing advanced professional training of the Board members
- Considering the current and expected needs of the Company in terms of the professional qualifications of the Company's CEO, in the interests of the Company's competitiveness and development, and succession planning for such persons

In 2022, the NC held one meeting to consider the substantive explanation relating to recognition of Andrey Sharonov as an independent director.

COMPLIANCE COMMITTEE

GRI: 2-15

Composition

The CC was established following the removal of the Company from OFAC's SDN list. The CC holds meetings at least once per quarter of the Company's financial year.

The CC is currently comprised as follows:

- Thurgood Marshall Jr., as Chairman
- Christopher Burnham
- Olga Filina
- J.W. Rayder
- Timur Valiev

USD **5.7** mn
Total fees paid to the audit firm

GOVERNANCE

The primary responsibilities of the CC are, inter alia, the following:

- Ensuring the formation of a compliance management system within the Group
- Taking part in the development of policies and other internal regulations of the Company relating to matters of compliance, and consistently following up on their observance
- Ensuring that adequate compliance control is in place at the Group
- Conducting due diligence in the event of any reasonable doubt regarding observance of compliance requirements and the provisions of compliance documents

The CC reviews its own performance and reassesses the adequacy of procedures and guidelines in respect of regulatory compliance.

In 2022, the CC held three meetings and considered compliance with the Terms of Removal in the current geopolitical situation and regular compliance reports of the Company.

HEALTH, SAFETY AND ENVIRONMENT COMMITTEE

Composition

The HSE Committee meets at least once per quarter of the Company's financial year.

The current composition of the HSE Committee is as follows:

- Zhanna Fokina, as Chairman
- Lyudmila Galenskaya
- Vadim Geraskin
- Thurgood Marshall Jr.
- Andrey Yanovsky

The primary responsibilities of the HSE Committee are, inter alia, the following:

- Reviewing leading international research and best practices in the area of health, safety and environment, and, if necessary, assessing their impact and preparing respective strategic recommendations to the Board in relation to the Group
- Preparing recommendations to the Board on formulating Group strategies, policies and instructions in the areas of health, safety and environment
- Taking part in the development of policies and other bylaws of the Company regarding health, safety and environment
- Preparing recommendations to the Board on possible participation, cooperation and consultations on health, safety and environmental matters with government authorities, NGOs and other companies or associations
- Controlling the Company's compliance with international standards, applicable laws and the Company bylaws on health, safety and environment
- Benchmarking the Group's operating results on occupational safety and environment against global best practices, and considering the results of such benchmarking

In 2022, the HSE Committee held six meetings and considered regular HSE reports, environmental and climate strategy development update, environmental risk management status, HSE KPIs results for 2022 and KPIs for 2023, biodiversity strategy update and En+'s HSE road map for 2023.

REMUNERATION COMMITTEE

Composition

The RemCom consists of a majority of independent directors. The RemCom meets at least three times during a financial year of the Company.

The current composition of the RemCom is as follows:

- Andrey Yanovsky, as Chairman
- Thurgood Marshall Jr.
- Elena Nesvetaeva
- J.W. Rayder
- Timur Valiev

The RemCom is responsible, inter alia, for the following matters:

- Developing and revising from time to time the Company's remuneration policy for Board members, the CEO, the Corporate Secretary, the head of the Internal Audit Service, and developing parameters of short-term incentive programmes
- Supervising the introduction and implementation of remuneration policy and various incentive programmes in the Company, and revising the policy and programmes as and when necessary
- Performing preliminary year-end performance evaluation of the CEO in the context of the established remuneration criteria, and performing a preliminary assessment of achievement by the CEO of the targets under the long-term incentive programme
- Supervising the disclosure of remuneration policies and procedures, and of the ownership of the Company

shares by Board members and the person acting as the CEO in the annual report and on the Company's website

- Developing recommendations to the Board on determining the amount of remuneration and principles of bonus payment for the Company's Corporate Secretary, performing a preliminary year-end performance evaluation of the Company's Corporate Secretary, as well as issuing proposals on bonus payment to the Company's Corporate Secretary

In 2022, the RemCom held three meetings and mainly considered KPIs of the CEO.

REMUNERATION DISCLOSURE REPORT

GRI: 2-19 2-20

OBJECTIVES OF THE REMUNERATION POLICY

Our remuneration policy is based on the following principles:

- Attract, remunerate and retain qualified specialists who will, in their turn, enable the Company to achieve its strategic objectives
- Provide for a balance between the achievement of short-term operating results and the long-term objectives of the Company
- Create value for our shareholders, given the risks that may impact the variable component of remuneration

REMUNERATION STRUCTURE

The Group's remuneration structure is designed to ensure a balance between engaging and retaining highly qualified managers and the interests of our shareholders. The established remuneration system comprises fixed and variable components. The fixed component consists of base salary, which is set in line with the market to ensure retention of key executives, and reflects the level of competence, experience, responsibility and personal achievements of the respective manager. The variable component consists of annual bonuses and may also include one-off and target bonus payments and other payments that

are determined based on the performance against pre-set key performance indicators (KPIs).

GRI: 2-7

Stakeholders do not participate in determining remuneration. The remuneration system of the Company is defined by its internal regulations. The Remuneration Committee comprising the majority of independent directors oversees the remuneration policy of the Board and the CEO with account of the stakeholders' interests. The Remuneration Committee may involve external independent advisors when considering certain remuneration issues within the authority of the Remuneration Committee.

REMUNERATION OF EXECUTIVE MANAGEMENT¹

In 2022, the remuneration of the key management personnel, including the CEO, amounted to USD 11.6 million. This remuneration includes base salary in the amount of USD 6.2 million and bonuses in the amount of USD 5.4 million.

REMUNERATION OF BOARD MEMBERS

In 2019, the Board considered and approved the general levels of compensation for Board members.

All members of the Board, except for the Chairman, are entitled to receive remuneration of EUR 215,000 (c. USD 228,000)² gross per annum, paid monthly.

All members of the Board, are entitled to receive additional remuneration for serving on a committee or other structural unit of the Board³:

- EUR 26,000 (c. USD 28,000)² gross per annum for chairing a committee or other structural unit of the Board
- EUR 18,000 (c. USD 19,000)² gross per annum for participation in each committee or other structural unit of the Board as a member

The aggregate amount of remuneration to Board members in 2022 amounted to USD 6.1 million, excluding social insurance⁴.

81% issues escalated to the Board of directors are related to sustainable development

¹ / Accrual basis.

² / Calculated based on a EUR/USD exchange rate of 1.06 as at 31 December 2022.

³ / The CGC members (including the Chairman) do not receive compensation for membership (chairmanship) in the CGC if they at the same time participate in the NC of the Board and receive relevant compensation for participation in (chairing) the NC of the Board.

⁴ / Mandatory payments (pension provision, mandatory health insurance, etc.) as required by the legislation of the Russian Federation.

STRUCTURE OF REMUNERATION:

Element of remuneration	Approach	Indices and dependencies	Key changes during the year
Base salary Base salary is stipulated by the agreements concluded with each member of the Group's management team and is aimed at attracting and retaining high caliber professionals	Salary is set to ensure competitiveness with other comparable Russian and foreign industry peers – Fixed remuneration reflects the level of competence, responsibility and personal achievements of the respective manager, and his/her professional experience	Not applicable	No changes made during the year
Benefits Provided to support successful fulfilment of responsibilities by compensation of additional expenses associated with these responsibilities	<ul style="list-style-type: none"> The Company ensures a competitive total compensation portfolio for its employees, providing them with meal expenses, certain other reimbursements and medical insurance 	Not applicable	No changes made during the year
Pension Retirement funding provision	<ul style="list-style-type: none"> We do not fund any pension contributions or retirement benefits, except for mandatory contributions to the pension fund of the Russian Federation, as required by Russian law, which permits retiring employees to receive a defined monthly pension for life from the statutory pension fund 	Not applicable	No changes made during the year
Annual bonus Ensures focus on and alignment with strategic goals of the Group	<ul style="list-style-type: none"> Bonus payments for achieving personal KPIs KPIs for the CEO are developed by the Remuneration Committee and approved by the Board KPIs are set at the beginning of each financial (calendar) year KPIs are regularly reviewed and updated to ensure that they align with the Group's goals 	Examples: <ul style="list-style-type: none"> Financial performance – Adjusted EBITDA; Free Cash Flow HSE & sustainability – Lost Time Injury Frequency Rate (LTIFR); ensuring the absence of environmental incidents, accidents or violations Strategy – Achievement of strategic goals and successful realisation of development projects Other objectives – In accordance with the manager's area of responsibility 	No changes made during the year
Board of Directors members' fee (excluding Chairman of the Board of Directors) For participation in/chairing board committees in addition to payments as Board members	<ul style="list-style-type: none"> The objective in setting the fees paid to Board of Directors members (excluding Chairman of the Board) is to be competitive with other comparable, listed peer companies Members of the Board receive a fixed fee for participation in/chairing each Board committee 	Not applicable	No changes made during the year
Additional compensation and benefits Optional bonus payments for achievements beyond the scope of the KPIs for the relevant year	Paid for achievements that are important for the Company, but which are outside the main KPIs	Task specific	No changes made during the year
Remuneration for other risk-taking employees To attract and retain high caliber professionals	<ul style="list-style-type: none"> Top managers of En+ subsidiaries are considered as risk-taking employees Application of the Group's executive remuneration policy 	<ul style="list-style-type: none"> Aligned with the Group's executive remuneration structure 	No changes made during the year

INFORMATION FOR SHAREHOLDERS AND INVESTORS

ORDINARY SHARES AND GLOBAL DEPOSITARY RECEIPTS

As at 31 December 2022, the share capital of En+ was divided into 638,848,896 ordinary shares with the par value of USD 0.00007 each.

En+ ordinary shares in the form of Global Depositary Receipts (GDRs), are listed on the London Stock Exchange (ticker: ENPL), where one GDR represents one share. Since 18 February 2020, the Company's ordinary shares have also been traded in the Level One Quotation List of the Moscow Exchange (ticker: ENPG).

On 3 and 4 March 2022, the London Stock Exchange suspended admission to trading of instruments for most Russian companies, including En+.

On 16 April 2022, Russian Federal Law No. 114-FZ "On Amendments to the Federal Law "On Joint Stock Companies" and Certain Laws of the Russian Federation", requiring Russian companies to initiate the termination of the depositary agreements relating to their GDRs, entered into force. In May 2022, En+ applied to the Russian Government for a permit to continue the circulation of its GDRs outside the Russian Federation and on 19 May 2022, the Company received such a permit until 7 November 2024 inclusive.

On 14 July 2022, Russian Federal Law No. 319-FZ "On Amendments to Certain Legislative Acts of the Russian Federation" entered into force. The Law provided for two mechanisms of conversion of the Russian companies' GDRs into shares: automatic conversion upon application of the issuer of shares (the Automatic Conversion) and forced conversion upon request of GDR holders (the Forced Conversion). On 18 August 2022, En+ submitted to its Custodian AO Citibank a notification triggering the procedure for the automatic conversion. The automatic conversion applied only to those GDR the rights to which were recorded in Russian depositaries. With respect to the GDRs, the rights to which are recorded in depositaries outside of the Russian Federation, the Law provided for the forced conversion at the request of the GDR holders submitted to the Custodian.

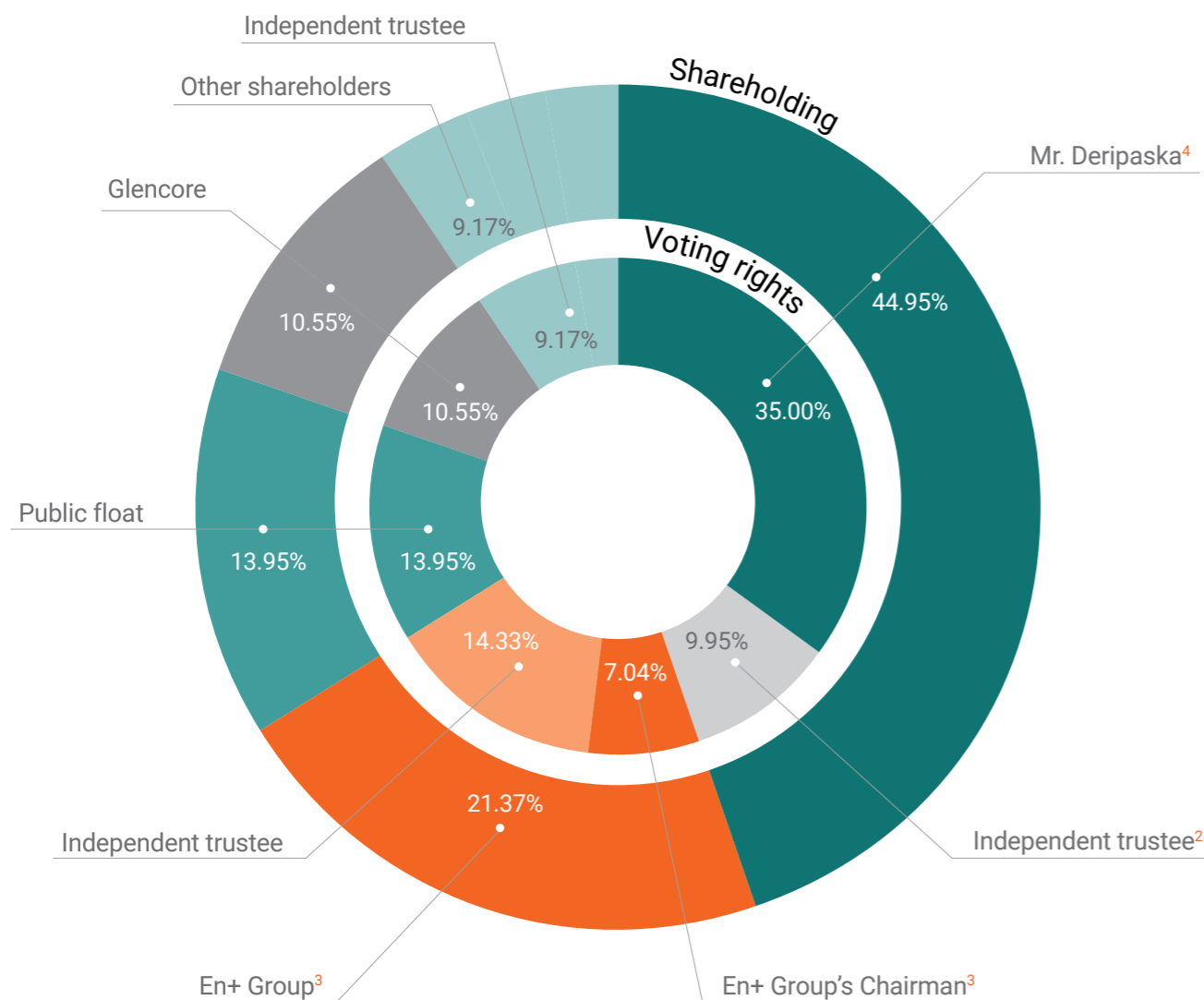
GRI: 2-1

The Company's management is not aware of any holdings in excess of five per cent of the Company's share capital save for those disclosed by the Company immediately below.

The Company received a permit to continue the circulation of its GDRs outside the Russian Federation until 7 November 2024 inclusive.

GOVERNANCE

EN+ VOTING AND SHAREHOLDER STRUCTURE AS AT 31 DECEMBER 2022



Note: percentages may not add up to 100% due to rounding.

1 / As of 31 December 2022.
 2 / Independent trustees, who exercise voting rights attaching to certain shares of the Company, as required by OFAC.
 3 / Shares acquired from VTB by En+'s subsidiary as per Company's announcements on 6 and 12 February 2020. Voting rights in respect of 14.33% of shares are held by an independent trustee, while the remaining voting rights in respect of 7.04% of shares are exercised by the Chairman of the Board at the Board's direction.
 4 / Directly or indirectly. Under the agreement between the Company and OFAC, the major shareholder's share can not exceed 44.95% and the voting rights can not exceed 35%.

DEPOSITARY BANK

The Company's depositary bank is Citibank N.A., registered address: 388 Greenwich Street New York, New York 10013, United States of America.

Contact details of Citibank N.A. are:

Citibank, N.A.
 Tel.: +1 (212) 723 5435
 Email: CitiADR@Citi.com

https://citiadr.factsetdigitalsolutions.com/www/drfront_page.idms

REGISTRAR

The Company's registrar is Joint Stock Company "Interregional Registration Center" (the "IRC").

Contact details of IRC are:

JSC "IRC"
 Tel.: +7 (495) 234 4470
 Email: info@mrz.ru
www.mrz.ru

EN+'S INTERNATIONAL SECURITIES IDENTIFICATION NUMBERS

London Stock Exchange

	Rule 144A GDR	Regulation S GDR
Ticker	ENPL	ENPL
ISIN ⁵	US29355E1091	US29355E2081
Common Code ⁶	171560667	170465199
CUSIP ⁷	29355E109	29355E208

Moscow Exchange

	Ordinary shares
Ticker	ENPG
ISIN	RU000A100K72

Instrument	Trading platform	Bloomberg code
GDRs	London Stock Exchange	ENPL LI
Ordinary shares	Moscow Exchange	ENPG RM

5 / ISIN (International Securities Identification Number) – international identification number of the share.
 6 / Common Code – a nine-digit identification code issued jointly by CEDEL and Euroclear.
 7 / CUSIP (Committee on Uniform Security Identification Procedures) – identification number is given to the issue of shares for the purposes of facilitating clearing.

GOVERNANCE

EN+ SHARE PERFORMANCE AND TRADING VOLUMES

Moscow Exchange



Source: Moscow Exchange.

En+'s ordinary share price on the Moscow Exchange decreased from RUB 913.0 as at 3 January 2022 to RUB 374.5 per ordinary share as at 30 December 2022.

En+'s market capitalisation decreased from RUB 583 billion at the beginning of the year to RUB 239 billion on 30 December 2022. The average daily trading volume during the year was 230,664 ordinary shares.

Trading on the Moscow Exchange was suspended between 28 February 2022 and 24 March 2022.

SHARE REPURCHASES

In the reporting period, the Company did not, either itself or through a person acting in his/her own name but on the Company's behalf, repurchase any of the Company's own shares, and did not, either itself or through a person acting in his/her own name but on the Company's behalf, hold any shares in treasury.

DIVIDEND POLICY

On 14 November 2019, the Board approved the Regulations on Dividend Policy, which provide that when determining the size of the dividends recommended to the GSM, the Board shall calculate the minimum dividends as:

- one hundred per cent (100%) of dividends received from RUSAL (as long as the Company is a RUSAL² shareholder)
- seventy five per cent (75%) of the Free Cash Flow³ in the En+ Power segment⁴, but in any event at least USD 250 million per year

DIVIDEND PAYMENTS

During 2022, the GSM of the Company did not approve any dividend distributions. The Company anticipates that dividend payments will be resumed as soon as market condition allow.

INFORMATION DISCLOSURE

The Company pays considerable attention to ensure that any relevant information is delivered to all shareholders and analysts at the same time, in accordance with the applicable provisions of Russian law and the Moscow Exchange disclosure requirements, as well as the UK Market Abuse Regulations¹ and the FCA's Disclosure Guidance and Transparency Rules.

Information is distributed through the following channels:

- The Moscow Exchange and UK regulatory news service (RNS): the Company's price-sensitive information is disclosed through information disclosure systems
- The Company's website: the Company publishes releases on key events as well as operational and financial results
- The Company's webpage on the Russian regulatory newsfeed (Interfax e-Disclosure)

DIVERSITY

The Company is committed to promoting a diverse and inclusive workforce, and recognises and embraces the benefits of having a diverse Board to enhance the quality of its performance.

The Board recognises the desire of stakeholders to have greater diversity in senior management and on boards.

In 2020, En+ adopted the Board of Directors Diversity Policy that aims to set out the Company's approach to promoting and maintaining the diversity of the Board.

INCLUSION

En+ aims to create an environment of inclusion, where everyone is treated without discrimination.

We are working to ensure equal opportunity in recruitment, promotion, training and reward for all employees regardless of ethnicity, national origin, religion, gender, age, sexual orientation, marital status, disability, or any other characteristic protected by applicable laws.

In the unfortunate event that existing employees should become disabled, our ambition is to provide continued employment, training and occupational assistance where needed.

EMAIL

The Investor Relations Department can be contacted with any queries at: ir@enplus.ru

EVENTS AFTER THE REPORTING DATE

*In February 2023, UC RUSAL entered into a new credit facility with a Russian bank in the total amount up to USD 4.4 billion and maturity on 24 December 2027. On 3 February 2023 the funds in the amount of 15.8 billion Chinese yuan were partially drawdown with an interest rate 4.75% and were used to refinance the principal outstanding under the existing debt with a Russian bank.

*On 8 February 2023 pursuant to the Extraordinary resolution of the noteholders UC RUSAL redeemed the Eurobond with a coupon 4.85% to noteholders who hold Eurobond through NSD and other Russian custodians being the NSD direct participants in the amount of USD 418 million.

*In February 2023, the High Anticorruption Court of Ukraine decided to transfer the ownership over Nikolaev Alumina Refinery Company Ltd from the Group in favour of Ukrainian Government. Management of the Group is planning to submit an appeal against the Court's decision.

*On 3 April 2023, following resignation of a director from the Board in July 2022, the Board has elected James Schwab as a new member of the Board.



To download the Regulations on Dividend Policy from our website



To download the Diversity Policy from our website

¹ / Regulation (EU) No. 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse, as retained in the domestic law of the United Kingdom by virtue of the European Union (Withdrawal) Act 2018.

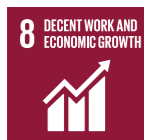
² / RUSAL's dividend policy: annual payout of up to 15% of Covenant EBITDA, subject to compliance with relevant regulation and loan agreements. Covenant EBITDA is defined as UC RUSAL's EBITDA on LTM basis as defined in the relevant credit agreements, adding dividends declared by Norilsk Nickel and attributable to the shares owned by UC RUSAL.

³ / "Free Cash Flow" means the operating cash flow, less net interest paid, capital expenditures and restructuring expenses, adjusted for distributions on derivatives and one-off acquisitions, plus dividends from associated companies and joint ventures, pursuant to the Group's IFRS consolidated statements.

⁴ / "En+ Power Segment" means the Segment defined in the Group's IFRS consolidated statements.

GOVERNANCE

INTERNAL CONTROL AND RISK MANAGEMENT



REGULATORY DOCUMENTS

- Antibribery and Corruption Policy
- Code of Corporate Ethics
- Conflict of Interest Policy
- Sanctions Compliance Policy

MATERIAL TOPIC

- Corporate governance

KEY FACTS

Risk management have been incorporated into the business objectives sitting process at the Group's level as well as at the level of the operational units and entities.

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To implement of an automated risk management system for En+ companies.	On track	A new IT resource has been developed and put into operation to automate the processes of generating, storing, processing and consolidating risk maps of En+ Group companies.
To ensure effective management of the risks identified in the Risk Matrix for 2022 year, as well as update the risks in accordance with the Risk Management Regulations.	Completed	A risk matrix for 2022 has been developed with detailed risk management measures.
To develop measures to increase the efficiency of commercial activities.	Completed	Reduction of costs for the purchase of services, construction and assembly works and key commodities and materials was achieved through improved commercial conditions, broadened competitive environment and negotiations as part of the control of procurement activities.
To update internal documents regulating key business processes.	Completed	Internal documents regulating key business processes (purchases, electronic document management, project activities, etc.) have been updated.
Better use of risk management tools in achieving the production targets of operating companies.	Completed	The actual achievements in risk management are linked to key management performance indicators.

A comprehensive framework of internal controls is in place across the Group, designed to protect the Group's assets, improve business processes, and ensure compliance of the Group's operating companies with applicable laws and regulations.

AUDIT AND RISK COMMITTEE

The Board of Directors has responsibility for the efficiency and effectiveness of the financial and economic activities of the Group and is responsible for maintaining and reviewing the effectiveness of the Company's systems of internal control and risk management.

GRI: 2-13

The Board has established an Audit and Risk Committee (the "A&RC"), which assists the Board in its review of the financial statements of the Group; ensures that systems of internal control and risk management are in place and operating effectively; oversees the internal and external audit processes and performs such other activities as are requested by the Board.

The Company's structure includes the Internal Audit Directorate (the "IAD"), which is independent of management, and which reports to the A&RC and the Board. The IAD assists the A&RC and the Board in overseeing the financial and economic activities of the Group and the related systems of internal control and risk management.

The IAD reports regularly to the A&RC concerning the results of both scheduled and unscheduled audits; any deficiencies identified in the system of internal control; recommendations and corrective measures to be taken by management; identified risks and related financial exposures and mitigation measures.

INTERNAL CONTROL SYSTEM (ICS)

The IAD seeks to provide assurance to management and shareholders of the Company that the Group's assets are safeguarded and profits are maximised; that the Company complies with the requirements of applicable laws and regulations; and that proper accounting records are maintained.

The IAD seeks to ensure that an effective system of internal control is in place and operating effectively across the Group, including:

1. Operational and financial control

- Conducting audits of the efficiency and effectiveness of business processes across the operating companies in order to identify and minimise risks associated with ineffective management, and to enhance control of operational and technological processes, commercial activities, personnel management, implementation of investment projects, financing, etc.
- Conducting audits to prevent and detect illegal actions by management, employees and third-party contractors (such as fraud, misappropriation, misuse of the Group's assets, sub-optimal use of materials and time), and mitigate the effects thereof
- Exercising control over commercial activities (including the control of selection of suppliers of raw materials, other materials and services, including construction and/or installation works) in the interests of effective cost management for the Group (including by participating in the Tenders Committee and overseeing the work of Tenders Committee across the Group's operating companies)

The Board of Directors is responsible for maintaining and reviewing the effectiveness of the Company's systems of internal control and risk management

GOVERNANCE

The operational and financial control objectives are achieved through comprehensive audits and controls inspections conducted by the IAD in accordance with the annual audit plan (approved by the A&RC) using a risk-based approach. In addition, the IAD conducts unscheduled audits as requested by management and provides an independent opinion in the fields and areas requiring immediate decision-making by management. The IAD uses audit findings to develop corrective actions aimed at minimising or eliminating any failures or weaknesses identified by audits, with a view to preventing such breaches in the future. The IAD regularly updates management and the A&RC on its audit and review findings, and on the status and implementation of the recommendations it has provided to management.

2. Compliance control

- Auditing compliance with the requirements of creditor banks, listing rules and other financial regulators, including with respect to sanctions, etc.
- Auditing compliance with the internal regulations and policies of the Group, designed to ensure compliance with the requirements of the supervisory authorities, financial institutions and other counterparties of the Company.

3. Regulation of business processes

- Development of the Group's system of internal control and mitigation of risks of common process violations/ losses and particular aspects of the Group's activities (system of authority delegation; control over conflicts of interest, related-party transactions, compliance procedures; control over business trips, project activity, etc.).
- Development of uniform standards of commercial activities (e.g., Generalised Regulations on Purchases in accordance with applicable law and regulations; regulations on sales of illiquid assets of the Company).

4. Development and implementation of projects to improve ICS

- Identifying cost management opportunities in commercial activities (e.g., sales of illiquid assets – regulations are reviewed and tools and measures introduced aimed at improving the Company's commercial services efficiency, including the reduction in cost of goods, works and services).
- Providing recommendations and development of terms of reference for automation of separate modules of the e-document flow, general accounting and management accounting systems.

IMPROVEMENT OF THE CORPORATE SYSTEM OF INTERNAL CONTROL

The IAD achieved substantial results in 2022 in controlling and improving the ICS:

1. Targets for control over the Group's commercial activities and development of measures to increase the efficiency of commercial activities

- Reduction of costs for the purchase of services, construction and assembly works and key commodities and materials was achieved through improved commercial conditions, broadened competitive environment and negotiations as part of the control of procurement activities.
- The targets for the sale of the Group's illiquid assets have been exceeded by 100%.
- Updated regulatory documents for the procurement of goods (works, services), for work with illiquid and non-core assets of the Company.

2. Development and adoption of a framework of regulations for the ICS

- The automation of the regulated process of business trips at the all Company's facilities continues.
- The process of Development of the Group's unified regulations portal continues.
- The Regulations for Management of Operational Development Projects of the Company have been updated.
- The Regulations for Operation of the Electronic Document Management System of the Company have been introduced.

RISK MANAGEMENT FRAMEWORK

The Company has established a risk management system, which is an integral part of the Company's internal control system and corporate governance framework, to reduce any potential threats to the Company's compliance with its corporate governance standards and ensure consistent and sustainable business development.

GRI: 3-3

Risk management is carried out on the basis of the precautionary principle in relation to each aspect of the Company's activities. The Company's risk management system provides for the identification, financial and probabilistic estimation and control over any change in the risk of both the internal and external environment with regard to the financial and/or economic activities of the Group's operating companies.

The vertical principle is used to manage the risks of the Company, including sustainability risks, based on the identification of any risks to the business processes of standalone operating companies with subsequent consolidation at the Business level, and then at the Company level, in accordance with the regulating documents that stipulate the procedure and the responsibilities of all participants in the risk management process.

GRI 2-12

Thus, all employees are involved in the risk management system. In risk management, En+ strives to take into account the needs and concerns of interested parties when assessing the economic, environmental and social impact of the Company.

Risk maps are used to illustrate the risks of operating companies and the Businesses. Risk maps provide details of each risk event scenario, estimates of possible risk

impact and measures aimed at mitigating the possible negative impact on the activities of operating companies, Businesses and the Company. The Company risk map includes a list of all possible risks that may threaten the objectives of the Company in the current calendar year.

GRI: 2-12 2-13

The risk monitoring results are submitted to management, the Chief Executive Officer (monthly), the A&RC and the Board (quarterly). Responsibility for effective risk management rests with the Chief Executive Officer.

Risk status monitoring is undertaken on a quarterly basis to analyse any changes, update the estimates for existing risks and implement measures for controlling identified risks, as well as to search for, identify and estimate the impact of new risks arising during the quarter/year.

Key risk management developments of the Company in 2022:

1. 2022 Risk Map development and monitoring on quarterly basis over the year

The En+'s Regulations on Risk Management establish the procedure for the development of Risk Maps by all entities of the Group for the coming year and for the quarterly review and update of the developed Risk Maps. A high level of detail has been provided in the development of risk management measures, with subsequent regular monitoring of their implementation. The results are provided to the Group's executive management and the Board of Directors.

Risk status monitoring is undertaken on a quarterly basis

GOVERNANCE

2. Use of risk management tools in achieving the production targets of operating companies

Risk management targets have been incorporated into setting the Group's overall targets, as well as into the targets of the operating companies' management. The actual achievements in risk management will be measured against the managers' KPIs to calculate their performance bonuses.

3. Automation of the processes of generation, storage, processing and consolidation of risk maps of En+ enterprises

A new IT resource has been created and is being put into operation to automate the processes of generating, storage, processing and consolidation of risk maps of En+ facilities.

RISK IDENTIFICATION

As part of its strategic, business planning and risk processes, the Group considers how a number of macroeconomic themes may influence its principal risks. These are factors about which the Company should be cognisant in developing its strategy, including long-term supply and demand trends. They include, for example, developments in technology, demographics, climate change, and how markets and the regulatory environment may respond. These themes are relevant to the Group's assessments across a number of its principal risks. The Group will continue to monitor these themes and the relevant developing policy environment at an international and national level, and will adapt its strategy accordingly.

Identification of all risks that may affect the implementation of the company's business plan

Inclusion of identified risks in the risk matrix

Assessment of identified risks according to three parameters:

- probability
- financial assessment
- potential damage

Selection of risk management method and development of measures to mitigate risks

Risk monitoring and quarterly updating of the risk matrix

EN+ GROUP'S KEY BUSINESS RISKS

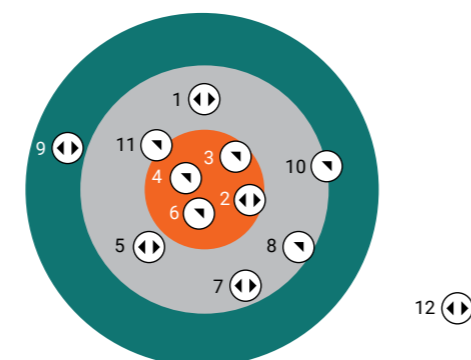
The Group's principal risks, as set out in the table below, are those risks which could prevent the business from executing its strategy and creating value for shareholders, or which could lead to a significant loss of reputation. The Committee has carried out an assessment of the principal risks facing the Company, including those that would threaten its business model, future performance, solvency or liquidity.

Risk impact is based upon an estimation of the combined impact of probability and financial effect of a given risk (i.e., a probabilistic assessment of the risk impact on the Group). Thus, the higher the probability, the higher the potential impact, and vice versa.

The Group is working to ensure that its rapid response measures are appropriate and corresponding to the level of risk. At the date of this Report, the Company continues to evaluate the effect of all of the above and analysing the possible impact of a variety of micro- and macroeconomic conditions on the Company's future financial position and results of operations in 2023 and onwards.

En+'s key risks

Impact of the risk on the Company's activities



- Low
- Medium
- High
- Increased impact
- No change
- Lower impact

#	Risk	Description	Change in 2022	Mitigation measures
EXTERNAL AND MARKET RISKS				
1	Environment	Pollution of land, water courses or air due to equipment failure or human error, delay in implementation of investment projects of production modernisation giving rise to penalties and/or fines. Suspension of operations or loss of licence to operate.	(N/C)	The Group's environmental management system. Consistent application of the Group's Environmental Policy throughout planning and implementation of the environmental strategy. Environmental audit and environmental monitoring of production processes. Engagement with national and local governments on developments in environmental legislation. Environmental KPIs for Company management. The Board of Directors of RUSAL approved the updated Climate Strategy until 2032 with a view to 2050.
2	Laws and regulations	Business impact of changes in, or the manner of enforcement of, laws and regulations in Russia and globally, including antimonopoly regulation, tariff regulation, licensing and permits, environmental regulation, and HSE regulation.	(N/C)	Monitoring of changes in the regulatory frameworks. Interaction with the regulatory authorities.
3	Market: supply, demand, and commodity price volatility	Business impact of volatility in supply, demand and/ or prices of commodities fundamental to the Group's operations: <ul style="list-style-type: none"> - Metals segment: aluminium, alumina, bauxite, energy sources (primarily gas) - Power segment: electricity prices in certain segments of the Wholesale Electricity and Capacity Market (long-term contracts, 'day-ahead' market). Risk of recession in USA/EU (and global) 		The Group monitors its key risks, and conducts market research & analysis, and business & scenario planning. The Company partially hedges its market risks by using derivative financial instruments. Expanding the portfolio of customers, developing the product line to diversify sales, increasing sales to the alternative markets. Continued implementation of the Pathway to net zero strategy and promotion of a highly competitive low-carbon metal and power.
4	Geopolitical	Risks of a negative impact on the Group in the case that new sanctions are imposed by foreign states: <ul style="list-style-type: none"> - impact on the Company's share price - supply of equipment, which may lead to the postponement of investment projects and/or increase in capital expenditures - capital flows and ability of the Group to secure foreign currency credit facilities - sales structure and sales volumes delays in consumers payments - tightening of export control for certain types of goods, works and services, including hi-tech ones - cyber-attacks on IT infrastructure - limited access to IT software and hardware Risks of a negative impact on the Metals segment's operations in various countries (Guinea, Australia, Sweden, Germany, other countries) including risks of the raw material security and risks to the supply chain.	(↑)	Monitoring of the geopolitical situation and relevant risks. As part of the anti-crisis management, the Company develops and performs a package of measures to mitigate such risks (elaboration of various scenarios for development of the situation, search for alternative suppliers, buyers, carriers, possible analogues of imported equipment, alternative sources of funding, etc.). Providing legal protection of the Company's interests.
5	Force-majeure: natural disasters, large-scale accidents, epidemics, etc.	The Company may suffer major damages to its production facilities, or suspension/ discontinuation of operations as a result of natural disasters, epidemics, terror attacks.	(N/C)	Scenario planning and development of early response measures. Implementing a set of organisational and practical measures to ensure asset safety.

RISK IMPACT ON THE COMPANY

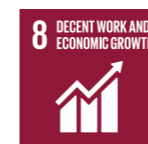
- High
- Medium
- Low

CHANGES IN 2022

- Higher impact
- (N/C) No impact
- Lower impact

#	Risk	Description	Change in 2022	Mitigation measures
BUSINESS AND OPERATIONAL RISKS				
6	Maintenance	These risks relate to equipment: failures of equipment that may result in damage to property, reduced output or discontinued operations. Including, for reasons of non-fulfilment of the repair plan (due to failure or increase in the delivery time of imported equipment and materials).	▲	Timely maintenance and repairs/ overhauls of equipment; modernisation of production facilities. Systematic ongoing work to find alternative suppliers of equipment and services in connection with the imposed sanctions and trade restrictions against exports to the Russian Federation, individual industries and enterprises of the Russian Federation.
7	Legal	Risks that losses may be incurred as a result of enforcement of court judgements on claims by contractors or shareholders of the companies of the Group.	N/C	Legal defence against lawsuits. Negotiating with the claimants.
8	Commercial and project	Risks of disruptions in supply chains of goods and raw materials: sales of the products from metals and coal businesses require the use of railway infrastructure with its uncertain availability pattern. Risks of monopoly pricing at the transportation market. Risks of projects not completed on time/ on budget.	▲	Negotiating with suppliers of logistical services, raw materials, components, equipment. Ensuring timely supply and performance under investment contracts in accordance with the Group's internal regulations. Conclusion of long-term formula based contracts. Spot purchases based on economic efficiency. Expansion of the pool of potential suppliers. Continuous monitoring of alternative markets.
9	Health and safety	Workforce or contractor injury due to human error, equipment failure, or job management, given the endemic risks within the Power and Metals segments relating to major accident hazards and asset integrity.	N/C	The Group has arranged special-purpose units to reduce the probability of occupational injuries by means of development of regulations, staff training and ensuring compliance with the rules relevant to complicated and hazardous works through relevant control measures. Supervisory authorities (the Russian technological supervision service Rostekhnadzor, and the consumer rights compliance service Rospotrebnadzor, etc.) exercise scheduled and ad hoc checks to control compliance with HSE requirements.
10	IT security & resilience	Risks of important data loss or damage to components of the IT infrastructure by hacking or malware attacks. Risks of failures of the automated information control and management systems of large industrial facilities (HPPs, CHPs, etc.).	▲	Testing the IT infrastructure to detect security vulnerabilities. Use of uniform policies and procedures for ensuring security of all Group entities.
FINANCIAL RISKS				
11	Financial	Financial impact of market volatility regarding foreign exchange and interest rates. Tax risks.	▲	The Group exercises continuous control over the financial condition of Group companies. Monitoring of compliance with the terms of the loan agreements with banks is arranged at the Group's entities to ensure uninterrupted operating activities. Regular control is exercised over compliance with the agreed financial covenants; tax planning is undertaken, as well as control over tax accruals and payments. Currency risk hedging strategy (partially). Continuous monitoring and adjustment of cash flow. Loan portfolio and foreign currency deposits diversification.
CLIMATE-RELATED RISKS				
12	Transitional risks N/A	Financial or reputational impact due to policy, legal, technology, and market changes.	N/C	Constant monitoring of policy, legal, technology, and market changes and proactive management of these issues.
	Physical risks N/A	Negative impact on operational process due to climate change, including water supply and temperature variations.	N/C	Business and scenario planning; climate research and analysis. Accounting for climate risks and regional specifics in R&D and investment projects.

GOVERNANCE ETHICS AND COMPLIANCE



KEY FACTS

398 employees' messages received on the Signal hotline in 2022

GRI: 3-3

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To continue to inform employees about the hotline and ethical values through email newsletters, articles in the corporate newspaper, internal and public websites, etc.	Completed	Information about the hotline is posted on 16 subsidiaries' public websites. Information relating to Company's ethical values and hotline is communicated regularly through newsletters, corporate TV channel, newspaper, screensavers.
To update existing and develop new distant learning courses on corporate ethics, anti-corruption and sanctions compliance.	Completed	Three distance learning courses in place: <ul style="list-style-type: none"> - Corporate ethical standards - Anti-corruption and conflict of interest - Sanctions risks and compliance
To implement quarterly screening of employees for possible conflicts of interest, as an additional measure to annual overall survey.	Completed	Quarterly screening has conducted on a regular basis since 2022.

GRI: 2-23

En+ continues to develop a unified corporate culture shared by all employees with an atmosphere of mutual respect, trust and openness. Commitment to the highest legal and ethical standards is at the core of our business and declared in the Code of Corporate Ethics. En+ adheres to the principle of zero tolerance for any forms of harassment or discrimination at the workplace. We expect all the Company's representatives to adhere to our values and ethical standards in their activities.

The Code states the key values, principles and standards of business conduct to be adhered to by the employees and Board members. It explains matters relating to employees, third parties,

customers and governmental authorities; health, safety and environment; efficiency; ensuring confidentiality of information; control and reporting, and conflicts of interest. The Code of Corporate Ethics is publicly available in Russian and English on the Company's corporate website.

GRI: 2-23

Maintaining goodwill is an essential part of sustainable development, so we strive to partner with companies that committed to high level of transparency and have a good business reputation. As part of our commitment to ethical business practices. En+ has the Supplier Standards that set out expectations for partners of the Group's in terms of responsible business, quality assurance and sustainability.

REGULATORY DOCUMENTS

- Corporate Code of Ethics
- Anti-Bribery and Corruption Policy
- Human Rights Policy
- Diversity and Equal Opportunity Policy

MATERIAL TOPIC

- Business ethics

GOVERNANCE

CORPORATE COMPLIANCE SYSTEM

GRI: 2-13 2-24

En+ operates an effective corporate compliance system, subject to applicable laws, recommendations issued by regulators, special requirements of the industry and best practices. The Group is striving for the continuous improvement of existing processes and the implementation of new ones. The Compliance Committee of the Board of Directors ensures control and continuous development of the Group's compliance management system.

ANTI-CORRUPTION COMPLIANCE AND CORPORATE ETHICS

SASB: EM-MM-510a.1

En+ takes every opportunity to promote best practice in fighting corruption, and consistently complies with high standards of responsible and ethical behaviour. We strictly comply with legislative requirements of the countries where we operate, including the Federal Anti-Corruption Law of the Russian Federation, the UK Bribery Act 2010, and the US Foreign Corrupt Practices Law (FCPA).

GRI: 205-1

Corruption-related risks are assessed and managed by the Company as part of its overall risk management system. En+ seeks to eliminate any compliance risks not only within the Company but also when interacting with its counterparties.

GRI: 2-24

The Group has adopted an Anti-Bribery and Corruption Policy and a Conflict of Interest Policy at the Group level as well as at the level of its subsidiaries and affiliates. Internal regulations stipulating the tasks, functions, rights and responsibilities of the Group subsidiaries' Ethics Officers were adopted.

The Company has the Know Your Customer procedures in place – data for each counterparty is assessed for compliance risks, with subsequent assignment of a risk tag. After the assessment En+ implements the measures to mitigate the identified risks as well.

En+ consistently improves existing corruption prevention measures and implements new ones. Particular attention is paid to conflicts of interest, which can be a cause of corruption offences. En+ has had the electronic system for annual collection of conflict-of-interest declarations in place. This solution helps the Ethics Officer to identify any potential conflicts of interest in the Group subsidiaries and generate reports based on the declarations received. As an additional measure, we conduct a quarterly screening process of all newly hired employees for possible conflicts of interest and address results accordingly.

GRI: 2-24

In 2022, we continued to inform employees through all available channels about ethical standards and the Company's approaches to anti-corruption and conflict of interest management. The Company developed procedures for identifying and investigating violations of business ethics, followed by the development of corrective measures. The Company educates its employees on the internal documents in the field of ethics.

In addition to familiarisation with the Policies and the Corporate Code of Ethics, the En+ provides training to its employees on various aspects of business ethics, including labour law regulations.

INSIDER INFORMATION COMPLIANCE

Since the financial instruments of En+ are traded on securities markets in Russia and in the UK, the Group has paid great attention to maintaining an effective system of measures to prevent misuse of insider information and market manipulation. The Board of Directors approved the Regulations on the Information Policy and Regulations on Insider Information. These regulations, as well as a number of additional internal acts, determine the procedure for using insider information, the rules for protecting its confidentiality and monitoring compliance with the requirements of legislation in order to ensure fair pricing of financial instruments and protect the rights of stakeholders of En+. The Group approved the list of insider information, maintains the list of insiders, sets up timely disclosure processes, and implements appropriate internal control.

GRI: 205-3

– There were no confirmed cases of corruption in the Company during the reporting period.

GRI: 415-1

– The Company does not finance political parties, their candidates or representatives in Russia or abroad, and also refrains from direct or indirect influence on political figures.

GRI: 206-1

– There were no lawsuits filed or considered against the Company in connection with the obstruction of competition and violation of antimonopoly laws.
– There were no cases of violation of the Code of Corporate Ethics by members of the Board of Directors.

GRI: 205-3

– There were no terminations of contracts with business partners as a result of corruption violations.

HOTLINE "SIGNAL"

GRI: 2-25 2-26

En+ operates a 24/7 hotline, "Signal", for employees and other stakeholders to interact on issues related to ethical violations, corruption and other illegal actions. All the stakeholders may contact the hotline confidentially and anonymously. The Company has its own Regulation governing the hotline operation in place that sets out procedures for recording, processing and storing the data on the incoming applications. The Group is constantly running an information campaign designed to promote this way of communication and to involve stakeholders in the continuous improvement of the unified corporate culture.

A decrease in messages on the Signal hotline is due to the constant communication of its objectives and promoting the hotline as a compliment tool to overall issue awareness strategy, as well as an increase in number of the communication channels with employees. In 2022, we decreased non-relevant messages recorded due to changes in the assessment methods.



To download the Code of Corporate Ethics from our website

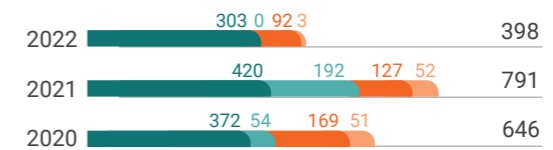


To download the Anti-Bribery and Corruption Policy from our website

SANCTIONS COMPLIANCE

En+ is focused on mitigating the risk of the imposition of international economic sanctions. A relevant compliance programme has been devised and is being continuously developed by the Group. The Board of Directors has approved the Sanctions Compliance Policy aimed at ensuring that En+ and its officers, directors and employees comply with the applicable legislation for mitigating such risk.

Messages on the Signal hotline, Nb



- Metals, relevant messages
- Metals, irrelevant messages
- Power, relevant messages
- Power, irrelevant messages

Categories of relevant messages to the Signal hotline, 2022



- labour relations 38
- relationship with counterparties 31
- occupational health and safety 11
- asset protection 10
- other 10

GOVERNANCE

STAKEHOLDER ENGAGEMENT

GRI: 2-29

En+ builds interaction with all its stakeholders in a responsible, respectful and transparent way. Using various engagement methods, the Company responds to stakeholder interests and expectations, identifies and mitigates Company's actual and potential negative impacts and receives feedback to maintain long-term constructive relationships with the stakeholders.

- impact of stakeholders on the Company's activities and processes

En+ pursues three main goals in communication with stakeholders as set in the Stakeholder Engagement Policy. The Company seeks to use every opportunity for mutually beneficial partnership, to respect the views of local communities and business partners for business success, and to jointly prevent or control conflicts by maintaining dialogue with stakeholders. The Stakeholder Engagement Policy, adopted by the Board of Directors in 2020, also specifies the Company's approach and obligations regarding stakeholder engagement, procedure for interaction with stakeholders, and mechanisms for management and oversight.



The Stakeholder Engagement Policy is available on the Company's website

En+ stakeholders are identified based on the following criteria:

- significance of the Company to the stakeholders
- their significance to the Company
- frequency of their interaction with the Company
- impact of the activities and processes of the Company on stakeholders

GRI: 2-13 2-25 2-26 3-3 Stakeholder engagement

Stakeholder group	Interests and expectations of stakeholders	Engagement methods	Responsible unit and frequency of interaction	Value created for stakeholders in 2022
ASSOCIATIONS AND INITIATIVES				
En+ believes that interaction with associations and initiatives can help to stimulate the development and improvement of the economic sector in which it operates	<ul style="list-style-type: none"> - Enhancing transparency of technological processes in aluminium production - Transitioning to production of low-carbon aluminium - Raising demand for low-carbon aluminium - Developing and deploying standards to reduce adverse impacts on the environment and to ensure responsible and open business practices 	<ul style="list-style-type: none"> - Participation in meetings - Discussions concerning plans and joint resolutions of the Company via various communication channels - Preparation of Annual Reports 	<p>Energy associations Directorate of International Cooperation</p> <p>Aluminium associations and initiatives</p> <ul style="list-style-type: none"> - Sustainable Development Department 	<p>Co-founder and member of the National ESG Alliance</p> <p>Support for launching of Baikal Plastic-Free association</p>

Read more about Collaboration and Partnerships at p.173

- On a regular basis
- Scheduled calendar meetings
- Upon request

1 / Frequency

Stakeholder group	Interests and expectations of stakeholders	Engagement methods	Responsible unit and frequency of interaction	Value created for stakeholders in 2022
CUSTOMERS AND SUPPLIERS				
En+ customers and suppliers are vital to value creation. Being a reliable partner is one of the Company's top priorities	<ul style="list-style-type: none"> - Openness and transparency of reporting, strategy, environment, and social responsibility - Receiving information regarding the Company's product mix, prices, and market - Support on contracts and prompt decision-making regarding new contracts 	<ul style="list-style-type: none"> - Regular meetings - Participation of the Company in relevant forums and conferences - Audit of financial, tax and reputational status of suppliers, mandatory technical audit - Providing information upon request 	<p>Customers</p> <ul style="list-style-type: none"> - Sales and Marketing Department - Interaction reports submitted to top management <p>Suppliers</p> <ul style="list-style-type: none"> - Commercial Department - Reporting to top management 	<p>c. USD 9,649 mn total amount of purchases from suppliers³</p> <p>c.39% share of local suppliers in total amount of purchases</p> <p>1.2 mt of low-carbon ALLOW aluminium sold in 2022</p>

Read more about Supply chain management and Quality management at p.176 and p.182

EN+ EMPLOYEES

The Company's success depends on building an inclusive and diverse environment where its employees can thrive	<ul style="list-style-type: none"> - Safe working conditions and fair remuneration - Compliance with employment law - Improving equality and diversity - Supporting labour rights 	<ul style="list-style-type: none"> - Intranet portal for the employees - Staff satisfaction surveys - Corporate Hotline (the Signal hotline) - Contact with Workers Committees and Ethics Officers across the Company's operations 	<ul style="list-style-type: none"> - Human Resources Department - Corporate Communications Department - Reports to the Board of Directors 	<p>86.3% of employees covered by collective bargaining agreements</p> <p>73.8% level of employee's satisfaction</p>
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Read more about Employees at p.115

GOVERNMENTAL AUTHORITIES

Cooperation with regional and federal governments and positive relationships play a critical role in the Company's licence to operate. En+ enters into socio-economic partnerships with local governments and cooperates with local authorities to implement social projects	<ul style="list-style-type: none"> - Positive operational, environmental and social performance - Legislative and regulatory compliance 	<ul style="list-style-type: none"> - Providing access and required information to the supervisory authorities, in accordance with the Barker Plan² - Email communication, official letters - Participation in workshops, round tables and ministerial, interinstitutional, and regional meetings 	<ul style="list-style-type: none"> - Government Relations Department; heads of Regional Operations 	<p>12% increase in government payments (compared to 2021)</p> <p>RUB 10 mn investments in environmental project grant competition</p>
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Read more about Community engagement at p.126

2 / The Barker Plan (also known as the Chairman's plan), a roadmap to lift the OFAC sanctions imposed on the Company's corporate governance mechanism was implemented by the Board in 2018. The plan was successful, with sanctions lifted on 27 January 2019.

3 / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

Stakeholder group	Interests and expectations of stakeholders	Engagement methods	Responsible unit and frequency of interaction	Value created for stakeholders in 2022
NON-GOVERNMENTAL ORGANISATIONS (NGOS) AND LOCAL COMMUNITIES				
En+ works collaboratively with researchers, educational institutions, and non-governmental organisations to develop effective strategies for sustainable development. To be able to operate in the long term, the Company must be respectful towards the views of local communities	<ul style="list-style-type: none"> Positive sustainable development Increasing the number and enhancing the transparency of environmental projects (provision of detailed information, including quantitative information on all stages of projects) Increasing the number of jobs available to local communities 	<ul style="list-style-type: none"> Participation in relevant forums and conferences Providing information upon request Required disclosures via the Company's reports Annual community surveys Hosting own relevant events Grant competitions to implement the initiatives of local NGOs Annual public discussion of Sustainability report 	<p>NGOs</p> <ul style="list-style-type: none"> Corporate Communications Department, Sustainable Development Department Interaction reports submitted to the Board <p>Local communities</p> <ul style="list-style-type: none"> Corporate Communications Department, Committee of Social Investments of the Company Interaction reports to the Board of Directors 	<p>USD 53 mn social investment¹</p> <p>1,000 new positions announced in April 2022 to support regional economies</p>

Read more about Community engagement at p.126

METAL AND STOCK EXCHANGES

Interaction with metal and stock exchanges is vital to developing En+ business and the global market	<ul style="list-style-type: none"> Raising demand for low-carbon aluminium Financial statements and information regarding the Company's corporate governance in accordance with the requirements of stock exchanges Openness and transparency of reporting, strategy, and ESG information 	<ul style="list-style-type: none"> Participation in meetings and joint discussions Participation in relevant conferences and forums Providing information upon request Submission of regular reports on the Company's activities 	<ul style="list-style-type: none"> Strategy and Capital Markets Department Interaction reports submitted to the Board of Directors 	<p>Obtained a permit from the Russian Government to continue the circulation of En+'s GDRs outside the Russian Federation until 7 November 2024 inclusive</p> <p>Maintained disclosure in order to comply with the listing requirements and to remain transparent for stakeholders</p>
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Read more at Information for shareholders and investors at p.155

RATING AGENCIES (INCLUDING ESG RAS)

Considering global trends and the growing interest of the investment community and business partners in ESG ratings, En+ intends to improve its ESG ratings and expand the number of ESG ratings that cover En+	<ul style="list-style-type: none"> Increasing the transparency of disclosures on environmental, social and governance indicators Development of corporate policies and procedures 	<ul style="list-style-type: none"> Providing information upon request Required disclosures via the Company's reports Official press releases on the Company's website 	<ul style="list-style-type: none"> Strategy and Capital Markets Department Interaction reports submitted to the Board of Directors 	<p>One of the leader of the ESG transparency ranking of Russian companies by Expert RA</p> <p>High level at ESG index of Russian business by National credit ratings</p>
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Read more about Sustainability management at p.62

On a regular basis | Scheduled calendar meetings | Upon request

Stakeholder group	Interests and expectations of stakeholders	Engagement methods	Responsible unit and frequency of interaction	Value created for stakeholders in 2022
SHAREHOLDERS INVESTORS AND FINANCIAL ANALYSTS				
The Company strives to strengthen its competitive position, to deliver robust returns and long-term sustainable value for the investors and to have strong partnerships within financial markets. In turn, investors provide the capital to expand and develop En+ performance	<ul style="list-style-type: none"> Strong and sustainable financial performance Dynamics of the share price performance Short-term and long-term development strategy of the Company Compliance with requirements on information disclosure and corporate governance 	<ul style="list-style-type: none"> Regular electronic communications Publication of mandatory periodic reports Official press releases on various events Mandatory information submissions by the Company as an issuer of securities 	<ul style="list-style-type: none"> Strategy and Capital Markets Department Interaction reports submitted to the Board of Directors 	<p>18.8% adjusted EBITDA margin</p>

Read more about Information for shareholders and investors at p.155

On a regular basis | Scheduled calendar meetings | Upon request

COLLABORATIONS AND PARTNERSHIPS

GRI: 2-28

En+ actively works with and alongside national and international stakeholders to advance sustainable development efforts. The Company actively participates in dialogues, knowledge sharing, advocacy efforts, and maintains bilateral contacts to address ESG issues.

ADVOCACY

The Company recognises that efforts of individual actors are not enough for global change. Only by joining efforts with industry peers and like-minded parties around the world will En+ be able to shift its markets to a sustainable and responsible future.

United Nations Global Compact (UNGC)	The UNGC is a universal corporate sustainability initiative. Based on a call for business leaders to enter a Global Compact on shared values and principles it empowers businesses to operate in a sustainable manner. En+ annually reports its sustainability progress to the UN Global Compact through the UNGC Communication on Progress. Our teams benefit from the educational seminars and courses provided by the UNGC academy. The UNGC's guidance on the international sustainability agenda in 2022 has helped shape the sustainability priorities of the Group over the past year.
Association "Local Network of the UN Global Compact in Russia"	In 2022, the Association underwent structural changes and became much more active in advancing the UNGC sustainability agenda across Russian business. En+ was actively involved in the Association's endeavours to increase communication between business and UN organisations, such as UNEP and FAO. With the En+ CSO on the Board of the Association, significant efforts to maintain contact with the UNGC head office culminated in a signed memorandum, acknowledging the Association's recognition as the official Local Network of the UNGC in Russia.
National ESG Alliance	In early 2022, En+ became one of the 28 original founders of the ESG Alliance, a consolidated effort to advance the ESG agenda on a national scale. Supported by leading Russian and international companies, the Alliance represents 1.5 million people and revenue exceeding RUB 10 trillion. En+ is actively involved in shaping the partnership's agenda and heads its Climate Working Group.
Climate Partnership of Russia	The Climate Partnership of Russia is a national association of more than 30 companies from all sectors of the economy that have consolidated their efforts to mitigate climate change and develop measures to transition to a decarbonised economy. In 2022, the Partnership became a key platform for corporate Climate discussions in Russia. In September 2022, En+ presented its first Net Zero Progress Report to a panel of experts on the Partnership's platform.
Carbon Pricing Leadership Coalition (CPLC)	En+ and RUSAL are the only two Russian members of CPLC, a voluntary partnership under the auspices of the World Bank to advance global carbon pricing. En+ and RUSAL regularly contribute language to CPLC annual reports. In the latest CPLC Carbon Pricing Leadership Report 2021/22 En+ reaffirms its commitment to net zero by 2050. The CPLC report contains information about Company's Pathway to Net Zero Report and about the fact that embedding an internal carbon price helps RUSAL cut aluminium production emissions by 8%.

International Policy Coalition for Sustainable Growth (under the auspices of US Chamber of Commerce)	In 2021, En+ became a Knowledge Partner at the International Policy Coalition for Sustainable Growth launched by the US Chamber of Commerce. In 2022, the International Policy Coalition for Sustainable Growth incorporated En+ recommendations on introduction of CO ₂ emissions standards for hard-to-abate industries as a part of discussions on COP27 agenda.
Business 20 (B20)	En+ and RUSAL are among companies preparing policy recommendations on climate change, carbon pricing, sustainable development and the green energy transition through B20 for the leaders of the Group of Twenty (G20), an international forum for 19 leading world economies and the European Union. In 2022, En+ was the only Russian company to participate in two taskforces on climate and sustainable development related issues: the B20 Energy, Sustainability & Climate Taskforce and the B20 Trade and Investment Taskforce. The B20 Trade and Investment Taskforce incorporated the Company's suggestions on harmonisation of environmental labelling and information schemes (ELIS) and its possible usage on exchanges into the final document. For B20 Energy, Sustainability & Climate Taskforce, the Company was among the authors suggesting measures that would help reduce carbon emissions from hard-to-abate sectors, such as improving the use of existing stocks of materials through enhanced reuse and recycling; and promoting electrification of hard-to-abate sectors using renewable and low-carbon electricity sources where possible. These recommendations were included in the policy paper presented by the Taskforce.
Business and Advisory Committee to the Organisation for Economic Cooperation and Development (BIAC at OECD)	En+ and RUSAL are members of the Business and Industry Advisory Committee to the OECD (BIAC) and contribute to the OECD's work on climate change, circular economy, trade liberalisation, resource efficiency and sustainable materials management. The Orientation of the 2023–2024 Programme of Work and Budget of the OECD Trade Committee includes a number of En+ recommendations that reflect need for environmental goods liberalisation and facilitation, and necessary prerequisites for it (e.g., separate customs codes or suitability labelling, etc.).
The U.S. – Russia Business Council (USRBC)	En+ and RUSAL are members of the U.S. – Russia Business Council. USRBC shared on its website the "Green Aluminium Vision", En+ ambition to lead the aluminium industry into the green economy via nine key initiatives and the news about En+ setting sector beating targets for GHG emissions reductions.
BRICS Business Council	En+ chairs the Russian part of the Energy and Green Economy Working Group at BRICS Business Council. In the 2022 Business Council's Annual Report, the Company co-authored recommendations on low-carbon and green transportation considering national specifics and establishment of a BRICS business dialogue mechanism to reduce emissions within the framework of nationally determined contributions, which resulted in the foundation of the BRICS Energy Cooperation Forum. The Company's Director for International Cooperation and Chair of Energy and Green Economy Working Group Russia Chapter Evgeny Fokin made welcoming remarks during the opening session. Ahead of the event the Working Group also presented "Contributing Energy to BRICS Sustainable Development in the Post-Pandemic Era" Initiative. The document included the Company's suggestion regarding facilitating the achievement of Intended Nationally Determined Contributions among BRICS countries through the establishment of a green energy certificate mechanism among BRICS countries.
Association "Baikal Plastic Free"	In the spring of 2022, major stakeholders operating in the regions around Lake Baikal came together to shape an association focused on combatting plastic and micro-plastic pollution of the Lake. En+ is actively involved in changing local attitudes towards plastic pollution. In 2022, members of the Association aided in the development of a draft law, aimed to prohibit use and sale of certain single use plastic products on the Baikal territory.

TRANSPARENCY AND CERTIFICATION

En+ supports the notion that emission transparency is the first stage towards increased climate commitments. The Company discloses its own emissions and promotes industry-wide transparency and disclosure.

Aluminium Stewardship Initiative (ASI)	ASI is a global, multi-stakeholder, non-profit standards and certification organisation. It unites producers, users and stakeholders in the aluminium value chain through a commitment to maximise the contribution of aluminium to a sustainable society. RUSAL representatives are actively involved in ASI's work to develop a robust certification system and to implement responsible standards on a large scale.
International Aluminium Institute (IAI)	The IAI is a platform bringing together the global primary aluminium industry. IAI promotes responsible production, sustainable use and recycling of aluminium through process analysis, industry modelling, statistics collection and participation and leadership in initiatives to ensure a safe and sustainable aluminium cycle in the economy. RUSAL has been a member of the IAI since 2002. Company's representatives are closely involved in industry-specific committees, including the Energy and Environment Committee and Health Committee, and in various project and working groups.
Carbon Disclosure Project (CDP)	CDP is a non-profit international organisation that provides a comprehensive, globally trusted environmental impact disclosure. CDP is the gold standard for environmental reporting, allowing participants to better navigate building a sustainable economy. RUSAL has been disclosing its GHG emissions to CDP since 2015. In 2021, EuroSibEnerg, subsidiary of the Power segment, submitted its first CDP. In 2022, En+ submitted its first Group-wide CDP report.

ENERGY TRANSITION

The future green economy will be shaped by the energy transition and will rely increasingly on renewable energy sources. Through energy-focused partnerships, the Group aims to improve its own capabilities, share best practices and raise awareness of the opportunities associated with renewable energy scale-up.

Hydropower of Russia Association	The Hydropower of Russia Association is the only hydropower industry community in Russia that aims to improve the efficiency and reliability of hydropower generation through coordination, best practice sharing, and advocating for the industry. En+ took part in the development of a national sustainable hydropower assessment methodology. In 2022, the methodology was finalised following the completion of on-site testing and subsequent reviews. The Association now works to advance wide scale implementation.
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CLIMATE

Operating among the hard-to-abate sectors, En+ is aware of the impact that such industries are having on the climate. Therefore, the Group believes it is essential to reduce its GHG emissions to ensure it contributes to global efforts to mitigate climate change and align with the 1.5 °C scenario. The partnerships below support the climate ambitions of En+.

Canada Eurasia Chamber of Commerce (CECC)	En+ is a member of the Canada Eurasia Chamber of Commerce (CECC). En+ regularly submits information to the CECC Newsletter to share its achievements in sustainable development and climate change with the international business community.
Science Based Targets initiative (SBTi)	SBTi is a joint initiative of CDP, UNGC, World Resources Institute to support companies in setting emission reduction targets in line with the recommendations described in the Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC). In December 2022, En+ received SBTi feedback regarding its submitted roadmap. En+ is now in the process of reviewing its roadmap in accordance with SBTi recommendations.
Conferences of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC)	En+ and RUSAL regularly attend UN Climate Change Conferences. At COP27 in Sharm el Sheik En+ and RUSAL representatives took part in a session organised by the Russian Local Network of the UNGC.
UN Energy	In 2021, UN Energy, the principal mechanism within the UN system for inter-UN collaboration on sustainable energy, recognised the En+ New Energy modernisation programme and En+ International Renewable Energy Certificates (I-RECs) Project as part of the UN Energy Compact to drive the progress on the achievement towards SDG7 (Affordable and clean energy). In 2022, En+ updated the UN Energy Secretariat on the programmes, thus maintaining its membership in the UN Energy initiative. It is expected that updates will be sent to the Secretariat annually. Energy Compacts established by UN Energy are voluntary commitments of action, with specific targets and timelines to accelerate action for clean, affordable energy for all and to contribute to successful SDG7 implementation. En+ became the first Russian company to be registered within the UN Energy Compact system.
Race to Zero	Founded by the Climate Champions, Race to Zero mobilises a coalition of leading net zero initiatives. In 2020, En+ became a member of the umbrella initiative as a signatory of the Business Ambition 1.5 °C.

KEY ACTIVITIES AND PROGRESS

Supporting Nature	Through a partnership with the World Business Council on Sustainable Development, in the spring of 2022, En+ engaged in the development of the Science Based Targets for Nature.
Prioritising the Energy Transition	Together with our partners at the Global Sustainable Electricity Partnership (GSEP), En+ helped set up the annual GSEP Electrification report 2022. GSEP membership fees allowed to award 17 grants to students studying within the electrification field.
Restating the Net Zero commitment	In September 2022, a year after releasing its Net Zero Pathway, En+ released the first report of its journey to carbon neutrality. On the platform of the Climate Partnership of Russia, En+ and RUSAL representatives presented the progress, this was followed by a discussion with global climate experts regarding future steps to be taken.
Supporting the national sustainability landscape	Through our partnership with the national ESG Alliance, throughout 2022, En+ participated in providing feedback and suggestions to numerous organisations working to develop national ESG rankings and ratings. These mechanisms will help push national industries towards greater transparency and sustainable business practices.

GOVERNANCE SUPPLY CHAIN MANAGEMENT



REGULATORY DOCUMENTS

Supplier Standards

MATERIAL TOPIC

- Sustainable Supply Chain

KEY FACTS

39.1% of purchases made from local suppliers

100% of suppliers having no significant actual and potential negative social impacts

40 supplier's audits conducted in 2022

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To automate the supplier rating assessment and supplier claims process	On track	In 2022, functional requirements for the supplier's personal account on the website were developed.
To extend the APQP process in order to enhance the qualification process to other divisions of the Company	On track	In 2022, the preparatory stage of extending the qualification process to the Downstream Division (wheel and foil production), the Directorate for New Projects (silicon and flux businesses) was completed – all purchased raw materials and materials are differentiated by groups of influence on the technological process and the quality of finished products.

Management approach

GRI: 3-3

En+ cares for the quality of the goods and services Company provides to customers and consumers. Therefore, a sustainable and transparent supply chain is a necessary condition for well-coordinated activities.

En+ conducts its supply chain management activities in accordance with Russian and international regulatory requirements and internal policies and rules provided for each of the segments. In 2022, the Company updated its Procurement Regulations to meet the requirements of current Russian legislation on the procurement of goods and services.

GRI: 2-13

The procurement process of the Power segment is mainly centralised within EuroSibEnergo Trading House LLC (the "Trading House"), a single supplier of material and technical resources and required works and services for all Power segment's companies. RUSAL has seven procurement centres responsible for procurement within the Divisions and plants of the Metals segment.

As the quality and timeliness of deliveries depend, among other things, on the work of contractors and suppliers, the Company selects contract partners according among others to ESG criteria's. The Company's approach to procurement is outlined in [Supplier Standards](#), which include requirements for responsible business practices, quality assurance and sustainable development to be met by the suppliers of goods, works and services to the Company.

In 2022, RUSAL adopted the Responsible Procurement Policy. The purpose of the Policy is to build an effective high-quality supply chain management system for all types of the Company's production activities. The policy sets out the basic requirements for suppliers of raw materials and goods, and specifies RUSAL's criteria for selecting suppliers in terms of quality control, environmental protection and compliance with social, economic and cultural rights.

GRI: 2-24 407-1 408-1 409-1

Under the risk management system, the Company assesses risks associated with the supply chain, such as interruption in the supply of goods and raw materials, monopoly pricing in the transport market, failures to meet deadlines and project cost overruns. Should a supplier violate established rules and behave in an unethical manner, the Company reserves the right to terminate any business relationship with the supplier.

- En+ excludes transactions and suppliers that:
- undermine the right to freedom of association and collective bargaining
 - have a high risk of child or forced labour

[Read more about Human rights at p.119](#)

Key supply chain management efforts include:

Engaging top management in the supply chain management

Adhering to supply chain performance indicators

Making the procurement process more transparent and convenient

Opting for local suppliers wherever possible

Creating a safe working environment for employees and contractors

Monitoring compliance with environmental and social responsibility requirements

Engaging with stakeholders on issues of interest to them and regularly reviewing feedback



Read more in the 2021 Sustainability Report, at p.51

GOVERNANCE

Requirements for suppliers and contractors

GRI: 308-2 414-2

All business partners are required to adhere to sustainability principles. To ensure this, the Company organises its procurement process, which involves interaction with suppliers as follows:

POTENTIAL SUPPLIERS	NEW SUPPLIERS	CURRENT SUPPLIERS
<ul style="list-style-type: none"> - Supplier audit - Professional exhibitions of goods and services 	<ul style="list-style-type: none"> - Supplier audit - Qualification assessment - Assessment of compliance with regulatory ESG requirements and standards 	<ul style="list-style-type: none"> - Supplier audit - Verification of compliance with applicable requirements for suppliers
Interaction with suppliers of the Metals segment	Interaction with suppliers of the Power segment	
<ul style="list-style-type: none"> - Supplier Business Practice Questionnaire - Assessment of compliance with internal and external requirements - Support measures in case of non-compliance - Thorough analysis of documentation, transactions and publicly available materials of potential RUSAL's partners - Regular audits - Activities related to labour protection and industrial safety 	<ul style="list-style-type: none"> - Compliance with the Federal Law "On the procurement of goods, works and services" - Compliance with internal documents - Evaluation of the business ethics of suppliers - Technical audits - Analysis of performance indicators - Health and safety requirements 	



The Company's additional requirements (such as required certification) for suppliers are set out in the 2021 Sustainability Report at p.53

GRI: 308-1 414-1

En+ regularly conducts internal and independent external audits of all suppliers (current and potential) to verify that their activities do not have a negative impact on people and the environment, and to eliminate business with suppliers whose activities have a negative social and environmental impact.

In 2022, 40 audits of new business partners were organised. 100% of new suppliers were screened using social criteria. In addition, the Company added its health and safety measures to mandatory requirements for contractors. Failure to comply with the requirements in the field of health and safety is punishable by a fine, as indicated in supplementary agreements to contracts.

In 2022, 25% of new suppliers to the Metals segment were screened using environmental criteria. In addition, En+ carried out an audit of Russian suppliers of electrostatic precipitators in the reporting year under the Clean Air project, which aims to replacing precipitators and ash collectors by 2027.

En+ validates supplier compliance with established requirements and provide certification. The Company carries out the certification procedures on a regular basis in accordance with the requirements of IATF 16949 "Quality Management System for Automotive Industries Organisations" using the Enhanced Product Quality Planning (Production Parts Approval Process) approach.

Local supplier support

GRI: 2-6 204-1

When working with local suppliers, the Company strictly complies with the requirements of applicable laws regarding the amount of goods and services to be purchased from them and quarterly reports on the interaction with local suppliers and small businesses. For small businesses, the Power segment provides benefits, which comprise a grace period for deferred payments (no more than 15 days) and an opportunity for simplified participation in competitions and auctions.

GRI: 203-2

En+ seeks to assist in the development of the regions of presence, supports local suppliers, products and services by giving priority to Russian and CIS suppliers and developing relationships based on long-term contracts with local suppliers.

Russian companies have been key suppliers of equipment for the Power segment for a long time; and some of the shipments are made from China and Kazakhstan. In 2022, Import Substitution Working Group was created within the Trading House, whose functions include ensuring a stable supply chain for goods manufactured abroad or searching for domestic analogues to replace them without affecting the Company's production process. As a result, a temporary instruction was issued for the implementation of procurement activities under the conditions of sanctions, and some products purchased by the Company were replaced with worthy analogues: automated process control system, VD shut-off valves, hydrazine hydrat, pumps, special equipment, fuel feed reducers.

The local suppliers are considered to be regional enterprises located near main production facilities:

METALS SEGMENT

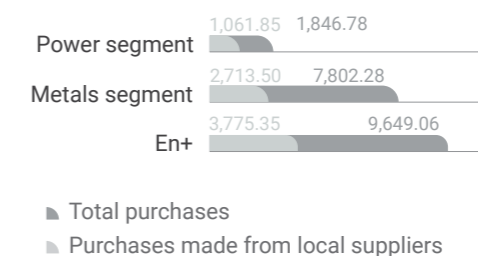
- Local suppliers are companies registered in the Russian Federation

POWER SEGMENT

- Local suppliers are companies registered in the regions where the segment is present (Irkutsk Region, Krasnoyarsk Territory, Nizhny Novgorod Region, Republic of Tyva, Republic of Khakassia)

GRI: 204-1

The total amount of purchases made from local suppliers¹, 2022, USD mn



Increase in Group's total purchases (around 7%) compared to 2021 was mainly due to changes in calculation's methodology of Power segment, which happened due to the inclusion in the amount of purchases of works and services. En+ slightly increased share of purchases from local suppliers from 34% in 2021 to 39.1% in 2022.

Based on the results of 40 audits conducted in 2022, 100% of suppliers had no significant actual and potential negative social or environmental impacts.

GRI: 308-2

REPORTING VIOLATIONS IN COMPLIANCE WITH THE SUPPLIER STANDARDS

The Company operates the Signal, a single line of trust, which suppliers and other interested parties may use to (and, if necessary, anonymously) report violations confidentially, as well as to receive advice on how to properly apply the standards. To make a report, one should use:

- trust line (toll-free): 8-800-234-5640
- email: signal@enplus.ru.



¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

GOVERNANCE

RUSAL PROMOTES ALLOW LOW-CARBON ALUMINIUM THROUGH THE SUPPLY CHAIN

In 2022, RUSAL continued to promote ALLOW brand. The ALLOW is the brand of low-carbon aluminium, which helps customers to increase their global contribution to climate goals as it is produced using carbon-free energy sources, mainly hydropower. Products created using ALLOW will enable the Company's customers to significantly reduce their carbon footprint throughout the entire production chain.

RESEARCH ON THE QUALITY OF MANAGEMENT OF ESG ASPECTS AT RAW MATERIAL SUPPLIERS OF RUSAL

In 2022, RUSAL conducted a study aimed at assessing existing suppliers in terms of ESG practices based on a questionnaire. A survey was conducted for supplier companies, as a result of which their strengths, weaknesses, main risks and recommendations in the field of ESG were highlighted.






The recommendations are aimed at eliminating shortcomings in order to achieve higher performance in the field of managing ESG practices in companies. RUSAL actively interacts with suppliers and evaluates the quality and effectiveness of their management of ESG aspects.

METAL SEGMENT

GRI: 3-3

A sustainable supply chain is a guarantee of business stability and benefits all stakeholders in the Metals segment, as RUSAL works with a large number of suppliers of goods and services to ensure the consistently high quality of its own products.

To carry out its activities, RUSAL purchases goods from suppliers¹:

- 1 Energy supply services 
- 2 Alumina 
- 3 Primary aluminium 
- 4 Fuel 
- 5 Repair and other production maintenance services 

In 2022, the location of production facilities, the geography of suppliers, the organisation and structure of the supply chain did not change significantly, however, the geography of suppliers was reoriented towards the purchase of goods in Russia and China, and part of the supply chains was changed taking into account possible options for organising logistics.

Under RUSAL's Sustainability Strategy RUSAL to establish a sustainable, ethical supply chain of raw materials, finished products and services based on a proprietary ESG accreditation, evaluation and compliance audit system covering at least 80% of suppliers by 2025 and 100% of suppliers by 2035.






¹ / Primary aluminium are purchased from joint ventures.

POWER SEGMENT

GRI: 2-6

Not only efficiency but also the security of energy supplies at regional level depend on the quality of supplies in the Power segment.

For the stable functioning of the Power segment, the Company purchases a variety of goods and services. Top products by volume purchased by En+ to support its own activities are as follows:

- 1 Petroleum products, fuel and lubricants (fuel oil, gasoline, diesel, etc.) 
 - 2 Cable products 
 - 3 Personal protective equipment and overalls 
 - 4 Rolled metal and pipes 
 - 5 Computer equipment and spare parts for it. 
- In addition, the Company regularly uses repair services for its main and auxiliary equipment.

As part of a programme to improve the quality of personal protective equipment and overalls provided to employees for enhancing health and safety performance, the Power segment organised a special exhibition in 2022 for suppliers of these goods to share experience and best practices in this area.

GOALS FOR 2023 AND ONWARDS

In 2023, En+ intends to:

- implement a barcode system in the Company's warehouses to ensure prompt solutions to logistical issues related to the storage and transport of goods
- create a single-window service for business partners: appoint a single manager responsible for communication regarding the procurement of goods and services
- simplify a process for purchasing automotive parts to respond quickly to breakdowns of corporate vehicles
- implement a simplified continuous system for purchasing low-value goods required for the continuity of internal processes
- development and pilot the operation of a module for assessing counterparties in terms of quality, as well as expanding the use of assessment for planning supplier audits and control schemes in the Metals segment

DESIGN COMPETENCE CENTRE

The merger of designers from two organisations – Irkutskenergo and the EuroSibEnergoproekt – made it possible to create a design competence centre at EuroSibEnergoproekt-engineering to satisfy needs of all the Company's enterprises. The aim of the centre is to bring together specialists to provide a professional, rapid and comprehensive solution to project-related problems that adversely affect the timing of investment projects.

AUTOMATISATION OF SUPPLIER RELATIONSHIPS

To build long-term relationships with suppliers, the Power segment offers modern, convenient solutions: in 2022, the Power segment developed functional requirements for suppliers' personal account on the website. In addition, En+ introduced an automated control and limit monitoring system, which allows customers to monitor online, and in real time, the price at which goods are purchased to carry out their projects. In early 2023, the Power segment plans to launch new functionality in the supplier's personal account: a tool for communication with suppliers on supply chain issues.

GOVERNANCE

RESPONSIBLE BUSINESS PRACTICES

As a responsible business, En+ is always looking to boost operational performance. The Company remains committed to providing high quality at all stages, improving production efficiency, implementing best-available technologies and introducing innovative technologies throughout the production chain.

QUALITY MANAGEMENT SYSTEM



REGULATORY DOCUMENTS

Quality Policy

MATERIAL TOPICS

- Economic performance

KEY FACTS

91%

of customers assessing their suppliers gave RUSAL the highest rating

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To develop online services for customers	In progress	Activities are carried out in accordance with the schedule.
To maintain registry of RUSAL ratings, including information on interaction with key customers and the status of the implementation of relevant measures	Completed	91% of customers assessing their suppliers gave RUSAL the highest rating

Management approach

Ensuring high quality of services and products at all stages of the life cycle has always been a fundamental priority for En+. The Company applies the best international practices and standards in quality management: the Company's compliance with standards is reviewed on a regular basis. Focusing on the needs of the customers and building trustworthy and transparent relations, En+ uses various communication tools.

En+ believes that professional training and development is the key to successful employee involvement in the quality management process, as it makes employees feel valued by the Company and, therefore, more enthusiastic about producing better quality goods and services. That is why employee involvement in quality management is centred on professional training and development opportunities.

Quality academy

The Quality academy offers five educational programmes and 27 internal courses for employees.

- En+ has founded an educational institution to conduct:
- quality management training of employees
 - staff development to ensure Quality management system (QMS) efficiency
 - systematic improvement of the approach to QMS training of employees



Read more in the 2021 Sustainability Report at p.41

METALS SEGMENT

The main goal of RUSAL's production strategy is to fabricate products of which their properties and characteristics must meet the needs and expectations of consumers in accordance with the corporate Quality Policy under the guidance of the Quality Management Directorate. RUSAL's Aluminium Division has a Comprehensive Programme for Improving the Quality of Finished Products, aimed at improving the properties of wire rod by introducing a culture of SPC (statistical process control) at enterprises.

To meet advanced quality standards for products, the Metals segment annually conducts certification of new enterprises. In 2022, RUSAL certified six enterprises.

Quality standards followed by Metals segment¹

ISO 9001 (main standard for QMS)	IATF 16949 (standard for the automobile industry)	FSSC 22000 (safety standard for food products)	DNV Ship, ABS Ship (shipbuilding standards)
- 11 key RUSAL plants	- 6 aluminium plants - a wheel plant	- Foil rolling company	- RUSAL Bratsk

POWER SEGMENT

Each year, En+ improves the internal QMS based on the following goals and principles set out in the Quality Policy:

Achieve maximum efficiency in the operation and modernisation of the Company's assets

Modernise production facilities, improve operational efficiency of assets

Ensure high quality of services by improving process efficiency

Ensure reliable supply of heat and electricity to consumers using best practices consistent with the sustainability principles

In 2022, the Power segment focused its quality management efforts on the extensive testing and upgrade of existing equipment to improve the quality of its power supply, as well as on the purchase, installation and commissioning of modern equipment for timely detection of faults in the cable lines.

¹ In 2022, the certificates were withdrawn as the companies that provided them temporarily ceased operations in the Russian Federation.

EN+ LAUNCHES A MOBILE ELECTRICAL LAB

In 2022, En+ purchased a modern mobile electrical laboratory, which makes it possible to:

- diagnose the condition of the insulation of power cable lines
- determine the locations of cable damages using modern and effective methods

APPLICATION FOR CUSTOMERS

To support the infrastructure of electric filling stations, En+ created a mobile application – the Electrify app. The application was developed in Russia, and it provides an ability to make payments using bank cards.

IMPLEMENTATION OF A MODULE FOR CARRYING OUT INVESTIGATIONS INTO THE QUALITY OF PRODUCTS SUPPLIED

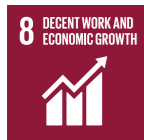
RUSAL's Aluminium Division is implementing a comprehensive programme to improve the quality of finished products by introducing the culture of SPC in the companies. In 2022, an 8D investigation module was introduced to automate the process of resolving complaints received from buyers. Based on the results of the investigation report, the Company takes corrective action to improve the quality of goods produced and services provided.

GOVERNANCE

DIGITALISATION AND INFORMATION SECURITY

En+ takes a responsible approach to implementing digital transformation solutions in all areas and maintaining information security of all business processes.

DIGITALISATION



MATERIAL TOPIC

- Economic performance

KEY FACTS

A major **six-year programme** has been launched to improve the reliability of equipment and automation of automated process control systems for all facilities.

More than a hundred RPA (robot process automation) robots have been created for all business units of Metals segment.

A predictive analytics system for power facilities (CHP, HPP) has been developed and a digital model of HPP has been created.

Management approach

GRI: 2-13 3-3

The year 2022 was a milestone in digitalisation of En+ business processes. In 2022, changes were made to the En+'s organisational structure and the Directorate for Digital Transformation was created. It directly reports to the CEO of the Company. The risks associated with digitalisation are within the competence of the Risk Committee. The Directorate manages digital transformation process, continues implementing ongoing projects and implements new ones. The keynote of the Directorate's activities is the implementation of digital transformation solutions in all areas, including ESG. It focuses on the following tasks:

- implementation of the Digital Transformation Strategy
- acceleration and efficiency improvement of digitalisation projects
- creation of a digital management platform based on big data and artificial intelligence

So, En+ moved to the next stage of digitalisation development, from collecting the needs of enterprises in digitalisation and fulfilling these requests to the formation of a common digitalisation strategy, studying best practices and implementing the best available solutions at all enterprises.

As a part of its digitalisation transformation, En+ updated its Digital Transformation Strategy. The focus of the strategy is the digitalisation of logistics, the development of a digital culture and creation of the centre of excellence in artificial intelligence. The strategy covers two key areas: automation and digitalisation of production processes and corporate functions such as finance, logistics, sales, repairs and maintenance, HR management, energy management, accounting automation, IT services and information security.

DIGITAL TRANSFORMATION STRATEGY

AUTOMATION

- Automation of routine processes for all services of the Company
- Development of analytical tools and automatic reporting
- Creation of a unified corporate data warehouse
- Adoption of MES systems to automate operations
- Unification and centralisation of processes, expertise and competences, automation tools
- Protection of IT data and supporting infrastructure from accidental or intentional interference
- Automation and digitalisation projects contributing to ESG agenda

DIGITALISATION

- Implementing a product-based approach to the development of digital solutions
- Developing a system for digital skills training and development for all the employees of the Company
- Implementing digital solutions by business area:
 - Decision-making systems, including AI-based (artificial intelligence based) digital advisors and assistants for decision-making in production and company management processes
 - Use of immersive technologies (AR/VR headsets) for production, construction and repair management
 - Digitised management of loose basic raw materials (coke, alumina, nepheline, limestone)
 - Establishment of a unified 3D ground and UAV scanning service to improve operational efficiency
 - Measurement and warning systems based on AI capabilities

- Increasing productivity and reducing equipment downtime
- Reducing injuries using digital solutions, reducing risks of lack of qualified staff

- Reducing costs
- Increasing process transparency, ensuring traceability, automating reporting system and improving its quality

Digitalisation and sustainability

Sustainable management approach

Digital innovations

INNOVATIVE AND SUSTAINABLE BUSINESS MODEL

Environment

Energy management

- Increase in energy efficiency

Climate leadership

- Decrease in GHG emissions

Environmental stewardship

- Improvement of environmental monitoring

Social

Health and safety

- Decrease in work-related injuries

Staff development

- Development of educational platforms

Local communities

- Increase in the range of services
- Development of new infrastructure

Governance

Corporate governance

- Increase in the transparency of information

Economic efficiency

- Increase in productivity

Risk management

- Increase in risk management efficiency

Stakeholder engagement

- Improvement of supply chains
- Increase in customer and investor satisfaction

The Company has identified four priority areas of activity in the field of digitalisation:

- digital logistics: real-time supply chain optimisations to reduce costs
- business system 2.0: strengthening the system by applying the best practices of the transition from lean manufacturing to "Digital Kaizen"

- digital project office: unified methodology and digital tools for effective project management
- artificial intelligence: creation of an artificial intelligence and big data laboratory focused on business value

The specific projects of the Company within these directions of digitalisation and their description are presented below.

AREAS

TOOLS

BENEFITS

GOVERNANCE

The Company has identified four priority areas of activity in the field of digitalisation:

DIGITAL LOGISTICS:
from real-time management, optimisation and control to industrial internet, artificial intelligence and big data

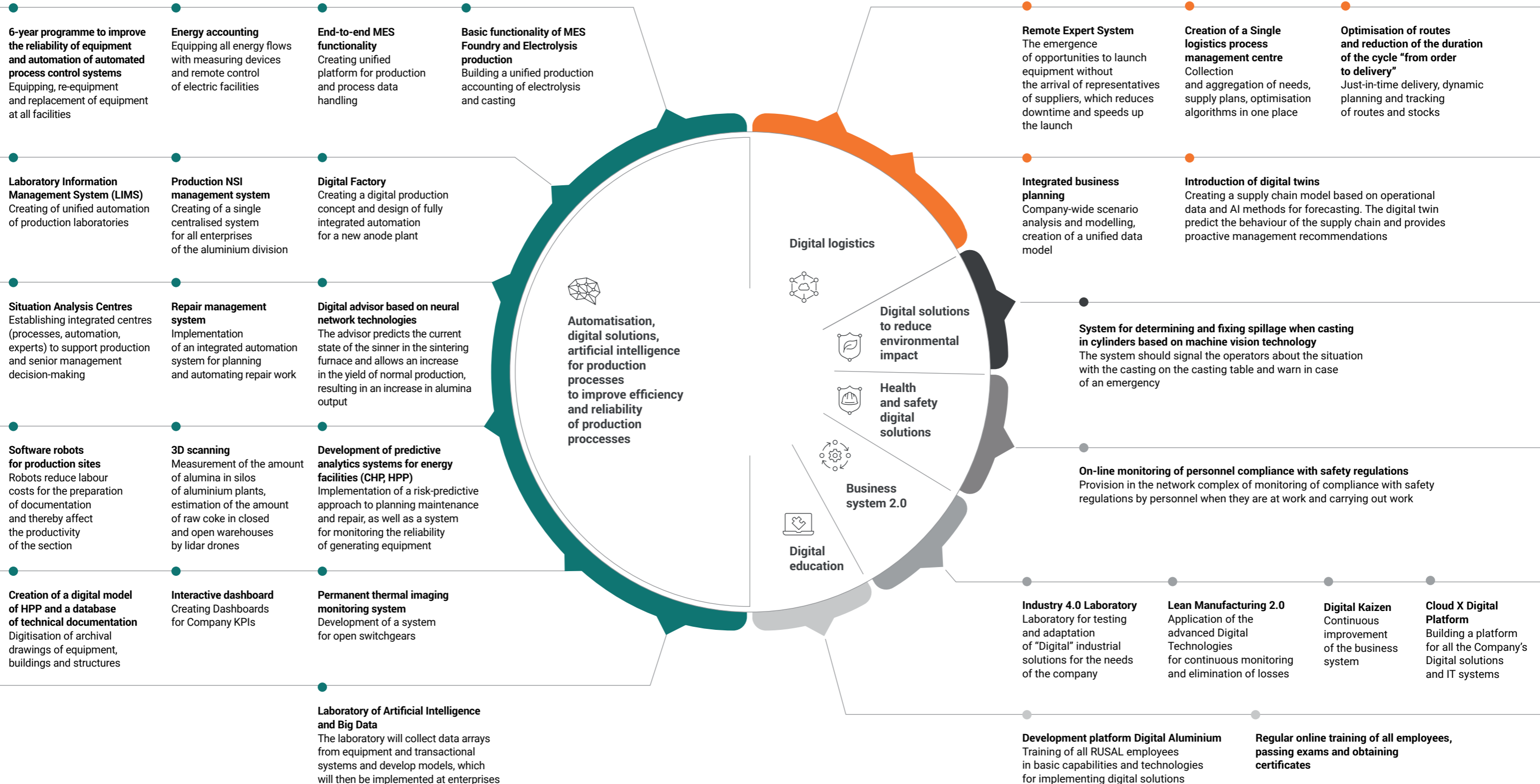
BUSINESS SYSTEM 2.0:
strengthening the system by applying the best practices of the transition from lean manufacturing to Digital Kaizen

DIGITAL PROJECT OFFICE:
transformation of alertness to the latest technologies into a driving force through investment in training

ARTIFICIAL INTELLIGENCE:
creation of an artificial intelligence and big data laboratory focused on business value

PROJECTS

of the Company within these directions of digitalisation



GOVERNANCE

AGREEMENT BETWEEN EN+ AND NATIONAL RESEARCH UNIVERSITY MPEI

Under the terms of the agreement, the parties will jointly develop competitive innovative technologies to provide application and system services, as well as information security tools. En+ and the university are working together on programmes and projects in the field of information technologies and artificial intelligence methods to ensure more rational use of the resources of the planet, protection of unique ecosystems in the regions where En+ operates, and digital transformation of the enterprises of the Russian energy sector.

The programme also covers issues related to development of the digital economy and implementation of smart power systems technologies. Following the signature of the agreement, En+ conducted training seminars for its employees in the field of digitalisation, held a series of joint meetings and presentations of new digital equipment for energy companies, and started projects for the implementation of intelligent digital relay and automation systems in the En+ network complex.

En+ also strives to conduct regular training in the field of digital technologies not only for its employees but also for younger people. The Company holds various competitions and festivals on robotics and information technologies for schoolchildren, opens competence development centres – Multilabs in the regions of its operation. For student audiences, the Company has various programmes for training specialised specialists (IT Academy, Energy Laboratory, etc.) and encouraging the best students, as well as partnership programmes with leading universities in the country.

[Read more at p.131](#)

GOALS FOR 2023 AND ONWARDS

In the medium term, the Company aims to:

implement end-to-end automation projects according to the plans

develop and implement a comprehensive project “Digital transformation of the Power segment”

launch the Digital Project Office, Artificial Intelligence and Big Data Laboratories, Industry 4.0 Laboratory, and ‘Digital Logistics’

by 2025, RUSAL plans to create a single digital ESG data loop for the company, with the subsequent integration of 100% of ESG indicators into a single information platform that enables big data-driven ESG decision-making

INFORMATION SECURITY



REGULATORY DOCUMENT

Information Security Policy

MATERIAL TOPIC

- Business ethics

KEY FACTS

135 information security vulnerabilities were fixed in 2022

KEY GOALS

GOALS	STATUS
To create an Information Security Incident Response Team to monitor and respond to threats	Completed
To develop and approve a Disaster Recovery Plan	Completed

Management approach

To secure confidentiality, integrity, and availability of information we implemented an information security management system, which covers the process of risk management, among other things. The core regulatory document on information security of the Company is the Information Security Policy, which reflects the following priorities:

- ensuring the continuity of technological and business processes
- protecting information in accordance with legislation
- detecting vulnerabilities at early stages, including technical protection of personal data and objects of critical information infrastructure

Except the Information Security Policy, there are internal information security documents, which regulates company’s information security management system:

- The Information Security Management System Standard
- The Information Resources Access Management Standard
- The Information Security Audit Standard
- The Password Management Standard
- The Standard for Ensuring the Information Security of Payment Systems

- The Standard for the Protection of Confidential Information
- The Standard for the Procedure for Planning and Implementing Information Security Countermeasures
- The Information Security Risk Management Standard
- The Standard for Ensuring Information Security of Technical Resources
- The Standard for Ensuring Information Security in the Organisation of an External Perimeter
- The Standard for Ensuring Information Security of Remote Access
- The Standard for Ensuring Information Security of Mobile Assets
- The Standard for the Procedures for the Use of Removable Media
- The Standard for Ensuring Business Continuity

Furthermore, in 2021 En+ developed and put in force its own package of information security standards, that meets the ISO/IEC 27001 standard. Each year, regulatory documents in this sphere are updated to reflect new threats and risks.

Besides, in 2019 the Board of directors adopted a strategy for enhancing information security.

GOVERNANCE

To ensure a timely response and monitoring of information security threats, the Information Security Incident Response Team was created in 2022. Its members – both experts from the Company's internal divisions and external specialists from information security firms – are now involved in analysing information security, as well as auditing IT infrastructure at enterprises and information systems. The activities result in regular development of recommendations for enhancing information security.

Information security management processes are reviewed annually by external auditors. Internal information security units conduct information security audits in relation to the IT infrastructure of individual enterprises and information systems. Based on the results of the activities carried out, recommendations are being prepared to increase the level of security of the IT infrastructure. For example, during the reporting period, 135 vulnerabilities were identified on the external perimeter, and all of them were eliminated.

Involvement of employees

En+ takes a responsible approach to maintaining information security among its employees. Electronic Computing Facilities Rules contain relevant requirements in this regard, and they are updated annually. To ensure compliance with the Rules, the Company holds regular internal trainings for a wide circle of participants using the Corporate University internet portal. Criteria of compliance with the Electronic Computing Facilities Rules are part of employee work efficiency assessment. If information security breaches occur, employees can report them to authorised departments. Moreover, En+ raises awareness on information security issues through regular educational newsletters and drill phishing emails.

SASB: IF-EU-550a.1

In the reporting year, 110 significant cases of non-compliance with the information security codes were identified in the Company.

Such information security violations, in particular, included:

- not blocking accounts in a timely manner
- using non-approved software
- inconsistent granting of extended access rights to users
- connecting personal devices
- disclosing credentials as a result of clicking on a phishing link
- transferring account password (use of someone else's account)
- using corporate resources for personal purposes
- sending service information to personal external emails
- exchanging confidential information using non-encrypted tools
- ignoring requirements of information security personnel aimed at eliminating violations
- violating information security requirements when setting up access to resources, including those published externally

For each violation, we conducted a careful check. In line with the Planning and Implementation of Information Security Counter-Measures Procedure enterprise standard, causes of incidents were identified, technical and disciplinary actions taken to prevent similar situations in the future. As part of our Business Continuity Plan, which includes the Disaster Recovery Plan, procedures for responding to information security incidents as well as procedures and frequency of testing were defined.

METALS SEGMENT

The following information security measures were implemented at enterprises in the Metals segment in 2022:

- Interaction with the National Computer Incident Coordination Centre was organised
- Information security incident response exercises were carried out at critical infrastructure facilities

To ensure business continuity and resilience in the face of cyber-attacks, business continuity measures were developed and enshrined in:

- The Recovery Policy for the Internal Web-application Farm
- The Disaster Recovery Plan for the Mail System
- The Disaster Recovery Plan for the SharePoint Server-based Farm
- The Active Directory Forest Recovery Plan
- The Recovery Plan for Active Directory Objects Deleted due to a Logical Error

POWER SEGMENT

INFORMATION SECURITY AT ELECTRIC CHARGING STATIONS

In March 2022, the entire network of En+'s electric vehicle charging stations switched to the Electrifyly mobile app, which plays a big role connecting users to charging sessions. The app was developed in Russia and retained the ability of bank card payments – a function which became critical to Russian users.

Another crucial factor is the security of customer personal data. The transition to the local app helped ensure a high level of protection against external threats.

GOVERNANCE

INNOVATION MANAGEMENT

GRI: 3-3

En+ continuously strives to improve its performance by implementing new technologies and continuing constant improvement projects. R&D management enables develop more effective technologies, and the business system entails the involvement of employees in the development of small improvement projects.

R&D MANAGEMENT



KEY FACTS

RUB 216.1 mn (USD 3.1 mn) were allocated for R&D projects¹

KEY GOALS

GOALS	STATUS	PROGRESS MADE IN 2022
To develop projects for the production, transport and sale of green hydrogen	Completed	The production of hydrogen by electrolysis, the installation of filling stations, the development of hydrogen buses, the engineering of a tank container for liquid hydrogen were considered
To continue the implementation of projects to develop perovskite solar cells	Completed	Scalable approaches for the production of hybrid perovskite films were developed, and a wide range of organic compounds used as hybrid perovskite modifiers were analysed
To consider participation with partners in the development of promising energy storage technologies	Completed	En+ became an industrial partner in the project to develop cathode materials for lithium-ion batteries

GRI: 3-3

The Company's R&D efforts are directed towards the introduction of new technologies and the development of green energy projects.

GRI: 2-13

Innovative projects in Metals segment are managed by the New Projects Directorate. Key decisions on innovative activities in Power segment are taken by the R&D Council

and the Innovation Committee. In 2022, En+ allocated RUB 216.1 million¹ (USD 3.1 million) to R&D projects: RUB 54.7 million (around USD 0.8 million) in Metals segment, RUB 161.4 million (around USD 2.4 million) in Power segment, including RUB 54.7 million (around USD 800,000) for environmental studies organised by the Sustainable Development Directorate.

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

POWER SEGMENT

BUILDING A SMALL MODULAR REACTOR

En+ with partners are preparing to begin construction of a small modular nuclear reactor. This will be followed by further testing and certification of materials, then the start of industrial production. It is potentially the world's first commercial fourth generation medium-power reactor using a heavy-metal coolant and capable of occupying 10–15% of the emerging global market for small and medium-power nuclear reactors.

INDUSTRIAL INSPECTION ROBOT

En+ supported one of the projects developed by INRTU students as part of the Energy Laboratory accelerator. The industrial inspection robot developed by the students can easily move along the surface of the pipe and can be equipped with a video camera with lighting and aids of non-destructive testing. It has already been successfully tested at the Bratsk HPP.

STUDYING THE POSSIBLE INFLUENCE OF THE POLYNYA ON THE AIR QUALITY IN KRASNOYARSK

Since 2019, the Institute of Computational Modelling (Siberian Branch of the Russian Academy of Sciences), with the support of En+, has been studying the possible influence of the polynya on the Yenisei River on the air quality in Krasnoyarsk (about RUB 7.3 million, or USD 106,000, were allocated in 2022). In particular, scientists are studying the regularities of clouds formation over the city and the Yenisei River. In 2022, the meteorological temperature profiler MTP-5 was installed on the Posadny Island in Krasnoyarsk.

HYBRID PEROVSKITES FOR SOLAR PANELS

The creation of solar panels from a new material will increase the efficiency of solar energy generation and reduce the cost of panel production. The funding for the project was UB 11.25 million (around USD 164,000) in 2022.

METALS SEGMENT

NEW ALUMINIUM ALLOY FOR SPACE

Specialists at the Institute of Light Materials and Technologies (ILM&T) have developed a new aluminium alloy, a special feature of which is increased heat-resistance. The thermal expansion rate of the new alloy is more than 1.5 times lower than that of conventional aluminium alloys and is almost equal to that of steel and nickel alloys.

The new alloy is highly relevant to the development of satellite elements and electronics that operate in extreme conditions with large temperature differences. ILM&T scientists adapted the material for 3D printing by increasing the plasticity of the alloy. This allowed the finished 3D digital model to have an almost completely identical shape, thereby reducing costs and production time.

PLANS FOR 2023

To expand the range of partnerships and attract new academic partners to R&D projects of topical interest of the Company

To continue to work on new directions for the Company (CO₂ capture and storage (CCS), energy storage, hydrogen power and others), such as creating industrial production of cathode materials for batteries

GOVERNANCE

BUSINESS SYSTEM



REGULATORY DOCUMENT

Regulation on the management of operational development projects of EuroSibEnerg

MATERIAL TOPICS

- Economic performance
- Employees management and engagement

KEY FACTS

RUB 3,476.3 mn
(USD 50.6 mn) of the total economic effect of business system projects and proposals implementation¹

A total of
16,574
Kaizen proposals
were submitted during 2022

Management approach

GRI: 3-3

Innovation is impossible without a well-developed business system in which every employee shares the values of continuous improvement and has the opportunity to contribute to it. En+ collects ideas from employees on how to improve operational efficiency within the Company, develops employee initiatives and finally implements their proposals in the production process. The total economic effect of implementing all business system projects in En+ in 2022 was RUB 2,833.3 million (USD 41.3 million) in Metals segment and around RUB 643 million (USD 9.3 million) in Power

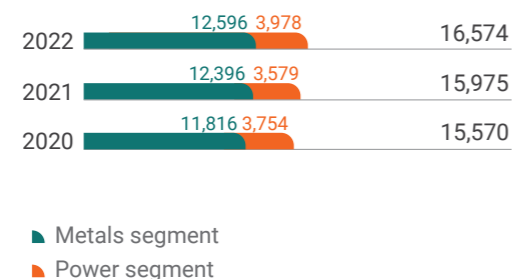
KEY GOALS

GOALS	STATUS
To hold the Improvements of the Year 2022 competition	Completed
To conduct audits of the implemented business system at the En+ enterprises in accordance with the annual schedule	Completed

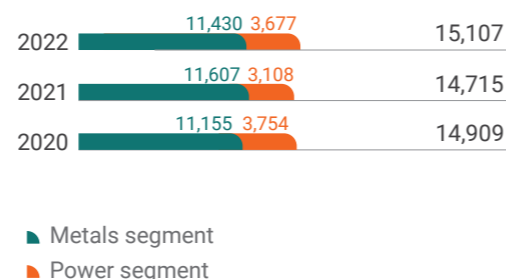
segment¹. The motivation of employees of Power segment to participate in the development of the enterprises was increased by introducing rewards for projects without economic effect.

In 2022, the Company developed a website and a mobile application to organise online management of the submission, introduction and follow-up of Kaizen proposals. These new features will help to significantly simplify the relevant processes, create an integrated knowledge base for all improvements and make it accessible to everyone.

Employee proposals received, Nb



Employee proposals implemented, Nb



¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55.

En+ aims to the maximum level of employees' knowledge of and engagement in the business system. For this purpose, the Company conducts thematic trainings on this topic for the employees.

Business system training

- Trainings for managers and lead engineers**

 - The Group conducted separate training sessions for managers and lead engineers
 - 395 employees and line managers completed special business system trainings
 - 7,022 employees of the Metals segment received in-house training
 - 2,337 participants were trained remotely
 - 424 multi-topic practical training sessions on production process organisation and improvement were held
 - 70 employees received external training
- Learning the principles and instruments of the business system Business system at the Corporate University BS-250 programme Transformation programme**

 - In 2022, a business system training class was created on basis of the Corporate University in Irkutsk as planned
 - 47 practice sessions of the Transformation programme were arranged
 - In 2022, 144 applicants were accepted to participate in the programme
 - A total of 224 employees continued the Transformation programme training
- Training programme for new staff**
- Succession pool training for students and lower-level employees**

 - Instead of the distance learning system, a mandatory business system training programme was developed and approved for new workers, specialists and clerks in Power segment
 - 529 employees were trained under the programme in Power segment. The course is devoted to the theory of inventive problem solving, its structure, basic tools and concepts, and management of the mechanism for finding new ideas
 - The lecturer is the head of a direction of Metals segment's Department for the Development of Tools for the Theory of Inventive Problem Solving
 - The course of Metals segment consists of 11 lessons with a total duration of 39 minutes and a control test

En+ held an annual Project of the Year contest in Metals and Power segments at factory and company's levels. A total of 36 projects of Power segment competed in the final of the Project of the Year contest. In the project teams, there were 129 employees of the Power segment.

Project of the Year winning projects

- Project to reduce the time to issue a job order**

The introduction of visualisation maps of hazardous and risky zones in the workshop

A set of measures for improving working conditions and ecology that allowed the number of blockages in the town's sewerage network to be reduced from 212 to 73
- Increasing the productivity of bauxite grinding mills**

Prevention of steam boiler foaming

Robotisation of the registration and unblocking of invoices for the purchase of inventory

GOVERNANCE

METALS SEGMENT

Business system projects

COST-SAVING TRANSPORT

The method of loading alumina was improved. The economic effect of the project amounted to 58.8 million roubles

114 projects

aimed at the development of the business system at the company level and 197 in-house projects (loss reduction, equipment optimisation) were implemented

10 Kaizen workshops

have been operating for several years

1,303 participants

competed in the Kaizen of the Year contest

RUB 775.5 mn

(USD 11.3 mn) of the economic effect of the implemented Kaizen projects and proposals¹

POWER SEGMENT

Business system projects

BUSINESS SYSTEM ENHANCEMENT

Projects by the management

- 150 personal projects were launched by managers in 2022
- 9 of these projects have already been implemented

EMPLOYEE SATISFACTION IMPROVEMENT

Improving working conditions

- During the reporting period, with the participation of representatives of the work council and the work team, En+ improved working conditions of employees

Organising the workplace

- En+ employees work in compliance with the principles of the 5S system: sorting, tidiness, cleanliness, standardisation and improvement. This system operates based on the Regulations on the Procedure for the Rational Organisation of Workplace in accordance with the 5S methodology. En+ continues to implement 5S methodology at the enterprises

Reference workshops

- Power segment has reference workshops with standardised information points that operate in line with the developed approaches to storage, accounting, and issuance of inventory items

PRODUCTION OPTIMISATION

Technical re-equipment

- The technical re-equipment of Hydraulic Unit No. 7 at the Irkutsk HPP took only 350 days instead of 368 days through involvement of Business System Development Department

Operational Development Programme

- 113 Operational Development Programme projects were implemented

Reducing the time to issue a job order

- Project allowed to reduce the maximum waiting time and admission to the order for the performance of work by repair personnel from 150 to 15 minutes. This project is important since it aims to address issues that are common for all enterprises and therefore has a huge potential for replication

GOALS FOR 2023 AND ONWARDS

In the medium term, the Company aims to implement the following measures:

Introduce a mobile application for submitting Kaizen proposals

Organise and run Kaizen of the Year 2023 and Project of the Year 2023 contests

Continue the business system training programme for new employees and provide 100% of trained workers

Introduce a mandatory business system training programme at the production site for various levels of engineering and technical staff

¹ / Calculated based on average for 2022 USD/RUB exchange rate of 68.55

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CONSOLIDATED FINANCIAL STATEMENTS

EN+ GROUP IPJSC
Statement of Management's Responsibilities

EN+ GROUP IPJSC
Consolidated Financial Statements
for the year ended 31 December 2022

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Statement of Management's Responsibilities for the Preparation and Approval of the Consolidated Financial Statements for the year ended 31 December 2022

The following statement, which should be read in conjunction with the auditors' responsibilities stated in the auditors' report on the audit of the consolidated financial statements set out on pages 200-204, is made with a view to distinguishing the respective responsibilities of management and those of the auditors in relation to the consolidated financial statements of EN+ GROUP IPJSC and its subsidiaries.

Management is responsible for the preparation of the consolidated financial statements for the year ended 31 December 2022 in accordance with International Financial Reporting Standards ("IFRS").

In preparing the consolidated financial statements, management is responsible for:

- Selecting suitable accounting principles and applying them consistently;
- Making judgements and estimates that are reasonable and prudent;
- Stating whether International Financial Reporting Standards have been followed, subject to any material departures disclosed and explained in the consolidated financial statements; and
- Preparing the consolidated financial statements on a going concern basis, unless it is inappropriate to presume that the Group will continue in the business for the foreseeable future.

Management, within its competencies, is also responsible for:

- Designing, implementing and maintaining an effective system of internal controls throughout the Group;
- Maintaining statutory accounting records in compliance with local legislation and accounting standards in the respective jurisdictions in which the Group operates;
- Taking steps to safeguard the assets of the Group; and
- Detecting and preventing fraud and other irregularities.

These consolidated financial statements were approved by the Board of Directors on 22 March 2023 and were signed on its behalf by:

General Director of EN+ GROUP IPJSC

Vladimir Kiriukhin

FINANCIAL STATEMENTS



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Independent auditor's report

To the Shareholders and Board of Directors of
IPJSC EN+ GROUP

Opinion

We have audited the consolidated financial statements of IPJSC EN+ GROUP and its subsidiaries (hereinafter collectively referred to as the "Group"), which comprise the consolidated statement of financial position as at 31 December 2022, and consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 December 2022 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report. We are independent of the Group in accordance with the International Ethics Standards Board for Accountants' (IESBA) International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code) together with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Russian Federation, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Material uncertainty related to going concern

We draw attention to Note 1(e) of the consolidated financial statements as of 31 December 2022, which indicates that the geopolitical tensions and sanctions imposed by a range of countries, accompanied by the volatility of commodity, stock and currency markets, may significantly affect operational, investing and financing activity of the Group. As stated in Note 1(e), these events or conditions, along with other matters as set forth in Note 1(e) of the consolidated financial statements, indicate that material uncertainty exists that may cast significant doubt about the Group's ability to continue as a going concern. Our opinion is not modified in respect of this matter.

**Key audit matters**

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. In addition to the matters described in the *Material uncertainty related to going concern* section we have determined the matter described below to be the key audit matter to be communicated in our report. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on this matter. For the matter below, our description of how our audit addressed this matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to this matter. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matter below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

Key audit matter	How our audit addressed the key audit matter
------------------	--

Impairment analysis of property, plant and equipment

Impairment analysis of property, plant and equipment was a key audit matter due to the significance of property, plant and equipment balance in the consolidated financial statements, high subjectivity of judgments and estimates underlying the impairment analysis used by management.

Current global market conditions, including fluctuations in LME aluminum prices, market premiums and alumina purchase prices together with their long-term forecasts, fluctuations of coal sale prices and additional volumes of electricity transmission set in further periods, increase of logistics costs may indicate that some cash generating units (CGU) may be subject to either impairment loss or full or partial reversal of previously recognized impairment.

Evaluation of the recoverable amount of fixed assets is based on the higher of the fair value less cost to sell and value in use. As of the reporting date management makes an assessment of value-in-use based on the discounted cash flow models.

Information on the results of the impairment testing is provided in Note 11 (c) to the consolidated financial statements.

We analyzed management's assessment of whether indicators for potential impairment or reversal of impairment previously recorded exist. For the impairment tests performed our procedures included, among others:

- ▶ Comparison of key assumptions such as production volumes, forecasted aluminum sales prices, forecasted electricity tariffs and transmission volumes, forecasted coal sales prices and volumes, forecasted alumina and bauxites purchase prices, forecasted costs inflation, forecasted currency exchange rates, discount rates, used in the Group's financial model with published macroeconomic indicators and forecast data;
- ▶ Assessing the historical accuracy of management's budgets and forecasts by comparing them to actual performance;
- ▶ Checking the arithmetic accuracy of the impairment model and assessing a sensitivity analysis of value-in-use to changes in key assumptions.

With assistance of our internal valuation experts we analyzed the Group's management calculations of the recoverable amount of fixed assets.

We assessed the impairment related disclosures in the consolidated financial statements, including the key assumptions used and the sensitivity of the consolidated financial statements to these assumptions.

FINANCIAL STATEMENTS

**Other information included in the Annual Report**

Other information consists of the information included in the Annual Report other than the consolidated financial statements and our auditor's report thereon. Management is responsible for the other information. The Annual Report is expected to be made available to us after the date of this auditor's report.

Our opinion on the consolidated financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Responsibilities of management and the Board of Directors for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

The Board of Directors is responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.



As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- ▶ Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- ▶ Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- ▶ Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- ▶ Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- ▶ Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- ▶ Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

FINANCIAL STATEMENTS



From the matters communicated with the Board of Directors, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The partner in charge of the audit resulting in this independent auditor's report is Mikhail Khachatryan.

M.S. Khachatryan
General director of TSATR – Audit Services Limited Liability Company,
partner in charge of the audit resulting in this independent auditor's report
(main registration number 21906108270)

22 March 2023

Details of the auditor

Name: TSATR – Audit Services Limited Liability Company
Record made in the State Register of Legal Entities on 5 December 2002, State Registration Number 1027739707203.
Address: Russia 115035, Moscow, Sadovnicheskaya naberezhnaya, 77, building 1.
TSATR – Audit Services Limited Liability Company is a member of Self-regulatory organization of auditors Association "Sodruzhestvo". TSATR – Audit Services Limited Liability Company is included in the control copy of the register of auditors and audit organizations, main registration number 12006020327.

Details of the audited entity

Name: IPJSC EN+ GROUP
Record made in the State Register of Legal Entities on 9 July 2019, State Registration Number 1193926010398.
Address: Russia 236006, Kaliningrad, Oktyabrskaya street, b. 8, office 34.

EN+ GROUP IPJSC
*Consolidated Statement of Profit or Loss and Other Comprehensive Income
for the year ended 31 December 2022*

	Note	Year ended 31 December	
		2022 USD million	2021 USD million
Revenues	5	16,549	14,126
Cost of sales		(12,056)	(9,174)
Gross profit		4,493	4,952
Distribution expenses		(793)	(708)
General and administrative expenses		(1,071)	(861)
Impairment of non-current assets	11	(370)	(267)
Other operating expenses, net	6	(253)	(218)
Results from operating activities		2,006	2,898
Share of profits of associates and joint ventures	13	1,553	1,802
Gain from partial disposal of investment in associate	13	–	492
Finance income	8	184	87
Finance costs	8	(1,290)	(1,141)
Profit before tax		2,453	4,138
Income tax expense	10	(607)	(604)
Profit for the year		1,846	3,534
Attributable to:			
Shareholders of the Parent Company		1,083	2,142
Non-controlling interests	16(g)	763	1,392
Profit for the year		1,846	3,534
Earnings per share			
Basic and diluted earnings per share (USD)	9	2.156	4.264

The consolidated statement of profit or loss and other comprehensive income is to be read in conjunction with the notes to, and forming part of, the consolidated financial statements set out on pages 211 to 275.

FINANCIAL STATEMENTS

EN+ GROUP IPJSC

Consolidated Statement of Profit or Loss and Other Comprehensive Income
for the year ended 31 December 2022 (continued)

	Note	Year ended 31 December	
		2022 USD million	2021 USD million
Profit for the year		1,846	3,534
Other comprehensive income/(loss)			
<i>Items that will never be reclassified subsequently to profit or loss</i>			
Actuarial gain/(loss) on post-retirement benefit plans	18(b)	11	(4)
Revaluation of non-current assets	11(e)	650	–
Taxation	10(c)	(132)	–
		529	(4)
<i>Items that are or may be reclassified subsequently to profit or loss</i>			
Reclassification of accumulated foreign currency translation loss to statement of profit or loss due to partial disposal of investment in associate	13	–	613
Foreign currency translation differences on foreign subsidiaries		(47)	25
Foreign currency translation differences for equity-accounted investees	13	369	21
Change in fair value of cash flow hedge	19	(131)	(28)
		191	631
Other comprehensive income for the year, net of tax		720	627
Total comprehensive income for the year		2,566	4,161
Attributable to:			
Shareholders of the Parent Company		1,669	2,488
Non-controlling interests	16(g)	897	1,673
Total comprehensive income for the year		2,566	4,161

The consolidated statement of profit or loss and other comprehensive income is to be read in conjunction with the notes to, and forming part of, the consolidated financial statements set out on pages 211 to 275.

EN+ GROUP IPJSC

Consolidated Statement of Financial Position
as at 31 December 2022

	Note	31 December	
		2022 USD million	2021 USD million
Assets			
Non-current assets			
Property, plant and equipment	11	11,607	10,117
Goodwill and intangible assets	12	2,417	2,199
Interests in associates and joint ventures	13	5,194	4,028
Deferred tax assets	10(b)	98	150
Investments in equity securities measured at fair value through profit and loss	15(h)	459	316
Derivative financial assets	19	90	22
Other non-current assets	15(g)	311	258
Total non-current assets		20,176	17,090
Current assets			
Inventories	14	4,383	3,731
Trade and other receivables	15(b)	1,477	1,969
Prepayments and VAT recoverable	15(c)	820	668
Income tax receivable	10(e)	217	18
Short-term investments		50	131
Derivative financial assets	19	78	120
Cash and cash equivalents	15(f)	3,477	2,330
Total current assets		10,502	8,967
Total assets		30,678	26,057
Equity and liabilities			
Equity	16		
Share capital		–	–
Share premium		1,516	1,516
Treasury shares		(1,579)	(1,579)
Additional paid-in capital		9,193	9,193
Revaluation reserve		3,480	2,945
Other reserves		82	153
Foreign currency translation reserve		(5,422)	(5,561)
Retained earnings / (accumulated losses)		210	(892)
Total equity attributable to shareholders of the Parent Company		7,480	5,775
Non-controlling interests	16(g)	5,252	4,536
Total equity		12,732	10,311
Non-current liabilities			
Loans and borrowings	17	9,702	8,174
Deferred tax liabilities	10(b)	1,222	1,064
Provisions – non-current portion	18	380	485
Derivative financial liabilities	19	–	61
Other non-current liabilities		175	113
Total non-current liabilities		11,479	9,897
Current liabilities			
Loans and borrowings	17	3,898	2,737
Provisions – current portion	18	146	161
Trade and other payables	15(d)	1,687	1,328
Advances received	15(e)	309	1,163
Other taxes payable		427	315
Derivative financial liabilities	19	–	145
Total current liabilities		6,467	5,849
Total equity and liabilities		30,678	26,057

The consolidated statement of financial position is to be read in conjunction with the notes to, and forming part of, the consolidated financial statements set out on pages 211 to 275.

FINANCIAL STATEMENTS

EN+ GROUP IPJSC
Consolidated Statement of Cash Flows
for the year ended 31 December 2022

	Note	Year ended 31 December	
		2022	2021
		USD million	USD million
Operating activities			
Profit for the year		1,846	3,534
<i>Adjustments for:</i>			
Depreciation and amortisation		720	822
Impairment of non-current assets		370	267
Net foreign exchange loss	8	111	33
Loss on disposal of property, plant and equipment	6	23	5
Share of profits of associates and joint ventures	13	(1,553)	(1,802)
Gain on partial disposal of investment in associate	13	–	(492)
Interest expense	8	988	709
Interest income	8	(115)	(65)
Dividend income	8	(38)	(22)
Income tax expense	10	607	604
Write-down of inventories to net realisable value		172	24
Impairment of trade and other receivables	6	169	65
Provision for legal claims		10	10
Change in fair value of derivative financial instruments	8	191	352
Revaluation of financial assets	8	(31)	47
Operating profit before changes in working capital		3,470	4,091
Increase in inventories		(1,098)	(1,373)
Increase in trade and other receivables and advances paid		(418)	(455)
(Decrease)/increase in trade and other payables and advances received		(783)	434
Cash flows from operations before income tax		1,171	2,697
Income taxes paid	10(e)	(599)	(529)
Cash flows from operating activities		572	2,168

The consolidated statement of cash flows is to be read in conjunction with the notes to, and forming part of, the consolidated financial statements set out on pages 211 to 275.

EN+ GROUP IPJSC
Consolidated Statement of Cash Flows
for the year ended 31 December 2022 (continued)

	Note	Year ended 31 December	
		2022	2021
		USD million	USD million
Investing activities			
Proceeds from disposal of property, plant and equipment		8	20
Acquisition of property, plant and equipment		(1,674)	(1,485)
Acquisition of intangible assets		(37)	(28)
Cash paid for investment in equity securities measured at fair value through profit and loss	15(h)	(113)	(291)
Cash received from other investments		111	39
Interest received		104	63
Dividends from associates and joint ventures		1,639	620
Dividends from financial assets		34	34
Proceeds from partial disposal of associate		–	1,421
Contribution to associates and joint ventures	13	(8)	(9)
Cash outflow from disposal of subsidiary		(16)	–
Prepayment for and acquisition of subsidiaries		–	(99)
Change in restricted cash		(1)	–
Cash flows from investing activities		47	285
Financing activities			
Proceeds from borrowings		9,129	2,881
Repayment of borrowings		(7,007)	(4,474)
Acquisition of non-controlling interest	16(a)	(14)	(44)
Interest paid		(987)	(703)
Restructuring fees		(21)	(36)
Settlement of derivative financial instruments		(229)	(315)
Dividends to non-controlling shareholders		(129)	–
Cash flows from / (used in) financing activities		742	(2,691)
Net increase/(decrease) in cash and cash equivalents		1,361	(238)
Cash and cash equivalents at beginning of the year, excluding restricted cash		2,328	2,549
Effect of exchange rate changes on cash and cash equivalents		(215)	17
Cash and cash equivalents at end of the year, excluding restricted cash	15(f)	3,474	2,328

Restricted cash amounted to USD 3 million and USD 2 million at 31 December 2022 and 31 December 2021, respectively.

The consolidated statement of cash flows is to be read in conjunction with the notes to, and forming part of, the consolidated financial statements set out on pages 211 to 275.

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EN+ GROUP IPJSC
Consolidated Statement of Changes in Equity
for the year ended 31 December 2022

EN+ GROUP IPJSC
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for the year ended 31 December 2022

USD million	Attributable to shareholders of the Parent Company							Total	Non-controlling interests	Total equity
	Share premium	Treasury share reserve	Additional paid-in capital	Revaluation reserve	Other reserves	Foreign currency translation reserve	Retained earnings/(accumulated losses)			
Balance at 1 January 2021	1,516	(1,579)	9,193	2,902	169	(5,923)	(3,122)	3,156	2,909	6,065
Comprehensive income										
Profit for the year	–	–	–	–	–	–	2,142	2,142	1,392	3,534
Other comprehensive (loss)/income	–	–	–	–	(16)	362	–	346	281	627
Total comprehensive (loss)/income for the year	–	–	–	–	(16)	362	2,142	2,488	1,673	4,161
Share of equity transactions of an associate (note 13)	–	–	–	–	–	–	73	73	56	129
Transactions with owners										
Change in effective interest in subsidiaries (note 16(a))	–	–	–	43	–	–	15	58	(102)	(44)
Total transactions with owners	–	–	–	43	–	–	15	58	(102)	(44)
Balance 31 December 2021	1,516	(1,579)	9,193	2,945	153	(5,561)	(892)	5,775	4,536	10,311
Balance at 1 January 2022	1,516	(1,579)	9,193	2,945	153	(5,561)	(892)	5,775	4,536	10,311
Comprehensive income										
Profit for the year	–	–	–	–	–	–	1,083	1,083	763	1,846
Other comprehensive income/(loss)										
Revaluation of hydro assets (note 11(e))	–	–	–	650	–	–	–	650	–	650
Taxation (note 10(c))	–	–	–	(132)	–	–	–	(132)	–	(132)
Other comprehensive (loss)/income	–	–	–	–	(71)	139	–	68	134	202
Total comprehensive income/(loss) for the year	–	–	–	518	(71)	139	1,083	1,669	897	2,566
Transactions with owners										
Change in effective interest in subsidiaries (note 16(a))	–	–	–	17	–	–	19	36	(50)	(14)
Dividends to non-controlling shareholders (note 16(e))	–	–	–	–	–	–	–	–	(131)	(131)
Total transactions with owners	–	–	–	17	–	–	19	36	(181)	(145)
Balance 31 December 2022	1,516	(1,579)	9,193	3,480	82	(5,422)	210	7,480	5,252	12,732

1. Background

(a) Organisation

EN+ GROUP IPJSC (the “Parent Company” or EN+) was established as a limited liability company according to the legislation of the British Virgin Islands on 30 April 2002 under the name of Baufinanz Limited. On 18 March 2004, the Parent Company registered a change of its legal name to Eagle Capital Group Limited. On 25 August 2005, the Parent Company changed its domicile to Jersey and was renamed to En+ Group Limited. On 1 June 2017, the Parent Company changed its status to a public company and was renamed to EN+ GROUP PLC. On 9 July 2019, the Parent Company changed its domicile to the Russian Federation with a registration as EN+ GROUP International public joint-stock company (EN+ GROUP IPJSC). The Parent Company’s registered office is Oktyabrskaya st. 8, office 34, Kaliningrad, Kaliningrad Region, 236006, Russian Federation.

On 8 November 2017, the Parent Company successfully completed an initial public offering of global depositary receipts on the London Stock Exchange. On 17 February 2020, the Parent Company’s ordinary shares were included into the “Level 1” part of the list of securities admitted to trading on Moscow Exchange.

EN+ GROUP IPJSC is the parent company for a vertically integrated aluminium and power group, engaged in aluminium production and energy generation (together with the Parent Company referred to as “the Group”).

As at 31 December 2022 Mr. Oleg Deripaska beneficially controls and exercises voting rights in respect of 35% of the voting shares of the Parent Company and his direct or indirect shareholding cannot exceed 44.95% of the shares of the Parent Company.

The other significant holders as at 31 December 2022 were as follows:

	Shareholding	Voting rights
Parent Company’s subsidiary	21.37%	7.04%
Glencore Group Funding Limited	10.55%	10.55%
Other shareholders	23.13%	13.96%
Independent trustees	–	33.45%

Glencore Group Funding Limited is a subsidiary of Glencore Plc.

Based on the information at the Group’s disposal at the reporting date, there is no individual that has an indirect prevailing ownership interest in the Parent Company exceeding 50%, who could exercise voting rights in respect of more than 35% of the Parent Company’s issued share capital or has an opportunity to exercise control over the Parent Company.

Related party transactions are detailed in note 23.

(b) Operations

The Group is a leading vertically integrated aluminium and power producer, which combines the assets and results of its Metals and Power segments.

The Metals segment operates in the aluminium industry primarily in the Russian Federation, Ukraine, Guinea, Jamaica, Ireland, Italy and Sweden and is principally engaged in the mining and refining of bauxite and nepheline ore into alumina, the smelting of primary aluminium from alumina and the fabrication of aluminium and aluminium alloys into semi-fabricated and finished products.

The Power segment engages in all major areas of the power industry, including electric power generation, power trading and supply. It also includes supporting operations engaged in the supply of coal resources to the Group. The Group’s principal power plants are located in East Siberia and Volga Region, the Russian Federation.

The consolidated statement of changes in equity is to be read in conjunction with the notes to, and forming part of, the consolidated financial statements set out on pages 211 to 275.

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(c) Business environment in emerging economies

The Russian Federation, Ukraine, Jamaica and Guinea have been experiencing political and economic changes that have affected, and may continue to affect, the activities of enterprises operating in these environments. Consequently, operations in these countries involve risks that typically do not exist in other markets, including reconsideration of privatisation terms in certain countries where the Group operates following changes in governing political powers.

The imposition of economic sanctions on Russian individuals and legal entities by the European Union, the United States of America, Japan, Canada, Australia and others, as well as counter sanctions imposed by the Russian government, has resulted in increased economic uncertainty including more volatile equity, commodity and currency markets. The longer term effects of implemented sanctions, as well as the threat of additional future sanctions, are difficult to determine.

The consolidated financial statements reflect management's assessment of the impact of the Russian, Ukrainian, Jamaican and Guinean business environments on the operations and the financial position of the Group. The future business environment may differ from management's assessment.

(d) OFAC sanctions

On 6 April 2018, the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC") designated, amongst others, the Parent Company, JSC "EuroSibEnergo" ("EuroSibEnergo") and UC RUSAL Plc (from 25 September 2020 UC RUSAL IPJSC, "UC RUSAL") as Specially Designated Nationals ("SDN") (the "OFAC Sanctions").

As a result, all property or interests in property of the Parent Company and its subsidiaries located in the United States or in the possession of U.S. Persons were blocked, frozen, and could not have been transferred, paid, exported, withdrawn, or otherwise dealt in. Several general licenses were issued at the time of the designation and subsequently certain transactions were authorised with the Parent Company, EuroSibEnergo and UC RUSAL, and with their respective debt and equity.

On 27 January 2019, OFAC announced the removal of the Parent Company and its subsidiaries, including UC RUSAL and EuroSibEnergo, from OFAC's SDN list and Blocked Persons with immediate effect. The removal was subject to and conditional upon the satisfaction of a number of conditions including, but not limited to:

- Ending Mr. Oleg Deripaska's control of the Group, through the reduction of his direct and indirect ownership interest in the Parent Company to below 50%;
- Establishing independent voting arrangements for the Parent Company's shares held by certain shareholders;
- Corporate governance changes, including, inter alia, overhauling the composition of the EN+ Board to ensure that independent directors constitute the majority of the Board, and ongoing reporting and certifications by the Parent Company and UC RUSAL to OFAC concerning compliance with the conditions for sanctions' removal.

(e) Going concern

These consolidated financial statements have been prepared assuming that the Group will continue as a going concern. Accordingly, these statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts, the amounts and classification of liabilities or any other adjustments that might result from the Group being unable to continue as a going concern.

Ban of Australian government for the export of alumina and bauxite to Russia introduced in March, 2022 and temporary suspension of production at Mykolaiv Alumina Refinery Company Ltd due to developments in Ukraine starting from 1 March 2022 influenced the availability of alumina and bauxite or increase the purchase prices for the Group. Difficulties with logistics caused the Group to rebuild the supply and sales chains and lead to additional logistics costs. If the situation in Ukraine and overall geopolitical tension persists or continues to develop significantly, including the loss of significant parts of foreign markets, which cannot be reallocated to new markets, it may affect the Group's business, financial condition, prospects and results of operations.

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Potentially the Group may have difficulties with equipment deliveries that may postpone realization of some investment projects and modernization programs for existing production facilities.

The facts described above, as well as the volatility of commodity markets, stock, currency markets and interest rates, create material uncertainty in the Group's ability to meet its financial obligations on time and continue as a going concern entity. Management constantly evaluates the current situation and prepares forecasts taking into account different scenarios of the events and conditions development. The Group's management expects that prices on the world commodity markets will grow and improve the results of operating activities. The Group is also revising its supply and sales chains, ensuring an optimal equity and debt ratio, searching for resolutions of logistic difficulties, as well as the ways to survive its obligations in order to adapt the current economic changes to maintain the continuance of the Group's operations (note 24).

2. Basis of preparation**(a) Statement of compliance**

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRSs"), which collective term includes all International Accounting Standards and related interpretations promulgated by the International Accounting Standards Board ("IASB").

Preparation of these consolidated financial statements is also regulated by Russian Federal Law 208-FZ dated 27 July 2010 *On Consolidated Financial Statements* in all aspects, except for language and functional and presentation currencies, which are regulated by Russian Federal Law 290-FZ dated 3 August 2018 *On International Companies and International Funds*.

The Group applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after 1 January 2022 (unless otherwise stated).

- *Onerous Contracts – Costs of Fulfilling a Contract* – Amendments to IAS 37;
- *Reference to the Conceptual Framework* – Amendments to IFRS 3;
- *Property, Plant and Equipment: Proceeds before Intended Use* – Amendments to IAS 16;
- IFRS 1 *First-time Adoption of International Financial Reporting Standards* – Subsidiary as a first-time adopter;
- IFRS 9 *Financial Instruments* – Fees in the '10 per cent' test for derecognition of financial liabilities.

These amendments had no impact on the consolidated financial statements of the Group.

(b) Standards issued but not effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below. The Group intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

- IFRS 17 *Insurance Contracts*;
- Amendments to IAS 1: *Classification of Liabilities as Current or Non-current*;
- Amendments to IAS 1: *Non-current Liabilities with Covenants*;
- *Definition of Accounting Estimates* – Amendments to IAS 8;
- *Disclosure of Accounting Policies* – Amendments to IAS 1 and IFRS Practice Statement 2;
- *Deferred Tax related to Assets and Liabilities arising from a Single Transaction* – Amendments to IAS 12;
- Amendments to IFRS 16: *Lease Liability in a Sale and Leaseback*.

The Group is currently assessing the impact the amendments will have on current practice, when they become effective.

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(c) Basis of measurement

The consolidated financial statements have been prepared in accordance with the historical cost basis except as set out in the significant accounting policies in notes 11 and 19.

(d) Functional and presentation currency

The functional currencies of the Parent Company and Group's significant subsidiaries are the currencies of the primary economic environment and key business processes of these subsidiaries and include USD, Russian roubles ("RUB"), Ukrainian hryvna and euros ("EUR"). The consolidated financial statements are presented in USD, rounded to the nearest million, except as otherwise stated herein.

The functional currencies of investments in associates and joint ventures are RUB, Kazakhstani tenge and Australian dollar.

(e) Use of judgements, estimates and assumptions

The preparation of consolidated financial statements in conformity with IFRSs requires management to make judgements, estimates and assumptions that affect the application of accounting policies and reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the consolidated financial statements, and the reported revenue and costs during the relevant period.

Management bases its judgements and estimates on historical experience and various other factors that are believed to be appropriate and reasonable under the circumstances, the results of which form the basis of making the judgements about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions and conditions.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Judgements made by management in the application of IFRSs that have a significant effect on the consolidated financial statements and estimates with a significant risk of material adjustment in the next year are discussed in note 25.

3. Significant accounting policies

Significant accounting policies are described in the related notes to the consolidated financial statements captions and in this note.

The accounting policies and judgements applied by the Group in these consolidated financial statements are the same as those applied by the Group in its consolidated financial statements as at and for the year ended 31 December 2021, except for those disclosed in 2(a).

(a) Basis of consolidation**(i) Subsidiaries and non-controlling interests**

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. When assessing control substantive potential voting rights are taken into account.

The consolidated financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. The accounting policies of subsidiaries have been changed when necessary to align them with the policies adopted by the Group.

Non-controlling interests represent the portion of the net assets of subsidiaries attributable to interests that are not owned by the Group, whether directly or indirectly through subsidiaries, and in respect of which the Group has not agreed any additional terms with the holders of those interests which would result in the Group as a whole having a contractual obligation in respect of those interests that meets the definition of a financial liability.

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Non-controlling interests are presented in the consolidated statement of financial position within equity, separately from equity attributable to the equity shareholders of the Parent Company. Non-controlling interests in the results of the Group are presented on the face of the consolidated statement of profit or loss and other comprehensive income as an allocation of the total profit or loss and total comprehensive income for the year between non-controlling interests and the equity shareholders of the Parent Company.

Losses applicable to the non-controlling interests in a subsidiary are allocated to the non-controlling interests even if doing so causes the non-controlling interests to have a deficit balance.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions, whereby adjustments are made to the amounts of controlling and non-controlling-interests within consolidated equity to reflect the change in relative interests, but no adjustments are made to goodwill and no gain or loss is recognised.

When the Group loses control of a subsidiary, it is accounted for as a disposal of the entire interest in that subsidiary, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former subsidiary at the date when control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (refer to note 15) or, when appropriate, the cost on initial recognition of an investment in an associate or joint venture (refer to note 13).

(ii) Acquisitions of non-controlling interests

The acquisition of an additional non-controlling interest in an existing subsidiary after control has been obtained is accounted for as an equity transaction with any difference between the cost of the additional investment and the carrying amount of the net assets acquired at the date of exchange recognised directly in equity.

The issue of a put option (a mandatory offer) to acquire a non-controlling interest in subsidiary, after control has been obtained and is accounted for by the Group as an equity transaction, results in the recognition of a liability for the present value of the expected exercise price and the derecognition of non-controlling interests within consolidated equity. Subsequent to initial recognition, changes in the carrying amount of the put liability are recognised within equity. If the put option expires unexercised then the put liability is derecognised and non-controlling interests are recognised.

For a written put or forward option with the non-controlling shareholders in an existing subsidiary on their equity interest in that subsidiary, if the non-controlling shareholders do not have present access to the returns associated with the underlying ownership interest, the contract is accounted for as an anticipated acquisition of the underlying non-controlling interests, as if the put option had been exercised already or the forward had been satisfied by the non-controlling shareholders.

(iii) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Unrealised gains arising from transactions with equity accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

(b) Foreign currencies**(i) Foreign currency transactions**

Transactions in foreign currencies are translated into the respective functional currencies of Group entities at the exchange rates ruling at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are retranslated to the functional currency at the exchange rate at that date. The foreign currency gain or loss on monetary items is the difference between the amortised cost in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the amortised cost in foreign currency translated at the exchange rate at the end of the reporting period. Non-monetary items in a foreign currency are measured based on historical cost and are translated using the exchange rate at the date of transaction. Foreign currency differences arising on retranslation are recognised in profit or loss, except for differences arising on the retranslation of qualifying cash flow hedges to the extent the hedge is effective, which is recognised in other comprehensive income.

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(ii) Foreign operations

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated from their functional currencies to USD at the exchange rates ruling at the reporting date. The income and expenses of foreign operations are translated to USD at exchange rates approximating exchange rates at the dates of the transactions.

Foreign currency differences arising on translation are recognised in other comprehensive income and presented in the currency translation reserve in equity. For the purposes of foreign currency translation, the net investment in a foreign operation includes foreign currency intra-group balances for which settlement is neither planned nor likely in the foreseeable future and foreign currency differences arising from such a monetary item are recognised as part of other comprehensive income in the statement of profit or loss and other comprehensive income.

When a foreign operation is disposed of, such that control, significant influence or joint control is lost, the cumulative amount of the currency translation reserve is transferred to profit or loss as part of the gain or loss on disposal. When the Group disposes of only part of its interest in a subsidiary that includes a foreign operation while retaining control, the relevant proportion of the cumulative amount is reattributed to non-controlling interests. When the Group disposes of only part of its investment in an associate or joint venture that includes a foreign operation while retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

When the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, foreign exchange gains and losses arising from such a monetary item are considered to form part of a net investment in a foreign operation and are recognised in other comprehensive income, and presented in the translation reserve in equity.

4. Segment reporting

(a) Reportable segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenue and incur expenses, including revenue and expenses that relate to transactions with any of the Group's other components. All operating segments' operating results are reviewed regularly by the Group's key executive management personnel and Board of Directors to make decisions about resources to be allocated to the segment and assess its performance and for which discrete financial statements are available.

Individually material operating segments are not aggregated for financial reporting purposes unless the segments have similar economic characteristics and are similar in respect of the nature of products and services, the nature of production processes, the type or class of customers, the methods used to distribute the products or provide the services and the nature of the regulatory environment. Operating segments which are not individually material may be aggregated if they share a majority of these criteria.

Based on the current management structure and internal reporting the Group has identified two operating segments:

- a) *Metals*. The Metals segment comprises UC RUSAL with disclosures being based on the public financial statements of UC RUSAL. All adjustments made to UC RUSAL, including any adjustments arising from different timing of IFRS first time adoption, are included in "Adjustments" column.

The Power assets of UC RUSAL are included within the Metals segment.

- b) *Power*. The Power segment mainly comprises the power assets, as described in note 1(b).

These business units are managed separately and the results of their operations are reviewed by the key executive management personnel and Board of Directors on a regular basis.

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(b) Segment results, assets and liabilities

For the purposes of assessing segment performance and allocating resources between segments, the Group's senior executive management monitor the results, assets and liabilities and cash flows attributable to each reportable segment on the following bases:

- Total segment assets include all non-current tangible, intangible assets and current assets.
- Total segment liabilities include all current and non-current liabilities.
- Revenue and expenses are allocated to the reportable segments with reference to sales generated by those segments and the expenses incurred by those segments or which otherwise arise from the depreciation or amortisation of assets attributable to those segments.
- The measures used for reporting segment results are the net profit and Adjusted EBITDA (key non-IFRS financial measure used by the Group as reference for assessing operating effectiveness). Segment profit or loss and Adjusted EBITDA are used to measure performance as management believes that such information is the most relevant in evaluating the results of certain segments relative to other entities that operate within these industries.
- Adjusted EBITDA represents the results from operating activities adjusted for amortisation and depreciation, impairment charges and gain/(losses) on disposal of property, plant and equipment for the relevant period.

In addition to receiving segment information concerning segment results, management is provided with segment information concerning revenue (including inter-segment revenue), the carrying value of investments and share of profits/(losses) of associates and joint ventures, depreciation, amortisation, interest income and expenses, other finance income and costs, income tax, gains/(losses) on disposal of property, plant and equipment, impairment of non-current assets and additions of non-current segment assets used by the segments in their operations. Inter-segment pricing is determined primarily on a consistent basis using market benchmarks.

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Year ended 31 December 2022

USD million	Metals	Power	Adjustments	Total
Consolidated statement of profit or loss and other comprehensive income				
Revenue from external customers	13,755	2,794	–	16,549
Primary aluminium and alloys	11,384	–	–	11,381
Alumina and bauxite	557	–	–	557
Semi-finished products and foil	581	340	–	921
Electricity	233	1,611	–	1,843
Heat	62	463	–	525
Other	938	380	–	1,322
Inter-segment revenue	219	1,091	(1,310)	–
Total segment revenue	13,974	3,885	(1,310)	16,549
Operating expenses (excluding depreciation and loss on disposal of PPE)	(11,946)	(2,631)	1,147	(13,430)
Adjusted EBITDA	2,028	1,254	(163)	3,119
Depreciation and amortisation	(503)	(221)	4	(720)
Loss on disposal of property, plant and equipment	(13)	(10)	–	(23)
Impairment of non-current assets	(196)	(174)	–	(370)
Results from operating activities	1,316	849	(159)	2,006
Share of profits and impairment of associates and joint ventures	1,555	(2)	–	1,553
Interest expense, net	(349)	(524)	–	(873)
Other finance costs, net	(356)	296	(173)	(233)
Profit before tax	2,166	619	(332)	2,453
Income tax expense	(373)	(235)	1	(607)
Profit for the year	1,793	384	(331)	1,846
Additions to non-current segment assets during the year (note 11(b))	(1,242)	(523)	–	(1,765)

Year ended 31 December 2021

USD million	Metals	Power	Adjustments	Total
Consolidated statement of profit or loss and other comprehensive income				
Revenue from external customers	11,790	2,336	–	14,126
Primary aluminium and alloys	9,766	–	–	9,766
Alumina and bauxite	612	–	–	612
Semi-finished products and foil	515	252	–	767
Electricity	159	1,366	–	1,525
Heat	53	412	–	465
Other	685	306	–	991
Inter-segment revenue	204	802	(1,006)	–
Total segment revenue	11,994	3,138	(1,006)	14,126
Operating expenses (excluding depreciation and loss on disposal of PPE)	(9,101)	(1,966)	933	(10,134)
Adjusted EBITDA	2,893	1,172	(73)	3,992
Depreciation and amortisation	(596)	(229)	3	(822)
(Loss)/gain on disposal of PPE	(9)	4	–	(5)
Impairment of non-current assets	(209)	(58)	–	(267)
Results from operating activities	2,079	889	(70)	2,898
Share of profits of associates and joint ventures	1,807	(5)	–	1,802
Gain from partial disposal of investment in associate	492	–	–	492
Interest expense, net	(329)	(316)	1	(644)
Other finance costs, net	(408)	(2)	–	(410)
Profit before tax	3,641	566	(69)	4,138
Income tax expense	(416)	(192)	4	(604)
Profit for the year	3,225	374	(65)	3,534
Additions to non-current segment assets during the year (note 11(b))	(1,342)	(382)	7	(1,717)

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USD million	Metals	Power	Adjustments	Total
Consolidated statement of financial position				
Segment assets, excluding cash and cash equivalents and interests in associates and joint ventures	16,261	6,690	(944)	22,007
Investment in metals segment	–	4,595	(4,595)	–
Cash and cash equivalents	3,196	281	–	3,477
Interests in associates and joint ventures	5,174	20	–	5,194
Total segment assets	24,631	11,586	(5,539)	30,678
Segment liabilities, excluding loans, borrowings and bonds payable	2,867	1,680	(201)	4,346
Loans, borrowings and bonds payable	9,457	4,143	–	13,600
Total segment liabilities	12,324	5,823	(201)	17,946
Total segment equity	12,307	5,763	(5,338)	12,732
Total segment equity and liabilities	24,631	11,586	(5,539)	30,678
Consolidated statement of cash flows				
Cash flows (used in) / from operating activities	(412)	986	(2)	572
Cash flows from / (used in) investing activities	472	(254)	(171)	47
Acquisition of property, plant and equipment, intangible assets	(1,239)	(474)	2	(1,711)
Cash paid for investment in equity securities measured at fair value through profit and loss	(113)	–	–	(113)
Cash received from other investments	97	14	–	111
Dividends from associates and joint ventures	1,639	–	–	1,639
Dividends from Metals segment	–	173	(173)	–
Interest received	70	34	–	104
Other investing activities	18	(1)	–	17
Cash flows from / (used in) financing activities	1,415	(846)	173	742
Interest paid	(428)	(559)	–	(987)
Restructuring fees	(17)	(4)	–	(21)
Settlements of derivative financial instruments	(229)	–	–	(229)
Dividends to Power segment	(173)	–	173	–
Dividends to non-controlling shareholders	(129)	–	–	(129)
Other financing activities	2,391	(283)	–	2,108
Net change in cash and cash equivalents	1,475	(114)	–	1,361

USD million	Metals	Power	Adjustments	Total
Consolidated statement of financial position				
Segment assets, excluding cash and cash equivalents and interests in associates and joint ventures	14,908	5,594	(803)	19,699
Investment in Metals segment	–	4,595	(4,595)	–
Cash and cash equivalents	1,984	346	–	2,330
Interests in associates and joint ventures	4,014	14	–	4,028
Total segment assets	20,906	10,549	(5,398)	26,057
Segment liabilities, excluding loans and borrowings and bonds payable	3,649	1,404	(218)	4,835
Loans, borrowings and bonds payable	6,733	4,178	–	10,911
Total segment liabilities	10,382	5,582	(218)	15,746
Total segment equity	10,524	4,967	(5,180)	10,311
Total segment equity and liabilities	20,906	10,549	(5,398)	26,057
Consolidated statement of cash flows				
Cash flows from operating activities	1,146	1,022	–	2,168
Cash flows from / (used in) investing activities	490	(205)	–	285
Acquisition of property, plant and equipment, intangible assets	(1,192)	(321)	–	(1,513)
Cash paid for investment in equity securities measured at fair value through profit and loss	(291)	–	–	(291)
Cash (paid for) / received from other investments	(50)	89	–	39
Dividends from associates and joint ventures	620	–	–	620
Interest received	37	26	–	63
Proceeds from partial disposal of associate	1,421	–	–	1,421
Other investing activities	(55)	1	–	(54)
Cash flows used in financing activities	(1,891)	(800)	–	(2,691)
Interest paid	(380)	(323)	–	(703)
Restructuring fees and expenses related to issuance of shares	(34)	(2)	–	(36)
Settlements of derivative financial instruments	(315)	–	–	(315)
Other financing activities	(1,162)	(475)	–	(1,637)
Net change in cash and cash equivalents	(255)	17	–	(238)

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(i) Geographic information

The Group's operating segments are managed on a worldwide basis, but operate in four principal geographical areas: the CIS, Europe, Africa and the Americas. In the CIS, production facilities operate in Russia. In Europe, production facilities are located in Italy, Ireland and Sweden. African production facilities are represented by the bauxite mines and an alumina refinery in Guinea. In the Americas the Group operates one production facility in Jamaica.

The following table sets out information about the geographical location of the Group's revenue from external customers and the Group's property, plant and equipment, intangible assets, interests in associates and joint ventures and goodwill ("specified non-current assets"). The geographical location of customers is based on the location at which the services were provided or the goods delivered. The geographical location of the specified non-current assets is based on the physical location of the asset. Unallocated specified non-current assets comprise mainly goodwill and interests in associates and joint ventures.

Revenue from external customers	Year ended 31 December	
	2022	2021
	USD million	USD million
Russia	6,267	5,437
South Korea	1,184	314
China	1,122	772
Turkey	1,011	1,108
Japan	963	744
Netherlands	884	443
USA	647	744
Germany	441	356
Poland	385	330
Mexico	354	280
Greece	339	367
Italy	303	266
Norway	248	267
Sweden	238	209
France	223	247
Ireland	221	148
Other countries	1,719	2,094
	16,549	14,126

Specified non-current assets	31 December	
	2022	2021
	USD million	USD million
Russia	16,006	13,294
Guinea	237	232
Ireland	94	82
Sweden	53	68
Ukraine	2	6
Unallocated	3,784	3,408
	20,176	17,090

5. Revenues

IFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised. The details of significant accounting policies in relation to the Group's various goods and services are set out below:

Sales of goods: comprise sale of primary aluminium, alloys, alumina, bauxite and other products. Customers obtain control of the goods supplied when the goods are delivered to the point when risks are transferred based on Incoterms delivery terms stated in the contract, legal title to the asset and physical possession of the asset is transferred. Invoices are generated and revenue is recognised at that point in time. Invoices are usually payable within 60 days or in advance. Under certain Group sale contracts, the final price for the goods shipped is determined a few months later than the delivery took place. Under current requirements the Group determines the amount of revenue at the moment of recognition based on estimated selling price at the date of the invoice issued. At price finalisation the difference between estimated price and actual one is recognised as other revenue.

Rendering of transportation services: as part of sales of goods the Group also performs transportation to the customer under contract terms. In certain cases, the control of goods delivered is transferred to customers prior to transportation being completed. In these cases rendering of transportation services from when the control of goods has been transferred is considered as a separate performance obligation.

Rendering of electricity supply services: The Group is involved in sales of energy to third and related parties. Invoices are issued once a month at the end of month and paid within 30 days. Revenue is recognised over time during the month of energy supply.

	Year ended 31 December	
	2022	2021
	USD million	USD million
Sales of primary aluminium and alloys	11,384	9,766
Third parties	11,164	9,445
Related parties – companies capable of exerting significant influence	211	307
Related parties – other	6	12
Related parties – associates and joint ventures	3	2
Sales of alumina and bauxite	557	612
Third parties	251	388
Related parties – associates and joint ventures	306	224
Sales of semi-finished products and foil	921	767
Third parties	921	767
Sales of electricity	1,844	1,525
Third parties	1,803	1,487
Related parties – other	2	5
Related parties – associates and joint ventures	39	33
Sales of heat	525	465
Third parties	513	444
Related parties – companies capable of exerting significant influence	3	2
Related parties – other	9	19
Other revenues	1,318	991
Third parties	1,055	818
Related parties – companies capable of exerting significant influence	21	11
Related parties – other	4	11
Related parties – associates and joint ventures	238	151
	16,549	14,126

All revenue of the Group relates to revenue from contracts with customers.

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6. Other operating expenses, net

	Year ended 31 December	
	2022	2021
	USD million	USD million
Impairment of trade and other receivables	(169)	(65)
Charity	(53)	(55)
Loss on disposal of property, plant and equipment	(23)	(5)
Other operating expenses, net	(8)	(93)
	(253)	(218)

7. Personnel costs

Personnel costs comprise salaries, annual bonuses, annual leave, cost of non-monetary benefits and social contributions. Salaries, annual bonuses, paid annual leave and cost of non-monetary benefits are accrued in the year in which the associated services are rendered by employees. Where payment or settlement is deferred and the effect would be material, these amounts are stated at their present values.

The employees of the Group are also members of retirement schemes operated by local authorities. The Group is required to contribute a certain percentage of their payroll to these schemes to fund the benefits.

The Group's total contribution to those schemes charged to profit or loss during the years presented is shown below.

The Group's net obligation in respect of defined benefit pension and other post-retirement plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value and the fair value of any plan assets are deducted. The discount rate is the yield at the reporting date on government bonds that have maturity dates approximating the terms of the Group's obligations. The calculation is performed using the projected unit credit method. When the calculation results in a benefit to the Group, the recognised asset is limited to the present value of any future refunds from the plan or reductions in future contributions to the plan.

Where there is a change in actuarial assumptions, the resulting actuarial gains and losses are recognised directly in other comprehensive income.

When the benefits of a plan are improved, the portion of the increased benefit relating to past service by employees is recognised in profit or loss immediately.

The Group recognises gains and losses on the curtailment or settlement of a defined benefit plan when the curtailment or settlement occurs. The gain or loss on curtailment comprises any resulting change in the fair value of plan assets, any change in the present value of the defined benefit obligation, any related actuarial gains and losses.

	Year ended 31 December	
	2022	2021
	USD million	USD million
Contributions to defined contribution retirement plans	(348)	(273)
Contributions to defined benefit retirement plans	(3)	(3)
Total retirement costs	(351)	(276)
Wages and salaries	(1,547)	(1,170)
	(1,898)	(1,446)

8. Finance income and costs

Finance income comprises interest income on funds invested, dividend income and foreign currency gains. Interest income is recognised as it accrues, using the effective interest method.

Finance costs comprise interest expense on borrowings, foreign currency losses and changes in the fair value of financial assets at fair value through profit or loss. All borrowing costs are recognised in profit or loss using the effective interest method, except for borrowing costs related to the acquisition, construction and production of qualifying assets which are recognised as part of the cost of such assets.

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Foreign currency gains and losses are reported on a net basis. Foreign exchange loss on loans and borrowing for the year ended 31 December 2022 amounted to USD 164 million (2021: loss of USD 3 million).

	Year ended 31 December	
	2022	2021
	USD million	USD million
Finance income		
Interest income	115	65
Dividend income	38	22
Revaluation of financial assets and liabilities	31	–
	184	87
Finance costs		
Interest expense	(988)	(709)
Change in fair value of derivative financial instruments (note 19)	(191)	(352)
Net foreign exchange loss	(111)	(33)
Revaluation of financial assets and liabilities	–	(47)
	(1,290)	(1,141)

9. Earnings per share

The calculation of basic earnings per share is based on the profit attributable to ordinary equity shareholders for the years ended 31 December 2022 and 31 December 2021.

	Year ended 31 December	
	2022	2021
Weighted average number of shares	502,337,774	502,337,774
Profit for the year attributable to the shareholders of the Parent Company, USD million	1,083	2,142
Basic and diluted earnings per share, USD	2.156	4.264

There were no outstanding dilutive instruments during the years ended 31 December 2022 and 31 December 2021.

10. Income tax expense

Income tax expense comprises current and deferred tax. Income tax expense is recognised in the statement of profit or loss and other comprehensive income except to the extent that it relates to items recognised directly in equity, in which case it is recognised in equity.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax liability is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax liability is not recognised for the following temporary differences: the initial recognition of goodwill, the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit, and differences relating to investments in subsidiaries to the extent that they probably will not reverse in the foreseeable future. New information may become available that causes the Company to change its judgement regarding the adequacy of existing tax liability. Such changes to tax liabilities will impact tax expenses in the period that such a determination is made. Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date. Deferred tax assets and liabilities are offset when they relate to income taxes levied by the same taxation authority and the Group has both the right and the intention to settle its current tax assets and liabilities on a net or simultaneous basis.

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A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against which temporary differences can be utilised. Deferred tax asset is not recognised for the following temporary differences: the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit, and differences relating to investments in subsidiaries to the extent that they probably will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

Additional income taxes that arise from the distribution of dividends are recognised at the same time as the liability to pay the related dividends is recognised.

(a) Income tax expense

	Year ended 31 December	
	2022	2021
	USD million	USD million
Current tax expense		
Current tax for the year	(553)	(569)
Deferred tax expense		
Origination and reversal of temporary differences	(54)	(35)
	(607)	(604)

The Parent Company is a tax resident of the Russian SAR (special administrative region). Companies which register in the SAR as part of the continuance out of a foreign jurisdiction (such as the Parent Company) may have a number of tax benefits, subject to certain conditions.

The Parent Company and subsidiaries pay income taxes in accordance with the legislative requirements of their respective tax jurisdictions. For companies domiciled in Russia the applicable tax rate is 20%; in Ukraine is 18%; Guinea is 0%; China is 25%; Kazakhstan is 20%; Australia is 30%; Jamaica is 25%; Ireland is 12.5%, Sweden is 20.6% and Italy is 27.9%. For the Group's subsidiaries domiciled in Switzerland the applicable tax rate for the year is the corporate income tax rate in the Canton of Zug, Switzerland, which differs depending on the company's tax status. The rate consists of a federal income tax and a cantonal/communal income and capital taxes. The latter includes a base rate and a multiplier, which may change from year to year. Applicable income tax rates are 9.06% and 11.8% for Swiss subsidiaries. For the UC RUSAL's significant trading companies, the applicable tax rate is 0%. The applicable tax rates for the year ended 31 December 2021 were the same as for the year ended 31 December 2022 except for tax rates for subsidiaries domiciled in Switzerland which amounted to 9.55% and 11.85% subsequently, subsidiary domiciled in Italy which amounted to 26.9% and subsidiaries domiciled in Guinea which amounted from 0% to 30%.

Reconciliation of effective tax rate

	Year ended 31 December			
	2022		2021	
	USD million	%	USD million	%
Profit before taxation	2,453	(100)	4,138	(100)
Income tax at tax rate applicable for the Parent Company	(491)	20	(828)	20
Other non-deductible/taxable items, net	54	(2)	(57)	1
Effect of changes in investment in Norilsk Nickel	288	(12)	451	(10)
Change in unrecognised deferred tax assets	(269)	11	(99)	2
Effect of reversal of impairment / (impairment)	(18)	1	42	(1)
Effect of different income tax rates	(171)	7	(113)	3
Income tax	(607)	25	(604)	15

(b) Recognised deferred tax assets and liabilities

Deferred tax assets and liabilities are attributable to the following items:

USD million	Assets 31 December		Liabilities 31 December		Net 31 December	
	2022	2021	2022	2021	2022	2021
Property, plant and equipment	118	97	(1,423)	(1,250)	(1,305)	(1,153)
Inventories	50	71	(29)	(13)	21	58
Trade and other receivables	83	61	(55)	(32)	28	29
Trade and other payables and advances received	26	23	–	–	26	23
Tax loss carry-forward	143	90	–	–	143	90
Others	120	136	(157)	(97)	(37)	39
Tax assets/(liabilities)	540	478	(1,664)	(1,392)	(1,124)	(914)
Set off of tax	(442)	(328)	442	328	–	–
Net deferred tax assets/(liabilities)	98	150	(1,222)	(1,064)	(1,124)	(914)

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(c) Movement in temporary differences during the year

USD million	1 January 2022	Recognised in profit or loss	Recognised in other comprehensive income	Currency translation	31 December 2022
Property, plant and equipment	(1,153)	14	(132)	(34)	(1,305)
Inventories	58	(37)	–	–	21
Trade and other receivables	29	(1)	–	–	28
Trade and other payables and advances received	23	3	–	–	26
Tax loss carry-forwards	90	48	–	5	143
Others	39	(81)	–	5	(37)
	(914)	(54)	(132)	(24)	(1,124)

USD million	1 January 2021	Recognised in profit or loss	Currency translation	31 December 2021
Property, plant and equipment	(1,215)	50	12	(1,153)
Inventories	50	7	1	58
Trade and other receivables	16	13	–	29
Trade and other payables and advances received	29	(6)	–	23
Tax loss carry-forwards	187	(100)	3	90
Others	38	1	–	39
	(895)	(35)	16	(914)

Recognised tax losses expire in the following years:

Year of expiry	31 December 2022 USD million	31 December 2021 USD million
Without expiry	143	90
	143	90

(d) Unrecognised deferred taxes

At 31 December 2022 and 2021 the Group has not recognized deferred tax in respect to temporary differences associated with investments in subsidiaries as the Group is able to control the timing of reversal of those investments and does not intend to reverse them in the foreseeable future.

At 31 December 2022 and 2021 the Group has not recognized deferred tax in respect to temporary differences associated with investments in associates and joint ventures as both distribution of dividends and profit on sales are non-taxable.

Deferred tax assets have not been recognised in respect of the following items:

	31 December 2022 USD million	31 December 2021 USD million
Deductible temporary differences	1,040	1,009
Tax loss carry-forwards	748	510
	1,788	1,519

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Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profits will be available against which the Group can utilise the benefits therefrom. Tax losses expire in the following years:

Year of expiry	31 December 2022 USD million	31 December 2021 USD million
Without expiry	745	510
From 6 to 10 years	3	–
	748	510

(e) Current taxation in the consolidated statement of financial position represents

	31 December 2022 USD million	31 December 2021 USD million
Net income tax payable at the beginning of the year	44	7
Income tax for the year	553	569
Income tax paid	(599)	(529)
Translation difference	(16)	(3)
	(18)	44
Represented by:		
Income tax payable (note 15(d))	199	62
Income tax receivable	(217)	(18)
Net income tax payable/(receivable)	(18)	44

11. Property, plant and equipment

(a) Accounting policy

(i) Recognition and measurement

Until 1 January 2016 all items of property, plant and equipment were measured at cost less accumulated depreciation and impairment losses. The cost of property, plant and equipment at 1 January 2004, the date of transition to IFRSs, was determined by reference to its fair value at that date.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the asset to a working condition for its intended use, the costs of dismantling and removing the items and restoring the site on which they are located and capitalised borrowing costs. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

The cost of periodic relining of electrolyzers is capitalised and depreciated over the expected production period.

Gains or losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment, and are recognised net within gain/(loss) on disposal of property, plant and equipment in profit or loss.

Most of the hydro assets have long useful lives (up to 100 years) and their performance does not deteriorate significantly. Considering changes in the regulation of the Russian power sector (100% liberalisation) and the fact that hydropower is one of the most efficient sectors of the electric power industry, management believes that hydropower assets were significantly undervalued prior to 1 January 2016.

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On 1 January 2016 the Group identified a separate class of assets – hydro assets – and changed its accounting policy for this class from the cost to the revaluation model to provide users with more relevant information on the Group's financial position.

Hydro assets are a class of property, plant and equipment with unique nature and use in their hydropower plants. Since 1 January 2016 hydro assets are measured at a revalued amount, being their fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations are made based on periodic valuation by an external independent valuer.

A class of assets may be revalued on a rolling basis provided that revaluations of the class of assets are completed within a short period and provided the revaluations are kept up to date.

After an item of property, plant and equipment is revalued, any accumulated depreciation at the date of the revaluation is eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount of the asset.

A revaluation increase on hydro assets is recognised directly under the heading of revaluation surplus in other comprehensive income. However, the increase is recognised in profit or loss to the extent that it reverses a revaluation decrease of the same asset previously recognised in profit or loss. A revaluation decrease on hydro assets is recognised in profit or loss. However, the decrease is recognised in other comprehensive income to the extent of any credit balance existing in the revaluation surplus.

(ii) Subsequent costs

The cost of replacing a part of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

(iii) Exploration and evaluation assets

Exploration and evaluation activities involve the search for mineral resources, the determination of technical feasibility and the assessment of commercial viability of an identified resource. Exploration and evaluation activities include:

- Researching and analysing historical exploration data;
- Gathering exploration data through topographical, geochemical and geophysical studies;
- Exploratory drilling, trenching and sampling;
- Determining and examining the volume and grade of the resource;
- Surveying transportation and infrastructure requirements; and
- Conducting market and finance studies.

Administration costs that are not directly attributable to a specific exploration area are charged to profit or loss.

License costs paid in connection with a right to explore in an existing exploration area are capitalised and amortised over the term of the permit.

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Exploration and evaluation expenditure is capitalised as exploration and evaluation assets when it is expected that expenditure related to an area of interest will be recouped by future exploitation, sale, or, at the reporting date, the exploration and evaluation activities have not reached a stage that permits a reasonable assessment of the existence of commercially recoverable ore reserves. Capitalised exploration and evaluation expenditure is recorded as a component of property, plant and equipment at cost less impairment losses. As the asset is not available for use, it is not depreciated. All capitalised exploration and evaluation expenditure is monitored for indications of impairment. Where there are indicators of potential impairment, an assessment is performed for each area of interest in conjunction with the group of operating assets (representing a cash-generating unit, CGU) to which the exploration is attributed. Exploration areas at which reserves have been discovered but which require major capital expenditure before production can begin are continually evaluated to ensure that commercial quantities of reserves exist or to ensure that additional exploration work is underway or planned. To the extent that capitalised expenditure is not expected to be recovered it is charged to profit or loss.

Exploration and evaluation assets are transferred to mining property, plant and equipment or intangible assets when development is sanctioned.

(iv) Stripping costs

Expenditure relating to the stripping of overburden layers of ore, including estimated site restoration costs, is included in the cost of production in the period in which it is incurred.

However, to the extent the benefit is improved access to ore, the Group recognises these costs as a non-current asset, if only: (a) it is probable that the future economic benefit (improved access to the ore body) associated with the stripping activity will flow to the entity; (b) the entity can identify the component of the ore body for which access has been improved; and (c) the costs relating to the stripping activity associated with that component can be measured reliably.

(v) Mining assets

Mining assets are recorded as construction in progress and transferred to mining property, plant and equipment when a new mine reaches commercial production.

Mining assets include expenditure incurred for acquiring mineral and development rights and developing new mining operations.

Mining assets include interest capitalised during the construction period, when financed by borrowings.

(vi) Depreciation

The carrying amounts of property, plant and equipment (including initial and any subsequent capital expenditure) are depreciated to their estimated residual value over the estimated useful lives of the specific assets concerned, or the estimated life of the associated mine or mineral lease, if shorter. Estimates of residual values and useful lives are reassessed annually and any change in estimate is taken into account in the determination of remaining depreciation charges. Leased assets are depreciated over the shorter of the lease term and their useful lives. Land is not depreciated.

Any accumulated depreciation at the date of the revaluation is eliminated against the gross amount of the assets, and the net amount is restated to the revalued amount of the asset.

The property, plant and equipment is depreciated on a straight-line or units of production basis over the respective estimated useful lives as follows:

- | | |
|-------------------------------|--|
| • Hydro assets | predominantly 49 to 62 years; |
| • Buildings and constructions | predominantly 15 to 50 years; |
| • Machinery and equipment | 4 to 50 years; |
| • Electrolysers | 4 to 15 years; |
| • Mining assets | Units of production on proved and probable reserves; |
| • Other | 1 to 30 years. |

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(b) Disclosure

USD million	Land and buildings	Machinery and equipment	Electrolysers	Hydro assets	Mining assets	Construction in progress	Other	Total
Cost								
1 January 2021	4,790	7,792	2,868	3,443	616	2,693	433	22,635
Additions	250	25	143	–	62	1,236	1	1,717
Acquired through business combinations	8	6	–	–	–	–	1	15
Disposals	(60)	(95)	–	–	(5)	(26)	(6)	(192)
Transfers	189	520	35	37	9	(697)	(93)	–
Translation difference	(26)	(21)	(14)	(20)	(10)	–	3	(88)
At 31 December 2021	5,151	8,227	3,032	3,460	672	3,206	339	24,087
Additions	32	61	–	–	22	1,650	–	1,765
Acquired through business combinations	5	19	–	–	–	–	9	33
Disposals	(32)	(109)	(16)	–	(132)	(26)	(10)	(325)
Transfers	202	400	295	45	9	(978)	27	–
Revaluation of hydro assets as at 31 December 2022	–	–	–	464	–	–	–	464
Translation difference	83	90	(13)	197	11	38	12	418
At 31 December 2022	5,441	8,688	3,298	4,166	582	3,890	377	26,442

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USD million	Land and buildings	Machinery and equipment	Electrolysers	Hydro assets	Mining assets	Construction in progress	Other	Total
Depreciation and impairment losses								
1 January 2021	(2,674)	(5,800)	(2,536)	–	(528)	(1,246)	(274)	(13,058)
Depreciation charge	(161)	(371)	(164)	(94)	(35)	–	(14)	(839)
(Impairment losses) / reversal of impairment	(163)	(438)	15	–	(68)	432	(26)	(248)
Disposals	8	80	–	–	1	4	4	97
Transfers	1	(31)	–	–	–	–	30	–
Translation difference	24	24	13	1	11	5	–	78
At 31 December 2021	(2,965)	(6,536)	(2,672)	(93)	(619)	(805)	(280)	(13,970)
Depreciation charge	(157)	(297)	(169)	(90)	(8)	–	(10)	(731)
(Impairment losses) / reversal of impairment	(42)	(150)	4	–	87	(240)	(6)	(347)
Disposals	16	86	12	–	10	–	8	132
Revaluation of hydro assets as at 31 December 2022	–	–	–	186	–	–	–	186
Translation difference	(34)	(47)	11	(3)	(8)	(16)	(8)	(105)
At 31 December 2022	(3,182)	(6,944)	(2,814)	–	(538)	(1,061)	(296)	(14,835)
Net book value								
At 1 January 2021	2,116	1,992	332	3,443	88	1,447	159	9,577
At 31 December 2021	2,186	1,691	360	3,367	53	2,401	59	10,117
At 31 December 2022	2,259	1,744	484	4,166	44	2,829	81	11,607

Depreciation expense of USD 670 million (2021: USD 778 million) has been charged to cost of goods sold, USD 7 million (2021: USD 8 million) to distribution expenses and USD 23 million (2021: USD 25 million) to administrative expenses.

Interest capitalised for the years ended 31 December 2022 and 31 December 2021 was USD 39 million and USD 9 million, respectively.

Included in construction in progress at 31 December 2022 and 31 December 2021 are advances to suppliers of property, plant and equipment of USD 164 million and USD 174 million, respectively.

(c) Impairment

Management reviewed the carrying amount of the Group's non-financial assets at the reporting date to determine whether there were any indicators of impairment or reversal of impairment.

Management identified that significant increase of aluminium prices as a result of LME appreciation indicated that for a number of Group's cash-generating units previously recognised impairment loss may require reversal. At the same time due to significant increase of oil and gas prices, fluctuations of coal sale prices and additional volumes of electricity transmission set in further periods and overall market instability impairment loss may be recognised for a number of cash-generating units. For alumina cash generating units, major influence was from unfavourable dynamics in prices of energy resources being a significant part of cash cost.

For the purposes of impairment testing, value in use of each cash generating unit was determined by discounting expected future net cash flows of the cash generating unit. Values assigned to key assumptions and estimates used to measure the units' recoverable amount was based on external sources of information and historical data. Management believes that the values assigned to the key assumptions and estimates represented the most realistic assessment of future trends.

Metals

At 31 December 2022 and 31 December 2021 management identified several indicators that a number of the Group's CGUs may be impaired or that previously recognised impairment losses may need to be reversed.

Based on results of impairment testing as at 31 December 2022, management has concluded that an impairment loss relating to property, plant and equipment of Sayanal and PGLZ in the amount of USD 85 million should be recognised in these consolidated financial statements.

Based on results of impairment testing as at 31 December 2021, management concluded that a reversal of previously recognised impairment loss relating to property, plant and equipment should be recognised in these consolidated financial statements in respect of KAZ, VgAZ, Kubal and Taishet aluminium smelters in the amount of USD 699 million. Additionally management concluded that at the same date an impairment loss relating to property, plant and equipment of Mykolaiv alumina refinery and Aughinish Alumina in the amount of USD 693 million should be recognised in these consolidated financial statements.

Assumptions used to determine the recoverable amount of the cash generating units are the same as disclosed in note 12(d). The pre-tax discount rates applied to the above mentioned cash generating units, estimated in nominal terms based on an industry weighted average cost of capital, are presented in the table below.

	Year ended 31 December	
	2022	2021
Taishet aluminium smelter	16.0%	11.2%
RUSAL Sayanal	14.3%	20.0%
PGLZ	14.3%	13.0%

The recoverable amounts of a number of the cash generating units tested for impairment are particularly sensitive to changes in forecast aluminium and alumina prices, foreign exchange rates and applicable discount rates.

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The results of impairment testing of Taishet aluminium smelter are particularly sensitive to the following key assumptions:

- Five percent reduction in the projected aluminium price level will result in a decrease in the recoverable amount of Taishet aluminium smelter and will lead to an additional impairment in the total amount of USD 323 million;
- One percent increase in the discount rate applied will result in a decrease in the recoverable amount of Taishet aluminium smelter and will lead to an additional impairment in the total amount of USD 161 million.

Additionally, management identified specific items of property, plant and equipment that are no longer in use and therefore are not considered to be recoverable amounting to USD 99 million at 31 December 2022 (2021: USD 190 million). These assets have been impaired in full. No further impairments of property, plant and equipment or reversal of previously recorded impairment were identified.

Power

At 31 December 2022 and 2021 management identified several indicators that property, plant and equipment of the Coal CHPs (in 2022 Coal and CHPs CGUs were combined) and Irkutsk GridCo CGUs may be impaired.

Based on results of impairment testing as at 31 December 2022, management concluded that impairment losses of USD 23 million and USD 29 million regarding Irkutsk GridCo and Coal CHPs CGUs, respectively, should be recognized. Based on results of impairment testing as at 31 December 2021, management concluded that impairment losses of USD 17 million should be recognized regarding Irkutsk GridCo CGU.

The following key assumptions were used to determine the recoverable amount of the Irkutsk GridCo CGU:

	Year ended 31 December	
	2022	2021
Sales volumes of electricity transmission in 2023/2022	54 mln MWh	51 mln MWh
Expected growth of sales volumes till 2032/2031	11%	10%
Tariffs for electricity transmission in 2023/2022	USD 7-10 (RUB 502-726)	USD 6-9 (RUB 445-665)
Tariffs growth till 2032/2031	55%	42%
Pre-tax discount rate	15%-15.6%	15%

The anticipated price/tariffs growth included in the cash flow projections for the years from 2023 to 2032 have been based on the publicly available forecasts of Ministry of Economic Development of the Russian Federation.

The recoverable amounts estimated at 31 December 2022 and 31 December 2021 include cash flows from sales of electricity transmission to Taishet aluminium smelter.

The recoverable amount of the Irkutsk GridCo CGU is also particularly sensitive to changes in forecast electricity transmission volumes and tariffs, as well as applicable discount rates.

The following key assumptions were used to determine the recoverable amount of the Coal CHPs CGU:

	Year ended 31 December	
	2022	2021
Electricity sales volumes in 2023/2022	34 mln MWh	29 mln MWh
Electricity sales volumes growth till 2032/2031	0%	5%
Electricity sales prices in 2023/2022	USD 10-31 (RUB 684-2,204)	USD 7-27 (RUB 544-2,011)
Electricity sales prices growth till 2032/2031	48%-52%	37%-42%
Sales volumes of heat in 2022-2031/2023-2032	20 mln Gcal	20 mln Gcal
Heat tariffs in 2023/2022	USD 20 (RUB 1,375)	USD 16 (RUB 1,211)
Tariffs growth till 2032/2031	63%	42%
Sales volumes of coal in 2023/2022	15,846 ths tonnes	13,889 ths tonnes
Expected growth of sales volumes of coal till 2032/2031	(3)%	12%
Weighted average price for coal in 2023/2022	USD 17 (RUB 1,177)	USD 13 (RUB 930)
Weighted average price growth after 2023/2022	1%-9%	2%-4%
Pre-tax discount rate	15.7%	15.6%

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The recoverable amount of Coal CHP CGU is particularly sensitive to changes in forecast electricity and coal sales prices, forecast of sales volumes as well as applicable discount rates.

Additionally, management identified specific items of property, plant and equipment that are not considered to be recoverable amounting to USD 122 million (2021: USD 41 million). No further impairment of property, plant and equipment or reversal of previously recorded impairments was identified.

(d) Security

The carrying value of property, plant and equipment pledged under the loan agreements was USD 53 million at 31 December 2022 (31 December 2021: USD 1,048 million) (note 17).

(e) Hydro assets

As disclosed in note 11(a)(i), the Group regularly performs an independent valuation of its hydro assets. As at 31 December 2022 the independent appraiser estimated the fair value of hydro assets at USD 4,166 million with an equity effect of USD 650 million and revaluation loss of USD nil million recognised in profit or loss. As at 31 December 2021 a valuation by external independent appraiser was not performed because there were no indicators showed that the fair value of hydro assets was not equal their carrying amount at that date.

The valuation analysis was primarily based on the cost approach to determine depreciated replacement cost as it is the most reliable method to estimate value for assets that do not have an active market and do not generate an identifiable revenue stream by asset. This method considers the cost to reproduce or replace the property, plant and equipment, adjusted for physical depreciation, functional and economic obsolescence.

Depreciated replacement cost was estimated based on internal sources and, where available, analysis of the Russian and international markets for similar property, plant and equipment. Various market data were collected from published information, catalogues, statistical data etc.

In addition, cash flow testing was conducted to identify if there is any economic obsolescence of the hydro assets. Forecasts of net cash flows were determined based on the actual results for the preceding years and approved budgets. Based on the analysis results as at 31 December 2022 economic obsolescence of Onda HPP was recognised and included into results of valuation analysis. As at 31 December 2021 there was no economic obsolescence.

The fair value measurement for hydro assets have been categorised as Level 3 fair values based on the inputs to the valuation techniques used.

Net book value as at 31 December 2022 according to the cost model amounted to USD 409 million (31 December 2021: USD 358 million).

(f) Leases

The Group assesses whether a contract is or contains a lease based on whether the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration. At inception or on reassessment or modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease and non-lease component on the basis of their relative stand-alone prices. However, for the leases of properties in which Group acts as a lessee, the Group does not separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group applies judgement to determine the lease term for some lease contracts in which it is a lessee that include renewal options, the assessment of whether the Group is reasonably certain to exercise such options impacts the lease term, which significantly affects the amount of lease liabilities and right-of-use assets recognised.

In determining the enforceable period (i.e. the maximum lease term), the Group considers whether both it and the lessor has a right to terminate the lease without permission from the other party and, if so, whether that termination would result in more than an insignificant penalty. If a more than insignificant penalty exists, then the enforceable period extends until the point at which a no more than an insignificant penalty exists.

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The Group leases many assets, including land, properties and production equipment. The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost and subsequently measured at cost less any accumulated depreciation and impairment losses and adjusted for certain remeasurements of the lease liability as required by IFRS 16.

The cost comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset is depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The Group presents right-of-use assets as part of property plant and equipment in the same line item as it presents underlying assets of the same nature that it owns. Additions to right-of-use assets were in the amount of USD 45 million during the year ended 31 December 2022 (31 December 2021: USD 43 million). The carrying amounts of right-of-use assets are presented below.

USD million	Property, plant and equipment		
	Land and buildings	Machinery and equipment	Total
Balance at 1 January 2022	36	6	42
Balance at 31 December 2022	42	23	65

Total depreciation charges related to the right-of-use assets for the year ended 31 December 2022 amount to USD 17 million (31 December 2021: USD 15 million).

USD 2 million of right-of-use assets has been impaired during the year ended 31 December 2022 (31 December 2021: USD 15 million). The Group's total cash outflow for leases was in the amount of USD 25 million for the year ended 31 December 2022 (31 December 2021: USD 26 million).

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

In accordance with IFRS 16 variable payments which do not depend on index or rate, e.g. which do not reflect changes in market rental rates, should not be included in the measurement of lease liability. In respect of municipal or federal land leases where lease payments are based on cadastral value of the land plot and do not change until the next revision of that value or the applicable rates (or both) by the authorities, the Group has determined that, under the current revision mechanism, the land lease payments cannot be considered as either variable that depend on index or rate or in-substance fixed, and therefore these payments are not included in the measurement of the lease liability. Future cash outflows to which the Group is potentially exposed that are not recognised in right-to-use assets and are not reflected in the measurement of lease liabilities and which arise from variable lease payments not linked to index or rate are in the amount of USD 218 million as at 31 December 2022 (31 December 2021: USD 199 million).

The lease liability is subsequently increased by the interest cost on the lease liability and decreased by lease payment made. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, a change in the estimate of the amount expected to be payable under a residual value guarantee, or as appropriate, changes in the assessment of whether a purchase or extension option is reasonably certain to be exercised or a termination option is reasonably certain not to be exercised.

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The Group presents lease liabilities as part of other payables and other non-current liabilities in the statement of financial position depending on the period to which future lease payments relate. The total non-current part of lease liabilities as at 31 December 2022 amounted to USD 49 million (31 December 2021: USD 45 million).

Total interest costs on leases recognised for the year ended 31 December 2022 amount to USD 7 million (31 December 2021: USD 7 million).

The Group does not recognise right-of-use assets and lease liabilities for some leases of low-value assets and short-term leases. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term. The expense relating to short-term and low-value leases in the amount of USD 28 million is included in cost of sales or administrative expenses depending on type of underlying asset for the year ended 31 December 2022 (31 December 2021: USD 18 million).

When the Group is an intermediate lessor the sub-leases are classified with reference to the right-of the use asset arising from the head lease, not with reference to the underlying asset.

12. Goodwill and intangible assets

(a) Accounting policy

(i) Goodwill

On the acquisition of a subsidiary that comprises a business, the identifiable assets, liabilities and contingent liabilities of the acquired business (or interest in a business) are recognised at their fair values unless the fair values cannot be measured reliably. Where the fair values of assumed contingent liabilities cannot be measured reliably, no liability is recognised but the contingent liability is disclosed in the same manner as for other contingent liabilities.

The Group accounts for business combinations using the acquisition method when the acquired set of activities and assets meets the definition of a business and control is transferred to the Group. In determining whether a particular set of activities and assets is a business, the Group assesses whether the set of assets and activities acquired includes, at a minimum, an input and substantive process and whether the acquired set has the ability to produce outputs.

The Group has an option to apply a 'concentration test' that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The optional concentration test is met if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. If concentration test is met the acquired set of activities and assets is not a business.

Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Group.

Goodwill arises when the cost of acquisition exceeds the fair value of the Group's interest in the net fair value of identifiable net assets acquired. The Group measures goodwill at the acquisition date as the fair value of the consideration transferred; plus the recognised amount of any non-controlling interests in the acquiree less the net recognised amount (generally fair value) of the identifiable assets acquired and liabilities assumed. The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognised in profit or loss. Transaction costs, other than those associated with the issue of debt or equity securities, that the Group incurs in connection with a business combination are expensed as incurred.

Goodwill is not amortised but is tested for impairment annually. For this purpose, goodwill arising on a business combination is allocated to the cash-generating units expected to benefit from the acquisition and any impairment loss recognised is not reversed even where circumstances indicate a recovery in value.

In respect of associates or joint ventures, the carrying amount of goodwill is included in the carrying amount of the interest in the associate and joint venture and the investment as a whole is tested for impairment whenever there is objective evidence of impairment. Any impairment loss is allocated to the carrying amount of the interest in the associate and joint venture.

When the fair value of the Group's share of identifiable net assets acquired exceeds the cost of acquisition, the difference is recognised immediately in profit or loss.

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(ii) Research and development

Expenditure on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, is recognised in profit or loss when incurred.

Development activities involve a plan or design for the production of new or substantially improved products and processes. Development expenditure is capitalised only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the Group intends to and has sufficient resources to complete development and to use or sell the asset. The expenditure capitalised includes the cost of materials, direct labour and overhead costs that are directly attributable to preparing the asset for its intended use and capitalised borrowing costs. Other development expenditure is recognised in profit or loss when incurred.

Capitalised development expenditure is measured at cost less accumulated amortisation and accumulated impairment losses (refer to note 11(c)).

(iii) Other intangible assets

Other intangible assets that are acquired by the Group, which have finite useful lives, are measured at cost less accumulated amortisation and accumulated impairment losses (refer to note 11(c)).

(iv) Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognised in profit or loss when incurred.

(v) Amortisation

Amortisation is recognised in profit or loss on a straight-line basis over the estimated useful lives of intangible assets, other than goodwill, from the date that they are available for use. The estimated useful lives are as follows:

- Software 5 years;
- Other intangible assets 2-8 years.

The amortisation method, useful lives and residual values are reviewed at each financial year end and adjusted if appropriate.

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(b) Disclosure

USD million	Goodwill	Other intangible assets	Total
Cost			
Balance at 1 January 2021	2,485	605	3,090
Additions	14	40	54
Disposals	–	(3)	(3)
Foreign currency translation	(8)	3	(5)
Balance at 31 December 2021	2,491	645	3,136
Additions	135	51	186
Disposals	–	(56)	(56)
Foreign currency translation	44	13	57
Balance at 31 December 2022	2,670	653	3,323
Amortisation and impairment losses			
Balance at 1 January 2021	(450)	(459)	(909)
Amortisation charge	–	(11)	(11)
Impairment	–	(14)	(14)
Foreign currency translation	–	(3)	(3)
Balance at 31 December 2021	(450)	(487)	(937)
Amortisation charge	–	(20)	(20)
Disposals	–	54	54
Foreign currency translation	–	(3)	(3)
Balance at 31 December 2022	(450)	(456)	(906)
Net book value			
At 1 January 2021	2,035	146	2,181
At 31 December 2021	2,041	158	2,199
At 31 December 2022	2,220	197	2,417

(c) Amortisation charge

The amortisation charge is included in cost of sales and administrative expenses in consolidated statement of profit or loss and other comprehensive income.

(d) Impairment testing of goodwill and other intangible assets

For the purposes of impairment testing, goodwill is allocated to following CGUs listed below. These units represent the lowest level within the Group at which the goodwill is monitored for internal management purposes.

The aggregate carrying amounts of goodwill allocated to each business, and the related impairment losses recognised, are as follows:

USD million	Allocated goodwill 2022	Accumulated impairment loss 2022	Allocated goodwill 2021	Accumulated impairment loss 2021
UC RUSAL	2,434	(449)	2,269	(449)
Angara HPPs	235	–	221	–
Other	1	(1)	1	(1)
	2,670	(450)	2,491	(450)

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Metals

The aluminium segment represents the lowest level within UC RUSAL at which goodwill is monitored for internal management purposes. The recoverable amount represents value in use as determined by discounting the future cash flows generated from the continuing use of the plants within UC RUSAL's aluminium segment.

Similar considerations to those described above in respect of assessing the recoverable amount of property, plant and equipment apply to goodwill.

At 31 December 2022, management analysed changes in the economic environment and developments in the aluminium industry and the Group's operations since 31 December 2021 and performed an impairment test for goodwill at 31 December 2022 using the following assumptions to determine the recoverable amount of the segment:

- Total production was estimated based on average sustainable production levels of 3.8 million metric tonnes of primary aluminium, of 5.4 million metric tonnes of alumina and of 16.5 million metric tonnes of bauxite. Bauxite and alumina will be used primarily internally for production of primary aluminium;
- The aluminium and alumina prices were based on the long-term aluminium and alumina price outlook derived from available industry and market sources and were as follows:

	2023	2024	2025	2026	2027
Aluminium sales prices, based on the long-term aluminium price outlook, USD per tonne	2,422	2,512	2,588	2,606	2,571
Alumina sales prices, based on the long-term alumina price outlook, USD per tonne	324	331	341	349	360
Nominal foreign currency exchange rates, RUB per 1 USD	70.5	71.9	73.3	75.4	76.9
Inflation in RUB	7.0%	7.0%	6.0%	5.0%	4.0%
Inflation in USD	4.3%	2.2%	1.9%	2.0%	2.0%

- Operating costs were projected based on the historical performance adjusted for inflation. Nominal foreign currency exchange rates applied to convert operating costs of the Group denominated in RUB into USD and inflation in RUB and USD assumed in determining recoverable amounts were as above;
- The pre-tax discount rate was estimated in nominal terms based on the weighted average cost of capital basis and was 17.5%;
- A terminal value was derived following the forecast period assuming a 2.0% annual growth rate.

Values assigned to key assumptions and estimates used to measure the units' recoverable amount were based on external sources of information and historic data. Management believes that the values assigned to the key assumptions and estimates represented the most realistic assessment of future trends. The results were particularly sensitive to the following key assumptions:

- A 5% reduction in the projected aluminium and alumina price levels would result in a decrease in the recoverable amount by 13% but would not lead to an impairment;
- A 5% increase in the projected level of electricity and alumina costs in the aluminium production would have resulted in a 6% decrease in the recoverable amount but would not lead to an impairment;
- A 1% increase in the discount rate would have resulted in a 8% decrease in the recoverable amount but would not lead to an impairment.

Based on results of impairment testing of goodwill, management concluded that no impairment should be recorded in the consolidated financial statements as at 31 December 2022.

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At 31 December 2021, management analysed changes in the economic environment and developments in the aluminium industry and the Group's operations since 31 December 2020 and performed an impairment test for goodwill at 31 December 2021 using the following assumptions to determine the recoverable amount of the segment:

- Total production was estimated based on average sustainable production levels of 3.8 million metric tonnes of primary aluminium, of 8.4 million metric tonnes of alumina and of 16.7 million metric tonnes of bauxite. Bauxite and alumina will be used primarily internally for production of primary aluminium;
- The aluminium and alumina prices were based on the long-term aluminium and alumina price outlook derived from available industry and market sources and were as follows:

	2022	2023	2024	2025	2026
Aluminium sales prices, based on the long-term aluminium price outlook, USD per tonne	2,623	2,476	2,371	2,375	2,411
Alumina sales prices, based on the long-term alumina price outlook, USD per tonne	345	319	316	320	352
Nominal foreign currency exchange rates, RUB per 1 USD	72.2	74.7	76.8	79.2	80.7
Inflation in RUB	6.6%	4.5%	3.6%	4.2%	3.3%
Inflation in USD	4.0%	2.1%	2.1%	2.0%	2.1%

Operating costs were projected based on the historical performance adjusted for inflation;

- Nominal foreign currency exchange rates applied to convert operating costs of the Group denominated in RUB into USD and inflation in RUB and USD assumed in determining recoverable amounts were as above;
- The pre-tax discount rate was estimated in nominal terms based on the weighted average cost of capital basis and was 11.5%;
- A terminal value was derived following the forecast period assuming a 2.0% annual growth rate.

Values assigned to key assumptions and estimates used to measure the units' recoverable amount were based on external sources of information and historical data. Management believes that the values assigned to the key assumptions and estimates represented the most realistic assessment of future trends. The results were particularly sensitive to the following key assumptions:

- A 5% reduction in the projected aluminium and alumina price levels would result in a decrease in the recoverable amount by 18% but would not lead to an impairment;
- A 5% increase in the projected level of electricity and alumina costs in the aluminium production would have resulted in a 6% decrease in the recoverable amount but would not lead to an impairment;
- A 1% increase in the discount rate would have resulted in a 9% decrease in the recoverable amount but would not lead to an impairment.

Based on results of impairment testing of goodwill, management concluded that no impairment should be recorded in the consolidated financial statements as at 31 December 2021.

Power

Goodwill primarily resulted from the acquisition of Angara HPPs. For the purposes of impairment testing, goodwill is allocated to the Angara HPPs CGU. It represents the lowest level within the Group at which goodwill is monitored for internal management purposes.

Management performs impairment testing of goodwill annually at 31 December of the respective calendar year.

The recoverable amount of Angara HPPs in 2022 and 2021 was determined by reference to its value in use derived by discounting of the future cash flows generated from continuing use of production facilities.

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The following key assumptions were used to determine the recoverable amount of the Angara HPPs cash-generating unit at 31 December 2022:

- The sales volumes were projected based on the approved budgets for 2023. In particular, the sales volumes of electricity in 2023 were planned at the level of 55 million MWh with a decline by 10% till 2032;
- Sales prices were based on the long-term price outlook derived from the available industry and market sources. The prices for electricity were estimated at the levels of USD 0.7-12.4 (RUB 49-875) per MWh depending on market segment in 2023 and increased by 48-62% respectively till 2032. Operating costs were projected based on the historical performance and the anticipated increase during the projected period was in line with inflation;
- The pre-tax discount rate was estimated in nominal terms based on the weighted average cost of capital amounted to 15.7%;
- A terminal value was derived following the forecast period assuming a 4% annual growth rate.

The following key assumptions were used to determine the recoverable amount of the Angara HPPs cash-generating unit at 31 December 2021:

- The sales volumes were projected based on the approved budgets for 2022. In particular, the sales volumes of electricity in 2022 were planned at the level of 53 million MWh with a decline by 7% till 2031;
- Sales prices were based on the long-term price outlook derived from the available industry and market sources. The prices for electricity were estimated at the levels of USD 0.6-11.9 (RUB 45-875) per MWh depending on market segment in 2022 and increased by 37-40% respectively till 2031. Operating costs were projected based on the historical performance and the anticipated increase during the projected period was in line with inflation;
- The pre-tax discount rate was estimated in nominal terms based on the weighted average cost of capital amounted to 15.6%;
- A terminal value was derived following the forecast period assuming a 4% annual growth rate.

Reasonable possible changes in key assumptions did not lead to an impairment in either 2022 or 2021.

13. Interests in associates and joint ventures

An associate is an entity in which the Group has significant influence, but not control or joint control, over its management, including participation in the financial and operating policy decisions.

A joint venture is an arrangement whereby the Group and other parties contractually agree to share control of the arrangement and have rights to the net assets of the arrangement.

An investment in an associate or a joint venture is accounted for in the consolidated financial statements under the equity method, unless it is classified as held for sale (or included in a disposal group that is classified as held for sale). Under the equity method, the investment is initially recorded at cost, adjusted for any excess of the Group's share of the acquisition-date fair values of the investee's identifiable net assets over the cost of the investment (if any). Thereafter, the investment is adjusted for the post acquisition change in the Group's share of the investee's net assets and any impairment losses relating to the investment. Any acquisition-date excess over cost, the Group's share of the post-acquisition, post-tax results of the investees and any impairment losses for the year are recognised in the consolidated statement of profit or loss and other comprehensive income within profit or loss, whereas the Group's share of the post-acquisition post-tax items of the investees' other comprehensive income is recognised in the other comprehensive income, the Group's share of the post-acquisition results recorded directly in the statement of changes in equity is recognized in the consolidated statement of changes in equity as the share of other changes in equity of associate.

When the Group's share of losses exceeds its interest in the associate or the joint venture, the Group's interest is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the investee.

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Unrealised profits and losses resulting from transactions between the Group and its associates and joint venture are eliminated to the extent of the Group's interest in the investee, except where unrealised losses provide evidence of an impairment of the asset transferred, in which case they are recognised immediately in profit or loss.

If an investment in an associate becomes an investment in a joint venture or vice versa, retained interest is not remeasured. Instead, the investment continues to be accounted for under the equity method.

In all other cases, when the Group ceases to have significant influence over an associate or joint control over a joint venture, it is accounted for as a disposal of the entire interest in that investee, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former investee at the date when significant influence or joint control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset.

An impairment loss in respect of an investment in an associate or joint venture is calculated as the difference between its carrying amount after application of the equity method of accounting and its recoverable amount. The recoverable amount of such investment is the greater of its value in use and its fair value less cost to sell. In determining the value in use of the investment the Group estimates: (a) its share of the present value of the estimated future cash flows expected to be generated by the investee, including the cash flows from the operations of the investee and the proceeds on the ultimate disposal of the investment; or (b) the present value of the estimated future cash flows expected to arise from the dividends to be received from the investee and from its ultimate disposal depending on which available information with respect to each investee is more reliable. An impairment loss is reversed to the extent that the recoverable amount of the investment subsequently increases and the resulting carrying amount does not exceed the carrying amount that would have been determined, after application of the equity method, had no impairment loss previously been recognised.

	31 December	
	2022	2021
	USD million	USD million
Balance at the beginning of the year	4,028	3,832
Group's share of profits and impairment	1,553	1,802
Group's share of equity transactions	–	129
Acquisition and contribution to investments	8	9
Partial disposal of investment in associate	–	(313)
Dividends	(764)	(1,452)
Foreign currency translation	369	21
	5,194	4,028
Goodwill included in interests in associates	2,404	2,300

The following list contains only the particulars of associates, all of which are corporate entities, which principally affected the results or assets of the Group.

Name of associate / joint venture	Place of incorporation and operation	Particulars of issued and paid up capital	Proportion of ownership interest		Principal activity
			Group's effective interest*	Group's nominal interest	
PJSC MMC Norilsk Nickel	Russian Federation	153,654,624 shares, RUB 1 par value	15.01%	26.39%	Nickel and other metals production
Queensland Alumina Limited	Australia	2,212,000 shares, AUD 2 par value	11.38%	20%	Production of alumina under a tolling agreement
BEMO project	Cyprus, Russian Federation	BOGES Limited and BALP Limited – 10,000 shares EUR 1.71 each	28.44%	50%	Power / Aluminium production

* Interest attributable to the shareholders of the Parent Company.

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The summary of the consolidated financial statements of associates and joint ventures for the year ended 31 December 2022 is presented below:

	PJSC MMC Norilsk Nickel		Queensland Alumina Limited		BEMO project		Other associates and joint ventures	
	Group share	100%	Group share	100%	Group share	100%	Group share	100%
	USD million	USD million	USD million	USD million	USD million	USD million	USD million	USD million
Non-current assets	6,614	17,392	182	1,053	1,367	2,559	244	593
Current assets	2,218	8,403	27	163	201	391	121	265
Non-current liabilities	(2,517)	(9,539)	(92)	(495)	(808)	(1,616)	(110)	(220)
Current liabilities	(2,029)	(7,689)	(117)	(653)	(33)	(66)	(74)	(133)
Net assets	4,286	8,567	–	68	727	1,268	181	505

	PJSC MMC Norilsk Nickel		Queensland Alumina Limited		BEMO project		Other associates and joint ventures	
	Group share	100%	Group share	100%	Group share	100%	Group share	100%
	USD million	USD million	USD million	USD million	USD million	USD million	USD million	USD million
Revenue	4,454	16,876	110	550	678	1,356	285	821
Profit/(loss) and impairment from continuing operations	1,440	5,854	–	(20)	102	210	11	51
Other comprehensive income/(loss)	336	920	–	(25)	29	56	4	11
Total comprehensive income/(loss)	1,776	6,774	–	(45)	131	266	15	62

The summary of the consolidated financial statements of associates and joint ventures for the year ended 31 December 2021 is presented below:

	PJSC MMC Norilsk Nickel		Queensland Alumina Limited		BEMO project		Other associates and joint ventures	
	Group share	100%	Group share	100%	Group share	100%	Group share	100%
	USD million	USD million	USD million	USD million	USD million	USD million	USD million	USD million
Non-current assets	5,590	13,565	185	933	1,362	2,548	234	562
Current assets	2,605	9,870	34	176	152	293	85	198
Non-current liabilities	(2,788)	(10,564)	(103)	(448)	(862)	(1,724)	(91)	(182)
Current liabilities	(2,133)	(8,083)	(116)	(580)	(57)	(115)	(69)	(143)
Net assets	3,274	4,788	–	81	595	1,002	159	435

	PJSC MMC Norilsk Nickel		Queensland Alumina Limited		BEMO project		Other associates and joint ventures	
	Group share	100%	Group share	100%	Group share	100%	Group share	100%
	USD million	USD million	USD million	USD million	USD million	USD million	USD million	USD million
Revenue	4,711	17,852	111	555	487	974	260	761
Profit/(loss) and impairment from continuing operations	1,762	6,974	–	(30)	58	97	(18)	68
Other comprehensive income/(loss)	24	98	–	(5)	(3)	(7)	–	(3)
Total comprehensive income/(loss)	1,786	7,072	–	(35)	55	90	(18)	65

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(a) PJSC MMC Norilsk Nickel

In 2021 the Group has participated in the repurchase of Norilsk Nickel shares to raise additional funds to finance its own investment programme. The Group sold 3,691,465 shares for RUB 27,780 per share, with the aggregate consideration of USD 1,418 million. The carrying value of the shares sold amounted to USD 313 million, and USD 613 million of currency translation reserve attributed to the shares sold was reclassified to profit/(loss) for the period, resulting in net gain of USD 492 million recognised in the consolidated statement of profit or loss and other comprehensive income. The effective interest in Norilsk Nickel held by the Metals segment after the transaction comprised 26.39%, the average effective interest for the year 2021 was 27.11%.

The Group's investment in Norilsk Nickel is accounted for using equity method and the carrying value as at 31 December 2022 and 31 December 2021 amounted USD 4,286 million and USD 3,274 million, respectively. The Group's share of profit of Norilsk Nickel was USD 1,440 million, the foreign currency translation gain was USD 336 million for the year ended 31 December 2022.

As at 31 December 2020 Group's associate PJSC MMC Norilsk Nickel recognized a liability on the execution of a put option held by owners of 13.3% non-controlling interest in the share capital in LLC "GRK "Bystrinskoye" in the amount of USD 428 million. Since the non-controlling interest owners did not exercise their right under the put option before its expiry date of 31 December 2021, PJSC MMC Norilsk Nickel derecognised the liability on the execution of the put option as at 31 December 2021. PJSC MMC Norilsk Nickel recorded derecognition of the liability directly in the consolidated statement of changes in equity as Other effects related to transactions with non-controlling interest owners in the amount of USD 490 million, which was its fair value at 31 December 2021 immediately before derecognition. The Group recognized its share of this change of interest in the net assets of the associate directly in the consolidated statement of changes in equity as Share of other effects of associate recognized in the equity in the amount USD 129 million.

The fair value of the investment amounted USD 8,775 million and USD 12,395 million as at 31 December 2022 and 31 December 2021, respectively, and is determined by multiplying the quoted bid price per share on the Moscow Exchange on the year-end date by the number of shares held by the Group.

(b) Queensland Alumina Limited

The carrying value of the Group's investment in Queensland Alumina Limited as at both 31 December 2022 and 31 December 2021 amounted to USD nil million. At 31 December 2022 management has not identified any impairment reversal indicators relating to the Group's investment in QAL and as a result no detailed impairment testing was performed in relation to this investment.

(c) BEMO project

The carrying value of the Group's investment in BEMO project as at 31 December 2022 and 31 December 2021 amounted USD 727 million and USD 595 million, respectively.

For the purposes of impairment testing, the BEMO project was separated into two cash generating units – the Boguchansky Aluminium Smelter ("BoAZ") and the Boguchansky Hydro Power Plant ("BoGES"). The recoverable amount was determined by discounting the expected future net cash flows of each cash generating unit.

At 31 December 2022 management has not identified any impairment indicators relating to the Group's investment in BoGES as well as any impairment reversal indicators relating to investments in BoAZ and as a result no detailed impairment testing was performed in relation to this investment.

At 31 December 2022, accumulated losses of USD 73 million (2021: USD 51 million) at BoAZ have not been recognised because the Group's investment has already been fully written down to USD nil million.

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Additional financial information of the Group's effective interest in BEMO project for the year ended 31 December 2022 and 31 December 2021 is presented below:

	31 December 2022	31 December 2021
	USD million	USD million
Cash and cash equivalents	78	32
Current financial liabilities	(1)	(25)
Non-current financial liabilities	(633)	(770)
Depreciation and amortisation	(66)	(53)
Interest income	3	1
Interest expense	(6)	(13)
Income tax expense	(25)	(14)

14. Inventories

Inventories are measured at the lower of cost and net realisable value.

The cost of inventories is determined under the weighted average cost method, and includes expenditure incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. In the case of manufactured inventories and work in progress, cost includes an appropriate share of production overheads based on normal operating capacity.

Net realisable value is the estimated selling price in the ordinary course of business, less the estimated cost of completion and selling expenses.

Production costs include mining and concentrating costs, smelting, treatment and refining costs, other cash costs and depreciation and amortisation of operating assets.

	31 December	
	2022	2021
	USD million	USD million
Raw materials and consumables	1,634	1,499
Work in progress	887	769
Finished goods and goods for resale	1,862	1,463
	4,383	3,731

Inventories at 31 December 2022 and 31 December 2021 are stated at net realisable value.

Inventories with a carrying value of USD nil million and USD 781 million were pledged as collateral for secured bank loans at 31 December 2022 and 31 December 2021, respectively (note 17).

15. Non-derivative financial instruments

Non-derivative financial instruments comprise investments in securities, trade and other receivables (excluding prepayments and tax assets), cash and cash equivalents, loans and borrowings and trade and other payables (excluding advances received and tax liabilities).

Non-derivative financial instruments, except for trade and other receivables, are recognised initially at fair value plus any directly attributable transaction costs. Trade and other receivables are recognised at transaction price.

A financial instrument is recognised when the Group becomes a party to the contractual provisions of the instrument. Financial assets are derecognised if the Group's contractual rights to the cash flows from the financial assets expire or if the Group transfers the financial asset to another party without retaining control or substantially all risks and rewards of the asset. Financial liabilities are derecognised if the Group's obligations specified in the contract expire or are discharged or cancelled.

IFRS 9 *Financial Instruments* sets out requirements for recognising and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items. The details of significant accounting policies are set out below.

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Classification and measurement of financial assets and financial liabilities

IFRS 9 specifies three principal classification categories for financial assets: measured at amortised cost, fair value through other comprehensive income ("FVOCI") and fair value through profit or loss ("FVTPL"). The classification of financial assets under IFRS 9 is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. Under IFRS 9, derivatives embedded in contracts where the host is a financial asset in the scope of the standard are never bifurcated. Instead, the hybrid financial instrument as a whole is assessed for classification.

The Group's financial assets mostly fall within the category of financial assets measured at amortised cost. The only exception is derivative financial assets measured at fair value through profit or loss and cash flow hedges accounted through other comprehensive income (note 19) and other investments measured at fair value through profit or loss (note 15(g)). The Group's financial liabilities fall within category of financial liabilities measured at amortised cost

(a) Impairment of trade receivables

Under IFRS 9, loss allowances (expected credit losses – "ECL") are measured on either of the following bases:

- 12-month ECLs: these are ECLs that result from possible default events within the 12 months after the reporting date; and
- lifetime ECLs: these are ECLs that result from all possible default events over the expected life of a financial instrument.

The Group measures loss allowances at an amount equal to lifetime ECLs, except for bank balances for which credit risk (i.e. the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition. The Group measures loss allowances for trade receivables at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Group's historical experience and informed credit assessment and including forward-looking information.

The Group assumes that the credit risk on a financial asset has increased significantly if it is more than 30 days past due.

The Group considers a financial asset to be in default when:

- The borrower is unlikely to pay its credit obligations to the Group in full, without recourse by the Group to actions such as realising security (if any is held); or
- The financial asset is more than 90 days past due, but additional analysis is conducted for each such receivable and assessment is updated accordingly.

The maximum period considered when estimating ECLs is the maximum contractual period over which the Group is exposed to credit risk.

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Group expects to receive). ECLs are discounted at the effective interest rate of the financial asset in case of long-term assets.

At each reporting date, the Group assesses whether financial assets carried at amortised cost are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

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Loss allowances for financial assets measured at amortised cost are deducted from the gross carrying amount of the assets. Impairment losses related to trade and other receivables are presented as part of net other operating expenses.

The following analysis provides further detail about the calculation of ECLs related to trade receivables. The Group uses an allowance matrix to measure the ECLs of trade receivables from the customers. Loss rates are calculated using a 'roll rate' method based on the probability of a receivable progressing through successive stages of delinquency to write-off. The ECLs were calculated based on actual credit loss experience over the past two years. The Group performed the calculation of ECL rates separately for the customers of each key trading company of the Group. Exposures within each trading company were not further segmented except for individually significant customers which bear specific credit risk depending on the repayment history of the customer and relationship with the Group.

Metals

The following table provides information about determined ECLs rates for trade receivables both as at 1 January 2022 and 31 December 2022.

	Weighted-average loss rate		Credit-impaired
	31 December 2022	1 January 2022	
Current (not past due)	1%	1%	No
1-30 days past due	10%	18%	No
31-60 days past due	50%	45%	No
61-90 days past due	48%	52%	No
More than 90 days past due	38%	63%	Yes

Power

The following table provides information about determined ECLs rates for trade receivables both as at 1 January 2022 and 31 December 2022.

	Weighted-average loss rate		Credit-impaired
	31 December 2022	1 January 2022	
Current (not past due)	1%	1%	No
1-90 days past due	1%	1%	No
90-180 days past due	30%	30%	No
More than 180 days past due	100%	100%	Yes

Fluctuations reflect differences between economic conditions during the period over which the historical data has been collected, current conditions and the Group's view of economic conditions over the expected lives of the receivables.

Impairment losses in respect of trade receivables are recorded using an allowance account unless the Group is satisfied that recovery of the amount is remote, in which case the impairment loss is written off against trade receivables directly.

As 31 December 2022 the Group presented non-derivative financial and non-financial assets and liabilities separately. Balances for 31 December 2021 were represented respectively for comparative purposes.

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(b) Trade and other receivables

	31 December	
	2022 USD million	2021 USD million
Trade receivables from third parties	1,295	949
Trade receivables from related parties, including	50	126
<i>Related parties – companies capable of exerting significant influence</i>	45	105
<i>Related parties – other</i>	–	2
<i>Related parties – associates and joint ventures</i>	5	19
Other receivables from third parties	235	171
Dividends receivable from related parties	–	827
<i>Related parties – associates and joint ventures</i>	–	827
	1,580	2,073
Impairment of receivables	(103)	(104)
	1,477	1,969

(i) Ageing analysis

Included in trade and other receivables are trade receivables (net of allowance for doubtful debts) with the following ageing analysis as of the statement of financial position dates:

Metals

	31 December	
	2022 USD million	2021 USD million
Current	842	833
Past due 1-30 days	122	16
Past due 31-60 days	42	–
Past due 61-90 days	1	1
Past due over 90 days	31	11
Amounts past due	196	28
	1,038	861

Power

	31 December	
	2022 USD million	2021 USD million
Current	197	160
Past due 1-30 days	12	11
Past due 31-60 days	6	6
Past due 61-90 days	4	4
Past due 91-180 days	8	7
Past due over 180 days	1	3
Amounts past due	31	31
	228	191

Trade receivables are on average due within 60 days from the date of billing. The receivables that are neither past due nor impaired (i.e. current) relate to a wide range of customers for whom there was no recent history of default.

Further details of the Group's credit policy are set out in note 20(e).

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(c) Prepayments and VAT recoverable

	31 December	
	2022	2021
	USD million	USD million
VAT recoverable	552	419
Advances paid to third parties	311	137
Advances paid to related parties, including Related parties – associates and joint ventures	88	109
Other taxes receivable	18	19
Other current assets	7	9
	976	693
Impairment of prepayments and VAT recoverable	(156)	(25)
	820	668

(d) Trade and other payables

	31 December	
	2022	2021
	USD million	USD million
Accounts payable to third parties	1,047	896
Accounts payable to related parties, including Related parties – companies capable of exerting significant influence Related parties – associates and joint ventures	115	103
Other payables and accrued liabilities	326	267
Income tax payable	199	62
	1,687	1,328

All of the trade and other payables are expected to be settled within one year or are repayable on demand.

(e) Advances received

	31 December	
	2022	2021
	USD million	USD million
Advances received from third parties	296	1,163
Advances received from related parties, including Related parties – associates and joint ventures	13	–
	309	1,163

Advances received represent contract liabilities to perform obligations under contracts with customers. Advances received are short-term and revenue in respect of the contract liabilities recognized as at the reporting date is fully recognized during next twelve months.

(f) Cash and cash equivalents

	31 December	
	2022	2021
	USD million	USD million
Bank balances, USD	120	549
Bank balances, RUB	1,544	402
Bank balances, EUR	81	85
Bank balances, other currencies	134	75
Cash in transit	17	–
Short-term bank deposits	1,548	1,213
Other cash equivalents	30	4
Cash and cash equivalents in the consolidated statement of cash flows	3,474	2,328
Restricted cash	3	2
Cash and cash equivalents in the consolidated statement of financial position	3,477	2,330

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As at 31 December 2022 and 31 December 2021 included in cash and cash equivalents was restricted cash of USD 3 million and USD 2 million, respectively.

(g) Other non-current assets

	31 December	31 December
	2022	2021
	USD million	USD million
Long-term deposits	125	139
Prepayment for subsidiary acquisition	–	73
Other non-current assets	186	46
	311	258

(h) Investments in equity securities measured at fair value through profit and loss

During the year 2022 Metals segment continued to acquire equity securities of RusHydro, 10,893,422,000 shares were bought for a total consideration of USD 113 million. As at 31 December 2022 the Group owns circa 9.75% of RusHydro shares. Investment is treated as equity securities measured at fair value through profit and loss.

Fair value is estimated in accordance with Level 1 of the fair value hierarchy. The market value was determined by multiplying the quoted bid price per share on the Moscow Exchange on reporting date by the number of shares held by the Group.

16. Equity

(a) Share capital, additional paid-in capital and transactions with shareholders

As at 31 December 2022 the Parent Company's share capital is divided into 638,848,896 ordinary shares with a nominal value of USD 0.00007 each. The Parent Company may also issue 75,436,818.286 ordinary shares.

As at 31 December 2022 and 31 December 2021 all issued ordinary shares were fully paid.

Change in effective interest in subsidiaries

Following consolidation of more than 95% of Irkutskenergo shares, in January 2022 the Group submitted a buyout notice. As at 31 December 2022 the effective and nominal interest in Irkutskenergo held by the Group is 100.00%. Total consideration paid to non-controlling shareholders during the reporting period amounted to USD 14 million.

In 2021, through certain transactions, the Group increased its effective interest in Irkutskenergo from 93.2% to 98.03% for USD 44 million.

(b) Treasury share reserve

When shares recognised as equity are repurchased, the amount of the consideration paid, which includes directly attributable costs, net of any tax effects, is recognised as a deduction from equity. Repurchased shares are classified as treasury shares and are presented in the treasury share reserve. When treasury shares are sold or reissued subsequently, the amount received is recognised as an increase in equity, and the resulting surplus or deficit on the transaction is presented in additional paid-in capital.

The reserve for the Group's treasury shares comprises the cost of the Parent Company's shares held by the Group. As at 31 December 2022 and 31 December 2021 the Group held 136,511,122 of its own shares.

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(c) Currency translation reserve

The currency translation reserve comprises all foreign exchange differences arising from the translation of the consolidated financial statements of foreign subsidiaries, associates and joint ventures. The reserve is dealt with in accordance with the accounting policies set out in note 3(b).

(d) Other reserves

Other reserves include the cumulative unrealised actuarial gains and losses on the Group's defined post-retirement benefit plans, the effective portion of the accumulated net change in fair value of cash flow hedges, the Group's share of other comprehensive income of associates and cumulative unrealised gains and losses on Group's financial assets which have been recognised directly in other comprehensive income.

(e) Dividends

During the years ended 31 December 2022 and 31 December 2021 the Parent Company did not declare and pay dividends.

In 2022 Metals segment declared dividends. In November 2022 dividends of USD 131 million were paid to Group's non-controlling shareholders.

The Parent Company may distribute dividends from retained earnings and profit for the reporting period in compliance with the current legislation of the Russian Federation and the provisions of its Charter.

(f) Revaluation reserve

The revaluation reserve comprises the cumulative net change in the fair value of hydro assets at the reporting date and is dealt with in accordance with the accounting policies set out in note 11(a)(i).

An independent valuation analysis of hydro assets was carried out as at 31 December 2022, the fair value of hydro assets was estimated at USD 4,166 million (note 11(e)). As a result of this fair value valuation, the Group recognised an additional revaluation reserve in the amount of USD 518 million net of tax.

(g) Non-controlling interests

The following table summarises the information relating to each of the Group's subsidiaries that has material non-controlling interest:

31 December 2022

USD million	UC RUSAL	OJSC Irkutsk Electric Grid Company	Total
NCI percentage	43.1%	46.2%	
Assets	24,147	544	
Liabilities	(12,324)	(205)	
Net assets	11,823	339	
Carrying amount of NCI	5,098	154	5,252
Revenue	13,974	407	
Profit/(loss)	1,793	(39)	
Other comprehensive income	294	–	
Total comprehensive (loss)/income	2,087	(39)	
Profit/(loss) attributable to NCI	777	(14)	763
Other comprehensive income attributable to NCI	127	7	134
Cash flows (used in) / from operating activities	(412)	39	
Cash flows from / (used in) investing activities	472	(48)	
Cash flows from financing activities	1,415	6	
Net increase/(decrease) in cash and cash equivalents	1,475	(3)	

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31 December 2021

USD million	UC RUSAL	Irkutsk-energo	OJSC Irkutsk Electric Grid Company	Total
NCI percentage	43.1%	1.97%	46.6%	
Assets	20,422	5,772	534	
Liabilities	(10,382)	(3,462)	(175)	
Net assets	10,040	2,310	359	
Carrying amount of NCI	4,329	46	161	4,536
Revenue	11,994	1,790	345	
Profit/(loss)	3,225	17	(9)	
Other comprehensive income	627	172	–	
Total comprehensive income/(loss)	3,852	189	(9)	
Profit/(loss) attributable to NCI	1,391	4	(3)	1,392
Other comprehensive income attributable to NCI	269	12	–	281
Cash flows from operating activities	1,146	398	36	
Cash flows from / (used in) investing activities	490	(409)	(60)	
Cash flows (used in) / from financing activities	(1,891)	79	26	
Net (decrease)/increase in cash and cash equivalents	(255)	68	2	

17. Loans and borrowings

This note provides information about the contractual terms of the Group's loans and borrowings. For more information about the Group's exposure to interest rate and foreign currency risk refer to notes 20(c)(ii) and 20(c)(iii), respectively.

	31 December	
	2022	2021
	USD million	USD million
Non-current liabilities		
Secured bank loans	5,333	6,291
Unsecured bank loans	858	567
Bonds	3,511	1,316
	9,702	8,174

	31 December	
	2022	2021
	USD million	USD million
Current liabilities		
Current portion of secured bank loans	928	675
Current portion of unsecured bank loans	9	5
	937	680
Secured bank loans	284	–
Unsecured bank loans	1,251	871
Accrued interest	78	68
Bonds	1,348	1,118
	2,961	2,057
	3,898	2,737

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(a) Loans and borrowings

	31 December	
	2022 USD million	2021 USD million
Non-current liabilities		
Secured bank loans		
Variable		
USD – 3M Libor + 1.7%	25	125
USD – 3M Libor + 2.1%	359	718
USD – 3M Libor + 3.0%	2,100	2,098
RUB – CBR + 1.50-2.00%	2,690	3,041
RUB – CBR + 3.15%	137	309
Fixed		
RUB – fixed at 3.0%	22	–
	5,333	6,291
Unsecured bank loans		
Variable		
RUB – CBR + 1.15-2.00%	37	534
EUR – 6M Euribor + 0.45-0.67%	34	33
Fixed		
CNY – fixed at 3.75%	777	–
RUB – fixed at 3.0%	10	–
	858	567
Bonds	3,511	1,316
	9,702	8,174
Current liabilities		
Current portion of secured bank loans		
Variable		
USD – 3M Libor + 1.7%	100	75
USD – 3M Libor + 2.1%	359	268
RUB – CBR + 1.5-2.00%	465	332
RUB – CBR + 3.15%	3	–
Fixed		
RUB – fixed at 3.0%	1	–
	928	675
Current portion of unsecured bank loans		
Variable		
EUR – 6M Euribor + 0.45-0.67%	6	5
Fixed		
RUB – other	3	–
	9	5
Secured bank loans		
Fixed		
RUB – fixed at 11.0%	284	–
	284	–
Unsecured bank loans		
Variable		
RUB – CBR + 1.1-2.5%	876	481
Fixed		
USD – fixed at 2.15-2.25%	–	375
CNY – fixed at 4.2%	375	–
RUB – fixed at 5.75-10.5%	–	15
	1,251	871
Accrued interest	78	68
Bonds	1,348	1,118
	2,961	2,057
	3,898	2,737

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The bank loans are secured as at 31 December 2022 and 31 December 2021 by the following:

- Rights, including all monies and claims, arising out of certain sales contracts between the Group's trading subsidiaries and its ultimate customers, were assigned to secure the syndicated Pre-Export Finance Term Facility Agreement (PXF) dated 28 January 2021;
- Properties, plant and equipment – refer to note 11(d);
- Inventories – refer to note 14;
- Shares of the Group companies as described below.

Metals

On 28 January 2021, the Metals segment entered into a new three-year sustainability-linked pre-export finance facility for up to USD 200 million. The interest rate is subject to a sustainability discount or premium depending on UC RUSAL's fulfilment of the sustainability key performance indicators (KPIs). The proceeds were used to refinance the principal outstanding under the existing debt.

The nominal value of UC RUSAL's loans and borrowings was USD 4,883 million at 31 December 2022 (31 December 2021: USD 4,266 million).

As at 31 December 2022 and 31 December 2021 the secured bank loans are secured by certain pledges of shares of a number of UC RUSAL's subsidiaries and 25% +1 share of Norilsk Nickel (Group's associate).

Power

The nominal value of Power loans and borrowings was USD 3,881 million at 31 December 2022 (31 December 2021: USD 4,182 million).

As at 31 December 2022 and 31 December 2021 the secured bank loans are secured by certain pledges of shares of a number of Parent Company's subsidiaries, including LLC ESE-Hydrogeneration – 100% (2021: 100%), JSC Krasnoyarsk Hydro-Power Plant – 100% (2021: 100%), PJSC Irkutskenergo – 77.42% (2021: 73.18%) and JSC EuroSibEnergo – 50% + 1 share (2021: 50% + 1 share). Additionally as at 31 December 2022 and 31 December 2021 21.37% shares of the Parent Company were pledged.

(b) Bonds

As at 31 December 2022, the Group had outstanding (traded in the market) bonds denominated in RUB, Chinese yuan and eurobonds denominated in USD:

Type	Series	The number of bonds traded in the market	Nominal value, USD million	Nominal interest rate	Put-option date	Maturity date
Bond	BO-01	30,263	–	0.01%	–	07.04.2026
Bond	BO-001P-01	3,490,970	49	9.50%	25.10.2023	16.04.2029
Bond	BO-001P-02	15,000,000	213	8.60%	25.01.2023	28.06.2029
Bond	BO-002P-01	10,000,000	142	6.50%	09.06.2023	28.05.2030
Eurobond	–	458,785	459	5.3%	–	03.05.2023
Eurobond	–	484,712	485	4.85%	–	01.02.2023
Bond	BO-05	2,000,000	281	3.90%	05.08.2024	28.07.2027
Bond	BO-06	2,000,000	281	3.90%	05.08.2024	28.07.2027
Bond	BO-001P-01	6,000,000	844	3.75%	–	24.04.2025
Bond	BO-001P-02	1,000,000	141	3.95%	–	23.12.2025
Bond	BO-001P-03	3,000,000	422	LPR1Y + 0.2%	–	24.12.2025
Bond	001PC-01	2,379,660	335	3.75%	–	07.03.2025
Bond	001PC-02	2,352,869	331	3.75%	–	07.03.2025
Bond	001PC-03	2,367,763	333	3.75%	–	07.03.2025
Bond	001PC-04	1,778,060	251	3.75%	–	07.03.2025
Bond	001PC-01	2,075,377	292	4.45%	–	22.12.2025

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On 3 August 2022 Metals segment placed its exchange-traded non-convertible interest-bearing yuan bonds series BO-05, BO-06 in the total amount of CNY 4 billion with a coupon rate fixed at 3.9% p.a. on the Moscow Exchange. Maturity of the bonds is five years, with the put-option in 2 years.

On 27 October 2022 Metals segment placed its exchange-traded non-convertible interest-bearing yuan bonds series BO-001P-01 in the amount of CNY 6 billion with a coupon rate fixed at 3.75% p.a. on the Moscow Exchange. Maturity of the bonds is 2.5 years.

On 27 December 2022 Metals segment placed its exchange-traded non-convertible interest-bearing yuan bonds series BO-001P-02 in the amount of CNY 1 billion with a coupon rate fixed at 3.95% p.a. on the Moscow Exchange. Maturity of the bonds is 3 years.

On 28 December 2022 Metals segment placed its exchange-traded non-convertible interest-bearing yuan bonds series BO-001P-03 in the amount of CNY 3 billion with the floating rate linked to LPR 1Y + 0.2% on the Moscow Exchange. The interest rate for the first coupon period was set at 3.85% p.a. Maturity of the bonds is 3 years.

In November 2022 Metals segment placed its commercial non-convertible interest-bearing yuan bonds series 001PC-01, 001PC-02, 001PC-03, 001PC-04 in the total amount CNY 8,878,352,000 with a coupon rate fixed at 3.75% p.a. Maturity of the bonds is March 2025.

In December 2022 Power segment placed its commercial non-convertible interest-bearing yuan bonds series 001PC-01 in the total amount CNY 2,075,377,000 with a coupon rate fixed at 4.45% p.a. Maturity of the bonds is December 2025.

On 8 September 2022 the exchange-traded non-convertible interest-bearing RUB denominated bonds of RUSAL Bratsk series BO-001P-03 were fully repaid.

On 10 November 2022 the exchange-traded non-convertible interest-bearing RUB denominated bonds of RUSAL Bratsk series BO-001P-04 were fully repaid.

As at 31 December 2022, the amount of accrued interest on these bonds was USD 48 million (31 December 2021: USD 44 million).

The total foreign exchange gain on bonds for the year ended 31 December 2022 accounted in other comprehensive loss as part of the cash flow hedge result amounted to USD 96 million (USD 4 million income for the year ended 31 December 2021).

18. Provisions

(a) Accounting policy

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance costs.

(i) Site restoration

The mining, refining and smelting activities of the Group can give rise to obligations for site restoration and rehabilitation. Restoration and rehabilitation works can include facility decommissioning and dismantling, removal or treatment of waste materials, land rehabilitation, and site restoration. The extent of work required and the associated costs are dependent on the requirements of law and the interpretations of the relevant authorities.

Provisions for the cost of each restoration and rehabilitation program are recognised at the time that environmental disturbance occurs. When the extent of disturbance increases over the life of an operation, the provision is increased accordingly. Costs included in the provision encompass obligated and reasonably estimable restoration and rehabilitation activities expected to occur progressively over the life of the operation and at the time of closure in connection with disturbances at the reporting date.

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Routine operating costs that may impact the ultimate restoration and rehabilitation activities, such as waste material handling conducted as an integral part of a mining or production process, are not included in the provision. Costs arising from unforeseen circumstances, such as the contamination caused by unplanned discharges, are recognised as an expense and liability when the event gives rise to an obligation which is probable and capable of reliable estimation.

Restoration and rehabilitation provisions are measured at the expected value of future cash flows, discounted to their present value and determined according to the probability of alternative estimates of cash flows occurring for each operation. Discount rates used are specific to the country in which the operation is located. Significant judgements and estimates are involved in forming expectations of future activities and the amount and timing of the associated cash flows. Those expectations are formed based on existing environmental and regulatory requirements.

When provisions for restoration and rehabilitation are initially recognised, the corresponding cost is capitalised as an asset, representing part of the cost of acquiring the future economic benefits of the operation. The capitalised cost of restoration and rehabilitation activities is amortised over the estimated economic life of the operation on a units of production or straight-line basis. The value of the provision is progressively increased over time as the effect of discounting unwinds, creating an expense recognised as part of finance expenses.

Restoration and rehabilitation provisions are also adjusted for changes in estimates. Those adjustments are accounted for as a change in the corresponding capitalised cost, except where a reduction in the provision is greater than the unamortised capitalised cost, in which case the capitalised cost is reduced to nil and the remaining adjustment is recognised in profit or loss. Changes to the capitalised cost result in an adjustment to future amortisation charges. Adjustments to the estimated amount and timing of future restoration and rehabilitation cash flows are a normal occurrence in light of the significant judgements and estimates involved. Factors influencing those changes include revisions to estimated reserves, resources and lives of operations; developments in technology; regulatory requirements and environmental management strategies; changes in the estimated costs of anticipated activities, including the effects of inflation and movements in foreign exchange rates; and movements in general interest rates affecting the discount rate applied.

(ii) Legal claim

In the normal course of business, the Group may be involved in legal proceedings. Where management considers that it is more likely than not that proceedings will result in the Group compensating third parties, a provision is recognised for the best estimate of the amount expected to be paid. Where management considers that it is more likely than not that proceedings will not result in the Group compensating third parties or where, in rare circumstances, it is not considered possible to provide a sufficiently reliable estimate of the amount expected to be paid, no provision is made for any potential liability under the litigation but the circumstances and uncertainties involved are disclosed as contingent liabilities. The assessment of the likely outcome of legal proceedings and the amount of any potential liability involves significant judgement. As law and regulations in many of the countries in which the Group operates are continuing to evolve, particularly in the areas of taxation, sub-soil rights and protection of the environment, uncertainties regarding litigation and regulation are greater than those typically found in countries with more developed legal and regulatory frameworks.

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(b) Disclosure

USD million	Pension liabilities	Site restoration	Provisions for legal claims	Total
Balance at 1 January 2021	99	476	32	607
<i>Non-current</i>	91	427	–	518
<i>Current</i>	8	49	32	89
Provisions made during the year	10	5	14	29
Provisions reversed during the year	–	–	(4)	(4)
Actuarial losses	4	–	–	4
Provisions used during the year	(7)	–	(20)	(27)
Effect of the passage of time	–	7	–	7
Change in estimates	–	(38)	–	(38)
Translation difference	–	68	–	68
Balance at 31 December 2021	106	518	22	646
<i>Non-current</i>	98	387	–	485
<i>Current</i>	8	131	22	161
Provisions made during the year	15	–	14	29
Provisions reversed during the year	–	–	(4)	(4)
Actuarial gain	(11)	–	–	(11)
Provisions used during the year	(8)	–	(6)	(14)
Effect of the passage of time	–	(1)	–	(1)
Change in estimates	–	(112)	–	(112)
Translation difference	(1)	(6)	–	(7)
Balance at 31 December 2022	101	399	26	526
<i>Non-current</i>	93	287	–	380
<i>Current</i>	8	112	26	146
	101	399	26	526

(c) Pension liabilities

As at 31 December 2022, the pension liability is represented by UC RUSAL of USD 60 million (31 December 2021: USD 66 million) and Power of USD 41 million (31 December 2021: USD 40 million).

The provision for pensions mainly comprises lump sum payments at retirement by aluminium plants located in Russia and Ukraine, and by electricity generating companies. The Group also provides pension benefits to eligible participants at facilities located outside of the Russian Federation and Ukraine.

Metals*Group subsidiaries in the Russian Federation*

The Group voluntarily provides long-term and post-employment benefits to its former and existing employees including death-in-service, jubilee, lump sum upon retirement, material support for pensioners and death-in-pension benefits. Furthermore, the Group provides regular social support payments to some of its veterans of World War II.

The above employee benefit programs are of a defined benefit nature. The Group finances these programs on a pay-as-you-go basis, so plan assets are equal to zero.

Group subsidiaries in Ukraine

Due to legal requirements, the Ukrainian subsidiaries are responsible for partial financing of the state hardship pensions for those of its employees who worked, or still work, under severe and hazardous labour conditions (hardship early retirement pensions). These pensions are paid until the recipient reaches the age of entitlement to the State old age pension (55-60 years for female (dependent on year of birth) and 60 years for male employees). In Ukraine, the Group also voluntarily provides long-term and post-employment benefits to its employees including death-in-service, lump sum benefits upon retirement and death-in-pension benefits.

The above employee benefit programs are of a defined benefit nature. The Group finances these programs on a pay-as-you-go basis, so plan assets are equal to zero.

Group subsidiaries outside the Russian Federation and Ukraine

At its Guinean entities, the Group provides a death-in-service benefit and lump-sum benefits upon disability and old-age retirement.

At its Guyana subsidiary, the Group provides a death-in-service benefit.

At its Italian subsidiary (Eurallumina) the Group only provides lump sum benefits upon retirement, which relate to service up to 1 January 2007.

In Sweden (Kubikenborg Aluminium AB), the Group provides defined benefit lifelong and temporary pension benefits. The lifelong benefits are dependent on the past service and average salary level of the employee, with an accrual rate that depends on the salary bracket the employee is in. The liability relates only to benefits accrued before 1 January 2004.

The number of employees in all jurisdictions eligible for the plans as at 31 December 2022 and 2021 was 51,783 and 50,518, respectively. The number of pensioners in all jurisdictions as at 31 December 2022 and 2021 was 39,302 and 42,086, respectively.

The Metals segment expects to pay under the defined benefit retirement plans an amount of USD 5 million during the 12 month period beginning on 1 January 2023.

Actuarial valuation of pension liabilities

The actuarial valuation of the Group and the portion of the Group funds specifically designated for the Group's employees were completed by a qualified actuary, Konstantin Kozlov, as at 31 December 2022, using the projected unit credit method as stipulated by IAS 19.

The key actuarial assumptions (weighted average, weighted by DBO) are as follows:

	31 December 2022 % per annum	31 December 2021 % per annum
Discount rate	9.5	7.9
Future salary increases	8.6	8.7
Future pension increases	5.0	4.2
Staff turnover	4.7	4.7
Mortality	USSR population table for 1985, Ukrainian population table for 2000	USSR population table for 1985, Ukrainian population table for 2000
Disability	70% Munich Re for Russia; 40% of death probability for Ukraine	70% Munich Re for Russia; 40% of death probability for Ukraine

As at 31 December 2022 and 31 December 2021 the Group's obligations were fully uncovered as the Group has only wholly unfunded plans.

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The principal assumptions used in determining pension obligations for the pension plans are shown below:

	31 December 2022	31 December 2021
Discount rate	10.1%	8.5%
Future salary increases	6.2%	5.7%
Pension and inflation rate increases	4.7%	4.2%

(d) Site restoration and environmental provisions

The Group provides for site restoration obligations when there is a specific legal or constructive obligation for mine reclamation, landfill closure (primarily comprising red mud basin disposal sites) or specific lease restoration requirements. The Group does not record any obligations with respect to decommissioning of its refining or smelting facilities and restoration and rehabilitation of the surrounding areas unless there is a specific plan to discontinue operations at a facility. This is because any significant costs in connection with decommissioning of refining or smelting facilities and restoration and rehabilitation of the surrounding areas would be incurred no earlier than when the facility is closed and the facilities are currently expected to operate over a term in excess of 50-100 years due to the perpetual nature of the refineries and smelters and continuous maintenance and upgrade programs resulting in the carrying values of any such liabilities being negligible.

The site restoration provision relates primarily to mine reclamation and red mud basin disposal sites at alumina refineries and ash dumps removal at coal burning electricity and heat generation stations.

The principal assumptions used in determining site restoration provision are:

	31 December 2022	31 December 2021
Timing of cash outflows	2023: USD 111 million 2024-2028: USD 46 million 2029-2038: USD 156 million after 2038: USD 456 million	2022: USD 130 million 2023-2027: USD 30 million 2028-2037: USD 145 million after 2037: USD 410 million
Years required to fill the ash dumps	26.8	26.5
Discount rate for Coal CHPs CGU assets after adjusting for inflation	6.71%	4.2%
Risk free discount rate for UC RUSAL after adjusting for inflation	3.60%	1.19%

The risk free rate for the year 2021-2022 represents an effective rate, which comprises rates differentiated by years of obligation settlement and by currencies in which the provisions were calculated.

At each reporting date management have assessed the provisions for site restoration and concluded that the provisions and disclosures are adequate.

(e) Provisions for legal claims

The Group's subsidiaries are subject to a variety of lawsuits and claims in the ordinary course of its business. As at 31 December 2022, there were several claims filed against the Group's subsidiaries contesting breaches of contract terms and non-payment of existing obligations. Management has reviewed the circumstances and estimated that the amount of probable outflow related to these claims should not exceed USD 26 million (31 December 2021: USD 22 million).

At each reporting date management has assessed the provisions for litigation and claims and concluded that the provisions and disclosures are adequate.

19. Derivative financial assets and liabilities**Accounting policies**

The Group enters, from time to time, into various derivative financial instruments to manage its exposure to commodity price risk, foreign currency risk and interest rate risk.

Embedded derivatives are separated from the host contract and accounted for separately if the economic characteristics and risks of the host contract and the embedded derivative are not closely related, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative and the combined instrument is not measured at fair value through profit or loss.

On initial designation of the derivative as a hedging instrument, the Group formally documents the relationship between the hedging instrument and hedged item, including the risk management objectives and strategy in undertaking the hedge transaction and the hedged risk, together with the methods that will be used to assess the effectiveness of the hedging relationship. The Group makes an assessment, both at the inception of the hedge relationship as well as on an ongoing basis, of whether the hedging instruments are expected to be highly effective in offsetting the changes in the fair value or cash flows of the respective hedged items attributable to the hedged risk, and whether the actual results of each hedge are within a range of 80%-125%. For a cash flow hedge of a forecast transaction, the transaction should be highly probable to occur and should present an exposure to variation in cash flows that ultimately could affect reported profit or loss.

Derivatives are recognised initially at fair value; attributable transaction costs are recognised in profit or loss when incurred. Subsequent to initial recognition, derivatives are measured at fair value.

The measurement of fair value of derivative financial instruments, including embedded derivatives, is based on quoted market prices. Where no price information is available from a quoted market source, alternative market mechanisms or recent comparable transactions, fair value is estimated based on the Group's views on relevant future prices, net of valuation allowances to accommodate liquidity, modelling and other risks implicit in such estimates. Changes in the fair value therein are accounted for as described below.

When a derivative is designated as the hedging instrument in a hedge of the variability in cash flows attributable to a particular risk associated with a recognised asset or liability or a highly probable forecast transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognised in other comprehensive income and presented in the hedging reserve in equity. Any ineffective portion of changes in the fair value of a derivative is recognised in profit or loss.

When the hedged item is a non-financial asset, the amount accumulated in equity is included in the carrying amount of the asset when the asset is recognised. In other cases, the amount accumulated in equity is reclassified to profit or loss in the same period that the hedged item affects profit or loss. If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated or exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. If the forecast transaction is no longer expected to occur, then the balance in equity is reclassified to profit or loss.

Changes in the fair value of separated embedded derivatives and derivative financial instruments not designated for hedge accounting are recognised immediately in profit or loss.

Disclosures

	31 December 2022		31 December 2021	
	USD million		USD million	
	Derivative assets	Derivative liabilities	Derivative assets	Derivative liabilities
Petroleum coke supply contracts and other raw materials	–	–	24	15
Forward contracts for aluminium and other instruments	168	–	118	26
Cross currency swap	–	–	–	165
Total	168	–	142	206
<i>Non-current</i>	90	–	22	61
<i>Current</i>	78	–	120	145

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Derivative financial instruments are recorded at their fair value at each reporting date. Fair value is estimated in accordance with Level 3 of the fair value hierarchy based on management estimates and consensus economic forecasts of relevant future prices, net of valuation allowances to accommodate liquidity, modelling and other risks implicit in such estimates. The Group's policy is to recognise transfers between levels of fair value hierarchy as at the date of the event or change in circumstances that caused the transfer. The movement in the balance of Level 3 fair value measurements of derivatives is as follows:

	31 December	
	2022	2021
	USD million	USD million
Balance at the beginning of the year	(64)	(135)
Unrealised changes in fair value recognised in statement of profit or loss (finance expense) during the year	(191)	(352)
Unrealised changes in fair value recognised in other comprehensive income (cash flow hedge) during the year	(131)	(28)
Realised portion of electricity, coke and raw material contracts and cross currency swap	554	451
Balance at the end of the year	168	(64)

During the year 2022 there have been no changes in valuation techniques used to calculate the derivative financial instruments compared to prior year.

Management believes that the values assigned to the key assumptions and estimates represented the most realistic assessment of future trends. The results for the derivative instruments are not particularly sensitive to any factors other than the assumptions disclosed above.

UC RUSAL entered into various petroleum coke supply contracts and other raw materials where the price of coke is determined with reference to the Brent oil price, LME aluminium price and average monthly aluminium quotations. UC RUSAL also sells products to various third parties at prices that are influenced by changes in London Metal Exchange aluminium prices. From time to time UC RUSAL enters into forward sales and purchase contracts for a portion of its anticipated primary aluminium sales and purchases to reduce the risk of fluctuating prices on these sales. During the year ended 31 December 2022 the Group recognised a total net loss of USD 191 million in relation to the above contracts (31 December 2021: loss of USD 352 million). Unrealised changes in fair value recognised in other comprehensive income (cash flow hedge) during the period are fully attributable to cross currency swaps (note 17(b)).

20. Financial risk management and fair values

(a) Fair values

The methods used to estimate the fair values of the financial instruments are as follows:

Trade and other receivables, short-term investments, cash and cash equivalents, current loans and borrowings and trade and other payables: the carrying amounts approximate fair value because of the short maturity period of the instruments.

Investments in equity securities: measured at fair value through profit and loss, so, its carrying amount is equal its fair value.

Long-term loans and borrowings, other non-current liabilities: the fair values of other non-current liabilities are based on the present value of the anticipated cash flows and approximate carrying value, other than Eurobonds and RUSAL Bratsk bonds issued. The fair value of the loans and borrowings with fixed and floating interest rate as at 31 December 2022 and 31 December 2021 was calculated based on the present value of future principal and interest cash flows, using discount interest rate that take into account the currency of the debt, expected maturity dates and credit risks associated with the Group that existed at the reporting date.

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Derivatives: the fair value of derivative financial instruments, including embedded derivatives, is based on quoted market prices. Where no price information is available from a quoted market source, alternative market mechanisms or recent comparable transactions, fair value is estimated based on the Group's views on relevant future prices, net of valuation allowances to accommodate liquidity, modelling and other risks implicit in such estimates. Option-based derivatives are valued using Black-Scholes models and Monte-Carlo simulations. The derivative financial instruments are recorded at their fair value at each reporting date.

The following table presents the fair value of Group's financial instruments measured at the end of the reporting period on a recurring basis, as well as for instruments for which fair value is disclosed, categorised into the three-level fair value hierarchy as defined by IFRS 13, *Fair Value Measurement*. The level into which a fair value measurement is classified is determined with reference to the observability and significance of the inputs used in the valuation technique as follows:

- Level 1 valuations: fair value measured using only Level 1 inputs i.e. unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date.
- Level 2 valuations: fair value measured using Level 2 inputs i.e. observable inputs which fail to meet Level 1, and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available.
- Level 3 valuations: fair value measured using significant unobservable inputs.

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Note	Carrying amount				Fair value			
	Derivatives USD million	Loans and receivables USD million	Other financial assets/ (liabilities) USD million	Total USD million	Level 1 USD million	Level 2 USD million	Level 3 USD million	Total USD million
Financial assets measured at fair value								
Forward contracts for aluminium and other instruments	19	168	–	168	–	–	168	168
Investments in equity securities measured at fair value through profit and loss	15	–	459	459	459	–	–	459
		168	459	627	459	–	168	627
Financial assets not measured at fair value*								
Trade and other receivables	15	–	1,906	1,906	–	1,906	–	1,906
Short-term investments		–	50	50	–	50	–	50
Cash and cash equivalents	15	–	3,477	3,477	–	3,477	–	3,477
		–	5,433	5,433	–	5,433	–	5,433
Financial liabilities not measured at fair value*								
Loans and borrowings	17	–	(8,741)	(8,741)	–	(8,824)	–	(8,824)
Unsecured bond issue	17	–	(4,859)	(4,859)	(1,935)	(2,907)	–	(4,842)
Trade and other payables	15	–	(1,687)	(1,687)	–	(1,687)	–	(1,687)
		–	(15,287)	(15,287)	(1,935)	(13,418)	–	(15,353)

* The Group considers that the carrying amounts of short-term trade receivables and payables are a reasonable approximation of fair values.

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(b) Financial risk management objectives and policies

The Group's principal financial instruments comprise bank loans and trade payables. The main purpose of these financial instruments is to raise finance for the Group's operations. The Group has various financial assets such as trade receivables and cash and short-term deposits, which arise directly from its operations.

The main risks arising from the Group's financial instruments are cash flow interest rate risk, liquidity risk, foreign currency risk and credit risk. Management reviews and agrees policies for managing each of these risks which are summarised below.

The Board of Directors has overall responsibility for the establishment and oversight of the Group's risk management framework.

The Group's risk management policies are established to identify and analyse the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

(c) Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising returns.

(i) Tariffs and commodity price risk

During the years ended 31 December 2022 and 31 December 2021, the Group has entered into certain commodity derivatives contracts in order to manage its exposure of commodity price risks.

The tariffs for electricity, heat and transmission services applied by the Group's significant subsidiaries are currently partially determined by government bodies. The Group cannot directly influence or mitigate the risks in relation to the change in tariffs.

A significant portion of the Group's generation activities is based on coal burning stations. A change in coal prices may have a significant impact on the Group's operations. To mitigate the risk of fluctuations in coal prices, the Group has historically increased its internal coal production through acquisition of coal mines and licences in the Eastern Siberia region.

(ii) Interest rate risk

The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's long-term debt obligations with floating interest rates (note 17). The Group's policy is to manage its interest costs by monitoring changes in interest rates with respect to its borrowings.

The following table details the interest rate profile of the Group's and the Company's borrowings at the reporting date.

	31 December 2022		31 December 2021	
	Effective interest rate %	USD million	Effective interest rate %	USD million
Fixed rate loans and borrowings				
Loans and borrowings (note 17(a))	0.01%-11.0%	5,904	0.01%-10.5%	2,824
		5,904		2,824
Variable rate loans and borrowings				
Loans and borrowings (note 17(a))	2.86%-10.0%	7,618	0.45%-10.5%	8,019
		7,618		8,019
		13,522		10,843

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Note	Carrying amount				Fair value			
	Derivatives USD million	Loans and receivables USD million	Other financial assets/ (liabilities) USD million	Total USD million	Level 1 USD million	Level 2 USD million	Level 3 USD million	Total USD million
Financial assets measured at fair value								
Petroleum coke supply contracts and other raw materials	19	24	–	24	–	–	24	24
Forward contracts for aluminium and other instruments	19	118	–	118	–	–	118	118
Investments in equity securities measured at fair value through profit and loss	15	–	316	316	316	–	–	316
		142	316	458	316	–	142	458
Financial assets not measured at fair value*								
Trade and other receivables	15(b)	–	2,410	2,410	–	2,410	–	2,410
Short-term investments		–	131	131	–	131	–	131
Cash and cash equivalents	15	–	2,330	2,330	–	2,330	–	2,330
		–	4,871	4,871	–	4,871	–	4,871
Financial liabilities measured at fair value								
Cross currency swaps	19	(165)	–	(165)	–	–	(165)	(165)
Petroleum coke supply contracts and other raw materials	19	(15)	–	(15)	–	–	(15)	(15)
Forward contracts for aluminium and other instruments	19	(26)	–	(26)	–	–	(26)	(26)
		(206)	–	(206)	–	–	(206)	(206)
Financial liabilities not measured at fair value*								
Loans and borrowings	17	–	(8,477)	(8,477)	–	(8,614)	–	(8,614)
Unsecured bond issue	17	–	(2,434)	(2,434)	(941)	(1,524)	–	(2,465)
Trade and other payables	15	–	(1,643)	(1,643)	–	(1,643)	–	(1,643)
		–	(12,554)	(12,554)	(941)	(11,781)	–	(12,722)

* The Group considers that the carrying amounts of short-term trade receivables and payables are a reasonable approximation of fair values.

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The following table demonstrates the sensitivity to cash flows from interest rate risk arising from floating rate non-derivative instruments held by the Group at the reporting date in respect of a reasonably possible change in interest rates, with all other variables held constant. The impact on the Group's profit before taxation and equity and retained profits/accumulated losses is estimated as an annualized input on interest expense or income of such a change in interest rates. The analysis has been performed on the same basis for all years presented.

	Increase/ decrease in basis points	Effect on profit before taxation for the year USD million	Effect on equity for the year USD million
As at 31 December 2022			
Basis percentage points	+100	(76)	(61)
Basis percentage points	-100	76	61
As at 31 December 2021			
Basis percentage points	+100	(80)	(64)
Basis percentage points	-100	80	64

(iii) Foreign currency risk

The Group is exposed to currency risk on sales, purchases and borrowings that are denominated in a currency other than the respective functional currencies of group entities, primarily USD but also the Russian Rouble, Ukrainian Hryvna and Euros. The currencies in which these transactions primarily are denominated are RUB, USD and EUR.

Borrowings are primarily denominated in currencies that match the cash flows generated by the underlying operations of the Group, primarily USD but also RUB, EUR and yuan. This provides an economic hedge.

In respect of other monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances or entering into currency swap arrangements.

The Group's exposure at the reporting date to foreign currency risk arising from recognised assets and liabilities denominated in a currency other than the functional currency of the entity to which they relate is set out in the table below. Differences resulting from the translation of the financial statements of foreign operations into the Group's presentation currency are ignored.

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USD million	USD-denominated vs. RUB functional currency 31 December		RUB-denominated vs. USD functional currency 31 December		EUR-denominated vs. USD functional currency 31 December		Denominated in other currencies vs. USD functional currency 31 December	
	2022	2021	2022	2021	2022	2021	2022	2021
Non-current assets	-	-	86	38	21	-	-	-
Trade and other receivables	-	2	914	821	219	184	60	69
Cash and cash equivalents	-	-	1,378	428	148	81	684	50
Loans and borrowings	-	-	(684)	(549)	-	(19)	(1,152)	-
Provisions	-	-	(66)	(84)	-	(21)	(17)	(18)
Derivative financial liabilities	-	-	-	(16)	-	-	-	-
Income tax	-	-	(157)	(24)	-	-	-	(1)
Non-current liabilities	-	-	(46)	(1)	(3)	(6)	(2)	-
Bonds	-	-	(406)	(1)	-	-	(3,219)	-
Trade and other payables	(1)	(1)	(514)	(1,080)	(111)	(104)	(119)	(135)
Net exposure arising from recognised assets and liabilities	(1)	1	505	(468)	274	115	(3,765)	(35)

(iv) Foreign currency sensitivity analysis

The following tables indicate the change in the Group's profit before taxation (and accumulated losses) and other comprehensive income that could arise if foreign exchange rates to which the Group has significant exposure at the reporting date had changed at that date, assuming all other risk variables remained constant.

	Year ended 31 December 2022		
	Change in exchange rates	USD million Effect on profit before taxation for the year	USD million Effect on equity for the year
Depreciation of USD vs. RUB	15%	76	76
Depreciation of USD vs. EUR	10%	27	27
Depreciation of USD vs. other currencies	5%	(188)	(188)
	Year ended 31 December 2021		
	Change in exchange rates	USD million Effect on profit before taxation for the year	USD million Effect on equity for the year
Depreciation of USD vs. RUB	15%	(70)	(70)
Depreciation of USD vs. EUR	10%	11	11
Depreciation of USD vs. other currencies	5%	(2)	(2)

Results of the analysis as presented in the above tables represent an aggregation of the effects on the Group entities' profit before taxation and other comprehensive income measured in the respective functional currencies, translated into USD at the exchange rates ruling at the reporting date for presentation purposes.

The sensitivity analysis assumes that the change in foreign exchange rates had been applied to re-measure those financial instruments held by the Group which expose the Group to foreign currency risk at the reporting date. The analysis excludes differences that would result from the translation of financial statements of foreign operations into the Group's presentation currency. The analysis has been performed on the same basis for all years presented.

(d) Liquidity risk

Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's policy is to maintain sufficient cash and cash equivalents or have available funding through an adequate amount of committed credit facilities to meet its operating and financial commitments.

The following tables show the remaining contractual maturities at the reporting date of the Group's non-derivative financial liabilities, which are based on contractual undiscounted cash flows (including interest payment computed using contractual rates, or if floating, based on rates current at the reporting date) and the earliest the Group can be required to pay:

	31 December 2022					
	Contractual undiscounted cash outflow					
	Within 1 year or on demand USD million	More than 1 year but less than 2 years USD million	More than 2 years but less than 5 years USD million	More than 5 years USD million	Total USD million	Carrying amount USD million
Trade and other payables to third parties	1,998	1	-	-	1,999	1,999
Trade and other payables to related parties	115	-	-	-	115	115
Bonds	1,156	698	3,014	-	4,868	4,859
Loans and borrowings, including interest payable	2,928	1,465	5,942	271	10,606	8,741
	6,197	2,164	8,956	271	17,588	15,714
Financial guarantees issued:						
Maximum amount guaranteed	40	79	-	-	119	-

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	31 December 2021					Carrying amount USD million
	Contractual undiscounted cash outflow					
	Within 1 year or on demand USD million	More than 1 year but less than 2 years USD million	More than 2 years but less than 5 years USD million	More than 5 years USD million	Total USD million	
Trade and other payables to third parties	1,540	–	–	–	1,540	1,540
Trade and other payables to related parties	103	–	–	–	103	103
Bonds	1,234	1,354	–	–	2,588	2,434
Loans and borrowings, including interest payable	2,170	2,652	3,947	1,704	10,473	8,477
	5,047	4,006	3,947	1,704	14,704	12,554
Financial guarantees issued:						
Maximum amount guaranteed	44	69	–	–	113	–

At 31 December 2022 and 31 December 2021 the Group's contractual undertaking to provide loans under the loan agreement between the Group, PJSC RusHydro and BoAZ is included at maximum exposure for the Group in the liquidity risk disclosure above.

(e) Credit risk

The Group trades only with recognised, creditworthy third parties. It is the Group's policy that all customers who wish to trade on credit terms are subject to credit verification procedures. The majority of the Group's third party trade receivables represent balances with the world's leading international corporations operating in the metals industry. In addition, receivable balances are monitored on an ongoing basis with the result that the Group's exposure to credit loss is not significant. Goods are normally sold subject to retention of title clauses, so that in the event of non-payment the Group may have a secured claim. The Group does not require collateral in respect of trade and other receivables. The details of impairment of trade and other receivables are disclosed in note 15. Cash balances are held with high credit quality financial institutions. The extent of the Group's credit exposure is represented by the aggregate balance of financial assets and financial guarantees and loan commitments given.

At 31 December 2022 and 31 December 2021, the Group has no concentration of credit risk within any single largest customer but 27.0% and 12.6% of the total trade receivables were due from the Group's five largest customers.

(f) Capital risk management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

The Group manages its capital structure and makes adjustments to it, in light of changes in economic conditions. To maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

The Board's policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board of Directors monitors the return on capital, which the Group defines as net operating income divided by total shareholders' equity, excluding non-controlling interests. The Board of Directors also monitors the level of dividends to ordinary shareholders.

The Board seeks to maintain a balance between higher returns that might be possible with higher levels of borrowings and the advantages and security afforded by a sound capital position.

There were no changes in the Group's approach to capital management during the year.

The Parent Company and its subsidiaries were subject to externally imposed capital requirements in the both years presented in these consolidated financial statements.

(g) Master netting or similar agreements

The Group may enter into sales and purchase agreements with the same counterparty in the normal course of business. The related amounts receivable and payable do not always meet the criteria for offsetting in the statement of financial position.

The following table sets out the carrying amounts of recognised financial instruments that are subject to the above agreements.

	Year ended 31 December 2022	
	USD million	USD million
	Trade receivables	Trade payables
Gross amounts	95	(112)
Net amounts presented in the statement of financial position	95	(112)
Amounts related to recognised financial instruments that do not meet some or all of the offsetting criteria	(47)	47
Net amount	48	(65)

	Year ended 31 December 2021	
	USD million	USD million
	Trade receivables	Trade payables
Gross amounts	114	(90)
Net amounts presented in the statement of financial position	114	(90)
Amounts related to recognised financial instruments that do not meet some or all of the offsetting criteria	(36)	36
Net amount	78	(54)

21. Commitments**(a) Capital commitments**

The Group had outstanding capital commitments which had been contracted for at 31 December 2022 and 31 December 2021 in the amount of USD 787 million and USD 655 million, including VAT, respectively. These commitments are due over a number of years.

(b) Purchase commitments

Commitments with third parties for purchases of alumina, bauxite, other raw materials and other purchases in 2023-2034 under supply agreements are estimated from USD 3,450 million to USD 5,169 million at 31 December 2022 (31 December 2021: USD 2,517 million to USD 4,534) depending on the actual purchase volumes and applicable prices.

Commitments with related parties for purchases of primary aluminium, alloys and other purchases in 2023-2030 under supply agreements are estimated from USD 4,824 million to USD 7,283 million at 31 December 2022 (31 December 2021: USD 5,733 million to USD 7,540 million) depending on the actual purchase volumes and applicable prices.

(c) Sale commitments

Commitments with third parties for sales of alumina and other raw materials in 2023-2034 are estimated from USD 852 million to USD 1,275 million at 31 December 2022 (31 December 2021: from USD 1,187 million to USD 1,596 million) and will be settled at market prices at the date of delivery. There are no commitments with related parties for sales of alumina as at 31 December 2022 and 31 December 2021.

Commitments with related parties for sales of primary aluminium and alloys in 2023 are estimated from USD 149 million to USD 182 million at 31 December 2022 (31 December 2021: from USD 337 million to USD 412 million). Commitments with third parties for sales of primary aluminium and alloys in 2023-2027 are estimated to range from USD 5,505 million to USD 8,386 million at 31 December 2022 (31 December 2021: from USD 8,842 million to USD 12,148 million).

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(d) Social commitments

The Group contributes to the maintenance and upkeep of the local infrastructure and the welfare of its employees, including contributions toward the development and maintenance of housing, hospitals, transport services, recreation and other social needs of the regions of the Russian Federation where the Group's production entities are located. The funding of such assistance is periodically determined by management and is appropriately capitalised or expensed as incurred.

22. Contingencies**(a) Taxation**

Russian tax, currency and customs legislation is subject to varying interpretations, and changes, which can occur frequently. Management's interpretation of such legislation as applied to the transactions and activities of the Group may be challenged by the relevant local, regional and federal authorities. Recent developments in the Russian environment suggest that the authorities in this country are becoming more active in seeking to enforce, through the Russian court system, interpretations of the tax legislation, in particular in relation to the use of certain commercial trading structures, which may be selective for particular tax payers and different from the authorities' previous interpretations or practices. Recent events within the Russian Federation suggest that the tax authorities are taking a more assertive and substance-based position in their interpretation and enforcement of tax legislation.

In addition to the amounts of income tax the Group has provided, there are certain tax positions taken by the Group where it is reasonably possible (though less than 50% likely) that additional tax may be payable upon examination by the tax authorities or in connection with ongoing disputes with tax authorities. The Group's best estimate of the aggregate maximum of additional amounts that it is reasonably possible (though less than 50% likely) may become payable if these tax positions were not sustained at 31 December 2022 is USD 61 million (31 December 2021: USD 26 million).

(b) Environmental contingencies

The Group and its predecessor entities have operated in the Russian Federation, Ukraine, Jamaica, Guyana, the Republic of Guinea and the European Union for many years and certain environmental problems have developed. Governmental authorities are continually considering environmental regulations and their enforcement and the Group periodically evaluates its obligations related thereto. As obligations are determined, they are recognised immediately. The outcome of environmental liabilities under proposed or any future legislation, or as a result of stricter enforcement of existing legislation, cannot reasonably be estimated. Under current levels of enforcement of existing legislation, management believes there are no possible liabilities, which will have a material adverse effect on the financial position or the operating results of the Group. However, the Group anticipates undertaking significant capital projects to improve its future environmental performance.

(c) Legal contingencies

The Group's business activities expose it to a variety of lawsuits and claims which are monitored, assessed and contested on an ongoing basis. Where management believes that a lawsuit or another claim would result in the outflow of the economic benefits for the Group, a best estimate of such outflow is included in provisions in the consolidated financial statements (note 18(e)). As at 31 December 2022, the amount of claims, where management assesses outflow as possible approximates USD 33 million (31 December 2021: USD 21 million).

(d) Other contingent liabilities

Where the Group enters into financial guarantee contracts to guarantee the indebtedness of related parties, the Group considers these to be insurance arrangements and accounts for them as such. In this respect, the Group treats the guarantee contract as a contingent liability until such time as it becomes probable that the Group will be required to make a payment under the guarantee.

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In September 2013, UC RUSAL and PJSC RusHydro entered into an agreement with BoAZ to provide loans, if the latter is unable to fulfil its obligations under its credit facilities. The aggregate exposure under the agreement is limited to RUB 16.8 billion (31 December 2022 and 31 December 2021 USD 239 million and USD 226 million, respectively) and is split between the Group and PJSC RusHydro in equal proportion.

23. Related party transactions**(a) Accounting policy**

- (a) A person, or a close member of that person's family, is related to the Group if that person:
- (i) Has control or joint control over the Group;
 - (ii) Has significant influence over the Group; or
 - (iii) Is a member of the key management personnel of the Group or the Group's parent.
- (b) An entity is related to the Group if any of the following conditions applies:
- (i) The entity and the Group are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others);
 - (ii) One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member);
 - (iii) Both entities are joint ventures of the same third party;
 - (iv) One entity is a joint venture of a third entity and the other entity is an associate of the third entity;
 - (v) The entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group;
 - (vi) The entity is controlled or jointly controlled by a person identified in (a);
 - (vii) A person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity);
 - (viii) The entity, or any member of a group of which it is a part, provides key management personnel services to the group or to the group's parent.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by, that person in their dealings with the entity.

(b) Transactions with related parties

The Group transacts with related parties, the majority of which are under control of SUAL Partners Limited or its shareholders, associates and joint ventures and other related parties.

Sales to related parties for the year are disclosed in note 5, receivables from and payables to related parties are disclosed in note 15.

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Purchases of raw materials and services from related parties for the period were as follows:

	Year ended 31 December	
	2022	2021
	USD million	USD million
Purchase of raw materials	(988)	(738)
Companies capable of exerting significant influence	(30)	(24)
Associates and joint ventures	(958)	(714)
Energy costs	(104)	(76)
Companies capable of exerting significant influence	(48)	(33)
Other related parties	–	(1)
Associates and joint ventures	(56)	(42)
Other services	(30)	(111)
Other related parties	–	–
Associates and joint ventures	(30)	(111)
	(1,122)	(925)

(c) Related parties balances

At 31 December 2022, there are no balances of related parties included in non-current assets (31 December 2021: USD 2 million). At 31 December 2022, included in non-current liabilities are balances of related parties – associates and joint ventures of USD 16 million (31 December 2021: USD 14 million).

(d) Remuneration to key management

For the year ended 31 December 2022 remuneration to key management personnel comprised short-term benefits and amounted to USD 18 million from which Board members received USD 6 million (year ended 31 December 2021: USD 26 million from which Board members received USD 10 million).

24. Events subsequent to the reporting date

In February 2023, UC RUSAL entered into a new credit facility with a Russian bank in the total amount up to USD 4.4 billion and maturity on 24 December 2027. On 3 February 2023 the funds in the amount of 15.8 billion Chinese yuan were partially drawdown with an interest rate 4.75% and were used to refinance the principal outstanding under the existing debt with a Russian bank

On 8 February 2023 pursuant to the Extraordinary resolution of the noteholders UC RUSAL redeemed the Eurobond with a coupon 4.85% to noteholders who hold Eurobond through NSD and other Russian custodians being the NSD direct participants in the amount of USD 418 million. The redemption to noteholders who hold Eurobond through foreign clearing and settlement systems will be made in accordance with terms of the Extraordinary resolution of the noteholders.

In February 2023 the High Anticorruption Court of Ukraine decided to transfer the ownership over Mykolaiv Alumina Refinery Company Ltd from the Group in favour of Ukrainian Government. As of the date of authorization of these consolidated financial statements for issue, management of the Group is planning to submit an appeal against the Court's decision. Due to the developments of geopolitical situation so far, the carrying values of assets of Mykolaiv Alumina Refinery Company Ltd were written off as at 31 December 2022.

25. Accounting estimates and judgements

The Group has identified the following critical accounting policies under which significant judgements, estimates and assumptions are made and where actual results may differ from these estimates under different assumptions and conditions and may materially affect financial results of the financial position reported in future periods.

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Property, plant and equipment – recoverable amount

In accordance with the Group's accounting policy, each asset or cash generating unit is evaluated every reporting period to determine whether there are any indications of impairment. If any such indication exists, a formal estimate of recoverable amount is performed and an impairment loss is recognised to the extent that carrying amount exceeds recoverable amount. The recoverable amount of an asset or cash generating group of assets is measured at the higher of fair value less costs to sell and value in use.

Fair value is determined as the amount that would be obtained from the sale of the asset in an arm's length transaction between knowledgeable and willing parties, and is generally determined as the present value of the estimated future cash flows expected to arise from the continued use of the asset, including any expansion prospects, and its eventual disposal.

Value in use is also generally determined as the present value of the estimated future cash flows, but only those expected to arise from the continued use of the asset in its present form and its eventual disposal. Present values are determined using a risk-adjusted pre-tax discount rate appropriate to the risks inherent in the asset. Future cash flow estimates are based on expected production and sales volumes, commodity prices (considering current and historical prices, price trends and related factors), reserves (refer "Reserve estimates" below), operating costs, restoration and rehabilitation costs and future capital expenditure. This policy requires management to make these estimates and assumptions which are subject to risk and uncertainty; hence there is a possibility that changes in circumstances will alter these projections, which may impact the recoverable amount of the assets. In such circumstances, some or all of the carrying value of the assets may be impaired and the impairment would be charged against the profit or loss.

Property, plant and equipment – hydro assets – fair value

In accordance with the Group's accounting policy, hydro assets are carried at a revalued amount, being their fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations are made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period.

The valuation analysis is primarily based on the cost approach to determine depreciated replacement cost. This method considers the cost to reproduce or replace the property, plant and equipment, adjusted for physical depreciation, functional and economic obsolescence.

This policy requires management to make estimates and assumptions regarding both costs, as there is no active market for used assets of that type, and macroeconomic indicators to assess economic obsolescence which are subject to risk and uncertainty; hence there is a possibility that changes in circumstances will alter these estimates, which may impact the fair value of hydro assets. In such circumstances, the fair value of hydro assets may be lower with any consequential decrease in revaluation reserve recognised through other comprehensive income.

Inventories – net realisable value

The Group recognises write-downs of inventories based on an assessment of the net realisable value of the inventories. A write-down is applied to the inventories where events or changes in circumstances indicate that the net realisable value is less than cost. The determination of net realisable value requires the use of judgement and estimates. Where the expectation is different from the original estimates, such a difference will impact the carrying value of the inventories and the write-down of inventories charged to the profit or loss in the periods in which such estimate has been changed.

Goodwill – recoverable amount

In accordance with the Group's accounting policy, goodwill is allocated to the Group's operating segments before aggregation segments as they represent the lowest level within the Group at which the goodwill is monitored for internal management purposes and is tested for impairment annually at 31 December by preparing a formal estimate of recoverable amount. Recoverable amount is estimated as the value in use of the business segment.

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Similar considerations to those described above in respect of assessing the recoverable amount of property, plant and equipment apply to goodwill.

Investments in associates and joint ventures – recoverable amount

In accordance with the Group's accounting policies, each investment in an associate or joint venture is evaluated every reporting period to determine whether there are any indications of impairment after application of the equity method of accounting. If any such indication exists, a formal estimate of recoverable amount is performed and an impairment loss recognised to the extent that the carrying amount exceeds the recoverable amount. The recoverable amount of an investment in an associate or joint venture is measured at the higher of fair value less costs to sell and value in use.

Similar considerations to those described above in respect of assessing the recoverable amount of property, plant and equipment apply to investments in associates or joint ventures. In addition to the considerations described above the Group may also assess the estimated future cash flows expected to arise from dividends to be received from the investment, if such information is available and considered reliable.

Legal proceedings

In the normal course of business, the Group may be involved in legal proceedings. Where management considers that it more likely than not that proceedings will result in the Group compensating third parties a provision is recognised for the best estimate of the amount expected to be paid. Where management considers that it is more likely than not that proceedings will not result in the Group compensating third parties or where, in rare circumstances, it is not considered possible to provide a sufficiently reliable estimate of the amount expected to be paid, no provision is made for any potential liability under the litigation but the circumstances and uncertainties involved are disclosed as contingent liabilities.

The assessment of the likely outcome of legal proceedings and the amount of any potential liability involves significant judgement. As law and regulations in many of the countries in which the Group operates are continuing to evolve, particularly in the areas of taxation, sub-soil rights and protection of the environment, uncertainties regarding litigation and regulation are greater than those typically found in countries with more developed legal and regulatory frameworks.

Provision for restoration and rehabilitation

The Group's accounting policy requires the recognition of provisions for the restoration and rehabilitation of each site when a legal or constructive obligation exists to dismantle the assets and restore the site. The provision recognised represents management's best estimate of the present value of the future costs required. Significant estimates and assumptions are made in determining the amount of restoration and rehabilitation provisions. Those estimates and assumptions deal with uncertainties such as: changes to the relevant legal and regulatory framework; the magnitude of possible contamination and the timing, extent and costs of required restoration and rehabilitation activity. These uncertainties may result in future actual expenditure differing from the amounts currently provided.

The provision recognised for each site is periodically reviewed and updated based on the facts and circumstances available at the time. Changes to the estimated future costs for operating sites are recognised in the statement of financial position by adjusting both the restoration and rehabilitation asset and provision. Such changes give rise to a change in future depreciation and interest charges. For closed sites, changes to estimated costs are recognised immediately in profit or loss.

Taxation

The Group's accounting policy for taxation requires management's judgement in assessing whether deferred tax assets and certain deferred tax liabilities are recognised on the statement of financial position. Deferred tax assets, including those arising from carried forward tax losses, capital losses and temporary differences, are recognised only where it is considered more likely than not that they will be recovered, which is dependent on the generation of sufficient future taxable profits. Deferred tax liabilities arising from temporary differences related to investments, caused principally by retained earnings held in foreign tax jurisdictions, are recognised unless repatriation of retained earnings can be controlled and is not expected to occur in the foreseeable future.

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Assumptions about the generation of future taxable profits and repatriation of retained earnings depend on management's estimates of future cash flows. These depend on estimates of future production and sales volumes, commodity prices, reserves, operating costs, restoration and rehabilitation costs, capital expenditure, dividends and other capital management transactions. Assumptions are also required about the application of income tax legislation. These estimates and assumptions are subject to risk and uncertainty, hence there is a possibility that changes in circumstances will alter expectations, which may impact the amount of deferred tax assets and deferred tax liabilities recognised on the statement of financial position and the amount of other tax losses and temporary differences not yet recognised. In such circumstances, some or all of the carrying amount of recognised deferred tax assets and liabilities may require adjustment, resulting in a corresponding credit or charge to profit or loss.

The Group generally provides for current tax based on positions taken (or expected to be taken) in its tax returns. Where it is more likely than not that upon examination by the tax authorities of the positions taken by the Group additional tax will be payable, the Group provides for its best estimate of the amount expected to be paid (including any interest and/or penalties) as part of the tax charge.

Reserve estimates

Reserves are estimates of the amount of product that can be economically and legally extracted from the Group's properties. In order to calculate reserves, estimates and assumptions are required about a range of geological, technical and economic factors, including quantities, grades, production techniques, recovery rates, production costs, transport costs, commodity demand, commodity prices and exchange rates.

The Group determines ore reserves under the Australasian Code for Reporting of Mineral Resources and Ore Reserves September 1999, known as the JORC Code. The JORC Code requires the use of reasonable investment assumptions to calculate reserves.

Estimating the quantity and/or grade of reserves requires the size, shape and depth of ore bodies or fields to be determined by analysing geological data such as drilling samples. This process may require complex and difficult geological judgements and calculations to interpret the data.

Since economic assumptions used to estimate reserves change from period to period, and since additional geological data is generated during the course of operations, estimates of reserves may change from period to period.

Changes in reported reserves may affect the Group's financial results and financial position in a number of ways, including the following:

- Asset carrying values may be affected due to changes in estimated future cash flows;
- Depletion charged in profit or loss may change where such charges are determined by the units of production basis, or where the useful economic lives of assets change;
- Decommissioning, site restoration and environmental provisions may change where changes in estimated reserves affect expectations about the timing or cost of these activities.

Exploration and evaluation expenditure

The Group's accounting policy for exploration and evaluation expenditure results in certain items of expenditure being capitalised for an area of interest where it is considered likely to be recoverable by future exploitation or sale or where the activities have not reached a stage which permits a reasonable assessment of the existence of reserves. This policy requires management to make certain estimates and assumptions as to future events and circumstances, in particular whether an economically viable extraction operation can be established. Any such estimates and assumptions may change as new information becomes available. If, after having capitalised the expenditure under the policy, a judgement is made that recovery of the expenditure is unlikely, the relevant capitalised amount will be written off to profit or loss.

FINANCIAL STATEMENTS

EN+ GROUP IPJSC

Notes to the Consolidated Financial Statements
for the year ended 31 December 2022

Development expenditure

Development activities commence after project sanctioning by the appropriate level of management. Judgement is applied by management in determining when a project has reached a stage at which economically recoverable reserves exist such that development may be sanctioned. In exercising this judgement, management is required to make certain estimates and assumptions similar to those described above for capitalised exploration and evaluation expenditure. Any such estimates and assumptions may change as new information becomes available. If, after having commenced the development activity, a judgement is made that a development asset is impaired, the appropriate amount will be written off to profit or loss.

Defined benefit retirement and other post retirement schemes

For defined benefit pension schemes, the cost of benefits charged to the profit or loss includes current and past service costs, interest costs on defined benefit obligations and the effect of any curtailments or settlements, net of expected returns on plan assets. An asset or liability is consequently recognised in the statement of financial position based on the present value of defined obligations, less any unrecognised past service costs and the fair value of plan assets.

The accounting policy requires management to make judgements as to the nature of benefits provided by each scheme and thereby determine the classification of each scheme. For defined benefit pension schemes, management is required to make annual estimates and assumptions about future returns on classes of scheme assets, future remuneration changes, employee attrition rates, administration costs, changes in benefits, inflation rates, exchange rates, life expectancy and expected remaining periods of service of employees. In making these estimates and assumptions, management considers advice provided by external advisers, such as actuaries. Where actual experience differs to these estimates, actuarial gains and losses are recognised directly in the statement of profit or loss and other comprehensive income.

Impairment of assets

The carrying amounts of the Group's non-financial assets, other than inventories and deferred tax assets, are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists then the asset's recoverable amount is estimated. For goodwill and intangible assets that are not yet available for use, the recoverable amount is estimated at each reporting date.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. A cash-generating unit is the smallest identifiable asset group that generates cash flows that are largely independent from other asset groups. Impairment losses are recognised in profit or loss. Impairment losses recognised in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the units and then to reduce the carrying amount of the other assets in the unit (group of units) on a pro rata basis.

The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

An impairment loss in respect of goodwill is not reversed. In respect of other assets, impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

Goodwill that forms part of the carrying amount of an investment in an associate or a joint venture is not recognised separately and, therefore, is not tested for impairment separately. Instead, the entire amount of the investment is tested for impairment as a single asset when there is objective evidence that the investment in an associate or a joint venture may be impaired.

EN+ GROUP IPJSC

Notes to the Consolidated Financial Statements
for the year ended 31 December 2022

26. Significant subsidiaries

The significant entities of the Group, included in these consolidated financial statements, are as follows:

Name	Place of incorporation and operation	Principal activities	Ownership and equity interest 31 December	
			2022	2021
UC RUSAL				
United Company RUSAL IPJSC	Russian Federation	Holding company	56.9%	56.9%
Compagnie Des Bauxites De Kindia S.A.	Guinea	Bauxite mining	100.0%	100.0%
Friguia SA	Guinea	Alumina	100.0%	100.0%
JSC RUSAL Achinsk	Russian Federation	Alumina	100.0%	100.0%
Mykolaiv Alumina Refinery Company Ltd	Ukraine	Alumina	100.0%	100.0%
JSC RUSAL Boxitogorsk Alumina	Russian Federation	Alumina	100.0%	100.0%
Eurallumina SpA	Italy	Alumina	100.0%	100.0%
PJSC RUSAL Bratsk	Russian Federation	Smelting	100.0%	100.0%
JSC RUSAL Krasnoyarsk	Russian Federation	Smelting	100.0%	100.0%
JSC RUSAL Novokuznetsk	Russian Federation	Smelting	100.0%	100.0%
JSC RUSAL Sayanogorsk	Russian Federation	Smelting	100.0%	100.0%
LLC RUSAL RESAL	Russian Federation	Processing	100.0%	100.0%
JSC RUSAL SAYANAL	Russian Federation	Foil	100.0%	100.0%
CJSC RUSAL ARMENAL	Armenia	Foil	100.0%	100.0%
LLC RUS-Engineering	Russian Federation	Repairs and maintenance	100.0%	100.0%
JSC Russian Aluminium	Russian Federation	Holding company	100.0%	100.0%
Rusal Global Management B.V.	Netherlands	Management company	100.0%	100.0%
JSC United Company RUSAL Trading House	Russian Federation	Trading	100.0%	100.0%
RS International GmbH	Switzerland	Trading	100.0%	100.0%
Rusal Marketing GmbH	Switzerland	Trading	100.0%	100.0%
RTI Limited	Jersey	Trading	100.0%	100.0%
Alumina & Bauxite Company Limited	British Virgin Islands	Trading	100.0%	100.0%
JSC Bauxite-Timana	Russian Federation	Bauxite mining	100.0%	100.0%
JSC Severo-Uralsky Bauxite Mine	Russian Federation	Bauxite mining	100.0%	100.0%
JSC RUSAL URAL	Russian Federation	Primary aluminium and alumina production	100.0%	100.0%
LLC SUAL-PM	Russian Federation	Aluminium powders production	100.0%	100.0%
JSC Kremniy	Russian Federation	Silicon production	100.0%	100.0%
LLC RUSAL-Kremniy-Ural	Russian Federation	Silicon production	100.0%	100.0%
UC RUSAL Alumina Jamaica Limited	Jamaica	Alumina	100.0%	100.0%
Kubikenborg Aluminium AB	Sweden	Smelting	100.0%	100.0%
RFCL Limited (formerly RFCL S.ar.l)	Cyprus (formerly Luxembourg)	Finance services	100.0%	100.0%
ILLC AKTIVIUM	Russian Federation	Holding and investment company	100.0%	100.0%
Aughinish Alumina Ltd	Ireland	Alumina	100.0%	100.0%
LLC RUSAL Energo	Russian Federation	Electric power	100.0%	100.0%
Limerick Alumina Refining Ltd.	Ireland	Alumina	100.0%	100.0%
JSC RUSAL Management	Russian Federation	Management company	100.0%	100.0%
LLC RUSAL Taishet	Russian Federation	Smelting	100.0%	100.0%
LLC UC RUSAL Anode Plant	Russian Federation	Anodes	100.0%	100.0%
RUSAL Products GmbH	Switzerland	Trading	100.0%	100.0%
Casting and mechanical plant "SKAD" Ltd.	Russian Federation	Other aluminum production	75.0%	75.0%
LLC PGLZ	Russian Federation	Alumina	99.9%	99.9%
Power				
ILLC EN+ HOLDING	Russian Federation	Holding company	100.0%	100.0%
JSC EuroSibEnergo	Russian Federation	Management company	100.0%	100.0%
JSC Krasnoyarsk Hydro-Power Plant	Russian Federation	Power generation	100.0%	100.0%
LLC MAREM +	Russian Federation	Power trading	100.0%	100.0%
PJSC Irkutskenergo	Russian Federation	Power generation	100.0%	98.0%
OJSC Irkutsk Electric Grid Company	Russian Federation	Power transmission and distribution	53.8%	53.4%
LLC EuroSibEnergo – Hydrogeneration	Russian Federation	Power generation	100.0%	100.0%
LLC Avtozavodskaya TEC	Russian Federation	Power generation	100.0%	99.0%
LLC EuroSibEnergo-engineering	Russian Federation	Engineering services	100.0%	100.0%
LLC Kompaniya VostSibUgol	Russian Federation	Coal production	100.0%	98.0%
LLC Razrez Cheremkhovogol	Russian Federation	Coal production	100.0%	98.0%

The nominal ownerships indicated in the table above are the effective holdings, except for UC RUSAL shareholdings where 56.88% is held by the Parent Company.

ADDITIONAL ESG DATA

FINANCIAL REVIEW

GRI 201-1

Direct economic value generated and distributed¹, USD mn

	Metals segment			Power segment			En+		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Direct economic value generated	9,575	13,844	15,608	2,720	3,155	3,919	11,388	15,993	18,217
Revenue	8,566	11,994	13,974	2,697	3,138	3,885	10,356	14,126	16,549
Share of profits of associates and joint ventures	976	1,807	1,555	(5)	(5)	(2)	971	1,802	1,553
Interest income on loans	33	43	79	28	22	36	61	65	115
Economic value distributed	(8,198)	(10,496)	(13,626)	(2,185)	(2,444)	(3,480)	(9,508)	(12,080)	(15,645)
Operating costs	(7,431)	(9,502)	(12,251)	(1,534)	(1,705)	(2,467)	(8,087)	(10,340)	(13,427)
including employee wages	(624)	(723)	(937)	(399)	(447)	(610)	(1,023)	(1,170)	(1,547)
Retirement costs	(160)	(196)	(248)	(70)	(80)	(103)	(230)	(276)	(351)
Charity donations	(63)	(45)	(34)	(8)	(10)	(19)	(71)	(55)	(53)
Payments to providers of capital	(459)	(364)	(727)	(326)	(338)	(560)	(788)	(709)	(1,117)
including dividends paid	-	-	(302)	-	-	-	-	-	(129)
including financial expenses	(459)	(364)	(425)	(326)	(338)	(560)	(788)	(709)	(988)
Payments to the government	(85)	(389)	(366)	(247)	(311)	(331)	(332)	(700)	(697)
including income tax	(43)	(339)	(310)	(180)	(230)	(243)	(223)	(569)	(553)
Economic value retained: 'direct economic value generated' less 'economic value distributed'	1,377	3,348	1,982	535	711	439	1,880	3,913	2,572

GRI 201-4

Financial assistance received from government, mn

	2020		2021		2022	
	RUB	USD	RUB	USD	RUB	USD
Metals segment	0	0	0	0	0	0
Power segment	603	8	378	5	1,023	15
En+	603	8	378	5	1,023	15

¹ All differences in the data of Metals and Power segments for 2020 and 2021 from the data presented in the reports of previous years are related to the recalculation of data using the updated and improved methodology.

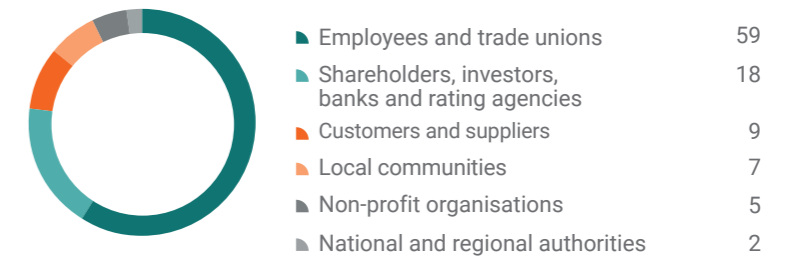
STAKEHOLDER ENGAGEMENT

GRI 2-25 3-1

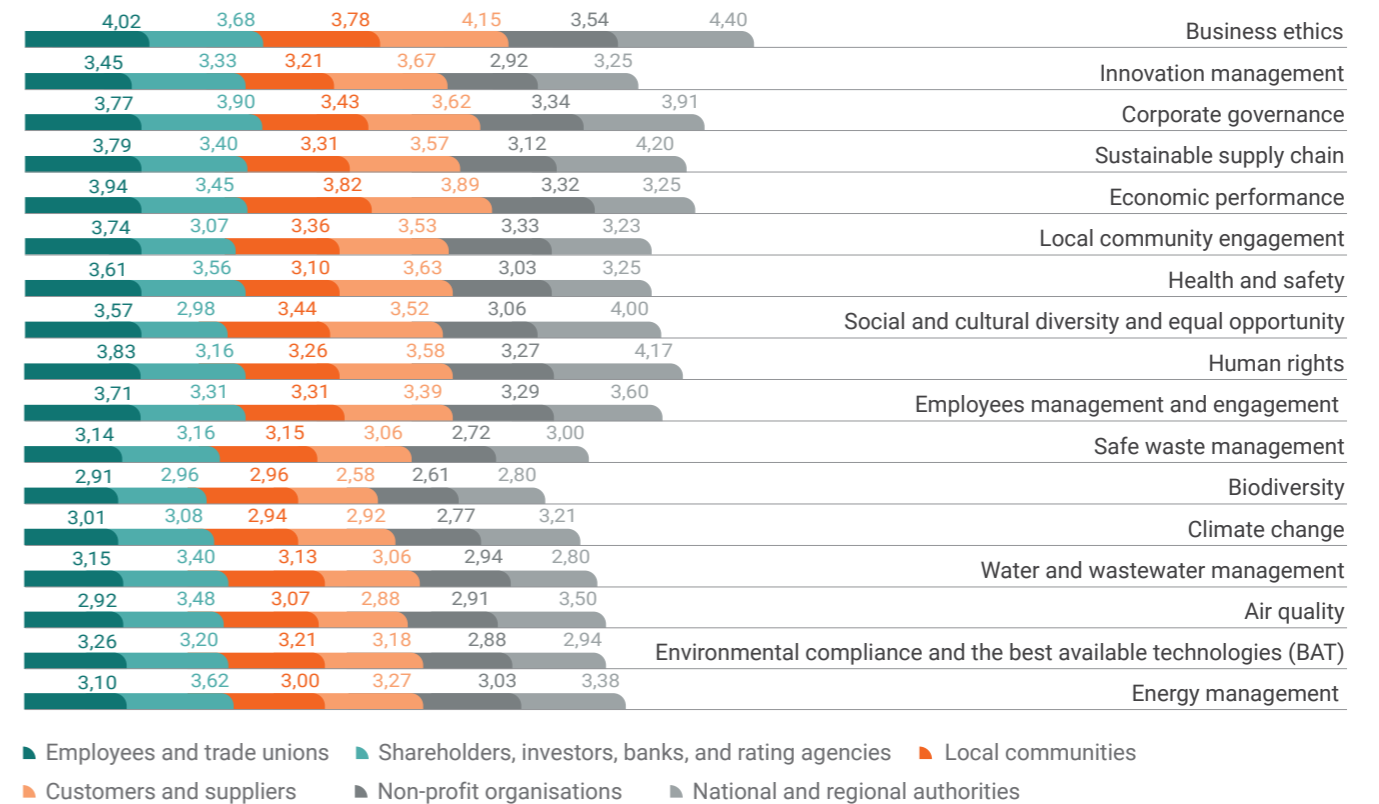
En+ conducted the business activities analysis to define its actual and potential impacts. This information was used to make a list of key impacts for stakeholder assessment.

Details on stakeholder groups which participated in the materiality assessment survey and concerns they raised are presented below. Respondents evaluated En+ impact on sustainable development aspects.

Overview of stakeholder groups involved in the survey, % (multiple choice)



Assessment of the most significant impacts of En+



GRI 2-25

List of concerns raised by stakeholders

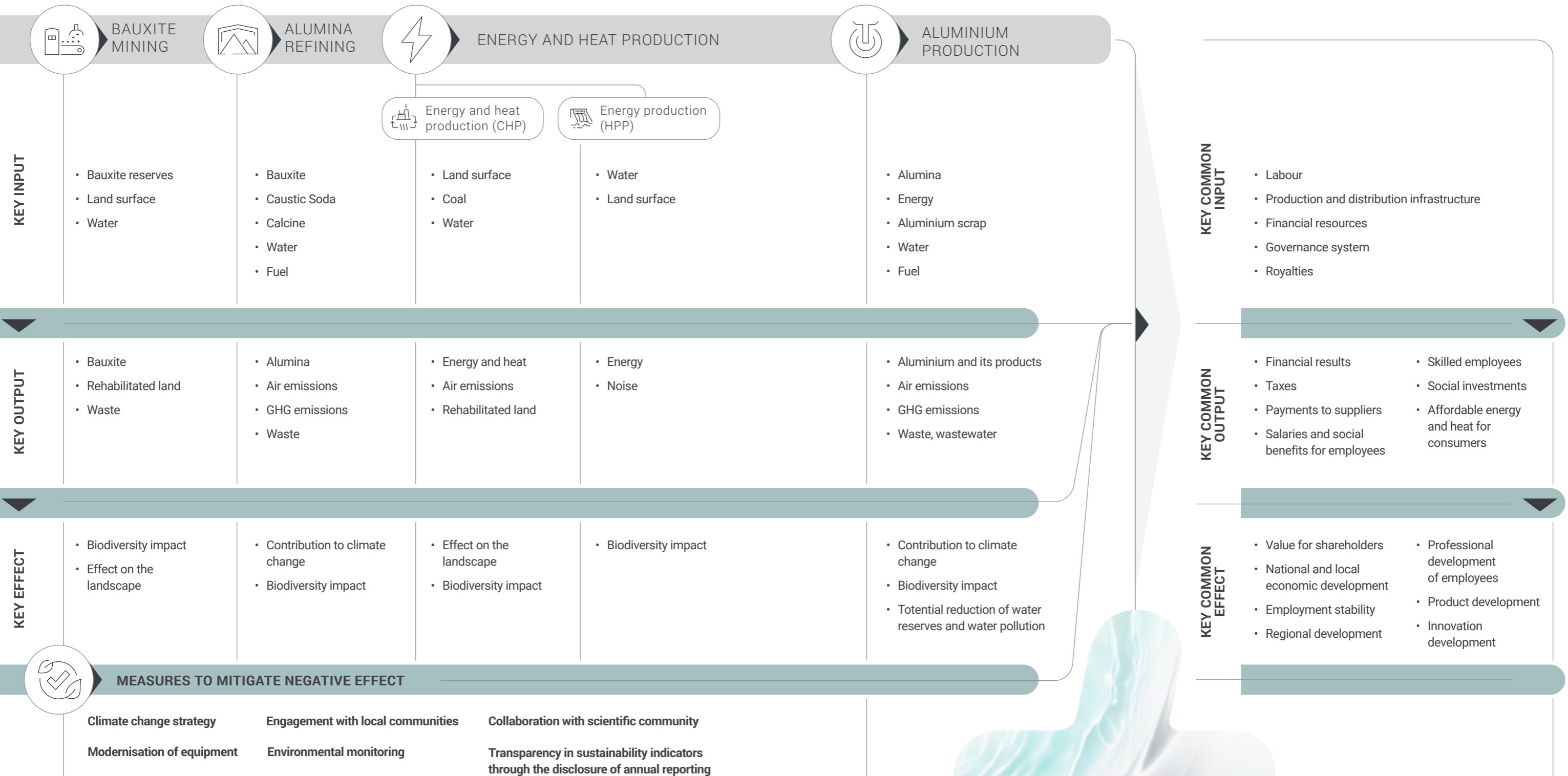
Stakeholders concerns	En+ response
Information on the impact on valuable natural objects (PAs, World Natural Heritage Sites)	Read more about Baikal at p.106
More detailed disclosure on work-related injuries	Read more about health and safety performance at p.111 and at Additional ESG data pp.293-294
More detailed disclosure on participation in working groups, expert councils or other similar initiatives in the field of sustainable development	Read more about Collaborations and partnerships at p.173
More detailed disclosure on financial performance indicators (cost and its change by year, cash flow by year, return on investment program, company plans to pay off debt, etc.)	Read more about Financial review at p.36
More detailed disclosure on operational performance	Read more about Business review at p.24
More detailed disclosure on the Company's long-term development plans and projects	Read more about Investment programme and modernisation at p.58 and Strategy at p.22
A forecast of electricity consumption and tariffs in the Russian Federation, as well as the aluminium market's demand and supply	Read more about Industry positioning at p.16

VALUE CREATION MODEL

GRI 3-3 203-2

KEY PRODUCTION PROCESS

FOR THE GROUP



CLIMATE LEADERSHIP

GRI 302-4

Reduction of energy consumption in Power segment, GJ

	2021	2022
Reduction of energy consumption	8,365,779.225	3,126,243.31

GRI EU2

Power segment's net energy supply¹, GJ

	2020	2021	2022
Electricity supply	287,627,662	316,499,624	292,766,726
Heat energy supply	113,015,778	119,772,801	116,429,914

GRI EU2

Power segment's net energy supply by energy source

2020		Electricity, GWh			Heat energy, ths Gcal		
		2020	2021	2022	2020	2021	2022
Non-renewable	Coal	9,066	8,814	11,000	22,433	23,468	23,137
	Natural gas	1,586	1,688	1,503	4,570	5,146	4,679
	Petroleum products	0	0	0	0	0	0
	Nuclear power	0	0	0	0	0	0
Renewable	Biomass	1	0	0	9	12	11
	Solar	5	6	6	0	0	0
	Wind	0	0	0	0	0	0
	Geothermal	0	0	0	0	0	0
	Hydropower	69,239	77,408	68,816	0	0	0

¹ / Hereinafter all differences in the data for 2020 in the Climate Leadership section from the data presented in the reports of previous years are related to the recalculation of data using the updated methodology.

GRI 302-1 b, EU Taxonomy, SASB EM-MM 130 a.1, SASB IF-EU-000.E

Energy consumption, GJ

	2020	2021	2022
Energy consumption from non-renewable sources by fuel types	458,907,287.9	485,084,312.2	494,575,180.7
- Natural gas	153,673,640	175,355,705.1	157,776,860.5
- Heavy oil	25,123,142.63	27,535,025.2	24,459,491.22
- Coal	274,083,117	275,023,875.2	305,076,445
- Petrol	188,578.96	260,035.33	191,770.73
- Kerosene	6,054.44	6,313	5,935.86
- Propane and butane	184,628.13	456,379.31	482,090.43
- Diesel fuel	5,404,428.04	5,947,975.48	5,877,301.36
- Coke	243,698.76	499,003.51	705,285.67
Energy consumption from renewable sources by fuel types	647,935.97	797,721.73	1,414,746.05
- Charcoal	246,442.30	456,001.76	954,283.71
- Waste wood	258,612.80	175,909.59	339,822.41
- Bark waste	142,880.87	165,810.38	120,639.93
Consumption of energy purchased or obtained by any means other than self-generation from non-renewable and renewable fuel	249,993,066.77	251,426,433.73	253,153,097.96
- Electricity consumption	245,723,404.73	246,716,542.82	248,164,412.96
- Heating consumption	4,269,662.04	4,709,890.91	4,988,684.99
Energy losses during transportation	23,518,397.49	25,412,554.99	27,436,758.37
- Electricity losses	10,674,529.20	12,383,899.20	14,501,417.11
- Heating losses	12,843,868.29	13,028,655.79	12,935,341.26
Energy sales	400,823,352.47	436,485,808.20	409,384,919.73
- Electricity sales	287,627,662.33	316,499,623.70	292,766,725.81
- Heating sales	113,195,690.14	119,986,184.50	116,618,193.91
Total energy consumption within organisation	332,243,335.69	326,235,214.40	367,194,863.39

SASB IF-EU-240a.1

Average retail electricity tariff for (1) the residential, (2) commercial and (3) industrial enterprises², RUB/kWh

	2020	2021	2022
Residential	0.91	0.93	0.98
Commercial	2.83	2.99	3.14
Industrial	2.74	2.85	2.98

SASB IF-EU-240a.2

The average cost of (1) 500 kWh and (2) 1000 kWh of electricity for household consumers per month², RUB

	2020	2021	2022
500 kWh	539.40	564.08	596.15
1000 kWh	1,074.94	1,125.43	1,189.69

² / USD/RUB average exchange rate of RUB 72.14 per USD for 2020, RUB 73.65 per USD for 2021, RUB 68.55 per USD for 2022.

SASB IF-EU-240a.3

The number of power outages by household consumers for non-payment, the proportion of repeated connections within 30 days¹

	2020	2021	2022
The number of power outages by household consumers for non-payment	20,635	81,823	90,774
The proportion of repeated connections within 30 days, %	0.4	0.5	0.7

SASB IF-EU-420a.2

The share of delivered electricity serviced by smart grid technology², %

	2020	2021	2022
	47	49	52

SASB IF-EU-550a.2

The Average System Interruption Duration Index (SAIDI), the Average System Interruption Frequency Index (SAIFI) and the Interruption Duration Index (CAIDI)³

	2020	2021	2022
SAIDI	61.58	87.27	66.57
SAIFI	0.48	0.66	0.48
CAIDI	129.77	133.26	137.30

1 / The data is only for Volgaenergo Group of Companies.

2 / According to the U.S. Energy Independence Act of 2007, smart grid technologies of Power segment include smart technologies for metering technologies which provide timely information and control options to customers.

3 / All differences in SAIDI and CAIDI of the Metals and Power segments for 2020 and 2021 from the data presented in the reports of previous years are related to the recalculation of data using the updated methodology.

GRI 201-2

Table 1 Physical risks

Physical risk	Risk factor	Scenario	Region of exposure	Impact in time horizon			Probability ⁴
				Short term 2022	Medium-term 2022-2025	Long-term 2025-2050	
Infrastructure disruption (underflooding of quarries)	abnormal precipitation	•	Komi Republic	○	○	●	Low
			Republic of Guinea	○	○	●	Medium
			Komi Republic	○	○	●	Low
			Republic of Guinea	○	○	●	High
Infrastructure disruption	abnormal precipitation	•	Republic of Guinea	○	○	●	High
			Komi Republic	○	○	●	Low
			Krasnoyarsk region	○	○	●	Low
			Republic of Guinea	○	○	●	Low
Infrastructure disruption	abnormal precipitation	•	Nizhny Novgorod region	○	○	●	Low
			Irkutsk region	○	○	●	Low
			Republic of Guinea	○	○	●	Low
			Nizhny Novgorod region	○	○	●	Low
Supply disruptions	abnormal precipitation	•	Krasnoyarsk region	○	○	●	Medium
			Armenia	○	○	●	Low
				○	○	●	Low
				○	○	●	Low
Supply disruptions	strong wind	•	Jamaica	○	○	●	Low
				○	○	●	Low
				○	○	●	Low
				○	○	●	Low
Reduced productivity	abnormal heat	•	Krasnoyarsk region	○	○	●	Medium
			Republic of Guinea	○	○	●	Medium
			Krasnoyarsk region	○	○	●	High
			Republic of Guinea	○	○	●	High
Equipment damage/loss	abnormal frosts	•	Krasnoyarsk region	○	○	●	Medium
			Irkutsk region	○	○	●	Low
				○	○	●	Low
				○	○	●	Low
Halt in production	abnormal precipitation deficits	•	Irkutsk region	○	○	●	Low
				○	○	●	Low
				○	○	●	Low
Breaching of the integrity of production facilities	abnormal precipitation	•	Irkutsk region	○	○	●	Low
				○	○	●	Medium
				○	○	●	Low
Main building's roof collapse	abnormal snowfall	•	Irkutsk region	○	○	●	Low
				○	○	●	Low
				○	○	●	Low

SSP126 - •

SSP245 - •

SSP585 - •

4 / Based on a qualitative risk assessment scale: low (less than 20%), medium (20-60%), high (60-100%) probability

Transition risks

Risk category	Risk	Risk factor	Scenario	Assets under exposure		Short-term 2022	Impact in time horizon		Probability within the scenario analysis ¹
				Metals segment	Power segment		Medium-term 2022-2025	Long-term 2025-2050	
Policy and Legal	Expenses related to the purchase of offsets	Setting the national carbon price and creating a regional inventory of GHG emissions	•	Applicable to En+		○	•	•	High
			•			•	•	Medium	
			•			•	•	Low	
	Additional tax burden due to the CBAM introduction	Introduction of CBAM	•	Applicable to En+		○	•	•	High
			•			•	•	High	
			•			•	•	High	
	Costs of arranging measures to adapt to and to minimise the impact of the global climate change	Approval of the national action plan for adaptation to climate change	•	Applicable to En+		○	•	•	Medium
			•			•	•	High	
			•			•	•	High	
Reduction in demand for non-green electricity due to the introduction of CBAM	Introduction of CBAM	•	Applicable to En+		○	○	•	High	
		•			+	•	•	Medium	
		•			+	•	•	Low	
Technology	Capital expenditure on the transition to energy-efficient and energy-saving solutions in production processes	High carbon intensity of manufacturing processes	•	Applicable to En+		○	•	•	High
			•			•	•	Medium	
			•			•	•	Low	
	Decrease in demand for the Company's products in the European markets	Reorientation of aluminium exports to Asian markets	•	Applicable to En+		○	•	•	High
			•			+	•	•	Medium
			•			+	•	•	Low
	Reduction or absence of additional government investments to reduce GHG emissions	Investment restriction for hydro generation facilities	•	Applicable to En+		○	•	•	Medium
			•			+	•	•	Medium
			•			+	•	•	Low
Failure to achieve the declared impeller performance of hydraulic units within the New Energy programme	Implementation of the New Energy programme	•	Applicable to En+		○	•	•	Low	
		•			+	•	•	Low	
		•			+	•	•	Low	
Increasing the carbon intensity of production by using Elegaz-insulated circuit breakers	Replacement of switching equipment	•	Applicable to En+		○	○	•	Low	
		•			+	○	•	Low	
		•			+	○	•	Low	
Reputation	Reduced investment appeal of the Company	Negative perception of the Company by investors, independent shareholders, local communities	•	Applicable to En+		○	○	•	High
			•			•	•	Medium	
			•			•	•	Low	
Sludge overflow that entails costs on eliminating the consequences of the accident and paying a fine	Level overflow on sludge fields	•	Applicable to En+		○	•	•	High	
		•			+	•	•	Medium	
		•			+	•	•	Medium	
Market	Reduced product margins and competitiveness due to high carbon footprint	Lower demand for high-carbon generation	•	Applicable to En+		○	•	•	High
			•			•	•	Medium	
			•			•	•	Low	
	Lower demand for coal products	Transition to low-carbon economic development	•	Applicable to En+		○	•	•	High
			•			+	•	•	Medium
•	+	•	•	Low					

SSP126 - • SSP245 - • SSP585 - •

○ – insignificant impact, • – significant impact (based on a qualitative risk assessment)

¹ / Based on a qualitative risk assessment scale: low (less than 20%), medium (20–60%), high (60–100%) probability

ENVIRONMENTAL STEWARDSHIP

Total environmental protection costs¹, mn

	2021						2022					
	Metals segment		Power segment		En+		Metals segment		Power segment		En+	
	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB
PCB management	0,2	14,7	0,0	0,0	0,2	14,7	0,2	10,4	0,0	0,0	0,2	10,4
Other expenditures for environmental protection	1,8	132,6	1,7	123,1	3,5	255,7	3,2	216,4	1,5	104,6	4,7	321,0
Waste management	50,6	3 726,6	0,7	51,0	51,3	3 777,6	89,4	6 131,2	1,4	94,8	90,8	6 226,0
Environmental equipment maintenance	3,9	287,2	3,6	263,1	7,5	550,3	3,9	265,3	6,3	431,6	10,2	696,9
Land rehabilitation	1,3	95,7	0,6	43,0	1,9	138,7	1,0	68,4	0,9	63,4	1,9	131,8
Water protection	10,5	773,3	7,7	567,3	18,2	1 340,6	5,0	339,6	10,7	732,9	15,7	1 072,5
Atmospheric air protection	69,9	5 126,0	3,1	226,5	73,0	5 352,5	114,0	7 813,9	5,5	337,6	119,5	8 151,5
Total	138,2	10 156,1	17,3	1 274,0	155,5	11 430,1	216,7	14 845,2	26,3	1 764,8	243,0	16 610,0

Total payments for negative impact², mn

	2021						2022					
	Metals segment		Power segment		En+		Metals segment		Power segment		En+	
	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB
Payments for negative impact	11.87	874.2	0.9	66.3	12.77	913.4	12.5	854.5	1.5	98.3	14.0	952.8

GRI 2-27

Non-compliance with environmental laws and regulations

	2020				2021				2022		
	Metals segment		Power segment		Metals segment		Power segment		En+		
	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment	En+		
Total number of significant violations of the environmental legislation	0	0	0	0	0	0	0	0	0	0	0
Total number of instances of the imposition of non-financial sanctions	0	0	0	0	0	0	0	0	0	0	0
Total number of cases brought through dispute resolution in connection with violation of the environmental legislation	0	0	0	0	0	0	0	0	0	0	0

1 / Total payments and expenditures may differ from the sums of the components due to rounding. Calculated based on USD/RUB average exchange rate of RUB 73.65 per USD for 2021, 68.55- for 2022.

2 / Calculated based on USD/RUB average exchange rate of RUB 73.65 per USD for 2021, 68.55- for 2022.

AIR QUALITY

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

Metals segment's emissions^{3,4}, kt

Pollutant	2020	2021	2022
Carbon Monoxide (CO)	238.7	245.3	245.4
PM (excl. Fsolid, tarry substances, B(a)P)	36.3	35.9	36.1
Sulphur dioxide (SO ₂)	40.1	45.2	44.3
Sum of nitric oxides as nitrogen dioxide (NO ₂)	20.1	22.7	19.9
Total fluoride (gaseous and solid fluoride)	6.4	6.0	5.5
Other emissions ⁵	9.3	10.0	10.5
Volatile organic compounds (VOCs)	1.5	1.2	0.9
Benzopyrene	0.0041	0.0038	0.0036
Mercury (Hg)	0.00	0.00	0.00
Lead (Pb)	0.00	0.00	0.00
Total air emissions of Metals segment	352.4	366.3	362.6

GRI 305-7

Power segment's emissions, kt

Pollutant	2020	2021	2022
Nitric oxides (NO _x)	47.1	45.7	52.1
Sulphur oxides (SO _x)	189.8	160.5	172.3
Persistent organic pollutants (POP)	0.0	0.0	0.0
Volatile organic compounds (VOC)	0.4	0.4	0.3
Particulate matter (PM) (excl. Fsolid, B(a)P, Pb, Hg)	56.3	58.3	67.3
Other standard categories of air emissions identified in relevant regulations ⁶	8.9	9.3	7.5
Total air emissions of Power segment	302.6	274.4	299.6

SASB IF-EU-120a.1

Power segment's share of air emissions in or near areas of dense population, %

Pollutant	2020	2021	2022
Nitric oxides (NO _x)	93.4	93.2	95.3
Sulphur oxides (SO _x)	97.8	97.8	98.4
Particulate matter (PM)	86.8	87.8	91.8
Lead (Pb)	0.0	0.0	0.0
Mercury (Hg) ⁷	0.0	0.0	0.0
Total	93.6	93.6	95.4

3 / All differences in the data on emissions of the Metals and Power segments for 2020 from the data presented in the reports of previous years are related to the recalculation of data using the updated methodology.

4 / The data for the Friguia Bauxite and Alumina Complex, that maybe material for consolidated indicators, is excluded, due to the lack of metering systems and relevant requirements in national legislation.

5 / This category includes all pollutants specified by Russian legislation, with the exception of CO and of those pollutants already presented in this table.

6 / This category includes all pollutants specified by Russian legislation (including CO), with the exception of those pollutants already presented in this table.

7 / Mercury emissions are not typical for the main production units of the Company.

WATER RESOURCES

GRI 303-3, SASB IF-EU-140a.1, SASB EM-MM-140a.1

Water withdrawal^{1,2}, mn m³

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Total water withdrawal, including:	176.8	704.9	881.7	178.4	727.0	905.4	172.7	820.2	992.9
Surface water	110.1	505.2	615.3	121.2	546.1	667.3	109.1	615.2	724.3
Ground water	20.7	35.2	55.9	4.0	39.9	43.9	12.6	40.5	53.1
Public networks	17.7	164.5	182.3	14.3	141.0	155.3	12.5	164.5	177.0
Seawater	22.8	0.0	22.8	23.0	0.0	23.0	22.8	0.0	22.8
Other	5.4	0.0	5.4	15.9	0.0	15.9	15.7	0.0	15.7
Fresh water withdrawal, including	154.0	697.9	852.0	155.4	720.2	875.6	149.9	813.2	963.1
Surface water	110.1	505.2	615.3	121.2	546.1	667.3	109.1	615.2	724.3
Ground water	20.7	28.2	48.9	4.0	33.1	37.1	12.6	33.6	46.2
Public networks	17.7	164.5	182.3	14.3	141.0	155.3	12.5	164.5	177.0
Other	5.4	0.0	5.4	15.9	0.0	15.9	15.7	0.0	15.7
Total water withdrawal from all areas with water stress, including	0.6	4.5	5.1	1.1	4.4	5.5	1.6	4.6	6.2
Surface water	0.4	0.8	1.2	1.0	0.7	1.7	1.5	0.8	2.3
Ground water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public networks	0.1	3.6	3.7	0.1	3.6	3.7	0.1	3.8	3.9
Seawater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fresh water withdrawal from all areas with water stress, including	0.6	4.5	5.1	1.1	4.4	5.5	1.6	4.6	6.2
Surface water	0.4	0.8	1.2	1.0	0.7	1.7	1.5	0.8	2.3
Ground water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public networks	0.1	3.6	3.7	0.1	3.6	3.7	0.1	3.8	3.9
Seawater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentage of water withdrawal from all areas with water stress, %	0.3	0.6	0.6	0.6	0.6	0.6	0.9	0.6	0.6

1 / Water withdrawal includes quarry, mine, drainage, storm, and other waters, which are not used in the production process.
2 / Total indicators may differ from the sums of the components due to rounding.

GRI 303-5, SASB IF-EU-140a.1, SASB EM-MM-140a.1

Water consumption³, mn m³

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Total water consumption	103.8	473.2	577.0	107.5	478.4	585.9	99.0	565.4	664.4
Total water consumption from all areas with water stress	0.3	1.9	2.2	1.0	1.9	2.9	1.5	2.0	3.5
Change in water storage	N/A	0.0	0.0	N/A	0.0	0.0	N/A	0.0	0.0
Percentage of water consumption from all areas with water stress, %	0.3	0.4	0.4	1.0	0.4	0.5	1.5	0.3	0.5

GRI 303-4

Water discharge^{4,5}, mn m³

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Total water discharge	61.6	425.8	487.4	48.6	446.3	494.9	47.3	509.7	557
Surface water	34.3	466.3	500.6	25.9	498.9	524.8	23.0	560.0	583
Ground water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public networks	4.5	10.7	15.3	11.3	10.5	21.8	13.4	11.0	24.4
Seawater	22.8	0.0	22.8	22.7	0.0	22.7	22.8	0.0	22.8
Fresh water discharge	38.8	425.8	464.6	25.9	446.3	488.1	23.0	509.7	532.7
Total water discharge to all areas with water stress ⁶	0.02	0.7	0.72	1.15	0.8	1.95	0.03	0.8	0.83
Fresh water discharge to all areas with water stress	0.02	0.7	0.72	1.15	0.8	1.95	0.03	0.8	0.83

3 / Represents water for production needs.

4 / Water discharge excludes quarry, mine, drainage, storm, and other waters, which are not used in the production process. Data of Metals segment for 2021 were recalculated and included only water for production needs.

5 / Total indicators may differ from the sums of the components due to rounding.

6 / The increase in the indicator in 2021 for the Metals Segment is explained by accounting the volume of water discharge into public networks by RUSAL Armenal.

WASTE AND TAILINGS

GRI 306-3

Non-hazardous waste generated, mt

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Volume of non-hazardous waste generated (excl. overburden)	15.9	8.5	24.4	14.9	6.1	21.0	13.8	8.6	22.4			

GRI 306-3, SASB EM-MM-150a.7

Hazardous waste generated, kt

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Volume of hazardous waste generated	848.1	2.3	850.4	695.8	2.7	698.6	834.6	12	846.6			

GRI 306-4, GRI 306-5, SASB EM-MM-150a.8

Total volume of hazardous waste managed by disposal method, kt

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Reused and recycled	813.6	2.1	815.7	660.4	2.0	662.4	807.6	10.8	818.4			
Off-site disposal	5.8	0.0	5.8	7.3	0.0	7.3	4.3	0.0	4.3			
On-site disposal	17.3	0.0	17.3	15.9	0.0	15.9	8.5	0.0	8.5			
On-site accumulation	15.7	0.2	15.9	13.0	0.6	13.6	11.4	0.9	12.3			

SASB EM-MM-150a.4

Total volume of non-mineral waste generated¹, mt

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Volume of non-mineral waste generated	2.2	1.5	3.7	1.5	1.6	3.1	1.8	2.1	3.9			

1 / Tailings waste is not generated in the production processes of Metals segment enterprises, therefore, non-mineral waste excludes tailings waste in the form of data on red and nepheline sludge from alumina enterprises generated in the reporting period.

GRI 306-4, GRI 306-5

Total volume of non-hazardous waste managed by disposal method, including overburden^{2,3}, mt

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Reused and recycled	2.8	123.9	126.7	2.4	118.6	121.0	2.6	122.9	125.5			
Off-site disposal	0.1	0.1	0.2	0.08	0.05	0.1	0.0	0.6	0.1			
On-site disposal	37.4	0.7	38.1	49.1	0.8	49.9	22.7	0.7	23.4			
On-site accumulation	32.4	14.1	46.5	32.0	12.7	44.7	36.4	14.6	51.0			

SASB IF-EU-150a.1, SASB EM-MM-150a.5

Waste generation and management

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Tailings waste ⁴ , kt	14,416.9	6,603.4	21,020.3	14,101.1	3,983.6	18,084.6	11,988.4	5,997.6	17,986.0			
Share of tailings waste recycled ⁵ , %	7.4	68.1	26.5	6.7	65.7	19.7	7.7	67.4	27.6			
Total weight of mineral processing waste recycled, kt	16,127.3	4.3	16,131.6	15,617.5	4.0	15,621.5	12,267.2	2.7	12,269.9			
Share of mineral processing waste recycled, %	13.8	0.0	13.8	2.2	0.0	2.2	9.4	0.0	9.4			
Amount of coal combustion residuals (CCR), kt	N/A	1,412.9	1,412.9	N/D	1,502.6	1,412.9	N/D	1,946.1	1,946			
Share of coal combustion residuals recycled, %	N/A	80.0	80.0	N/D	68.0	80.0	N/D	78	78			

G4 MM2, SASB EM-MM-150a.6

Overburden, rock, tailings, ash and sludge accumulation and generation, mt

		2020						2021			2022		
		Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Generated	Overburden	57.0	118.1	175.1	68.6	114.8	183.4	49.0	117.2	166.2			
	Rocks	0.0	11.0	11.0	0.0	10.3	10.3	0.0	11.3	11.3			
	Tailings	0.0	6.9	6.9	0.0	4.3	4.3	0.0	6.3	6.3			
	Sludge	14.4	0.2	14.6	14.1	0.2	14.3	12.0	2.1	14.1			

2 / Hereinafter in the section "Additional ESG information" the data for the for the Bauxite Company of Guyana, the Bauxite Company of Kindia (Guinea), the Dian-Dian (Guinea), that maybe material for consolidated indicators of overburden and rock waste, is excluded, due to the lack of metering systems and relevant requirements in national legislation.

3 / The indicator includes overburden waste, which disposal methods could be recycling associated with backfilling, as well as reprocessing to new materials.

4 / Tailings waste is not generated in the production processes of Metals segment enterprises, therefore, tailings waste is presented in the form of data on red and nepheline sludge from alumina enterprises generated in the reporting period.

5 / Used as a constructive and anti-filtration element of hydraulic structures in the Power segment.

		2020						2021			2022		
Accumulated	Overburden	469.0	284.6	753.6	488.0	284.6	772.6	516.1	2.0	518.1			
	Rocks	0.0	959.1	959.1	0.0	969.3	969.3	0.0	980.5	980.5			
	Tailings	0.0	113.4	113.4	0.0	114.5	114.5	0.0	118.2	118.2			
	Sludge	482.9	0.6	483.5	494.2	0.6	494.8	437.5	102.7	540.2			

SASB IF-EU-150a.2

Total number of tailings storage facilities, broken down by hazard potential classification and structural integrity assessment in Power segment

	2020	2021	2022
Total number of coal combustion residual (CCR) tailings storage facilities, including	16	16	16
High potential hazard	1	1	2
Significant potential hazard	5	13	12
Low potential hazard	10	2	2

LAND REHABILITATION AND RECLAMATION

G4 MM1

Area of disturbed as a result of open pit mining and reclaimed lands, hectares

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
The total area of land disturbed as a result of open pit mining, but not yet reclaimed land as of January 1 of the reporting year	6,742	11,606.3	18,348.1	10,295	11,761.7	22,054.9	12,104.25	11,995	22,428
Total area of disturbed land as a result of open pit mining	1,563	155	1,718	245	214	459	45	227	272
Total area of reclaimed land for which a permit for use has been obtained	48	1	49	107	60	167	77	0	77
The total area of land disturbed as a result of open pit mining, but not yet reclaimed land as of December 31 of the reporting year	8,257	11,760	20,017	10,433	11,915.7	22,347	12,072.3	12,221	24,293.25

The denominator data used for intensity metrics calculation

Power segment			Metals segment		
Amount of electricity generation and heat generation, bn kWh			Volume of aluminium produced, kt		
2020	2021	2022	2020	2021	2022
113,5116	123,574	116,3756	3,755	3,764	3,835

HEALTH AND SAFETY^{1,2}

GRI 403-5, SASB IF-EU-320a.1, SASB EM-MM-320a.1

Health and Safety indicators

	Power segment			Metals segment			En+		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Number of fatalities caused by work-related injuries (employees)	2	1	1	2	8	4	4	9	5
Number of work-related injuries	49	35	36	93	85	85	142	120	121
LTIFR (employees)	0.20	0.14	0.13	0.21 ³	0.17	0.18	0.21	0.16	0.16
Cases of occupational diseases ⁴	53	91	65	101	114	123	154	205	188
Number of unsafe conditions/actions identified	40,388	56,551	49,955	337,889	270,023	350,366	378,277	326,574	400,321
Total man-hours worked (employees), thousands	48,507	51,845	53,574	87,531	90,909	95,639	136,038	149,029	149,213
Total man-hours worked (contractors), thousands	-	3,546	4,147	-	-	-	-	-	-

Health and Safety indicators of the Power segment

	2020	2021	2022
MAIN FACTORS OF WORK-RELATED INJURIES, %			
- Falling objects from a height	15%	7%	17%
- Falling people from a height	2%	29%	8%
- Chemical exposure	0%	0%	3%
- High temperature, handling melts	0%	3%	0%
- Moving and rotating equipment parts	5%	3%	17%
- Slipping, stumbling and falling	27%	10%	28%
- Other	51%	48%	27%
The average hours of trainings per employee	31	33	38
The average hours of trainings per contractor	40	40	37
Near miss frequency rate, employees (NMFR)	0.144	0.166	0.258
Near miss frequency rate, contractors (NMFR)	-	0.28	0.05
Total recordable injury rate, employees (TRIR)	0.293	0.225	0.332

1 / Hereinafter in the section "Health and safety" the injuries data represent cases registered by the Company.

2 / Hereinafter in the section for work-related injuries and occupational diseases "Health and Safety" KRAMZ and SMR are included in data of the Metals segment.

3 / In 2020, the actual injury frequency rate was 0.18, excluding data for Pikalyovo Alumina Refinery (town of Pikalyovo). From the acquisition of Pikalyovo Alumina Refinery in September 2020 until the end of 2020, 4 accidents occurred at Pikalyovo Alumina Refinery, including 2 accidents with severe injuries. In 2021, Pikalyovo Alumina Refinery was included in the general statistics of UC RUSAL.

4 / The statistics do not include cases of newly diagnosed occupational diseases in the post-exposure period.

Health and Safety expenditures of the Power segment¹, mn

	2020		2021		2022	
	RUB	USD	RUB	USD	RUB	USD
Employee training and maintenance of training systems	43.3	0.6	37.8	0.51	39.8	2.7
Improvement of fire safety	301.8	4.2	434.2	5.9	478.2	32.8
Improvement of technical level and efficiency of production	17.1	0.2	76.1	1.0	118	8.1
Improving working conditions and sanitation measures	232.7	3.2	216.1	2.9	253.9	17.4
Improving the quality and effectiveness of personal protective equipment	298.2	4.1	321.4	4.4	427.6	29.3
Total Health and Safety expenditures	893.2	12.4	1085.8	14.7	1317.6	90.3

EMPLOYEES

GRI 2-6 2-7

Employees

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Headcount at Russian and international facilities, including	56,150	35,003	91,153	57,933	35,256	93,189	59,463	37,154	96,617
- Russia	46,019	34,988	81,007	47,873	35,247	83,120	49,313	37,146	86,459
- Other countries	10,131	15	10,146	10,060	9	10,069	10,150	8	10,158
Share of full-time employees, %, including	98.8	99.3	99.1	98.9	99.1	99.0	97.1	99.1	97.9
- Female	98.8	98.5	98.7	98.7	98.6	98.7	97.5	98.5	97.9
- Male	98.8	99.6	99.2	99.0	99.3	99.2	97.0	99.4	97.8
Share of employees with permanent type employment contract, %, including	91.5	96.1	93.8	92.3	96.1	94.2	92.4	95.5	93.6
- Female	90.5	94.6	92.6	89.4	94.6	92.0	90.0	93.7	91.6
- Male	91.9	96.8	94.4	93.2	96.8	95.0	93.2	96.2	94.3

1 / Calculated based on USD/RUB average exchange rate of RUB 73.65 per USD for 2021, 68.55- for 2022.

GRI 405-1

Workforce gender diversity, %

	Metals segment			Power segment			En+		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
WORKFORCE GENDER DIVERSITY									
Female, including	24.7	24.9	25.1	30.8	31.1	31.6	27.8	28.0	27.6
- Up to 30	10.7	10.5	10.1	11.7	11.2	10.9	11.2	10.9	10.4
- 30-50	62.3	62.5	62.4	61.5	62.4	62.9	61.9	62.5	62.6
- Over 50	27.0	26.9	27.6	26.8	26.4	26.2	26.9	26.7	27.0
Male, including	75.3	75.1	74.9	69.2	68.9	68.4	72.3	72.0	72.4
- Up to 30	16.3	15.9	14.6	13.4	13.6	13.8	14.9	14.8	14.3
- 30-50	62.2	63.0	63.1	57.0	57.3	57.3	59.6	60.2	61.0
- Over 50	21.5	21.1	22.4	29.7	29.1	28.8	25.6	25.1	24.7
SENIOR MANAGERS GENDER DIVERSITY									
Female, including	16.6	17.4	18.0	18.1	22.6	24.4	17.4	20.0	19.9
- Up to 30	0.0	0.0	0.0	0.0	1.2	2.8	0.0	0.6	1.0
- 30-50	73.8	71.9	74.2	75.0	79.0	65.3	74.4	75.5	70.9
- Over 50	26.2	28.1	25.8	25.0	19.8	31.9	25.6	24.0	28.1
Male, including	83.4	82.6	82.0	81.9	77.4	75.6	82.7	80.0	80.1
- Up to 30	0.6	0.2	0.2	1.1	0.7	0.4	0.9	0.5	0.3
- 30-50	61.0	57.7	58.7	66.1	69.8	64.6	63.6	63.8	60.3
- Over 50	38.4	42.1	41.2	32.8	29.5	35.0	35.6	35.8	39.4
MIDDLE-LEVEL MANAGERS GENDER DIVERSITY									
Female, including	20.1	21.2	21.7	22.6	22.4	23.2	21.4	21.8	22.4
- Up to 30	1.9	1.6	2.1	2.7	3.1	3.4	2.3	2.4	2.7
- 30-50	66.6	66.2	65.3	63.7	67.6	68.0	65.2	66.9	66.7
- Over 50	31.6	32.2	32.7	33.6	29.3	28.6	32.6	30.8	30.6
Male, including	79.9	78.8	78.3	77.4	77.6	76.8	78.7	78.2	77.6
- Up to 30	3.1	3.2	2.7	3.8	3.4	3.9	3.5	3.3	3.3
- 30-50	66.7	68.9	67.6	66.5	67.0	67.3	66.6	68.0	67.5
- Over 50	30.2	27.9	29.7	29.7	29.5	28.8	30.0	28.7	29.2
SPECIALISTS GENDER DIVERSITY									
Female, including	56.6	54.5	55.6	58.5	58.8	58.8	57.6	56.7	57.2
- Up to 30	13.7	14.1	14.3	13.2	12.4	12.0	13.5	13.3	13.0
- 30-50	66.5	67.0	66.8	66.6	67.6	68.6	66.6	67.3	67.7
- Over 50	19.8	18.9	18.9	20.2	20.1	19.5	20.0	19.5	19.2
Male, including	43.4	45.5	44.4	41.5	41.2	41.2	42.5	43.4	42.8
- Up to 30	12.6	12.9	11.4	12.3	13.2	12.8	12.5	13.1	12.1
- 30-50	62.1	66.3	65.7	64.5	62.9	63.6	63.3	64.6	64.6
- Over 50	25.3	20.8	23.0	23.2	23.9	23.6	24.3	22.4	23.3

	Metals segment			Power segment			En+		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
WORKERS GENDER DIVERSITY									
Female, including	20.3	20.2	20.1	22.6	22.6	22.9	21.5	21.4	21.1
- Up to 30	10.3	9.9	9.0	12.1	11.8	11.4	11.2	10.9	9.9
- 30-50	59.9	59.9	59.7	56.3	56.2	56.3	58.1	58.1	58.5
- Over 50	29.7	30.2	31.3	31.6	32.0	32.4	30.7	31.1	31.7
Male, including	79.7	79.8	79.9	77.4	77.4	77.1	78.6	78.6	78.9
- Up to 30	18.1	17.7	16.3	15.5	15.8	16.2	16.8	16.8	16.3
- 30-50	61.8	62.1	62.4	53.7	54.1	54.0	57.8	58.1	59.7
- Over 50	20.1	20.2	21.3	30.8	30.1	29.8	25.5	25.2	24.1

GRI 401-1

New hires, number

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Total, including	7,723	4,871	12,594	8,154	6,893	15,047	6,480	7,226	13,706
- Russia	6,805	4,870	11,675	7,327	6,892	14,219	5,747	7,226	12,973
- Other countries	918	1	919	827	1	828	733	0	733

GRI 401-1

New hires by gender, %

	2020	2021	2022
Female	29.1	30.5	30.8
Male	70.9	69.5	69.2

GRI 401-1

New hires by age, %

	2020	2021	2022
18-30	33.9	33.7	33.7
30-50	55.1	55.3	55.0
Over 50	10.9	11.0	11.3

GRI 2-30, SASB EM-MM-310a.1

Employees covered by collective agreements, %

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
EMPLOYEES COVERED BY COLLECTIVE AGREEMENTS, INCLUDING			87.2			86.0			86.3
- Russia	86.9	89.9		85.7	88.3		87.9	86.5	
- Other countries	79.3	-		79.5	-		78.4	-	

GRI 202-1

Standard entry level wage rate for employees and established minimum wage in key operating countries in Metals segment¹

Region	Standard entry level wage rate						Established minimum wage in the region					
	2020		2021		2022		2020		2021		2022	
	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD
Russia	13,000	180	18,100	246	22,000	321	12,130	168	12,792	177	15,279	223
Republic of Armenia	31,287	435	32,360	439	37,851	564	13,719	190	13,824	188	14,570	213
Ukraine	13,365	185	17,563	238	14,203	207	13,365	185	17,563	238	14,203	207
Jamaica	23,875	331	23,043	313	23,624	345	16,228	225	14,815	201	17,338	253
Guinea	5,052	70	5,054	69	5,284	77	3,318	46	3,319	45	4,338	63
Guyana	40,937	568	40,949	556	37,958	554	15,146	210	15,565	211	19,640	286
Nigeria	10,391	150	10,540	143	8,955	131	6,067	84	5,533	75	4,852	71

GRI 202-1

Standard entry level wage rate for employees and established minimum wage in Russia and CIS in Power segment¹

Region	Standard entry level wage rate ²						Established minimum wage in the region ³					
	2020		2021		2022		2020		2021		2022	
	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD	RUB	USD
Russia	12,205	188	15,316	208	17,600	257	12,130	168	12,792	174	15,279	223
Republic of Armenia	17,155	264	17,029	231	17,975	262	13,697	211	13,697	186	14,352	209

¹ / Calculated based on USD/RUB average exchange rate of 72.14 for 2020, 73.65 for 2021, 68.55 for 2022.

² / Average values.

³ / Average values; includes regional coefficient and Northern Index.

GRI 405-2

Ratio of basic salary and remuneration men to women

	2020				2021		2022		
	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment	En+
Average salary	1.94	1.17	1.33	1.18			1.16	1.13	
BREAKDOWN BY EMPLOYEE CATEGORY									
Senior managers	1.97	1.31	1.7	1.46			1.19	1.26	
Middle-level managers	1.19	1.09	1.15	1.09			1.06	1.02	
Specialists	1.33	1.19	1.48	1.22			1.19	1.22	
Workers	1.34	1.36	1.41	1.4			1.53	1.34	

GRI 405-2

Average salary in Power segment¹

	2020				2021		2022		
	RUB	USD	RUB	USD	RUB	USD	RUB	USD	En+
Average salary	54,223	835	65,737	893			72,866	1,063	
BREAKDOWN BY GENDER									
Female	48,243	743	58,334	792			66,959	977	
Male	56,206	866	69,079	938			75,595	1,103	

Diversity of employees

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment ²	Power segment	En+	Metals segment	Power segment	En+
Number of employees with disabilities	n/a	331	331	n/a	333	333	359	413	772			
Share of employees with disabilities in the total number of employees, %	n/a	0.9	0.9	n/a	0.9	0.9	0.6	1.1	0.8			

¹ / Calculated based on USD/RUB average exchange rate of 72.14 for 2020, 73.65 for 2021, 68.55 for 2022.

² / To enforce the Federal Law 'On social protection of disabled persons in the Russian Federation' in terms of the required number of people with disabilities employed in quota jobs Metals segment recently decided to enter into agreements with local branches of the All-Russian Society of the Disabled People in Metals segment's operating regions. This allows enterprises to meet the quota through the agreements rather than by directly employing people with disabilities on a full-time basis.

GRI 401-3

Parental leave

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Total number of employees that were entitled to parental leave	7,408	1,470	8,878	7,186	1,221	8,407	5,924	1,750	7,674			
- Female	1,615	675	2,290	1,536	630	2,166	1,275	810	2,085			
- Male	5,793	795	6,588	5,650	591	6,241	4,649	940	5,589			
Total number of employees that took parental leave	388	546	934	312	568	880	333	579	912			
- Female	363	527	890	291	535	826	320	547	867			
- Male	25	19	44	21	33	54	13	32	45			
Total number of employees that returned to work in the reporting period after parental leave ended	266	240	506	280	218	498	317	287	604			
- Female	249	229	478	267	208	475	300	272	572			
- Male	17	11	28	13	10	23	17	15	32			
Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work	242	181	423	215	126	341	227	149	376			
- Female	233	168	401	203	119	322	221	142	363			
- Male	9	13	22	12	7	19	6	7	13			
Retention rate of employees that took parental leave, %	85.8	76.7	81.3	80.8	52.5	66.7	81.1	68.3	75.5			

GRI 401-1

Employee turnover³, %

	2020						2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Employee turnover	10.9	11.6	11.3	10.6	13.6	12.1	9.5	12.2	10.5			
Women	10.5	12.1	11.3	10.3	15.5	12.9	9.8	14.0	11.6			
- Up to 30	19.9	19.4	19.7	20.7	27.9	24.3	21.5	26.5	23.8			
- 30-50	9.0	10.4	9.7	8.6	13.5	11.1	7.9	12.0	9.7			
- Over 50	10.2	12.7	11.5	10.3	14.8	12.6	9.9	13.6	11.5			
Men	11.1	11.3	11.2	10.7	12.8	11.8	9.4	11.4	10.1			
- Up to 30	17.0	18.3	17.7	18.9	20.7	19.8	17.7	18.7	18.0			
- 30-50	9.0	9.9	9.5	8.2	11.5	9.9	6.8	10.1	7.9			
- Over 50	12.7	10.8	11.8	12.0	11.7	11.9	11.3	10.6	11.0			

³ / In Power segment, employee turnover is calculated as follows: the number of employees who resigned from their job during the reporting period (in accordance with section 3, part 1, article 77 of the Russian Labour Code)/the number of employees as of 31 December, while in Metals segment, employee turnover is calculated using the formula: the number of employees who left the Company during the reporting period, irrespective of the reason and the article of the Labour Code/the number of employees as of 31 December.

GRI 401-1

Employee turnover by region, %

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Russia	10.8	11.6	11.2	11.0	13.6	12.3	9.7	12.2	11.0
Other countries	11.8	6.7	9.3	8.7	77.8	43.3	8.7	12.5	10.8

GRI 202-2

Share of senior managers recruited from the local population in Russia and other countries¹, %

	2020			2021			2022		
	Metals segment	Power segment	En+	Metals segment	Power segment	En+	Metals segment	Power segment	En+
Russia	99.8	100	99.9	99.8	100	99.9	99.8	100	99.9
Other countries	61.6	100	80.8	60.8	100	80.4	91.9	100	82.3

Employees who have completed training in Metals segment, %

	2020		2021		2022	
	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment
Employees who have completed training	12.3		18.1		39.6	
BREAKDOWN BY GENDER						
- Female	23.1		27.2		29.0	
- Male	10.9		15.1		43.2	
BREAKDOWN BY EMPLOYEE CATEGORY						
- Senior managers	36.7		54.6		10.4	
- Middle-level managers	36.8		60.8		62.6	
- Specialists	64.7		65.5		45.9	
- Workers	2.8		5.2		36.6	

GRI 404-1

Average number of training hours per trained employee, hours²

	2020		2021		2022	
	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment
Average training hours per employee per year	2.1	n/a	2.3	n/a	19.3	30.8
BREAKDOWN BY GENDER						
- Female	3.7	n/a	3.9	n/a	15.7	15.7
- Male	1.6	n/a	1.7	n/a	20.5	37.8

¹ / The geographical definition of 'local population' includes a country. Senior managers include the president, vice-presidents, directors of enterprises and production units and other functions, as well as their deputies.

² / Power segment's data disclosed only for 2022.

	2020		2021		2022	
	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment
BREAKDOWN BY EMPLOYEE CATEGORY						
- Senior manager	6.4	n/a	7.3	n/a	5.7	71.3
- Middle-level manager		n/a		n/a	23.2	55.6
- Specialist	11.9	n/a	11.3	n/a	22.6	22.3
- Worker	0.1	n/a	0.2	n/a	18.6	28.6

CORPORATE GOVERNANCE

GRI 2-9, 405-1

Diversity of Board of directors, %

	2020	2021	2022 ³
GENDER			
- Female	33	33	36
- Male	67	67	64
AGE			
- 35-45	8	25	27.3
- 46-55	42	33.3	18.1
- 56-65	42	33.3	27.3
- 65+	8	8.3	27.3
INDEPENDENCE			
- Independent	58	58	64
- Not independent	42	42	36
TENURE			
- 1-3 years	92	92	64
- 4-9 years	8	8	36
- 10+ years	0	0	0

³ / As at 31 December 2022.

GRI 2-9, 405-1

Composition and diversity of Committees as at 31.12.2022, %

	Audit and Risk Committee	Compliance Committee	Corporate Governance Committee	Health, Safety, and Environment Committee	Nominations Committee	Remuneration Committee
EXECUTIVENESS						
- Executive	0	0	0	0	0	0
- Non-executive	100	100	100	100	100	100
INDEPENDENCE						
- Independent	100	75	75	80	100	60
- Non-independent	0	25	25	20	0	40
TENURE						
- 1–3 years	50	75	75	80	50	80
- 4–9 years	50	25	25	20	50	20
- 10+ years	0	0	0	0	0	0
GENDER						
- Male	100	75	25	60	50	80
- Female	0	25	75	40	50	20

SUPPLY CHAIN

GRI 204-1

Total volume of purchases from local suppliers¹, USD mn

	2020		2021 ²		2022	
	Metals segment	Power segment	Metals segment	Power segment	Metals segment	Power segment
Total volume of purchases	7,357.0		9,019.5		9,649.1	
	6,880.7	476.3	8,574.1	445.4	7,802.3	1,846.78
Share of purchases from local suppliers	36%		34%		39%	
	33%	74%	32%	76%	35%	57%

¹ / Calculated based on USD/RUB average exchange rate of RUB 72.14 per USD for 2020, RUB 73.65 per USD for 2021, RUB 68.55 per USD for 2022. Figures of Power segment for 2021 and 2020 were recalculated due to corrections.

GRI CONTENT INDEX

Topic	GRI Indicator	Response and reference
GRI 1 FOUNDATION		
GRI 2 GENERAL DISCLOSURES		
En+ Group has reported the information cited in this GRI content index for the period from 1 January to 31 December with reference to the GRI Standards.		
1. THE ORGANISATION AND ITS REPORTING PRACTICES		
Organisational details	GRI 2-1	About the report, p.3 Our presence and scale, p.14 Business review, p.24 Financial statements, p.211 Information for shareholders and investors, p.155
Entities included in the organisation's sustainability reporting	GRI 2-2	About the report, p.3
Reporting period, frequency and contact point	GRI 2-3	About the report, p.3
Restatements of information	GRI 2-4	About the report, p.2
External assurance	GRI 2-5	Corporate governance, p.150 Additional ESG Data, p.317
2. ACTIVITIES AND WORKERS		
Activities, value chain and other business relationships	GRI 2-6	Business review, p.26-31, 34-35 Supply chain management, p.181 Additional ESG Data, p.278-279
Employees	GRI 2-7	Employees, p.116 Additional ESG Data, p.294
Workers who are not employees	GRI 2-8	Employees, p.116 The number of non- employees, dynamics and calculation methods were not collected.
3. GOVERNANCE		
Governance structure and composition	GRI 2-9	Corporate governance, p.138
Nomination and selection of the highest governance body	GRI 2-10	Corporate governance, p.141
Chair of the highest governance body	GRI 2-11	Corporate governance, p.140
Role of the highest governance body in overseeing the management of impacts	GRI 2-12	Sustainability management, p.62 Internal control and risk management, p.163
Delegation of responsibility for managing impacts	GRI 2-13	Climate leadership and energy efficiency, p.75 Environmental stewardship, p.87 Community engagement, p.127 Internal control and risk management, pp.161,163 Stakeholder engagement, p.170 Supply chain management, p.176 Responsible business practises, pp.184, 192
Role of the highest governance body in sustainability reporting	GRI 2-14	About report, p.2 Sustainability management, pp.62, 68
Conflicts of interest	GRI 2-15	Corporate governance, pp.137, 151
Communication of critical concerns	GRI 2-16	Corporate governance, p.142
Collective knowledge of the highest governance body	GRI 2-17	Corporate governance, p.143
Evaluation of the performance of the highest governance body	GRI 2-18	As of the date of this Report, the Company is developing a procedure for evaluating the activities of members of the Board, the work of the Board and its committees.
Remuneration policies	GRI 2-19	Corporate governance, p.153
Process to determine remuneration	GRI 2-20	Corporate governance, p.153 Shareholders or stakeholders did not vote for remuneration policies or proposals in reporting period.

Topic	GRI Indicator	Response and reference
Annual total compensation ratio	GRI 2-21	Data cannot be disclosed as the annual total compensation ratio is confidential
4. STRATEGY, POLICIES AND PRACTICES		
Statement on sustainable development strategy	GRI 2-22	Chairman's and Chief Executive Officer's statement, p.18
Policy commitments	GRI 2-23	Sustainability management, pp.62, 64 Employees, p.120 Ethics and compliance, p.167
Embedding policy commitments	GRI 2-24	Ethics and compliance, p.168
Processes to remediate negative impacts	GRI 2-25	Sustainability management, p.67 Environmental stewardship, p.101 Ethics and compliance, p.169 Stakeholder engagement, p.170 Additional ESG Data, p.277
Mechanisms for seeking advice and raising concerns	GRI 2-26	Ethics and compliance, p.169 Stakeholder engagement, p.170
Compliance with laws and regulations	GRI 2-27	Employees, p.116 Corporate governance, p.137
Membership associations	GRI 2-28	Environmental stewardship, p.100 Collaborations and partnerships, p.173
5. STAKEHOLDER ENGAGEMENT		
Approach to stakeholder engagement	GRI 2-29	Community engagement, p.126 Stakeholder engagement, p.170
Collective bargaining agreements	GRI 2-30	Employees, p.122
GRI 3 Disclosures on material topics		
Process to determine material topics	GRI 3-1	Materiality assessment, p.68 Additional ESG Data, pp.277-279
List of material topics	GRI 3-2	Materiality assessment, p.68
Management of material topics	GRI 3-3	Strategy, p.22 Materiality assessment, p.68 Climate leadership and energy efficiency, pp.75, 76, 82, 83 Environmental stewardship, pp.85, 88, 89, 90, 91, 94, 100 Health and safety, pp.108, 109, 116 Employees, pp.117, 118, 123 Community engagement, p.126 Corporate Governance, p.136 Internal control and risk management, p.163 Ethics and compliance, p.167 Stakeholder engagement, p.170 Supply chain management, pp.176, 180 Responsible business, pp.184, 192, 194 Additional ESG Data, pp.278-279
GRI 200 ECONOMIC		
GRI 201 ECONOMIC PERFORMANCE		
Direct economic value generated and distributed	GRI 201-1	Additional ESG Data, p.276
Financial implications and other risks and opportunities due to climate change	GRI 201-2	Additional ESG Data, p.283-285
Defined benefit plan obligations and other retirement plans	GRI 201-3	Financial statements, p.222
Financial assistance received from government	GRI 201-4	Additional ESG Data, p.276
GRI 202 MARKET PRESENCE		
Ratios of standard entry level wage by gender compared to local minimum wage	GRI 202-1	Employees, p.123 Additional ESG Data, p.297 In Metals segment, the size of the standard entry-level salary is disclosed without a breakdown by gender due to the specifics of data collection.

Topic	GRI Indicator	Response and reference
Proportion of senior management hired from the local community	GRI 202-2	Employees, p.117 Additional ESG Data, p.300 Significant locations of operation of En+ are the regions in which production facilities and key personnel of the enterprise are located.
GRI 203 INDIRECT ECONOMIC IMPACTS		
Infrastructure investments and services supported	GRI 203-1	Community engagement, p.128
Significant indirect economic impacts	GRI 203-2	Community engagement, pp.126, 130 Supply chain management, p.179 Additional ESG Data, pp.278-279
GRI 204 PROCUREMENT PRACTICES		
Proportion of spending on local suppliers	GRI 204-1	Supply chain management, p.179
GRI 205 ANTI-CORRUPTION		
Operations assessed for risks related to corruption	GRI 205-1	Ethics and compliance, p.168
Communication and training about anti-corruption policies and procedures	GRI 205-2	The information about total number and percentage of employees that the organisation's anti-corruption policies and procedures have been communicated and total number and percentage of employees that have received training is excluded due to the existing reporting processes.
Confirmed incidents of corruption and actions taken	GRI 205-3	Ethics and compliance, p.169
GRI 206 ANTI-COMPETITIVE BEHAVIOR		
Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	GRI 206-1	Ethics and compliance, p.169
GRI 207 TAX		
Approach to tax	GRI 207-1	En+ is a responsible and reliable taxpayer. The basis for the preparation of accounting policies for tax purposes in the subsidiaries and affiliates are the general accounting principles, which En+ reviews annually. En+ also has a policy that describes our approach to taxation. The majority of our tax expense is related to income taxes. Methodology to calculate income tax expense at p. 223 Consolidated Financial Statements for the year ended 31 December 2021 En+ parent company is a tax resident of the Russian Federation. It is also registered as a resident in the SAR (Special Administrative Region) of Russia, which, subject to certain conditions, provides a number of tax benefits. The tax rate for the parent company and the Company's subsidiaries registered in Russia is 20%. In addition, subsidiaries are registered in other 10 countries, where the tax rate varies from 0 to 30%. Tax rates in other countries are at p. 21 Consolidated Interim Condensed Financial Information for the six months ended 30 June 2022 We regularly publish tax information using various types of reporting: Condensed consolidated interim financial information is published several times during the year (once every three or six months) and provides interim information on tax expenses and tax liabilities for the specified period. Consolidated financial statements are published once a year and contain financial information for the year ended 31 December. The Consolidated Report is published annually and provides a review of the financial results, including financial ratios and contingent liabilities. The country-by-country report provides information for each tax jurisdiction for all legal entities included in a company's audited consolidated financial statements that are tax residents.

Topic	GRI Indicator	Response and reference
Tax governance, control, and risk management	GRI 207-2	Systematic and rational tax risk management is key to the Company's investment attractiveness and financial stability. Thus, we take a responsible approach to tax risk management which includes identification and monitoring of tax risks. Audit and risk committee is responsible for reviewing material aspects of the Company's and its subsidiaries' accounting policies to ensure that they are appropriate and consistently applied. More responsibilities of Audit and Risk Committee at p.150 Corporate Governance The departments responsible for tax issues within the Company develop measures to eliminate or minimise the risks and work to avoid them in compliance with tax legislation. Tax compliance is embedded in the KPIs of the key departments responsible for tax management at the Company. The Accounting Department is in charge of tax policy compliance of the Company. The Tax Policy Department is authorised for reviewing and approving the Company's projects and transactions. The Company carries out regular internal and external audits of financial statements
Stakeholder engagement and management of concerns related to tax	GRI 207-3	We closely monitor the risks associated with the possibility of varying interpretations and frequent changes in applicable tax, currency and customs legislation. For example, as tax authorities take an increasingly assertive stance in interpreting and enforcing tax laws, the Company may need to challenge their interpretations of legal provisions that differ from previous interpretations, which may involve dealing with local, state, and federal authorities. In planning our tax-related expenses, we estimate the maximum cumulative additional amounts that could be paid if tax positions were not sustained, as there is a possibility (although it is less than 50%) that additional taxes could be payable as a result of the outcome of tax audits or resolution of disputes with tax authorities.
Country-by-country reporting	GRI 207-4	Data is partially presented in the financial review. Financial review, p.57
GRI 300 ENVIRONMENTAL		
GRI 302 ENERGY		
Energy consumption within the organisation	GRI 302-1	Energy management, p.23 Additional ESG Data, p.281
Energy intensity	GRI 302-3	Climate leadership and energy efficiency, p.83
Reduction of energy consumption	GRI 302-4	Climate leadership and energy efficiency, p.83 Additional ESG data, p.280 d. Sources of conversion factors for calculating: - IPCC (2006) Guidelines for National Greenhouse Gas Inventories, Volume 2 Energy, Chapter 1 (Introduction), pp.1.19-1.20, tab. 1.2 - Energy converter, available at http://convert-to.com/conversion/energy/convert-kwh-to-gj.html
GRI 303 WATER AND EFFLUENTS		
Interactions with water as a shared resource	GRI 303-1	Environmental Stewardship, p.91
Management of water discharge-related impacts	GRI 303-2	Environmental Stewardship, p.91 The water withdrawal and wastewater discharges are carried out by the Company's enterprises in accordance with project design solutions and established legal requirements. Interaction with water bodies is regulated taking into account their properties and the chemical compositions of discharges impacting on bodies of water.
Water withdrawal	GRI 303-3	Environmental Stewardship, p.91 Additional ESG Data, p.288
Water discharge	GRI 303-4	Environmental Stewardship, p.92 Additional ESG Data, p.288
Water consumption	GRI 303-5	Environmental Stewardship, p.92 Additional ESG Data, p.289

Topic	GRI Indicator	Response and reference
GRI 304 BIODIVERSITY		
Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	GRI 304-1	Environmental Stewardship, p.100
Significant impacts of activities, products, and services on biodiversity	GRI 304-2	Environmental Stewardship, p.102, 103
Habitats protected or restored	GRI 304-3	Environmental Stewardship, p.99
GRI 305 EMISSIONS		
Direct (Scope 1) GHG emissions	GRI 305-1	Climate leadership and energy efficiency, p.82
Energy indirect (Scope 2) GHG emissions	GRI 305-2	Climate leadership and energy efficiency, p.82
Other indirect (Scope 3) GHG emissions	GRI 305-3	Climate leadership and energy efficiency, p.82
GHG emissions intensity	GRI 305-4	Climate leadership and energy efficiency, p.82
Reduction of GHG emissions	GRI 305-5	Climate leadership and energy efficiency, p.77
Emissions of ozone-depleting substances (ODS)	GRI 305-6	There are no emissions of ODS
Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	GRI 305-7	Environmental Stewardship, p.88 Additional ESG Data, p.287
GRI 306 WASTE (2020)		
Waste generation and significant waste-related impacts	GRI 306-1	Environmental Stewardship, p.94
Management of significant waste-related impacts	GRI 306-2	Environmental Stewardship, p.96
Waste generated	GRI 306-3	Environmental Stewardship, p.95 Additional ESG Data, p.290
Waste diverted from disposal	GRI 306-4	Environmental Stewardship, p.95 Additional ESG Data, p.290-291
Waste directed to disposal	GRI 306-5	Environmental Stewardship, p.95 Additional ESG Data, p.290-291
GRI 308 SUPPLIER ENVIRONMENTAL ASSESSMENT		
New suppliers that were screened using environmental criteria	GRI 308-1	Supply chain management, p.178
Negative environmental impacts in the supply chain and actions taken	GRI 308-2	Supply chain management, p.178
GRI 400 SOCIAL		
GRI 401 EMPLOYMENT		
New employee hires and employee turnover	GRI 401-1	Employees, p.116 Additional ESG Data, p.296,299,300
Benefits provided to full-time employees that are not provided to temporary or part-time employees	GRI 401-2	Employees, p.121
Parental leave	GRI 401-3	Additional ESG Data, p.299
GRI 402 LABOR/MANAGEMENT RELATIONS		
Minimum notice periods regarding operational changes	GRI 402-1	For Group's companies located in the Russian Federation: "in accordance with the current Labor Code of the Russian Federation, federal laws and other regulatory legal acts containing labor law norms, agreements and employment contracts according to part 2 of Art. 74 of the Labor Code of the Russian Federation, the minimum period is 2 months".
GRI 403 OCCUPATIONAL HEALTH AND SAFETY		
Occupational health and safety management systems	GRI 403-1	Health and safety, p.109

Topic	GRI Indicator	Response and reference
Hazard identification, risk assessment, and incident investigation	GRI 403-2	The internal investigation process has also been established by the Company. The process seeks to determine root causes of incidents through in-depth analyses of the risks, using the whole range of advanced methods. The process is regulated by the Regulation for the Reporting, Investigation and Analysis of Occupational Safety Incidents that was amended in 2022. This process covers all fatal cases and injuries with loss of working capacity as a requirement of domestic legislation as well as cases of near miss that could potentially lead to the injury or fatality.
Occupational health services	GRI 403-3	Health and safety, p.113
Worker participation, consultation, and communication on occupational health and safety	GRI 403-4	Health and safety, p.109
Worker training on occupational health and safety	GRI 403-5	Additional ESG Data, p.293
Promotion of worker health	GRI 403-6	Health and safety, p.113 Employees, p.121
Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	GRI 403-7	Health and safety, p.113
Workers covered by an occupational health and safety management system	GRI 403-8	Health and safety, p.109
Work-related injuries	GRI 403-9	Health and safety, p.111
Work-related ill health	GRI 403-10	Health and safety, p.113
GRI 404 TRAINING AND EDUCATION		
Average hours of training per year per employee	GRI 404-1	Additional ESG Data, pp.300-301
Programmes for upgrading employee skills and transition assistance programmes	GRI 404-2	Employees, p.124
GRI 405 DIVERSITY AND EQUAL OPPORTUNITY		
Diversity of governance bodies and employees	GRI 405-1	Employees, p.117 Additional ESG Data, p.295,301-302
Ratio of basic salary and remuneration of women to men	GRI 405-2	Employees, p.117
GRI 406 NON-DISCRIMINATION		
Incidents of discrimination and corrective actions taken	GRI 406-1	Employees, p.118
GRI 407 FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING		
Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	GRI 407-1	Supply chain management, p.177
GRI 408: CHILD LABOUR		
Operations and suppliers at significant risk for incidents of child labour	GRI 408-1	Employees, p.118 Supply chain management, p.177
GRI 409: FORCED OR COMPULSORY LABOUR		
Operations and suppliers at significant risk for incidents of forced or compulsory labour	GRI 409-1	Employees, p.119 Supply chain management, p.177
GRI 411 RIGHTS OF INDIGENOUS PEOPLES		
Incidents of violations involving rights of indigenous peoples	GRI 411-1	In 202, we did not have any conflicts related to lands or objects that present historical or cultural value for indigenous communities.
GRI 413 LOCAL COMMUNITIES		
Operations with local community engagement, impact assessments, and development programmes	GRI 413-1	Environmental Stewardship, pp.102, 104 Health and safety, p.112 Employees, p.117, 122 Community engagement, p.127

Topic	GRI Indicator	Response and reference
GRI 414 SUPPLIER SOCIAL ASSESSMENT		
New suppliers that were screened using social criteria	GRI 414-1	Supply chain management, p.178
Negative social impacts in the supply chain and actions taken	GRI 414-2	Supply chain management, p.178
GRI 415 PUBLIC POLICY		
Political contributions	GRI 415-1	Ethics and compliance, p.169
GRI 417 MARKETING AND LABELING		
Requirements for product and service information and labeling	GRI 417-1	Finished goods manufactured at the Company's enterprises are automatically labelled in accordance with government requirements. The label contains information about the trademark or name of the manufacturer, the grade of aluminium or alloy, the heat number and other information.
Incidents of non-compliance concerning product and service information and labeling	GRI 417-2	In 2022, the Company complied with the relevant laws and regulations that have a significant impact on the RUSAL in relation to product labelling, and no significant claims were received in connection with product labelling.
GRI EU		
Installed capacity by primary energy source and regulatory regime	EU1	Business Review, p.35 All energy-generating assets are subject to the legal and regulatory framework adopted in the Russian Federation.
Net energy output by energy source and regulatory regime	EU2	Additional ESG Data, p.280 All energy-generating assets are subject to the legal and regulatory framework adopted in the Russian Federation.
GRI MM		
Amount of land (owned or leased) used for production activities, disturbed, or reclaimed	MM1	Additional ESG Data, p.291
Total amounts of overburden, rock, tailings, and sludge and associated risks	MM2	Additional ESG Data, p.291

SASB CONTENT INDEX

METALS SEGMENT

Topic	Code	Accounting metric	Response and reference
Greenhouse Gas Emissions	EM-MM-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Climate Leadership and energy efficiency, p.82 According to regulations, European assets of The Company in Ireland and Sweden are subjects to European requirements.
	EM-MM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Climate Leadership and energy efficiency, p.82
Air Quality	EM-MM-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Environmental Stewardship, p.88 Additional ESG Data, p.287 The Company keeps records in accordance with the requirements of the national legislation of the regions where the Company operates and does not collect the data on lead and mercury emissions, in addition, these substances are not characteristic of the main production units of the Company.
Energy Management	EM-MM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Climate Leadership and energy efficiency, p.83 The share of renewable fuels is insignificant.
Water Management	EM-MM-140a.1	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Environmental Stewardship, pp.91, 92 Additional ESG Data, p.288-289
	EM-MM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Environmental Stewardship, p.91
Waste & Hazardous Materials Management	EM-MM-150a.4	Total weight of non-mineral waste generated	Additional ESG Data, p.290
	EM-MM-150a.5	Total weight of tailings produced	Environmental Stewardship, p.95 Additional ESG Data, p.291
	EM-MM-150a.6	Total weight of waste rock generated	Additional ESG Data, p.291
	EM-MM-150a.7	Total weight of hazardous waste generated	Additional ESG Data, p.290
	EM-MM-150a.8	Total weight of hazardous waste recycled	Additional ESG Data, p.290
	EM-MM-150a.9	Number of significant incidents associated with hazardous materials and waste management	There are no critical risks associated with waste management and hazardous materials. In 2022, no significant incidents were identified for either Power or Metals segment.
	EM-MM-150a.10	Description of waste and hazardous materials management policies and procedures for active and inactive operations	Environmental stewardship, p.96

Topic	Code	Accounting metric	Response and reference
Biodiversity Impacts	EM-MM-160a.1	Description of environmental management policies and practices for active sites	Environmental Stewardship, p.100
	EM-MM-160a.2	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Environmental Stewardship, p.98 Metals and Power's segments production facilities do not have acid effluents. The appearance of acidic waters is not typical for nepheline and bauxite developed fields, since these fields do not contain sulphide-containing rocks.
	EM-MM-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	In its biodiversity activities, Metals and Power segments are governed by the requirements of the legislation of the countries of the Company's presence, the provisions of the Company's Environmental Policy, the Regulations on the initial assessment of risks and materiality of impacts on biodiversity for existing enterprises and other regulations and documents. Metals and Power segment implement a comprehensive approach based on an assessment of the risks of potential impacts on biodiversity in the Company's regions of presence, which makes it possible to identify focus areas, minimize and mitigate such impacts as a result of its own production activity, and manage biodiversity conservation issues in a rational manner. " Additionally: There are no restrictions related to SPNAs and habitat zones of endangered species (not established) for the mineral deposits being developed by the Company's enterprises.
Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	To help our clients meet the Dodd-Frank act obligations, we affirm that, in accordance with the Declaration of DRC Conflict Minerals Free manufacturer, none of the Conflict Minerals from the Democratic Republic of the Congo or neighbouring countries (Angola, Republic of Congo, Burgundy, Central African Republic, Rwanda, South Sudan, Tanzania, Uganda or Zambia) is not used in the production and products of En+. Also, En+ does not in any way contribute to armed conflicts or violations of human rights in the Conflict Areas and in the High-Risk Areas.
	EM-MM-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	The Company does not operate in areas of in or near indigenous land.
	EM-MM-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Community engagement, p.127 In the reporting year, there were no cases of human rights violations, including violations of the rights of indigenous and minority peoples.
Community Relations	EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	The environmental conditions affected by the work of enterprises and the economic situation in the region are of huge concern to local communities. The Company pays considerable attention to such issues as the amount of tax payments to budgets, the availability of jobs and decent salaries, social guarantees, opportunities for children to receive a decent education and the prospects for their employment in the future. The Company strives to create favourable living conditions for local communities, to ensure a good social climate and increase the Company's trust and loyalty to the population.
	EM-MM-210b.2	Number and duration of non-technical delays	As for the Metals and Power segments, there were no recorded facts of non-technical delays in the reporting year.

Topic	Code	Accounting metric	Response and reference
Labour Relations	EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Additional ESG Data, p.297 Disclosure includes data for all employees.
	EM-MM-310a.2	Number and duration of strikes and lockouts	As for the Metals and Power segments, operations and suppliers in which workers' rights to exercise freedom of association or collective bargaining may be violated were not identified in the reporting year. Also, there were no recorded facts of strikes and mass layoffs.
Workforce Health & Safety	EM-MM-320a.1	(1) MSHA all-incidence rate, disclosed in accordance with national law (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Additional ESG Data, p.293 Data is disclosed under the requirements of the legislation of the Russian Federation.
Business Ethics & Transparency	EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain	Ethics and compliance, p.168
Tailings Storage Facilities Management	EM-MM-540a.1	Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific EPRP	Tailings waste is not generated in the production processes of the Metals segment enterprises, therefore, the Metals segment has no tailings storage facilities. Within the Power segment this information cannot be disclosed in the current reporting period due to the peculiarities of data collection.
	EM-MM-540a.2	Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities	Tailings waste is not generated in the production processes of the Metals segment enterprises, therefore, the Metals segment has no tailings storage facilities. As for the Power segment, the tailings management system used to monitor and maintain the state of tailings storage facilities is developed. It includes internal production and environmental control, as well as control by supervisory state bodies and independent organisations. The Company has a multi-level structure to ensure transparency and a high level of control over all tailings management processes. Tailings management is conducted within the framework of environmental protection management.
	EM-MM-540a.3	Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities	Tailings waste is not generated in the production processes of the Metals segment enterprises, therefore, the Metals segment has no tailings storage facilities. As for the Power segment, Emergency Preparedness and Response Plans are developed at all tailings storage facilities. EPRPs, in particular, provide for measures to eliminate accidents, operational actions of personnel in case of preemergency and emergency situations, and a list of persons responsible for the implementation of measures. EPRPs also contain probable scenarios of emergency situations at the tailings storage facilities.
Activity Metrics	EM-MM-000.A	Production of (1) metal ores and (2) finished metal products	Business review, p.26
	EM-MM-000.B	Total number of employees, percentage contractors	Employees, p.116 The Company collects data only on the number of full-time employees and share of permanent contracts.

POWER SEGMENT

Topic	Code	Accounting metric	Response and reference
Greenhouse Gas Emissions & Energy Resource Planning	IF-EU-110a.1	1) Gross global Scope 1 emissions, percentage covered under (2) emissions-limiting regulations, and (3) emissions-reporting regulations	Climate Leadership and energy efficiency, p.82 According to regulations, Decree of the President of the Russian Federation No. 666 of 04.11.2020 "On Reducing GHG Emissions" (the national contribution of the Russian Federation as part of the implementation of the Paris Agreement);
	IF-EU-110a.2	Greenhouse gas (GHG) emissions associated with power deliveries	Climate Leadership and energy efficiency, p.82
	IF-EU-110a.3	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Climate Leadership and energy efficiency, pp.76, 82
	IF-EU-110a.4	(1) Number of customers served in markets subject to renewable portfolio standards (RPS) and (2) percentage fulfilment of RPS target by market.	There are no requirements in Russia for the minimal share of renewable energy in the portfolio of generating companies.
Air Quality	IF-EU-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) lead (Pb), and (5) mercury (Hg); percentage of each in or near areas of dense population	Environmental Stewardship, p.88 Additional ESG Data, p.287 This category includes all pollutants specified by Russian legislation.
Water Management	IF-EU-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Environmental Stewardship, pp.91, 92 Additional ESG Data, p.288-289
Water Management Coal Ash Management	IF-EU-140a.2	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	Environmental Stewardship, p.91
	IF-EU-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	Environmental Stewardship, p.91
Coal Ash Management Energy Affordability	IF-EU-150a.1	Amount of coal combustion residuals (CCR) generated, percentage recycled	Environmental Stewardship, p.95 Additional ESG Data, p.291
	IF-EU-150a.2	Total number of coal combustion residual (CCR) impoundments, broken down by hazard potential classification and structural integrity assessment	Additional ESG Data, p.292
	IF-EU-240a.1	Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers	Additional ESG Data, p.281 The maximum electric rate for the residential customers is set in accordance with the directive of the Federal Antimonopoly Service of Russia.

Topic	Code	Accounting metric	Response and reference
Energy Affordability Workforce Health & Safety	IF-EU-240a.2	Typical monthly electric bill for residential customers for (1) 500 kWh and (2) 1,000 kWh of electricity delivered per month	Additional ESG Data, p.281 The maximum electric rate for the residential customers is set in accordance with the directive of the Federal Antimonopoly Service of Russia.
	IF-EU-240a.3	Number of residential customer electric disconnections for nonpayment, percentage reconnected within 30 days	Additional ESG Data, p.282 The regulatory framework for disconnecting electricity is provided by Russian Federation Government Resolutions No. 354 and No. 442, which state that the contractor (organisation providing housing and utilities services), if there are legal grounds, terminates or suspends the provision of unpaid services.
	IF-EU-240a.4	Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	Energy affordability is mainly determined by regional factors and maximum federal rates that stipulated and controlled by the Federal Antimonopoly Service of Russia.
	IF-EU-320a.1	1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	Additional ESG Data, p.293
End-Use Efficiency & Demand	IF-EU-420a.1	Percentage of electric utility revenues from rate structures that (1) are decoupled and (2) contain a lost revenue adjustment mechanism (LRAM)	Not applicable
End-Use Efficiency & Demand Nuclear Safety & Emergency Management	IF-EU-420a.2	Percentage of electric load served by smart grid technology	Additional ESG Data, p.282
	IF-EU-420a.3	Customer electricity savings from efficiency measures, by market	The Company does not implement efficiency measures for electricity savings on the customer's side.
	IF-EU-540a.1	Total number of nuclear power units, broken down by U.S. Nuclear Regulatory Commission (NRC) Action Matrix Column	Not applicable
Nuclear Safety & Emergency Management Grid Resiliency	IF-EU-540a.2	Description of efforts to manage nuclear safety and emergency preparedness	Not applicable
	IF-EU-550a.1	Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations	Digitalisation and information security, p.190
Grid Resiliency Activity metrics	IF-EU-550a.2	(1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI), and (3) Customer Average Interruption Duration Index (CAIDI), inclusive of major event days	Additional ESG Data, p.282 According to the legislation of the Russian Federation, utilities must provide the electricity without interruption. The Company has redundancy infrastructure and backup plans to ensure 24/7/365 availability. The regulatory framework for disconnecting electricity is provided by Russian Federation Government Resolutions No. 354 and No. 442.
	IF-EU-000.A	Number of: (1) residential, (2) commercial, and (3) industrial customers served	Commercially sensitive information that may not be disclosed.
Activity metrics	IF-EU-000.B	Total electricity delivered to: (1) residential, (2) commercial, (3) industrial, (4) all other retail customers, and (5) wholesale customers	Commercially sensitive information that may not be disclosed.
	IF-EU-000.C	Length of transmission and distribution lines	Business model, p.20
	IF-EU-000.D	Total electricity generated, percentage by major energy source, percentage in regulated markets	Business model, p.20
	IF-EU-000.E	Total wholesale electricity purchased	Additional ESG Data, p.281

COMPLIANCE OF EN+ RESULTS WITH REQUIRED THRESHOLDS UNDER THE EU TAXONOMY

The European Commission, in order to meet climate and energy targets by 2030 as part of the European Green Deal, has developed the EU Taxonomy, a classification system that establishes a list of sustainable economic activities. The EU Taxonomy provides stakeholders with science-based evidence on the sustainability of economic sectors and enables them to better engage with them, redirecting resources and investments towards

climate change mitigation to make societies more resilient to environmental shocks. The EU Taxonomy is based on the Taxonomy pack for feedback published in August 2021.

Currently, the average value of all En+ smelters by a margin meets the updated technical selection criteria.

Name	Specific GHG emissions from electrolysis (Scope 1+2[1]) , t CO ₂ eq/t Al
En+ Metals segment, average	<3
EU Taxonomy mitigation benchmark ¹	<3
EU Taxonomy adaptation benchmark ²	6

Topic	Metric and Required threshold	Response and reference
Aluminium production ³	Criterion 1. Direct emissions for primary aluminium production is at or below the value of the related EU-ETS benchmark of 1.514 tCO ₂ e/t.	Direct GHG emissions per tonne in electrolysis operations are 1,99 t CO ₂ e/t Al, evaluated in accordance with an internally approved methodology of determination of direct GHGs from primary aluminium production.
	Criterion 2. Electricity consumption for electrolysis is at or below 15.29 MWh/t (European average emission factor according to International Aluminium Institute, 2017).	Average electricity consumption at aluminium smelters of En+ Group is 14.71. (average for KUBAL (Sweden), Alscon (Nigeria), Boguchansky Aluminium Smelter, Bratsk Aluminium Smelter, Volgograd Aluminium Smelter, Irkutsk Aluminium Smelter, Kandalaksha Aluminium Smelter, Novokuznetsk Aluminium Smelter, Sayanogorsk Aluminium Smelter, Nadvoitsy Aluminium Smelter, Krasnoyarsk Aluminium Smelter).
Production of electricity from hydropower	The activity complies with all of the following criteria: The life-cycle emissions of pollutants contributing to the acidification potential are lower than 0.05/0.15/0.10 kg SO ₂ aeq per 1 MWh of electricity output to the power grid or to directly connected customers ⁴ . The life-cycle emissions of pollutants contributing to the photochemical ozone creation potential are lower than 0.05 kg C ₂ H ₂ aeq per 1 MWh of electricity output to the power grid or to directly connected customers ⁵ . The life-cycle emissions of pollutants contributing to the photochemical ozone creation potential are lower than 0.05 kg PO ₄ aeq per 1 MWh of electricity output to the power grid or to directly connected customers ⁶ . The life-cycle emissions of PM ₁₀ are lower than 0.05 kg/per 1 MWh of electricity output to the power grid or to directly connected customers The life-cycle emissions of PM ₁₀ are lower than 0.02 kg/per 1 MWh of electricity output to the power grid or to directly connected customers.	The Company does not conduct evaluation of greenhouse gas emissions for electricity produced from hydropower in accordance with the standards referenced in the EU Taxonomy. The company did calculation based on actual measurements and calculations that carrying out in accordance with IHA (International Hydropower Association) methodologies.

1 / Scope 1 (1.5 t CO₂e/tAl) + Scope 2 (15.5 MWh/t Al * 0.1 t CO₂e/MWh) = 3.05 tCO₂e/tAl = ~ 3 tCO₂e/tAl
 2 / Scope 1 (1.5 t CO₂e/tAl) + Scope 2 (15.5 MWh/t Al * 0.27 t CO₂e/MWh) = 5.68 tCO₂e/tAl = ~ 6 tCO₂e/tAl
 3 / The topic is disclosed in accordance with the requirements of the Taxonomy Technical Report published in June 2019
 4 / The calculation of the acidification potential includes all pollutants relevant for the activity, in particular NO_x, SO₂ and NH₃
 5 / The calculation of the photochemical ozone creation potential includes all pollutants relevant for the activity, in particular CO, NO_x and relevant VOCs.
 6 / The calculation of the eutrophication potential includes all pollutants relevant for the activity, in particular NO_x, NH₄⁺, N, PO₄³⁻, P and COD (chemical oxygen demand).

DISCLOSURE OF THE SECR REQUIREMENTS IN THE REPORT

The UK government's Streamlined Energy and Carbon Reporting (SECR) policy was implemented on 1 April 2019, when the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report)

Regulations 2018 came into force. SECR extends the reporting requirements for quoted companies and mandates new annual disclosures for large unquoted and limited liability partnerships (LLPs).

Topic	Requirement	Response and reference
GHG emissions	Annual global GHG emissions (global scope 1 and 2 GHG emissions in tonnes of carbon dioxide equivalent including all seven gases included under the Kyoto Protocol) from activities for which the company is responsible, including combustion of fuel and operation of any facility, and the annual emissions from the purchase of electricity, heat, steam or cooling by the company for its own use	The greenhouse gases included in the calculations are listed in the Climate Leadership and energy efficiency section of the Report.
	Emissions from business travel in rental cars or employee-owned vehicles where company is responsible for purchasing the fuel (Scope 3)	The Company does not conduct evaluation.
	Energy use and GHG emissions figures from previous year (exempt in 1st year)	The indicators are disclosed for 2020-2022.
Intensity measurement	At least one emissions intensity ratio	Climate Leadership and energy efficiency, p.82
Energy use	Underlying global energy use	Climate Leadership and energy efficiency, p.83
Measures taken to improve energy efficiency	Narrative on energy efficiency measures	Climate Leadership and energy efficiency, p.82
Quantification and reporting methodology	Details of methodology used	The indicators on GHG emissions are evaluated in accordance with 2006 IPCC Guidelines and Methodological Guidance on the Quantification of Greenhouse Gas Emissions by Entities Engaging in Business and Other Activities in the Russian Federation (approved by Order No. 300 of the Ministry of Natural Resources and the Environment of Russia dated 30 June 2015).



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Independent practitioner's assurance report

To the Board of Directors of EN+ GROUP IPJSC

Subject matter

We have been engaged by EN+ GROUP IPJSC (hereinafter "the Company") to perform a limited assurance engagement, as defined by International Standards on Assurance Engagements, (herein "the Engagement"), to report on the sustainability section of EN+ GROUP IPJSC Integrated Report and Appendix "Additional ESG data" (hereinafter "the Report") as of 31 December 2022 or for 2022 (hereinafter "the reporting period").

Under this engagement, we did not perform any procedures with regard to the following:

- ▶ Forward-looking statements on performance, events or planned activities of the Company;
- ▶ Statements of third parties included in the Report;
- ▶ Correspondence between the Report and recommendations of the Task Force on Climate-Related Financial Disclosures, the Streamlined Energy and Carbon Reporting technical guidelines, thresholds under EU Taxonomy, requirements and recommendations of the London Stock Exchange, compliance with Directive 2014/95/EU, compliance with Partnerships and Groups (Accounts and Non-Financial Reporting) Regulations 2016 n. 1245, compliance with Aluminium Carbon Footprint Technical Support Document prepared by the International Aluminium Institute.

Applicable criteria

In preparing the Report the Company applied Global Reporting Initiative Sustainability Reporting Standards (hereinafter "GRI Standards") ("in accordance" option), Sustainability Accounting Standards Board standards (hereinafter "SASB standards") and the sustainability reporting principles of the Company as set forth in the Section "About the Report" of the Report.

The Company's management responsibilities

The Company's management is responsible for selecting the Criteria, and for presenting the Report in accordance with the Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the Report, such that it is free from material misstatement, whether due to fraud or error. In addition, the Company's management is responsible for ensuring that the documentation provided to the practitioner is complete and accurate.

Practitioner's responsibilities

Our responsibility is to express a conclusion on the presentation of the Report based on the evidence we have obtained.

We conducted our assurance engagement in accordance with International Standard for Assurance Engagements (revised) *International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* (hereinafter "ISAE 3000"). ISAE 3000 requires that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Report is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our conclusion.

Our independence and quality control

We apply International Standard on Quality Control 1 (ISQC 1) and International Standard on Quality Management 1 (ISQM 1) adopted by the International Federation of Accountants in respect of those matters for which the relevant requirements in ISQC 1 are either missing or less in scope (or in nature) than the requirements in ISQM 1, and accordingly, we maintain a robust system of quality control, including policies and procedures documenting compliance with relevant ethical and professional standards and requirements in law or regulation.

We comply with the independence and other ethical requirements of the IESBA Code of Ethics for Professional Accountants, which establishes the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Summary of work performed

The assurance engagement performed represents a limited assurance engagement. The nature, timing and extent of procedures performed in a limited assurance engagement is limited compared with that necessary in a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is lower.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within information technology systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Report and related information, and applying analytical and other appropriate procedures.

Our procedures included:

- ▶ Inquiries of the representatives of the Company management and specialists responsible for its sustainability policies, activities, performance and relevant reporting;
- ▶ Analysis of key documents related to the Company sustainability policies, activities, performance and relevant reporting;



- ▶ Obtaining understanding of the process used to prepare the information on sustainability performance indicators of the Company;
- ▶ Analysis of the Company stakeholder engagement activities reviewing the results of the stakeholder survey and participating in stakeholder meetings
- ▶ Analysis of material sustainability issues identified by the Company;
- ▶ Identification of sustainability issues material for the Company based on the procedures described above and analysis of their reflection in the Report;
- ▶ Review of data samples regarding key human resources, environmental protection, energy consumption, climate change, health and safety, and procurement indicators for the reporting period, to assess whether these data have been collected, prepared, collated and reported appropriately;
- ▶ Visit to the Metals segment subsidiary RUSAL Krasnoyarsk Aluminium Smelter and the Power segment subsidiary Krasnoyarsk HPP in order to interview executives responsible for human resources, environmental protection, health and safety, and gather evidence supporting the assertions on the Company's sustainability policies, activities, events, and performance made in the Report

- ▶ Collection on a sample basis of evidence substantiating other qualitative and quantitative information included in the Report at the Moscow headquarter level;
- ▶ Assessment of compliance of the Report and its preparation process with Company's sustainability reporting principles;
- ▶ Assessment of compliance of information and data disclosures in the Report with the requirements of the "in accordance" option of reporting with the GRI Standards (2021) and Electric Utilities and Power Generators Sustainability Accounting Standard (2018-10) and Metals and Mining Sustainability Accounting Standard (version 2021-12) prepared by SASB Standards Board.

We also performed such other procedures as we considered necessary in the circumstances.

Conclusion

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Report and Appendix "Additional ESG data" are not represented fairly, in all material respects, according to the Criteria.

M.S. Khachatryan
Partner
TSATR – Audit Services Limited Liability Company

27 April 2023

Details of the independent practitioner

Name: TSATR – Audit Services Limited Liability Company
Record made in the State Register of Legal Entities on 5 December 2002, State Registration Number 1027739707203.
Address: Russia 115035, Moscow, Sadovnicheskaya naberezhnaya, 77, building 1.
TSATR – Audit Services Limited Liability Company is a member of Self-regulatory organization of auditors Association "Sodruzhestvo". TSATR – Audit Services Limited Liability Company is included in the control copy of the register of auditors and audit organizations, main registration number 12006020327.

Details of the entity

Name: EN+ GROUP IPJSC
Record made in the State Register of Legal Entities on 9 July 2019, State Registration Number 1193926010398.
Address: Russia 236006, Kaliningrad, Oktyabrskaya street, 8, office 34.

APPENDICES GLOSSARY

Units of measurement

bn	Billion
CO ₂	Carbon dioxide
CO ₂ e	CO ₂ equivalent
CO ₂ e/t Al	CO ₂ equivalent per tonne of aluminium
EUR	Euro
Gcal	Gigacalorie, a unit of measurement for heating energy
Gcal/h	Gigacalorie per hour, a unit of measurement for heating power capacity
GJ	Gigajoules
GJ/t	Gigajoules per tonne
GJ/MWh	Gigajoules per megawatt-hour
GW	Gigawatt (one million kilowatts)
GWh	Gigawatt-hour (one million kilowatt-hours)
h	Hour
kA	Kilo-amperes
km	Kilometre
koz	Thousand troy ounces
kt	Thousand metric tonnes
kt CO ₂ e	Thousand metric tonnes of carbon dioxide equivalent
ktpa	Thousand metric tonnes per annum
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour, a unit of measurement for produced electricity
lm	Linear meters
m ³	Cubic metres
MJ	Megajoules
mn	Million
mt	Million metric tonnes
MtCO ₂ e	Metric tonnes of carbon dioxide equivalent
mtpa	Million tonnes per annum
MW	Megawatt (one thousand kilowatt), a unit of measurement for electrical power capacity
MWh	Megawatt-hour (one thousand kilowatt-hours), a unit of measurement for produced electricity
pcs.	Pieces
p.p.	Percentage point
RUB	Rouble
t, tonne	One metric tonne (one thousand kilograms)
ths	Thousand
tpa	Tonnes per annum
TW	Terawatt (one billion kilowatts)
TWh	Terawatt-hour (one billion kilowatt-hours)
USD	United States dollar

Terms and abbreviations

ABS Ship	American Bureau of Shipping (ABS) rules and guidelines based on the principles of naval architecture, marine engineering and related disciplines
Adjusted EBITDA	For any period represents the results from operating activities adjusted for amortisation and depreciation, impairment charges and loss on disposal of property, plant and equipment for the relevant period
Adjusted net profit	For any period is defined as the net (loss)/profit adjusted for the net effect of the Company's investment in Norilsk Nickel, the net effect of derivative financial instruments and the net effect of non-current assets impairment
AIPP	All-Ireland Pollinator Plan
Al	Aluminium
ALLOW	RUSAL's aluminium brand with an independently verified low carbon footprint. Carbon footprint is less than 4t CO ₂ e per tonne of aluminium (smelter direct and indirect emissions only)
ALSCON	Aluminium Smelter Company of Nigeria Ltd., a company incorporated in Nigeria and in which UC RUSAL indirectly holds an 85% interest
APQP	Advanced Product Quality Planning
A&RC	Audit and Risk Committee
ASI	Aluminium Stewardship Initiative (ASI)
ASW	Ash and Slag Waste
ATS	Joint-stock company "Administrator of the trading system of the wholesale electricity market"
Aughinish	Aughinish Alumina Refinery, Aughinish Alumina, or Aughinish Alumina Limited, a wholly owned subsidiary of RUSAL incorporated in Ireland
B20	Business 20
BAT	Best available technologies
BEMO, BEMO project	Boguchany Energy and Metals Complex, involving the construction of the Boguchany Hydro Power Plant (Boguchany HPP) and the Boguchany Aluminium Smelter (BoAZ, Boguchany AS), a joint 50/50 project of UC RUSAL and RusHydro. BoAZ project involves the construction of a 600,000 tpa greenfield aluminium smelter on a 230 hectare site, located approximately 8 km to the south-east of the settlement of Tayozhny in the Krasnoyarsk Region and approximately 160 km (212 km by road) from the Boguchany HPP
BIAC	Business and Industry Advisory Committee to the OECD
Board, BoD	Board of Directors of the Company
BrAZ	Bratsk Aluminium Smelter or PJSC RUSAL Bratsk, a wholly owned subsidiary of RUSAL incorporated under the laws of the Russian Federation
BRICS	Brazil, Russia, India, China and South Africa
BS	Business System
CAC	Capacity Allocation Contracts
CAPEX	Capital expenditures
CBAM	Carbon Border Adjustment Mechanism
CC	Compliance Committee
CCO	Competitive capacity outtake
CCR	Coal Combustion Residual
CCS	Combined Charging System
CCUS	Carbon capture, use and storage technology
CECC	Canada Eurasia Chamber of Commerce
CEO	Chief Executive Officer
CDP	Carbon Disclosure Project
CGC	Corporate Governance Committee
CHP	Combined heat and power plant

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CIS	Commonwealth of Independent States
CPLC	Carbon Pricing Leadership Coalition
CO	Carbon Monoxide
Continuance Date	9 July 2019, when: <ul style="list-style-type: none"> - The Company was registered as an international public joint-stock company in the Unified State Register of Legal Entities of the Russian Federation and changed its legal jurisdiction of incorporation from Jersey to Russia (the "Continuance") - The Company's name was changed from EN+ GROUP PLC to EN+ GROUP IPJSC
COP	Conferences of the Parties
DAM, day-ahead market	The competitive selection of price bids of suppliers and buyers conducted by ATS a day before the actual delivery of electricity with the determination of prices and volumes of delivery for each hour of the day
Directorate for Control	The Directorate for Control and Internal Audit
DNV Ship	DNV GL certification, ensuring that ships or their components meet a number of standards, also known as class rules. These classes take into account safety, reliability and environmental impact criteria
Downstream Division	The new division of RUSAL, which includes enterprises for the production of foil and containers, as well as powders and wheels
DTRs	The FCA's Disclosure Guidance and Transparency Rules
EBITDA	Earnings before interest, taxes, depreciation and amortisation
ELIS	Environmental labelling and information schemes
Eco-Søderberg	Eco-Søderberg is a technology developed by RUSAL to produce aluminium in modernised electrolyzers, the main advantage of which is the use of environmentally friendly mass with low pitch content
En+, EN+ GROUP, En+, En+ Group, we, the Company, the Group	EN+ GROUP IPJSC and its subsidiaries, whose results are included in the consolidated financial statements prepared in accordance with the International Financial Reporting Standards
EuroSibEnerg	JSC EuroSibEnerg is a 100% subsidiary of En+ Group, managing its power assets
ESG	Environmental, social and governance
ETC	Energy Transformation Commission
ETC (RUSAL)	Engineering and Technology Centre
EU	European Union
EurAllumina	EurAllumina S.p.A., a 56.2% subsidiary of RUSAL
EuroSibEnerg	JSC EuroSibEnerg, a 100% subsidiary of En+ Group managing its power facilities
FCA	The UK's Financial Conduct Authority
FCF	Free cash flow
FCPA	US Foreign Corrupt Practices Law
FFI	Fauna & Flora International
FSSC 22000	FSSC 22000 contains a complete certification Scheme for Food Safety Management Systems based on existing standards for certification (ISO 22000, ISO 22003 and technical specifications)
GDR	Global depositary receipt
GHG	Greenhouse gas
GHG emissions Scope 1	Direct greenhouse gas emissions from sources owned or controlled by the Company, e.g., emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment. Direct CO ₂ emissions from the combustion of biomass are not included in Scope 1, as they are reported separately
GHG emissions Scope 2	Indirect energy greenhouse gas emissions. Scope 2 accounts for GHG emissions resulting from the generation of purchased heat and electricity consumed by a company. Purchased heat and electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the company. Scope 2 emissions physically occur at the facility where heat and electricity are generated

GHG emissions Scope 3	Greenhouse gas emissions from activities of assets not owned or controlled by the Company, but on which it indirectly impacts in its value chain. Emissions include all sources outside the boundaries of Scope 1 and 2, including those associated with the extraction and production of purchased materials, fuels and services, transportation, outsourced activities, waste disposal, etc.
GR	Government Relations
GRI	Global Reporting Initiative
GSEP	Global Sustainable Electricity Partnership
GSM	General shareholders meeting
G20	Group of Twenty
HPP	Hydropower plant
HR	Human resources
HS	Health & Safety
HSE	Health, safety and environment
HSE Committee	Health, Safety and Environment Committee
HSE Directorate	Health, Safety and Environment Directorate
Hybrid perovskites	Class of semiconductor that combines the advantages of organic and inorganic semiconductors, finding use as a more competitive material for solar cells than silicon
IAD	Internal Audit Directorate
IAI	International Aluminium Institute
IATF 16949	IATF 16949 a quality management system for organisations in the automotive industry, using the Advanced Product Quality Planning (Production Part Approval Process) approach
ICS	Internal Control System
IES	Integrated energy system – an aggregated production and other electricity property assets, connected via a unified production process (including production in the form of the combined generation of electrical and heat) and the supply of electrical energy under the conditions of a centralised operating and dispatch management
IESK	Irkutsk Electric Grid Company
IFRS	International Financial Reporting Standards
ILM&T	Institute of Light Materials and Technologies
INRTU	Irkutsk National Research Technical University
IUCN	International Union for the Conservation of Nature and Natural Resources
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPO	Initial public offering
I-REC	International renewable energy certificates
IRENA	International Renewable Energy Agency
IrkAZ	Irkutsk Aluminium Smelter, a branch of RUSAL Bratsk in Shelekhov
Irkutskenergo	Irkutsk Public Joint Stock Company of Energetics and Electrification, a power generating company controlled by En+ by more than 30% of Irkutskenergo's issued share capital
IATF 16949	IATF 16949:2016, an international "Quality management systems" standard for the automotive industry developed by the International Automotive Industry Task Force (IATF)
ISO 9001	ISO 9001:2015, an international "Quality management systems – Requirements" standard developed by the International Organisation for Standardisation setting the criteria for quality management systems and the only standard in the family that can be certified to
ISO 14001	ISO 14001:2015, an international "Environmental management systems – Requirements with guidance for use" standard developed by the International Organisation for Standardisation setting the criteria for an environmental management system and can be certified to

APPENDICES

ISO 45001	ISO 45001:2018, an international "Occupational health and safety management systems – Requirements with guidance for use" standard developed by the International Organisation for Standardisation setting the criteria for health and safety management systems and can be certified to
JORC	Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australasian Institute of Geoscientists & the Minerals Council of Australia
JSC	Joint-stock company
Kaizen	An approach that promotes continuous process improvement. It is based on creating a corporate culture based on communication and cooperation between employees for incremental process improvements
KPI	Key performance indicator
KrAZ	Krasnoyarsk Aluminium Smelter or JSC RUSAL Krasnoyarsk, a wholly owned subsidiary of RUSAL incorporated under the laws of the Russian Federation
KUBAL	Kubikenborg Aluminium AB, a wholly owned subsidiary of RUSAL incorporated in Sweden
LIBOR	In relation to any loan: <ul style="list-style-type: none"> - the applicable screen rate (being the British Bankers' Association Interest Settlement Rate for dollars for the relevant period, displayed on the appropriate page of the Reuters screen) - (if no screen rate is available for dollars for the interest period of a particular loan) the arithmetic mean of the rates (rounded upwards to four decimal places) as supplied to the agent at its request quoted by the reference banks to leading banks in the London interbank market, as of the specified time (11:00 am in most cases) on the quotation day (generally two business days before the first day of that period unless market practice differs in the Relevant Interbank Market, in which case the quotation day will be determined by the agent in accordance with market practice in the Relevant Interbank Market) for the offering of deposits in dollars and for a period comparable to the interest period for that loan
LIMS	Laboratory Information Management System
LLC	Limited liability company
LME	London Metal Exchange
LR	The Listing Rules published by the UK's Financial Conduct Authority in its capacity as competent authority under the Financial Services and Markets Act 2000 (as amended) and the FCA's Disclosure Guidance and Transparency Rules
LSE	London Stock Exchange
LTIFR	The Lost Time Injury Frequency Rate calculated by the Group as the sum of fatalities and lost time injuries per 200,000 man-hours
Management Team	Executive Directors and Officers of the Company
Market Council	The non-commercial organisation formed as a result of a non-commercial partnership, which is intended to unite energy market participants and major consumers of electrical energy through membership of that body. The council is intended to ensure the proper functioning of commercial market infrastructure and effective exchanges between the wholesale and retail electrical energy markets. Additionally, it is intended to promote investment in the electrical energy industry by creating a healthy market and even playing field for participants of both the wholesale and retail electrical energy markets, when drafting new rules and regulations concerning the electrical energy industry, and facilitate self-regulation of the wholesale and retail trade in electrical energy, power and other products and services which is permissible in the wholesale and retail electrical energy markets. The council's aim is to ensure the security of energy supply in the Russian Federation, unity within the economic space, economic freedom and competition in the wholesale and retail electrical energy markets, by striking a balance between the interests of suppliers and buyers and the needs of society in general in terms of having a reliable and stable source of electrical energy
Metals segment	The Metals segment is comprised of UC RUSAL (56.88% owned by En+ Group). The power assets of UC RUSAL are included into the Metals segment
MES	Manufacturing execution system

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Mineral Resource	A concentration or occurrence of material of intrinsic economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are subdivided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories Inferred Mineral Resource Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability Indicated Mineral Resource The part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed Measured Mineral Resource A Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity
MOEX	Moscow Exchange
N/A	Not applicable
NC	Nominations Committee
Net debt	The sum of loans and borrowings and bonds outstanding less total cash and cash equivalents as at the end of the relevant period, in each case attributable to the Group, Power or Metals segment, as the case may be
New Energy	The New Energy Programme assumes largescale overhaul and replacement of the core equipment at the Company's largest Siberian HPPs, i.e. Krasnoyarsk, Bratsk, Irkutsk and Ust-Ilimsk. The programme envisages the modernisation of hydroelectric generation units and the replacement of runners
NGO	Non-governmental organisations
Nikolaev Alumina Refinery or NGZ	Mykolaiv Alumina Refinery Company Limited, a company incorporated under the laws of the Ukraine, which is a wholly-owned subsidiary of RUSAL
NkAZ	Novokuznetsk Aluminium Smelter or RUSAL Novokuznetsk JSC, a company incorporated under the laws of the Russian Federation, which is a wholly owned subsidiary of UC RUSAL
Norilsk Nickel	MMC NORILSK NICKEL PJSC, incorporated under the laws of the Russian Federation
OECD	Organisation for Economic Cooperation and Development
OFAC	The Office of Foreign Assets Control (OFAC) of the US Department of the Treasury
OFAC Sanctions	The designation by OFAC of certain persons and certain companies which are controlled or deemed to be controlled by some of these persons into the Specially Designated Nationals List
OHS	Occupational health and safety
OHSMS	Occupational Health and Safety Management Systems

Ore Reserves	The economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves Probable Ore Reserve The economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the coraterial is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified Proved Ore Reserve The economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified
PCB	Polychlorinated biphenyl
PEFA	Primary Equivalent Foundry Alloys
PFC	Perfluorocarbons
PLC	Public limited company
Power segment	The Power segment is predominantly comprised of power assets and operations owned by En+ Group. The Power segment engages in all aspects of the power industry, including electric power generation, power trading and supply
PPE	Personal protective equipment
QAL	Queensland Alumina Limited, a company incorporated in Queensland, Australia, in which RUSAL indirectly holds a 20% equity stake. On 20 March 2022, the Australian Government imposed an immediate ban on exports of alumina and aluminium ores, including bauxite, to Russia
Q&A	Question and answer
QMS	Quality management system
RA	Rating agencies
RA-550	RA-550 technology is recognised as a model solution in the sphere of aluminium reduction by leading experts in the global aluminium industry
RAS	Russian Accounting Standards
R&D	Research and Development
RemCom	Remuneration Committee
RoW	Rest of the World ex-China
RUSAL, the Metals segment	United Company RUSAL Plc, incorporated under the laws of Jersey with limited liability (56.88% owned by En+ Group)
RusHydro	RusHydro PJSC (Public Joint-Stock Company Federal Hydro-Generating Company – RusHydro) organised under the laws of the Russian Federation, an independent third party

SAZ	Sayanogorsk Aluminium Smelter or RUSAL Sayanogorsk or Sayanogorsk smelter or RUSAL JSC Sayanogorsk, a company incorporated under the laws of the Russian Federation, which is a wholly owned subsidiary of UC RUSAL
SASB	Sustainability Accounting Standards Board
SBTi	Science Based Targets initiative, a joint initiative by CDP, UN Global Compact, World Resources Institute that was established to drive corporate ambition and help businesses pursue bolder solutions to climate change
SDG	Sustainable Development Goal
SDN list, Specially Designated Nationals List	List of Specially Designated Nationals and Blocked Persons published by OFAC. US persons are generally prohibited from dealing with assets of persons designated in the SDN List which are subject to the US jurisdiction, subject to certain exemptions and exclusions set out in licences issued by OFAC
SECR	Streamlined energy and carbon reporting
SignAL	En+'s corporate 24-hour hotline accessible through a variety of communication methods
SMR	Strikeforce Mining and Resources PLC
SPP	Solar power plant
TCFD	Task Force on Climate-Related Financial Disclosures
TPP	Thermal power plant
UES	Unified Energy System
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNGC	United Nations Global Compact
UN SDGs	United Nation's Sustainable Development Goals
USRBC	U.S. – Russia Business Council
VAP	Value-added products. Includes wire rod, foundry alloys, billets, slabs, high purity and others
VOCs	Volatile Organic Compounds
Wholesale electricity and capacity market	Sphere for the turnover of electric energy and capacity within the framework of Russia's integrated energy system within the country's unified economic space with the participation of large electricity producers and consumers that have the status of wholesale market objects, confirmed in full accordance with the Russian Federal Law "On the electric power industry" (by the Russian Government). The criteria for including large electricity producers and consumers in the category of large producers and large consumers are also established by the Russian government
Windalco	West Indies Alumina Company, a company incorporated in Jamaica, in which RUSAL indirectly holds a 100% stake
y-o-y	Year-on-year


APPENDICES

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DISCLAIMER

The information presented in this Annual Report only reflects the Company's position during the review period from 1 January 2022 to 31 December 2022 (the "Review Period"), unless otherwise specified. Accordingly, all forward-looking statements, analyses, reviews, discussions, commentaries and risks presented in this Annual Report (excluding this disclaimer and the Corporate Governance section, or unless otherwise specified) are based on the financial information available to the Company covering the Review Period only.

This Report may include statements that are, or may be deemed to be, "forward-looking statements". These forward-looking statements may be identified by the use of forward-looking terminology, including the terms "believes", "estimates", "plans", "projects", "anticipates", "expects", "intends", "may", "will" or "should" or, in each case, their negative or other variations or comparable terminology, or by discussions of strategy, plans, objectives, goals, future events or intentions. Forward-looking statements may, and often do, differ materially from actual results. Any forward-looking statements reflect the Company's current view with respect to future events and are subject to risks relating to future events and other risks, uncertainties and assumptions relating to the Group's business, results of operations, financial position, liquidity, prospects, growth or strategies. Many factors could cause the actual results of the Group to differ materially from those set forth in the forward looking statements contained herein, including, among others, macroeconomic conditions, political events, the competitive environment in which the Group operates, the impact of the COVID-19 pandemic and any other outbreaks,

epidemics or pandemics, foreign exchange fluctuations and changes in financial and equity markets, as well as many other risks specifically related to the Group and its operations. Forward-looking statements speak only as of the date they are made.

To the extent available, the industry, market and competitive position data contained in this Report comes from official or third-party sources. Third-party industry publications, studies and surveys generally state that the data contained therein has been obtained from sources believed to be reliable, but that there is no guarantee of the accuracy or completeness of such data. While the Company reasonably believes that each of these publications, studies and surveys has been prepared by a reputable party, neither the Company nor any of its respective directors, officers, employees, affiliates, advisors or agents, have independently verified the data contained therein. In addition, certain industry, market and competitive position data contained in this Report comes from the Company's internal research and estimates based on the knowledge and experience of the Company's management in the markets in which the Company operates. While the Company reasonably believes that such research and estimates are reasonable, they, and their underlying methodology and assumptions, have not been verified by any independent source for accuracy or completeness and are subject to change. Accordingly, reliance should not be placed on any of the industry, market or competitive position data contained in this Report.