Broad vision, **global perspective**

Annual Report 2019

En+ Group is a leading vertically integrated aluminium and power producer

AWARDS FOR PUBLIC DISCLOSURE

In 2019, the Company actively improved its disclosure practices, and its efforts were recognised by the investment community. The Annual Report 2018 received multiple international awards, including:

+ IR Society Awards – Europe: shortlisted for Best annual report – International
+ Corporate & Financial Awards: Bronze for Best printed report: International
+ Vision Awards Annual Report Competition (LACP):
  • Silver Award – for excellence within its industry on the development of the organisation's annual report for the past fiscal year
  • Top 50 Reports Europe/Middle East/Africa Region
  • Top 20 Russian Reports of 2018
  • Technical Achievement Award for overall excellence in the art and method of annual report communications for the past fiscal year

Industry experts recognised the Company's work whilst under sanctions, as well as the prompt reaction upon the lifting of sanctions:

+ The Group's Investor Relations, PR and reputation management handling the sanctions period won Gold for Most effective crisis communications
+ IR Magazine Awards – Europe: En+ Group was shortlisted for Best crisis management

CONTENTS

ABOUT THE REPORT

In this annual report (the "Annual Report" or the "Report"), the terms "En+", "En+ Group", "we", the "Company" and the "Group" in various forms shall mean EN+ GROUP International Public Joint Stock Company/EN+ GROUP IPJSC (or, where relevant, in relation to the Company prior to the Continuance (as defined below), EN+ GROUP PLC) and its subsidiaries whose results are included in the Group's consolidated financial statements prepared in accordance with the International Financial Reporting Standards (the "IFRS").

The Annual Report outlines, *inter alia*, the Company's strategy, business model and corporate governance structure, as well as its internal control and risk management processes. The Group's consolidated financial statements for the year ended and as at 31 December 2019, prepared in accordance with IFRS and accompanied by a report from the Group's auditors, are included in the Report.

With effect from 9 July 2019 (the "Continuance Date"):

a) The Company was registered as an international public jjoint 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")

b) The Company's name was changed from EN+ GROUP PLC to EN+ GROUP IPJSC

Following completion of the Continuance, the Company's ordinary shares were admitted to the Level One Quotation List of the Moscow Exchange (also the "MOEX") on 17 February 2020, creating a diversified platform for investors in equity instruments of the Company and increasing the Company's accessibility to capital markets, and the Company's GDRs were delisted from the Moscow Exchange on 20 April 2020 (17 April 2020 was the last trading date for the GDRs on MOEX). For a detailed discussion of the Continuance and related developments, please refer to the Corporate Governance section of this Annual Report.

This Report has been prepared in accordance with the following laws and regulations:

+ Federal Law No. 39-FZ On Securities Market dated 22 April 1996
+ Regulations No. 454-P On Disclosing Information by Securities Issuers dated 30 December 2014
+ 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

Unless stated otherwise, financial results included in the Annual Report 2019 are presented and calculated based on the consolidated financial statements prepared in accordance with the IFRS.

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 Annual Report may differ marginally from previous disclosures, also as a result of rounding.

Approval of the Report

This Annual Report was preliminarily approved by the Company's Board of Directors (the "Board" or the "Board of Directors") on 15 May 2020 (Minutes No.15 dated 15 May 2020). This date is referred to below as the date of this Report.

AT A GLANCE
Operating review
Sustainable development
Internal control and risk management
Corporate governance
Financial statements

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

We are unique among global natural resources companies. Our business advantage stems from the full integration of world-class hydro power assets that reliably and sustainably supply the energy required for the production of aluminium. In turn, our substantial production capabilities make us the largest aluminium producer outside of China

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 efficiently access and operate in all key aluminium markets including the United States, Western Europe, Japan and South East Asia. 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 efficiently and reliably cater to its core clients in Siberia, including the largest smelters operated by our Metals segment.

Complementarity between our two businesses

Power segment

19.5 GW

Total installed electricity capacity

Metals segment

3.9 mtpa

Total aluminium capacity

Key events and figures

27 January 2019
OFAC sanctions lifted from the Company and its subsidiaries, RUSAL and JSC EuroSibEnergo

28 January 2019
Completion of the first stage of the share swap transaction with Glencore

8 February 2019
Establishment of new Board committees – HSE, and Regulation and Compliance

29 March 2019
RUSAL and RusHydro launched the first production line of Boguchany Aluminium Smelter

1 April 2019
RUSAL initiated a project to plant over 1 million trees in 2019 as part of Russia's largest ever reforestation programme

15 April 2019
RUSAL and Braidy Industries announce intention to construct a green field aluminium rolling mill in Ashland, Kentucky (USA)

09 July 2019
En+ Group redomiciled in Russia

12 July 2019
En+ Group commenced upgrade of the Irkutsk HPP as part of the "New Energy" HPPs Modernization Program

20 September 2019
En+ Group launched ENvision, a data-driven forecasting project to improve management of Lake Baikal

22 September 2019
En+ Group called on the London Metal Exchange to implement mandatory reporting on carbon emissions

28 October 2019
RUSAL signed the first sustainability-linked syndicated pre-export finance facility in Russia for over USD 1 billion

3 February 2020
The Group completed the second stage of the securities exchange agreement with Glencore

12 February 2020
Completion of the acquisition of VTB's stake in En+ Group

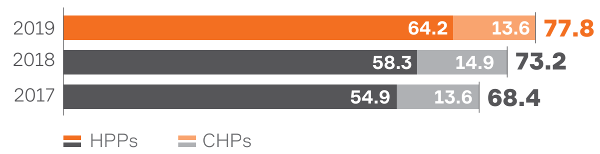
17 February 2020
En+ Group announced the listing of ordinary shares on MOEX

20 April 2020
The Company's GDRs were delisted from the Moscow Exchange (17 April 2020 was the last trading date for the GDRs on MOEX)

Power segment

For more information see p. 40.

Electricity production[1]
(TWh)

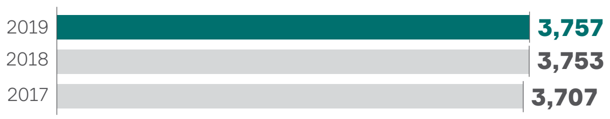


Heat production
(mn Gcal)

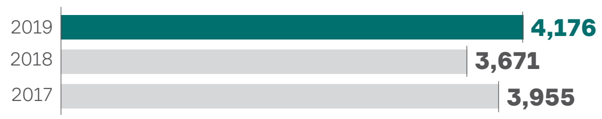
Metals segment

For more information see p. 30.

Aluminium production
(kt)



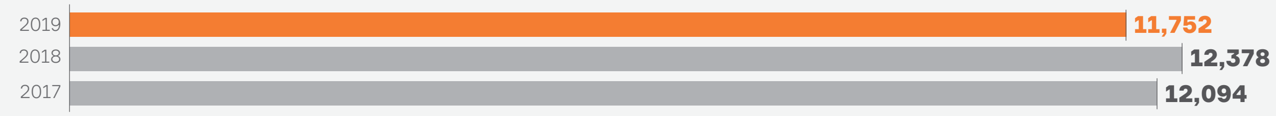
Aluminium sales
(kt)



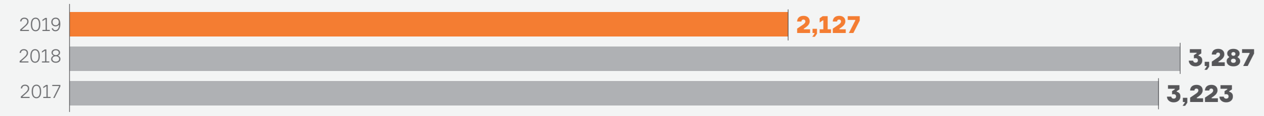
Group financial results

For more information see p. 46.

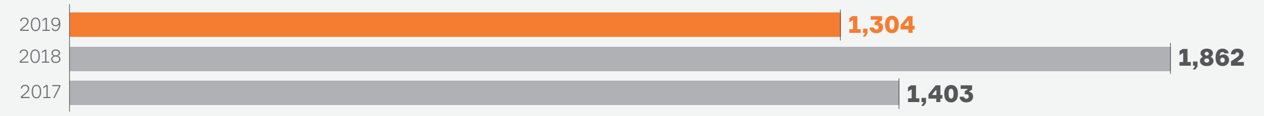
Revenue
(USD mn)



Adjusted EBITDA[2]
(USD mn)



Net profit
(USD mn)

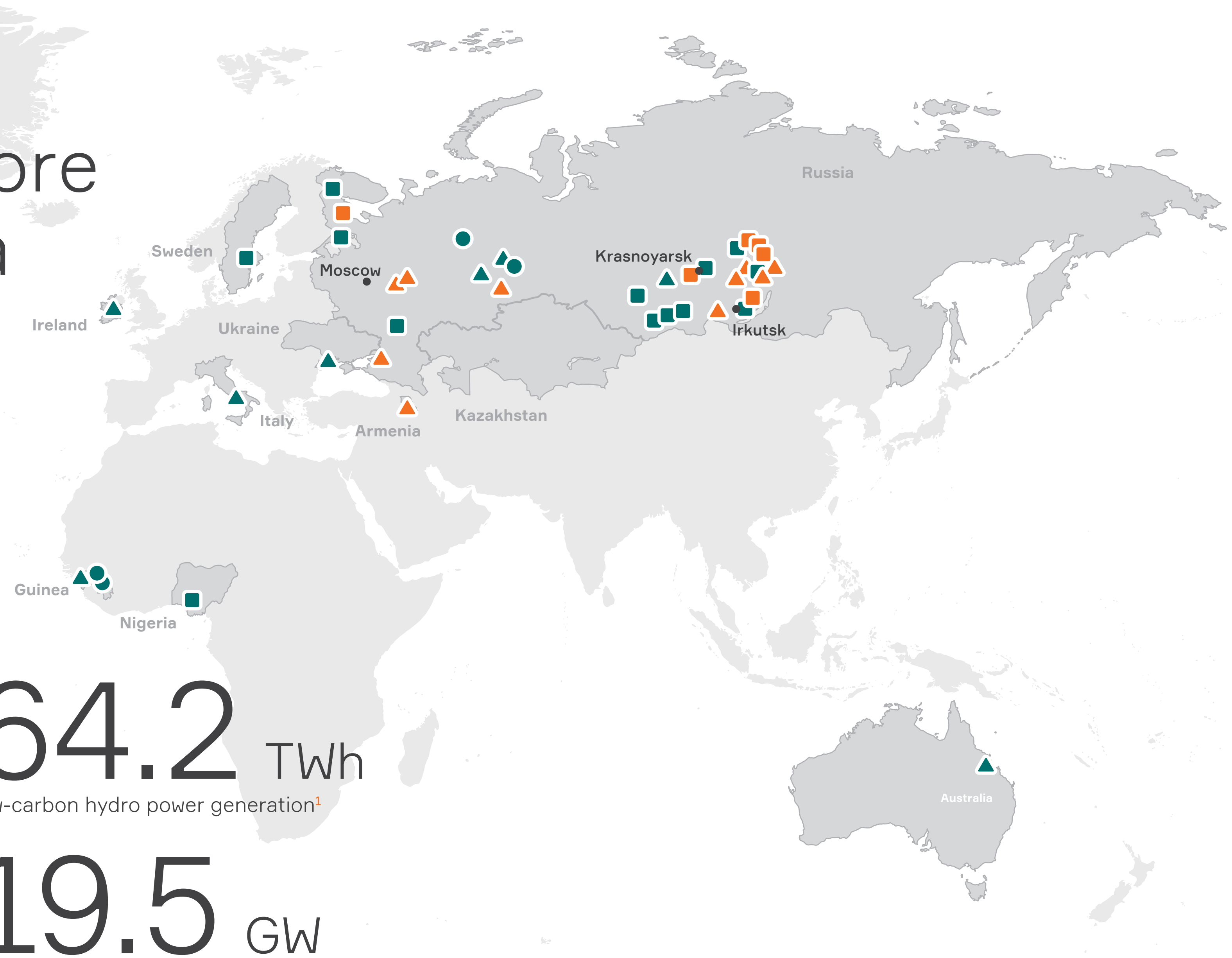


[1] Excluding Onda HPP (installed capacity 0.08 GW), located in the European part of the Russian Federation, leased to RUSAL since October 2014.

[2] 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.

A worldwide presence with core assets in Siberia

En+ is a global leader in aluminium production and renewable energy with a well-established presence across five continents a robust operational hub in Siberia, and about 90 ths people employed



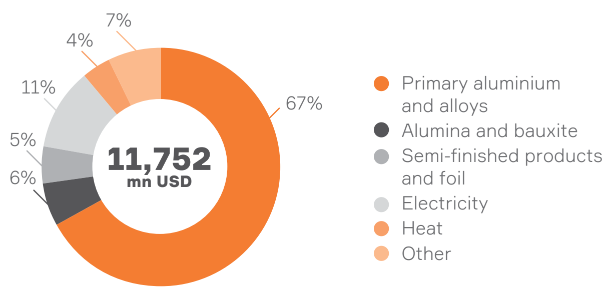
No. 1
aluminium producer excluding China

64.2 TWh
low-carbon hydro power generation[1]

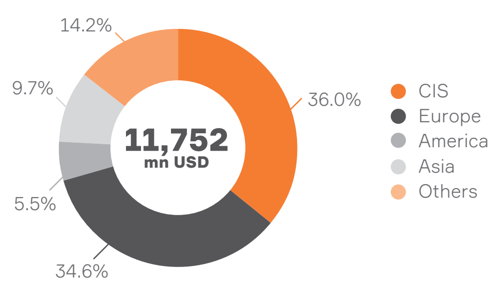
6.3%
of the world's alumina production

19.5 GW
Total installed electricity capacity[2]

Revenue by product,[3] 2019



Revenue split by region,[3] 2019



12
countries

60+
sites

Metals segment

For more information see p. 36.

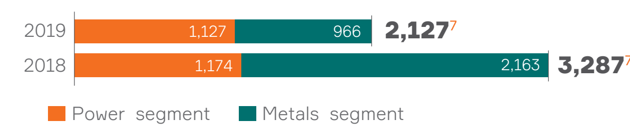
	Total capacity	Production level in 2019
ALUMINIUM		
12 aluminium smelters[4]	3.9 mtpa	3.8 mt
ALUMINA		
9 alumina refineries	10.4 mtpa[5]	7.9 mt
BAUXITE		
7 bauxite mines	20.6 mtpa	16.0 mt

Power segment

For more information see p. 44.

	Total capacity	Production level in 2019
HYDROPOWER		
5 hydro power plants[2]	15.1 GW[2]	64.2 TWh[1]
THERMAL		
16 combined heat and power plants	4.4 GW	13.6 TWh
SOLAR		
1 solar power plant	5.2 MW	6.2 mn kWh

Adjusted EBITDA[6] by segment



[1] Excluding Onda HPP with installed power capacity 0.08 GW and production level of 0.4 TWh in 2019 (located in the European part of Russia, leased to RUSAL).
[2] Including Onda HPP.
[3] From external customers.
[4] Excluding Boguchany Aluminium Smelter (BoAZ), a joint 50/50 project of RUSAL and RusHydro.
[5] RUSAL attributable capacity.

[6] Adjusted EBITDA means, for any period, 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, business segment or any reportable segment, as the case may be. Group figures exclude results from intersegmental operations.
[7] After consolidation adjustments.

Operating review
Sustainable development
Internal control and risk management
Corporate governance
Financial statements

Business model

OUR RESOURCES & INPUTS

Assets

3.9 mtpa
Aluminium capacity[1]

19.5 GW
Electricity capacity

15.1 GW
Hydro capacity

Raw materials

20.6 mtpa
Bauxite production capacity

10.4 mtpa
Alumina production capacity

People

c. 90 ths
employees

RAW MATERIALS

Production in 2019

Bauxite
16.0 mt

Nepheline
4.2 mt

Water

Coal
15.4 mt

REFINING/ POWER GENERATION

Production in 2019

Alumina
7.9 mt

Hydro power generation
64.2 TWh
of electricity

Thermal power generation
13.6 TWh
of electricity

27.3 mn Gcal
of heat

PROCESSING/ TRANSMISSION

Production in 2019

Primary aluminium and value added products
3.8 mt
Production in 2019[1]

Electricity transmission and distribution

SALES & MARKETING

Sales in 2019

4,176 kt
Total

1,547 kt
VAP

Electricity trading and retail

+ Capturing additional margin
+ Direct access to consumers

17.8 TWh

REVENUE[2]

Sales in 2019

7,906 USD mn
Primary aluminium and alloys

668 USD mn
Alumina and bauxite

563 USD mn
Semi-finished products and foil

1,300 USD mn
Electricity

462 USD mn
Heat

CREATING GLOBAL VALUE

Renewable energy
For more information see p. 72.

Income and shareholder value
For more information see p. 135.

Reducing the carbon footprint of the global aluminium industry
For more information see p. 14.

Environmental protection
For more information see p. 74.

Community engagement
For more information see p. 88.

NORNICKEL

En+ Group holds a 27.82% shareholding stake in Norilsk Nickel.
Norilsk Nickel is the world's largest palladium producer, the second nickel producer and one of the leading producers of platinum and copper. The Group's holding allows for significant diversification of earnings as well as broadening of the Group's strategic opportunities.

The market value of the investment in Norilsk Nickel amounted to USD 13.6 billion as at 31 December 2019. The dividends received from Norilsk Nickel accounted for USD 1.1 billion in 2019.

[1] Excluding Boguchany Aluminium Smelter, a joint 50/50 project of RUSAL and RusHydro.
[2] After consolidation adjustments.

“It is important to remember that this was a year of transformation for your Company. We continued to invest strategically to further strengthen our position as a global leader in low-carbon aluminium production and hydro power generation. In addition, we enhanced our attractiveness to investors and partners with the adoption of corporate governance of the highest international standard – an unwavering commitment to safeguarding the interests of all shareholders – and a rigorous focus on efficiency.”

Lord Barker of Battle,
Executive Chairman

Dear shareholders,

The worldwide coronavirus pandemic is occupying all of our minds at present and managing its many impacts is our highest priority. However, before I outline the steps we are taking to safeguard our employees, customers and communities, let's look at 2019.

It is important to remember that this was a year of transformation for your Company. We continued to invest strategically to strengthen further our position as a global leader in low-carbon aluminium production and hydro power generation. In addition, we enhanced our attractiveness to investors and partners with the adoption of corporate governance of the highest international standard – an unwavering commitment to safeguarding the interests of all shareholders – and a rigorous focus on both efficiency and health & safety.

A year of strategic progress powered by our people

It was a challenging year for the global market for aluminium. However, we continued to benefit from the combination of our unique asset base, integrated business model and operational excellence; our underlying operational performance demonstrated again that we are not just a low carbon producer – we also have among the lowest cash costs per tonne of production of aluminium of the major global producers.

This reinforced our position as leaders of the global aluminium industry in terms of returns on capital employed (ROCE, 17% in 2019). Notwithstanding depressed markets, the Group was free cash-flow positive, generating over USD 1.6 billion in FCF in 2019.

I want to note that in light of the progress made last year, the Board of Directors was intending to recommend a dividend distribution to shareholders following the results of 2019. However, in the current unstable environment we consider that this would be imprudent. Nevertheless, it is our intention to return to dividend payments in accordance with the policy announced during the IPO of En+ Group as soon as market conditions allow.

The many advantages of our market position are multiplied many times by the abilities of our highly skilled people who are the driving force behind our business. En+ Group has almost 90,000 employees across five continents. They are key to everything we achieve and I thank them for their continued commitment during difficult times.

The oversight of HSE policy by the Board increased substantially over the last year and the safety of our employees and stakeholders is our highest priority. Tragically, five of our colleagues lost their lives in 2019. The Board carefully reviewed and investigated each incident to identify how to prevent similar events occurring again.

Our clear goal is zero fatalities across all of our operations. We recognise that effectively and fully embedding the lessons from safety incidents across our business is challenging, but neither the Board nor our Executive leadership team will stint their efforts until we have achieved our goal.

To protect our personnel against the virus, the Company has taken proactive measures reflective of the seriousness and severity of the crisis. Wherever possible, our employees around the world are being asked to work remotely. For certain essential employees whose work requires they be on-site, strict health and sanitation measures have been implemented, while rigorously observing official guidance and adopting best practice everywhere. We've also acquired membrane oxygenation devices, lung ventilators, ambulance cars and air recirculation units for Company needs. Needless to say that we are committed to following all protocols and measures taken by the countries in which we operate, as well as the World Health Organisation.

Leading corporate governance

The successful delisting of En+ Group from the U.S. Department of the Treasury's Office of Foreign Asset Control Specially Designated Nationals List in January 2019 was the result of both far reaching corporate governance reforms and substantial changes in the ownership of your Company.

As a result, En+ Group established a new standard for its corporate governance, with a clear majority of Board places occupied by a diverse range of highly experienced Independent Non-Executive Directors.

Sadly, at the time of going to print, the coronavirus pandemic of 2020 had already claimed the life of one of our colleagues, Independent Non-Executive Director Dr Igor Lojevsky. A former senior executive of the World Bank, an energy expert and a distinguished investment banker, Dr Lojevsky had already made an important and valuable contribution to the Group Board. He will be greatly missed by all those who were privileged to know him.

The Corporate Governance and Nominations Committee of the Board is reviewing our disclosure policies as we strive voluntarily to bring our disclosure practices closer to the standards adopted by UK premium listed companies. At the same time our Health, Safety and Environment Committee is developing and implementing new world class standards and performance indicators for the Group's HSE performance.

Lord Barker, EN+ Group Executive Chairman at the CNBC discussion panel, during the World Economic Forum, Davos

February 2020 also saw the completion of the acquisition of VTB Group's stake in En+ Group – this innovative transaction will allow for a simplified ownership structure and together with the Glencore share swap (also closed in February 2020), makes the Group a more attractive investment.

Setting an industry leading example in sustainability

Using the natural energy of Siberia's rivers and Lake Baikal, our hydropower plants produced 64.2 TWh of clean electricity in 2019. Through our key New Energy investment project, which is progressing well, we will further improve the reliability and safety of the Group's hydropower plants. This year we initiated the upgrade of our Irkutsk HPP to boost its installed capacity and output.

We are also investing strategically in our Metals segment where our pioneering ALLOW low-carbon aluminium brand is gaining traction. Our environmentally focused CAPEX programmes at our aluminium smelters and alumina refineries over the next five years will allow us to build on our position as the world's largest producer of low carbon aluminium.

In line with the Group's commitment to drive down its carbon footprint with greater urgency and ambition, during the year the Board also commissioned a full review of strategic options with respect to the Group's remaining coal and coal-fired power assets.

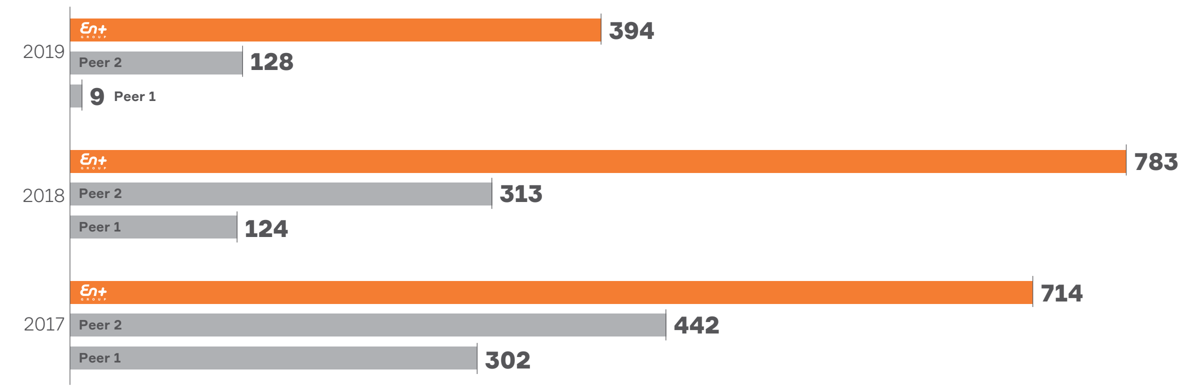
To meet our ambitious sustainability targets, we embraced innovation throughout the Group and continued to invest in R&D. Our perovskite solar cells projects made significant advances and we are now talking to potential partners to market technical solutions. We also started the test production of sulphur polymer concrete using alumina production waste – red mud. In addition, we invested in the implementation of "BigData" aluminium production management at some of our Siberian smelters.

Uniquely placed to drive the low-carbon economy of the future

While what we are doing within En+ is transformational for our business, that focus is not enough. We believe that only by sharing and encouraging best practice, partnering with other businesses and supporting and innovating global initiatives will the low-carbon economy of the future become a reality.

This year saw us join the Energy Transitions Commission (ETC) and we will support the ETC's research into decarbonisation of heavy industries. En+ also joined the United Nations Global Compact and took an active role at the UN Climate Summit.

EBITDA per tonne vs key peers[1] (USD per tonne of aluminium sales)



Source: Companies' filings

We will continue to spearhead our initiative for greater carbon disclosure by producers on the London Metal Exchange. Traceability and transparency are key demands of manufacturers in the low-carbon economy and we feel producers should respond by revealing the carbon footprint of their smelter emissions on their London Metal Exchange warrants. While fighting the coronavirus crisis is our number one priority this year that will not be at the expense of our long term commitment to the environment and our ambition to be a leader in the low carbon economy. We believe that post the coronavirus crisis, the importance placed on sustainability and climate resilience by both consumers and responsible business will only increase.

Positioned sustainably, optimistic outlook

The global coronavirus pandemic means we face an unprecedented challenge affecting people, businesses and markets. Our first priority is to keep our employees safe, but we are also working hard to ensure that we maintain active communications with our customers and all of our stakeholders during this period of uncertainty.

In our sector, En+ is in a uniquely strong position to work through this crisis given the proven resilience of our assets, business model and our substantial anti-crisis management experience.

Despite the very grave impact of the coronavirus, we remain truly optimistic about the long-term outlook for the aluminium market as a building block in the low carbon economy. Our management is taking all possible measures to ensure that the business is well-placed to benefit from market recovery when it comes. As we carefully navigate our way through this set of unprecedented challenges, we remain committed to our values, to investing in our people, to innovation and to the modernisation of our assets.

Above all, we remain committed to helping create a more resilient, low-carbon world. As we emerge from this global crisis, we all have a responsibility to work together to rebuild the global economy on more sustainable foundations.

Rt Hon Lord Barker of Battle
Executive Chairman

[1] Calculation based on a look-through basis, i.e. adjusted to add back EBITDA of the Power segment for each company related to internal electricity sales accounted for as costs in aluminium production segments. EBITDA is divided by aluminium sales (in volumes). For RUSAL, 100% of aluminium produced using green energy assumed. For Peer 2, calculation presented is for Primary Metal segment, assuming all internal energy sales relate to Primary Metal segment. For Peer 1, no adjustments are made given the Power segment's assets are consolidated within the Metals segment.

Carbon clarity

The aluminium industry alone is responsible for over 3% of global carbon emissions.[1] 74% of global primary aluminium is produced with non-renewable energy. Making 100% of aluminium produced by 2050 low carbon will allow us to reduce emissions by 62%[2] of the current level, bringing the industry into alignment with the Paris Agreement.

En+ GROUP

2.6 tCO_2/tAl

Average for all of the Group's aluminium (level 1 emissions)[3]

CO_2

98.3%

of En+ Group aluminium is made with hydropower

AL

If all producer switched to low-carbon aluminium the industry could cut globally

540

mn tonnes of CO_2[4]

But how?

12.5 tCO_2/tAl

World average carbon emissions[5]

CO_2

74%

of global primary aluminium is produced with non-renewable energy

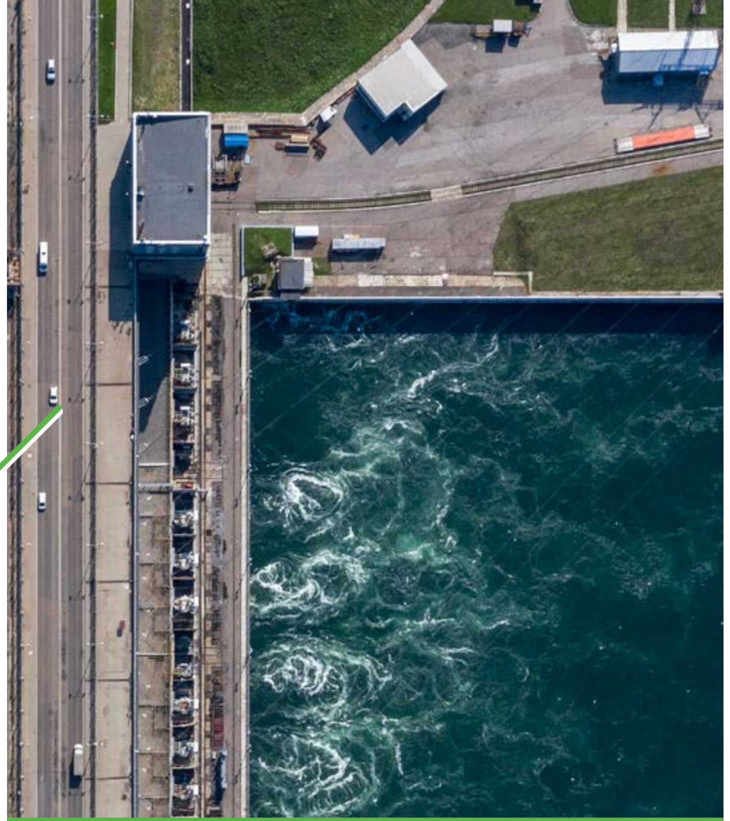
[1] Using the global average of 16.4 tonnes CO_2/ton primary aluminium (18 tonnes CO_2/ton primary aluminium but excluding scope 3 emissions) and 30% of demand met with recycled aluminium, total CO_2 emissions from the aluminium industry can be estimated at 1.2 bn tonnes per year (World Economic Forum, "Shaping the agenda for net-zero aluminium", 3 Sep 2019). Expressed as a proportion of global CO_2 emissions for 2018, which were 37.1 bn (Nature, Jeff Tollefson, "Global industrial carbon emissions to reach all-time high in 2018, 7 Dec 2018, https://www.nature.com/articles/d41586-018-07666-6), this accounts for 3.2% of the total

[2] CRU, RUSAL.

[3] 2018 Company data.

[4] Based on the Company's calculations of a shift to renewable power sources for smelting for the aluminium industry globally.

[5] IAI data, 2018.



How to change that?

By providing clarity on the carbon footprint of the aluminium industry.

Level 1[6] emissions can be measured by all aluminium producers, but just 20 are responsible for all of the industry's disclosure on greenhouse gas emissions.

En+ Group is calling on the London Metal Exchange (LME) to implement mandatory reporting on carbon emissions. This will

+ set a global precedent
+ be an example for contracts across the industry
+ create a credible standard for low carbon.

What you can do?

En+ Group encourages all stakeholders in the aluminium industry to drive transparency through a number of steps.

Producers

+ Write to the London Metal Exchange notifying them that you support greater carbon disclosure and willing to join meetings to agree new rules
+ Demand transparency on carbon emissions from your direct suppliers. Many aluminium contracts include some degree of carbon disclosure, but making this a principle of negotiation can drive standards across the industry

Customers

+ Make your voice heard. Publicly discuss your support for greater carbon disclosure and join talks through the Aluminium for Climate initiative
+ Demand transparency on carbon emissions from your direct suppliers. Many aluminium contracts include some degree of carbon disclosure, but making this a principle of negotiation can drive standards across the industry

Investors

+ Integrate carbon disclosure requirements into investment criteria
+ Engage with businesses to clarify the standard of disclosure required for investment and support companies on the path to meeting those standards with examples of best practice

Consumers

+ Take the time to understand how the products you regularly buy are made and where they come from
+ When information is not available, engage with brands through social media to seek greater disclosure

[6] As defined in the Aluminium Carbon Footprint Technical Support Document – Level 1: Emissions from aluminium electrolysis, aluminium ingot casting, anode/paste production, as well as emissions from electricity generation & heat production associate with these processes.

For more information see p. 38 and p. 78.

“We continue to adhere to the fundamental element of our long-term strategy, which is sustainable development. We know that in the world after the crisis, the focus on the climate agenda will become even more acute, and means our commitment to shift the aluminium market towards low-carbon alternatives is absolutely critical.”

Vladimir Kiriukhin,
Chief Executive Officer

Dear shareholders,

In the original version of my letter, I planned to concentrate on the Group's achievements in 2019 and to outline our plans for 2020. However, the preparation of this Annual Report has coincided with the greatest challenge in post-war history – the coronavirus pandemic, which has completely changed our world, our economies, and even the way in which we interact. We hope that through collaborative efforts we will overcome this crisis, but it is too early to assess its full consequences and those are unlikely to be short-term.

Never before have the world's economies been isolated on the scale they are now. In a matter of weeks, stock markets have collapsed, many industries have ground to a halt and leading global economies have moved from stable growth to recession. It has called into question many ideas about global trade and supply. There has also been a fundamental change in the way human beings must approach work, mobility, and digital communications. There is no doubt that, as we come out of this global quarantine, the world will have changed significantly, affecting all business sectors – from production to consumption.

At the same time, I have no doubt that there will be a recovery, and that this process might trigger a rethinking of the world economy. Firstly, because so many governments worldwide quickly activated measures to stimulate economic growth after the crisis. Secondly, because, unlike during the economic crisis of 2008 and perhaps because of the lessons from that time, big business is not standing aside but is taking a lead, not only supporting its own employees, but also the local economies where they operate. Global luxury brands have converted the production of perfume to antiseptics, automakers have switched to assembling ventilation units, and companies are sponsoring the provision of medical equipment and the construction of hospitals around the world. En+ Group is also playing its part in fighting the crisis. As well as additional measures to safeguard the health and safety of our employees; we have also donated more than one million face masks to healthcare institutions in Siberian regions, where the core of our operations is located. Additionally, the Group delivered free food supplies to over 16,000 of its retired employees, many of whom are considered at high risk of infection and are, therefore, unable to leave their homes during the pandemic.

In a period of unprecedented challenges, it would be easy to become insular and focus just on solving your own problems. But cohesion is encouraging – I hope that once we have defeated this pandemic, the global community will remember the achievements of our “united front” and that this will help solve other major issues, such as climate change.

En+ Group has for many years based its long-term strategy on sustainable development. Over the past year, the global trend towards more rational production and consumption of goods increased significantly. Against the backdrop of global efforts to combat climate change, the corporate sector has become perhaps the most important driving force in sustainable development. We are convinced that renewable energy and recyclable materials should be at the heart of the green economy of the future. In 2019, En+ Group not only continued to reduce its own greenhouse gas emissions (emissions at smelters reduced by 11% since 2014[1]), but also led a campaign to increase the transparency of the entire aluminium industry by advocating for all metals traded on the London Metal Exchange to disclose their carbon footprint. We believe that through greater openness and collaboration we can achieve real change in our sector, and, we hope, set an example that will drive other industries to reduce their greenhouse gas emissions.

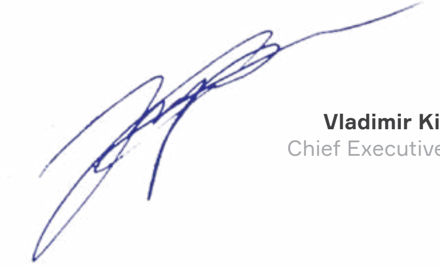
We supported our development model by investments in key projects. We continued to increase bauxite production at the Dian-Dian enterprise, which reached full capacity in 2019. This underpinned the Group's total bauxite production growth of 15.9%. Increased production load at Friguia Bauxite and Alumina Complex led to a 101.7% increase in alumina production from the complex compared to the previous year, which contributed to a 1.1% year-on-year growth in the Group's overall alumina production, to 7,858 kt. In addition, in March we launched the second part of Boguchany Aluminium Smelter's first stage facilities, which supported an increase in aluminium sales. At the Power segment, we continued to implement our large-scale modernisation of the Group's hydroelectric power stations. In July, we began replacing hydraulic units at Irkutsk HPP. The first installation will be completed in the summer of 2020, and we plan to replace a total of four out of eight hydraulic units at the Irkutsk hydroelectric station. This will increase the capacity of each of them from 82.8 MW to 105.7 MW, which will increase production and reduce greenhouse gas emissions. As a result of the New Energy programme, in 2019 the Power segment increased power generation to 1.68 TWh, whilst avoiding GHG emissions by approximately 1.95 million tonnes of CO_2 equivalent, due to the partial replacement of thermal power plant generation.

At the same time, we continued working on cost efficiency, which enabled us to achieve an EBITDA margin of 18.1%, which is in line with leading levels for the industry globally.

I note that more than half of the Group's EBITDA was contributed by the Power segment, reaffirming the advantages of our vertically integrated business model, especially in tough times (aluminium prices in 2019 were 15.0% lower on average than in 2018). In general, the Company maintained a stable financial performance in 2019, despite the difficult macroeconomic situation resulting from the trade war between the United States and China.

Robust operations were underpinned by the commitment of our people – the major driving force of En+ Group. Their health and safety is a top priority for the Company. It is therefore with great sadness that I have to report the loss of five of our colleagues during the year. All the incidents were thoroughly investigated and preventive actions have been taken. Our goal is zero fatalities and we will continue to work relentlessly to achieve it.

Today, the market instability caused by the ongoing trade dispute between two of the world's largest economies bears no comparison to the impact of the global pandemic. Clearly, at this time it is meaningless to make short-term forecasts – the situation changes significantly every day. Nevertheless, as a Group, we continue to adhere to the fundamental element of our long-term strategy, which is sustainable development. We know that in the world after the crisis, the focus on the climate agenda will become even more acute, thus our commitment to shift the aluminium market towards low-carbon alternatives is absolutely critical.



Vladimir Kiriukhin,
Chief Executive Officer

[1] Scope 1 emissions. 2.28 tonnes of CO_2e per tonne of aluminium in 2014 vs 2.03 tonnes of CO_2e per tonne of aluminium in 2019.

UN SDGs

En+ Group's robust focus on controlling its impact on climate and the natural environment align strongly with the ambitions of the United Nations' (UN) Sustainable Development Goals (SDGs). The UN SDGs provide us – and governments, organisations and companies around the world – with a common framework.

We were proud to join the worldwide network of the United Nations Global Compact this year and to reinforce our commitment to the SDGs – a global blueprint for achieving a better and more sustainable future for all.

Our environmental focus and our determination to improve the lives and wellbeing of our staff and our local communities around the world are reflected in our seven adopted goals.

Goal 6
Clean water and sanitation

Minimising the Company's impact on water resources is one of the main focuses of En+ Group's environmental protection strategy, including:

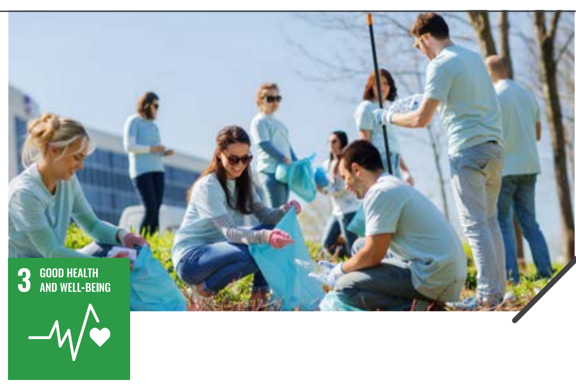
+ Decreasing the amount of fresh water used in operational processes
+ Decreasing the amount of wastewater produced and the concentration of hazardous substances in them
+ Increasing water recycling.

Goal 8
Decent work and economic growth

Our aim is to increase economic prosperity through improved efficiency and industrial diversification, without impacting the natural environment. We have programmes in place to improve employment opportunities, protect our work to develop fulfilling, inclusive, long-term employment and to contribute to sustainable economic growth labour rights and promote safe and secure working conditions for all. Our education projects have been created to build students' interest in engineering and to improve their skills and employment opportunities.

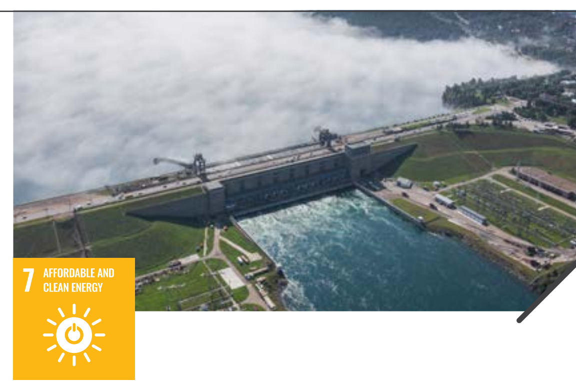
Goal 12
Responsible consumption and production

En+ Group's main waste management goal is to increase recycling at every level across the company and, where waste is unavoidable, to ensure its safe disposal and storage. To achieve this, we are actively developing new waste sites and have introduced a programme to renovate and modernise our existing waste management processes and facilities. All our waste management sites are compliant with the necessary regulations. To minimise the amount of waste stored in these facilities, we are also working to reduce how much bauxite and nepheline residue (alumina waste) our Metals segment generates and the amount of ash and slag waste produced by the Power segment.



Goal 3
Good health and well-being

Nothing is more important to us than the safety, health and well-being of our staff. In addition to offering a range of recreation and sports activities at all our facilities, employees at every one of our operations have access to high quality medical services. In Russia, Guinea, Guyana, Nigeria, Ireland and Jamaica our employees and local residents have access to world-class emergency and preventative healthcare.



Goal 7
Affordable and clean energy

One of En+ Group's main operations is the production of renewable energy that is used to power our aluminium plants and, critically, provides clean energy for the population of Siberia. We own and operate five HPPs, three of which are among world's largest in terms of installed capacity.

Goal 13
Climate action

For the last decade, addressing climate change has been our number one sustainability focus. As one of the world's leading aluminium producers, RUSAL has put environmental protection at the heart of the business; its Climate Agenda is an integral part of its culture and drives activity across the Company. The carbon footprint of RUSAL is one of the lowest in the industry thanks to renewable energy generated by our hydropower plants in Siberia. Across all En+ Group operations throughout the world, we abide by the Paris Convention and have set clear commitments to reduce our carbon emissions.

Goal 15
Life on land

En+ Group's production facilities are located across Russia and the world. However, the Group's main assets are located in Siberia, which is considered a unique ecoregion with rare plant and animal species only found in this area. Conserving biodiversity is a key principle of sustainability, which is why En+ Group is leading long-term projects aimed at preserving the region's biodiversity and conserving ecosystems.

For more information see p. 72.

Strategy

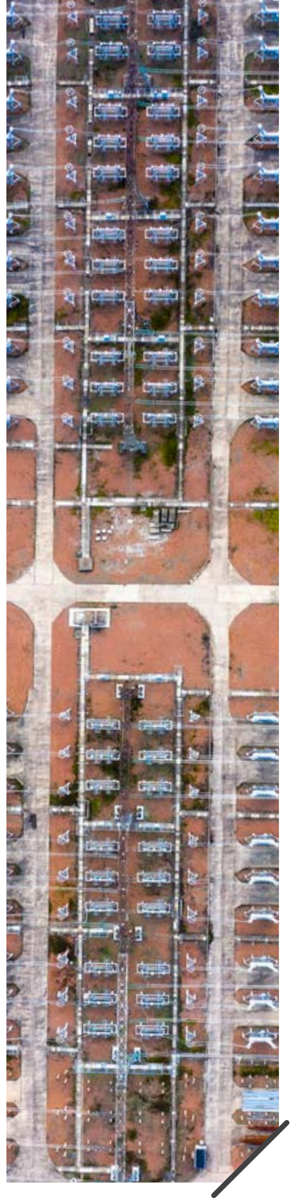
The Group's strategy is to achieve vertical integration and self-sufficiency across the aluminium value chain (energy, raw materials and finished products), maintain and grow our high-margin, low-risk aluminium production, maintain robust financial strength and grow total shareholder returns, including the payment of sustainable and attractive dividends. A commitment to high international standards of corporate governance and social responsibility underpins our strategy and our business model.

In order to deliver on this strategy, the Group is focusing on the following objectives:

Vertical integration to unlock maximum value

Our smelters are almost 100% powered by our own energy, which also generates revenues through base electricity demand. We plan to strengthen the synergies between our Metals and Power segments by grouping CAPEX within our core operations.

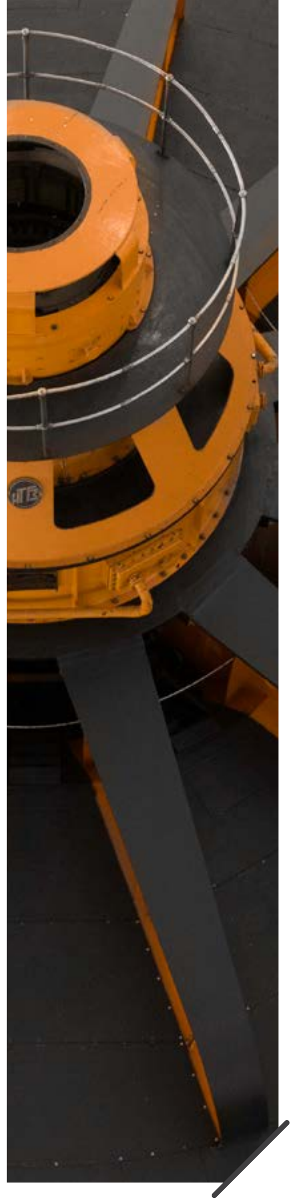
For more information see p. 8.



Focus on cost control

We run ongoing cost optimisation initiatives across the Group. Costs in the Metals segment are minimised through long-term power and transport contracts, and by achieving full bauxite and nepheline self-sufficiency in the medium term.

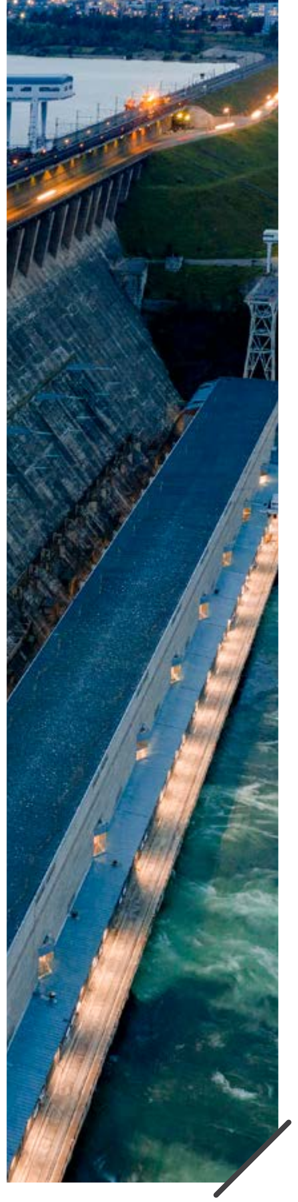
For more information see p. 46.



Growing production efficiency and operating margins

The Metals segment is focused on low-risk brownfield expansion and increasing the share of value-added products in its sales mix. It will also collaborate with partners to stimulate growth in aluminium consumption.

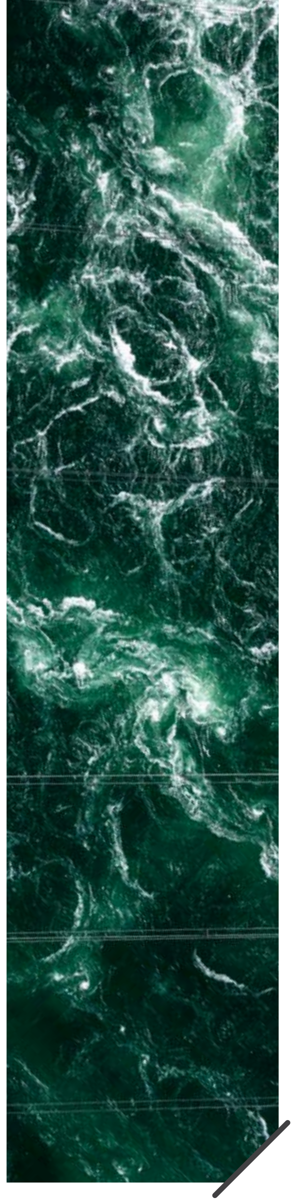
For more information see p. 43 and p. 46.



Explore power industry development opportunities

The Power segment conducts R&D on smart grids, solar energy, and small HPPs. It has piloted a solar plant in Abakan, Russia, designed solar roof panels and produced components for solar plants, and is also constructing small HPPs.

For more information see p. 94.



Deleverage and support dividend payments through FCF generation

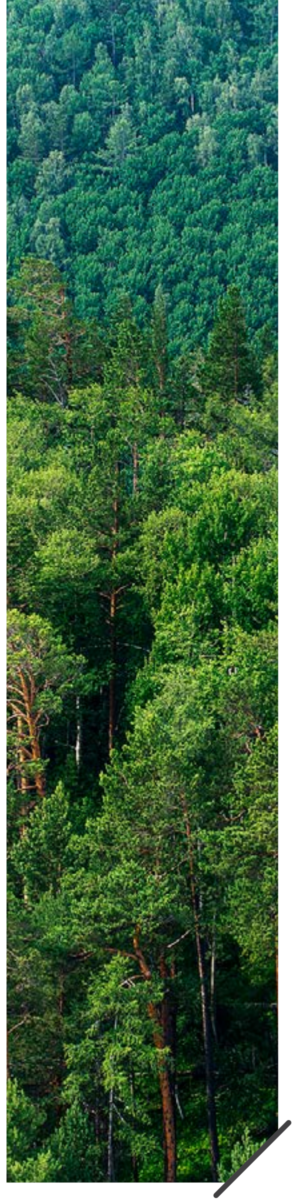
En+ allocates capital conservatively and is focused on deleveraging. In making recommendations to the General Shareholders Meeting on dividend payments, the Board will take into account current trading and economic conditions in the context of the previously announced policy.

For more information see p. 46 and p. 139.

Continuous improvement in environmental performance

In 2019, the Metals segment's emissions fell to 2.03 tCO_2e/tAl – 11% down from a 2014 baseline. The Power segment aims to cover 95% of our aluminium energy needs with hydro and other carbon-free power by 2025.

For more information see p. 76.



Operate sustainably

En+ is committed to both health and safety, and the preservation of the natural environment. Our CHPs are legacy assets – using fossil fuels to heat Siberian communities where there is no alternative. We are, however, developing an emissions reduction roadmap.

For more information see p. 84.

Strong Investment Fundamentals

"Best in class" equity story characteristics		En+ Group alignment
Industry position	**Leadership** in geography, sector or segment **Size and business model** scalability	+ **World class asset –** global benchmark in aluminium market + **No. 1 aluminium producer** by production volumes in the world (ex-China)[1] + **No. 1 independent hydro power producer** globally[2]
Cost leadership	**Lowest cost position** on the global cash curve providing cash flow resilience	+ **Lowest cash curve position** on integrated basis + **Vertically integrated green business model –** unique world-class power and aluminium asset base
Strong fundamentals of end market	**Large, growing and diversified** addressable market **Limited competition** and high barriers to entry	+ **Fundamental aluminium demand drivers –** structural shifts in electric vehicles and power infrastructure + Continued impact from **Chinese government environmental measures**
Cash generation and growth potential	**Strong cash generation** and cash flow resiliency **Proven,** organic and resilient value-accretive growth	+ **Strong cash flow resiliency and robust margins** on the back of well-invested operationally efficient asset base + Potential for shareholder **friendly capital allocation**
Corporate governance and management	**Board independence** **Experienced and passionate** management team with track record	+ **Robust corporate governance –** highly experienced majority independent board + **Strong management team –** proven capability of delivering on complex projects and operations

[1] According to CRU estimates.

[2] Based on the Company's internal data and peer companies' publicly available results, announcements, reports and other information.

For more information see p. 135.

BUSINESS REVIEW

INTEGRATED FOR SUSTAINABLE GROWTH

Position in the industry

En+ Group is a leading vertically integrated aluminium and power producer.

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 efficiently access and operate in all key aluminium markets including the United States, Western Europe, Japan and South East Asia. At the same time, the Power segment operates the largest and most cost-efficient network of power plants in the Siberian region, which allows it to efficiently and reliably cater to its core clients in Siberia, including the largest smelters operated by the Metals segment.

Metals segment

En+ Group's Metals segment,[1] represented by UC RUSAL, produced approximately 5.9% of global Aluminium output and about 6.3% of the world's alumina production in 2019. RUSAL is a low-cost, vertically integrated aluminium producer with core smelting operations located in Siberia, Russia. In 2019, RUSAL remained among the largest producers of primary aluminium and alloys globally.

The Company is fully self-sufficient in alumina capacity (with potential to supply more to third parties) and about 80% self-sufficient in bauxites and nephelines.

In 2019, global aluminium demand rose by 0.1% to 65.3 mt. Global demand outside China dropped by 2.6% to 28.5 mt, while domestic Chinese demand increased by 2.4% to 36.8 mt. In January 2020, the global manufacturing PMI rose from 50.1 to 50.4, which is the highest level since April last year.

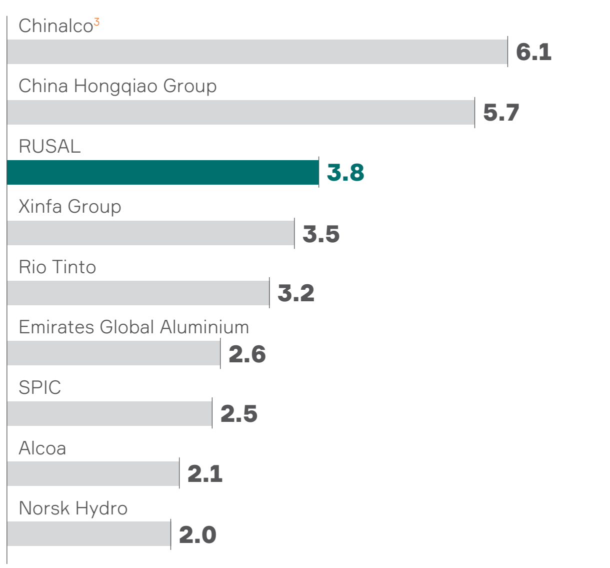
In 2019, China's primary aluminium production fell by 1.8% year-on-year to 35.7 mt, and today most producers only generate slim margins. Some producers have decided to transfer closed capacity to other provinces due to environmental and bauxite feed issues. In December 2019, operating capacity in China rose by 575 ktpa month-on-month, to 36.6 mtpa. This was due to restarts of 420 ktpa of capacity and the commissioning of a new 185 ktpa of capacity, while reduction of 30 ktpa somewhat trimmed the growth.

During 2019, China's exports of unwrought aluminium and aluminium semis declined 1.2% year-on-year to 5,733 kt.

The rest of the world ("RoW") aluminium production grew during 2019 by 1.7% to 28.2 mt. Overall, the RoW aluminium market was in a deficit of around 0.3 mt during 2019.

In the beginning of 2020, the markets and global economy faced new challenges. The COVID-19 outbreak has put global supply chains at risk and led to production suspensions at production facilities utilising aluminium. This will likely lead to a serious deterioration of the aluminium market fundamentals in 1H 2020, which are hard to precisely predict as of the date of this report.

Top aluminium producers globally, 2019[2] (mt)

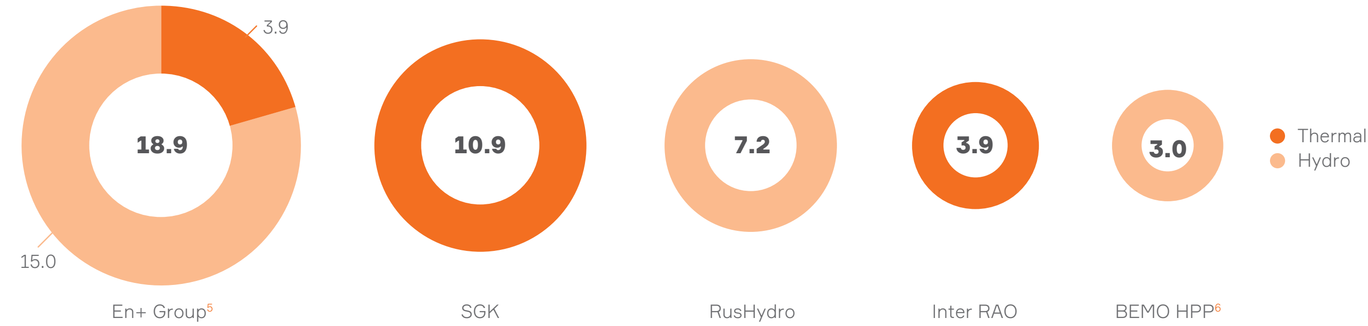


[1] Throughout 2018, En+ Group held a strategic 48.1% shareholding in UC RUSAL, which allowed us to exercise corporate control. In January 2019, as a result of a swap transaction with Glencore, En+ Group's stake in UC RUSAL grew to 50.1%. The transfer of an additional 6.78% shares of RUSAL to En+ Group was completed on 3 February 2020.

[2] Based on the Company's internal data and peer companies' publicly available results, announcements, reports and other information.

[3] Up to 2018, Chinalco consolidated production of Chalco. Since 2019, Chinalco has been consolidating production of Chalco and Yunnan Aluminium Co. Ltd.

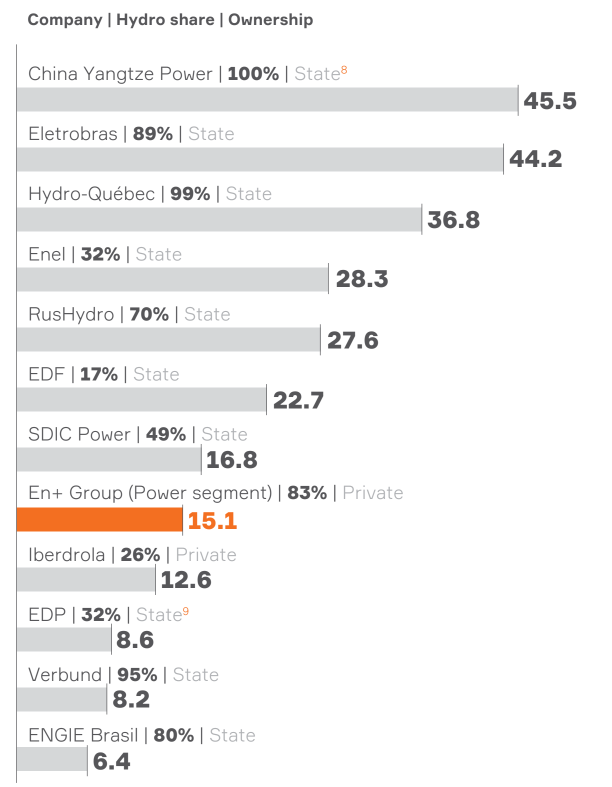
Competitive landscape in Siberia by installed capacity in 2019[4] (GW)



Power segment

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

Top power companies by installed hydro capacity globally, 2019[7] (GW)



Russia has a well-developed power sector, which is essential for the country's high-energy-consuming economy. The total installed capacity of the Unified Energy System of Russia was 246.3 GW in 2019, with total electricity production of 1,080.6 TWh.

The Russian electricity market is dominated by thermal assets. In 2019, thermal accounted for 67% of the total installed capacity in Russia, followed by hydro (20%) and nuclear (12%), while the Siberian region's capacity is roughly equally split between hydro (49%) and thermal (51%).

Hydro power generation is a key area of the Power segment's business, with the majority of its assets located in Siberia. In 2019, En+ Group remained the largest producer in Siberia, with a 36.2% share of installed capacity. Furthermore, 79.5% of its capacity is represented by hydro power assets, and it enjoys utilization 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.

In 2019, the power production in Siberia increased by 1.7% year-on-year and accounted for 208.7 TWh. The hydropower output in Siberia increased by 5.8% year-on-year to 107.8 TWh, while thermal power plants and captive power stations decreased electricity production by 2.4% to 100.8 TWh. Electricity consumption in Siberia increased by 0.6% and accounted for 211.4 TWh. In 2019 average electricity spot prices in Siberia increased by 0.2% from 888 RUB/MWh in 2018 to 890 RUB/MWh in 2019.

[4] Based on the Company's internal data and peer companies' publicly available results, announcements, reports and other information.

[5] The Company's assets capacity provided for Siberia only. The Total Company's capacity is 19.5 GW, including 15.1 GW in hydropower.

[6] BEMO (Boguchany HPP) is a 50/50 JV between UC RUSAL and RusHydro, operated by RusHydro.

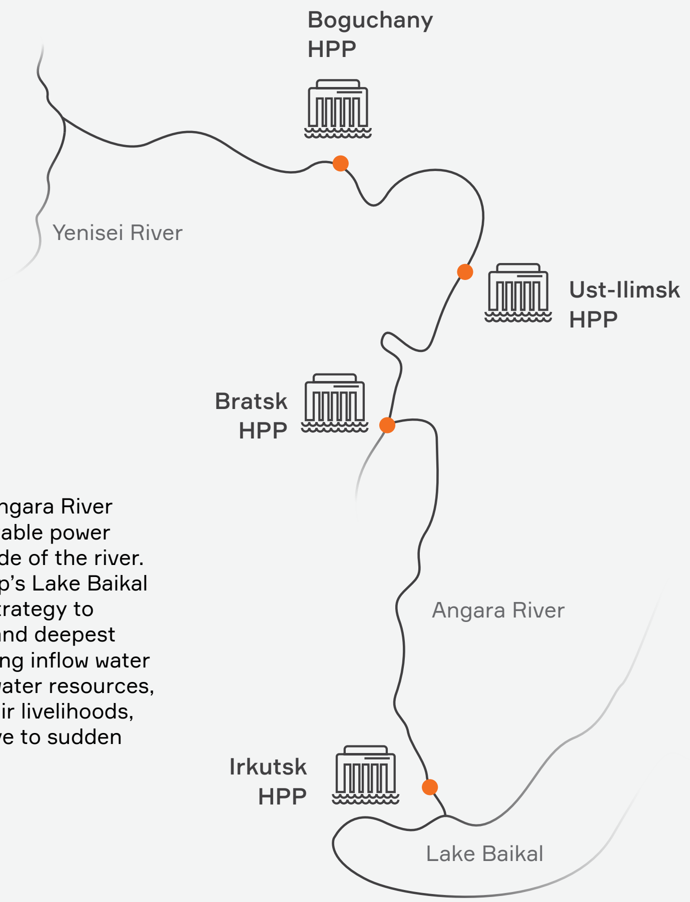
[7] Iberdrola, EDP, Verbund and ENGIE Brasil figures as of 2018.

[8] Subsidiary of China Three Gorges Corporation.

[9] State owned China Three Gorges Corporation and CNIC own 23.3% and 5.0% stakes, respectively.

ENvision, a data-driven forecasting project to improve the management of Lake Baikal

En+ Group has partnered with one of the world's leading geophysical specialists, Aerostate, to develop a data-driven forecast for fluctuations of water inflow into Lake Baikal.



En+ Group operates hydropower plants on the Angara River flowing out of Baikal, providing a supply of renewable power for the local population and regulating the cascade of the river. This project, called ENvision, is part of En+ Group's Lake Baikal Preservation Programme, the company's wider strategy to protect and preserve the world's oldest, largest and deepest freshwater lake. The long-term model for predicting inflow water will ensure better management of Lake Baikal's water resources, both for local people, who rely on the lake for their livelihoods, and for the natural environment, which is sensitive to sudden fluctuations.

Currently, water inflow forecasts are based on fundamental and hydrological models. These models provide accurate results over a weekly timeframe but are less reliable over longer periods as forecasts are developed using "most likely" scenarios based on historical data. Through the ENvision project, En+ Group and Aerostate will study for 17 months the factors affecting Baikal water inflow and, through machine learning, will train an algorithm to more accurately predict inflows over a 6–18 month timeframe. The model will take into account natural influences such as snow thawing and the speed of river flows but also consider the impact of factors such as pollution from industrial regions of China.

En+ Group will share its results with the authorities responsible for setting flow rates through the region's hydropower plants, including En+ Group's three facilities on the Angara River. A more accurate forecast will help them optimise the hydrological use of water resources to minimise the effect on the ecosystem and, critically, will provide local authorities with an effective tool to ensure downstream communities have sufficient water levels for potable water supplies, navigation and trade. A more accurate understanding of how inflows are developing will also help mitigate flooding risks and could prove valuable in preventing a repeat of the severe floods experienced in Irkutsk this year.

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 review

Market overview[1]

Aluminium demand

In 2019, aluminium industry experienced tough times amid long-lasted trade conflict between the US and China imposing tariffs on one another's goods and global economy slowdown. Global aluminium demand slightly rose by 0.2% to 65.3 mt driven by stable increase in Chinese demand by 2.4% to 36.8 mt and contraction of the world excluding China demand by 2.4% to 28.6 mt. Certain improvements in major end-user segments, namely, transport, construction and packaging, set positive trends for the upcoming years.

Transport remained the key driver of aluminium demand accounting for 28% of global semi-finished products consumption in 2019. Mandatory carbon emissions regulations in major car producing countries prompted to decrease a vehicle's weight that led to aluminium demand drop in the short run as producers need to update their facilities. For instance, in Europe and India the automotive sector plunged into a prolonged contraction period due to the shift to new emission standards. Meanwhile, this light weighting trend would make aluminium a metal of choice in the long run. Car companies are expected to use aluminium content more intensively, especially, extrusions in the EU and automotive body sheet in the North America. The growing share of SUV also contributed to higher aluminium demand, as well as launches of new models, including EVs. These positive trends confront contraction of global car production resulted from negative economic environment.

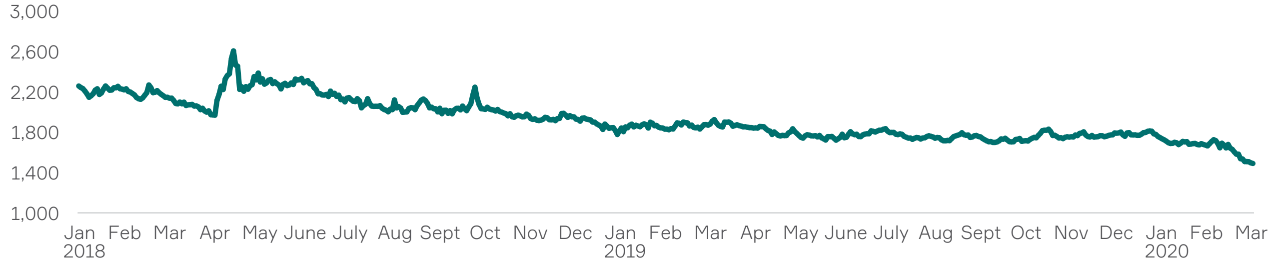
Construction kept its position as a second largest end-user segment with 24% of global semi-finished products consumption in 2019. Fast growing demand in some emerging countries, e.g. India, Brazil, South Africa and Eastern Europe, was outweighed by contraction in China and developed countries, especially, the US and South Korea. Meanwhile, a growing consumer focus on green buildings encourages use of aluminium in construction in the future.

Packaging showed significant growth of 4.0% in 2019 driven by high consumer interest into recyclable packaging and its impact on the environment in the developed countries. So-called Aluminium Can Revolution 2.0 has started supported by the shift from plastic bottles to aluminium beverage cans announced by key beverage producers: Coca-Cola and PepsiCo as a part of their sustainability commitment. Production of other beverage companies in Asia and Russia is in line with this trend giving support to aluminium demand.

Electrical segment contracted mainly due to decrease in China and the slowdown of Indian rural electrification programme which is set to resume in the future.

The coronavirus outbreak started in December 2019 is expected to change the market outlook, especially, hit automotive industry with long and complex supply chain. Meanwhile, market trends stimulating aluminium demand described above will be relevant in 2H 2020 when the crisis is overcome. Moreover, higher use household and pharmaceutical foil, aluminium cans and other packaging in the quarantine period all over the world will partly support aluminium demand.

LME aluminium price dynamics (USD/t)



Source: Bloomberg data

Aluminium supply

The aluminium production, outside of China (the RoW), grew during 2019 by 1.7% to 28.2 mt. Overall, the RoW aluminium market was in a deficit of around 0.3 mt during 2019.

Looking at the cash cost curve in the RoW today, around 10% of smelters, or 3 mtpa of capacities, operate at a loss despite the decline in raw material costs; more than half of RoW alumina producers suffer from losses.

In 2019, China's primary aluminium production fell by 1.8% year-on-year to 35.7 mt, and most of the producers generate slim margins. Some producers have decided to transfer closed capacity to other provinces based on environmental and bauxite feed issues. Operating capacity rose by 575 ktpa month-on-month to 36.6 mtpa in December, due to restarts of 420 ktpa of capacity and the commissioning of a new 185 ktpa of capacity, while 30 ktpa cuts trimmed the growth.

As highlighted above, the novel coronavirus will negatively affect the Chinese aluminium market in 1H 2020, with an expectation of bigger supply surplus and weak demand. Looking at the cash cost curve in China today, around 27% of smelters, or 10 mtpa of capacities, operate at a loss with the SHFE price being down to RMB 12,830 per tonne.

Alumina refining in a number of areas in particular is suffering from logistics issues for both bauxite arrivals and shipping of their alumina. Lower aluminium demand in China and excessive inventories may affect prices, and ultimately delay a ramp up in new aluminium smelting capacity.

During 2019, China's exports of unwrought aluminium and aluminium semis declined by 1.2% year-on-year to 5.733 mt. More recently, Chinese exports have crashed by 25.3% year-on-year to 669,208 tonnes in January to February 2020, and are expected to decline in March 2020 amid the turmoil linked to the novel coronavirus.

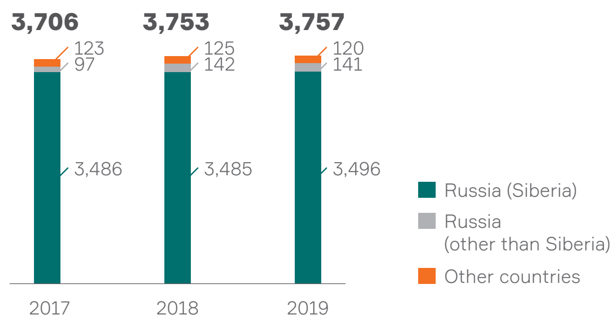
Operational performance

Aluminium

RUSAL owns nine[2] aluminium smelters, which are located in two countries: Russia (eight plants) and Sweden (one plant). The Company's core asset base is located in Siberia, Russia, accounting for approximately 93% of the Company's aluminium output in 2019. Among those, BrAZ and KrAZ together account for more than half of RUSAL's aluminium production. The Company also owns an 85% stake in a smelter located in Nigeria.

Throughout 2019, RUSAL continued to implement a comprehensive programme designed to control costs and optimise the production process, to strengthen the Company's position as one of the world's most cost-efficient aluminium producers.

Aluminium production (kt)



The Group's primary aluminium production for the year ended 31 December 2019 was stable as compared to the previous year and totaled 3,757 kt.

Production of VAP was also in line with the previous year: 1,573 kt in 2019.

[1] Unless otherwise stated, data for the Metals segment's "Market overview" section is sourced from Bloomberg, CRU, CNIA, IAI, Aladdiny and Antaike.

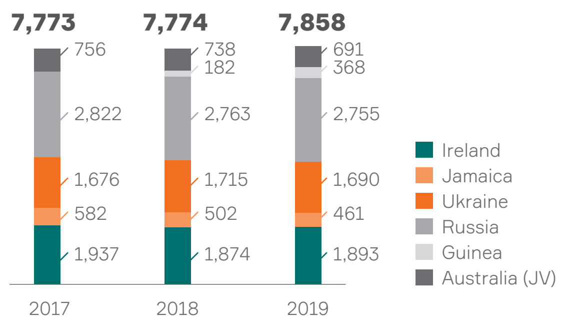
[2] Nine aluminium smelters in operation (Alscon, Nadvoitsy Aluminium Smelter and Urals Aluminium Smelter aluminium operations are mothballed).

Alumina

The Group owns eight alumina refineries as of the end of 2019. RUSAL's alumina refineries are located in six countries: Ireland (one plant), Jamaica (one industrial complex), Ukraine (one plant), Italy (one plant), Russia (three plants), and Guinea (one plant). In addition, the Company holds a 20% equity stake in QAL, an alumina refinery located in Australia.

The Company's long position in alumina capacity helps secure sufficient supply for the prospective expansion of the Company's aluminium production capacity and allows the Company to take advantage of favorable market conditions through third-party alumina sales.

Alumina production[1] (kt)



RUSAL's total attributable alumina output was 7,858 kt in 2019 and 7,774 kt in 2018. In spite of the fact that the production volumes of Achinsk Alumina Refinery, Windalco, Nikolaev Alumina Refinery and Queensland Alumina Limited declined, steady production growth at Friguia Alumina Refinery and improvement of annual results at Aughinish Alumina, Bogoslovsk and Urals Alumina Refineries made it possible to increase the production volume by 1.1%, as compared to 2018.

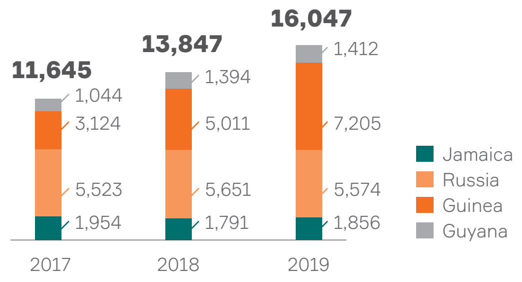
Bauxites and nephelines

Bauxites and nephelines are key raw materials for alumina production. In 2019, the Group was approximately 80% self-sufficient in bauxites and nephelines.

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 the prospective expansion of the Company's alumina production capacity and allows the Company to take advantage of favorable market conditions through third-party bauxite sales.

Bauxite production[1] (kt)



The Group's total attributable bauxite output[2] was 16,047 kt in 2019, as compared to 13,847 kt in 2018.

The decrease in KBK bauxite mining and exports was due to the fact that the inventories at Nikolaev Alumina Refinery did not dip below the threshold for a stock increase.

Timan Bauxite reduced bauxite production as compared to 2018. This was done to compensate for higher quality bauxite ore that contained 1.5% more Al_2O_3 content than previously – the facility had to decrease its supply of bauxite ore to prevent overstocking at refined alumina warehouses.

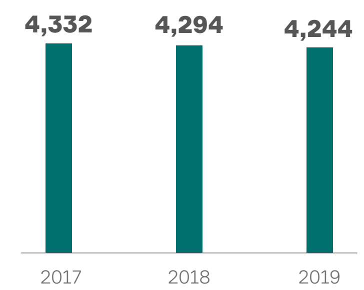
The Windalco mine increased bauxite production as compared to 2018 up to 1,856 kt, to replenish bauxite inventories up to standard volume. This was made possible by contractors' mining and transportation equipment stabilisation.

The most substantial bauxite production volume growth was seen at the Friguia and Dian-Dian mines.

The Friguia mine increased bauxite production volume up to 1,304 ktpa, in line with the Alumina production supply programme and the second digester launch.

The second phase of the Dian-Dian project was deployed: all sections of the assembly line, dryer, indoor dry bauxite warehouse, fuel handling facilities, railway depot etc. were put into operation. The Dian-Dian mine reached a capacity of 3 mtpa in 2019.

Nepheline mines (Achinsk) (kt Wet)



RUSAL's nepheline syenite production was 4,244 kt in 2019, as compared to 4,294 kt in 2018.

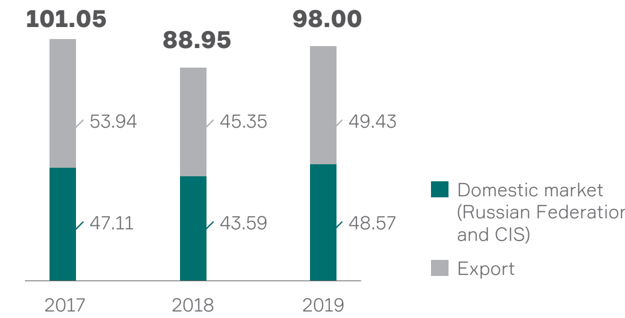
The decrease in the production volume of the nepheline mine in 2019 by 50 kt, or 1.2%, compared to 2018 is mainly due to the mining works schedule.

Downstream projects

Foil and packaging

The volume of foil produced by the Group's facilities in 2019 amounted to 98 kt of foil materials, up 9.05 kt, or 10.2% on 2018. The output increase was mainly thanks to the recovery of demand after sanctions against the Group were lifted on 27 January 2019. Higher volumes in 2019 were reported for both domestic and export sales.

Foil production (t)



Wheel business

Production output

'000 pcs.	2019	2018	2017
Aluminium wheels	3,053	970	617
SKAD	957	970	617[3]
K&K	2,096	–	–

K&K, a new plant purchased by RUSAL in December 2018, accounted for the significant production increase in 2019.

The output in the comparable perimeter remained at its 2018 level, with a minor reduction (1%–3%) caused by a change in the output mix, as well as by a sluggish car market, which slowed down sales by the end of the year.

[1] Pro-rata share of production attributable to the Group

[2] Bauxite output data was:

- calculated based on pro-rata share of the Company's ownership in 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).

[3] The production volume is set out for the period of RUSAL's ownership of the plant. On a year-on-year basis the production volume amounted to 842,000 wheels in 2017, meaning that the growth of production output in 2018 as compared to full 2017 would amount to 15.2%, or 128,100 wheels.

Other business

Powders
In 2019, production slowed down because of sanctions, which had been imposed against RUSAL during contracting with European consumers of coarse powders for 2019 (buyers entered into annual contracts with alternative suppliers). Also, production of special aluminium gas forming agents reduced temporarily because of a partial emergency shutdown of capacities in Volgograd in 4Q 2018.

Secondary alloys
The growth in 2019 is the result of the processing of an additional volume of slag from the new wheel-business enterprise (LLC K&K), as well as due to the processing of excess slag residues accumulated in 2018.

Silicon production
Production volumes in 2019 decreased in comparison with 2018 due to falling market prices for silicon and, as a result, unprofitable production at LLC Rusal Kremny Ural. Production and personnel were rightsized in stages over the course of the year. Production was completely halted on 1 December 2019; the Company's staff were kept on in the numbers necessary to relaunch the facility when the situation on the silicon market improves.

Operations of JSC Kremny continued in full during 2019. The delivery of equipment for the construction of the gas cleaning plant for distribution transformer substations 1, 2 of JSC Kremny has already started.

Mining assets

- RUSAL's mining assets are comprised of 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 the RUSAL's bauxite and nepheline syenite resource base
- RUSAL jointly operates two coal mines with Samruk-Energo, 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-Energo
- Bogatyr Coal LLP, which produced approximately 44.85 mt of coal in 2019, has approximately 1.70 billion tonnes of JORC Proved and Probable Ore Reserves and has Measured Mineral Resources and Indicated Mineral Resources totalling approximately 2.05 billion tonnes as of 31 December 2019. Bogatyr Coal LLP generated sales of approximately USD 265 million in 2018 and USD 248 million in 2019. Russian and Kazakh customers contributed to approximately 30% and 70%, respectively, of our sales.

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 27.82% shareholding stake in Norilsk Nickel as at the latest practicable date.

RUSAL's shareholding in Norilsk Nickel allows for a significant diversification of earnings, through Norilsk Nickel's exposure to PGMs[1] and base metals (nickel, copper, and cobalt), and broadens RUSAL's strategic opportunities. The Company's objective is to maximise the value of this investment for all Shareholders.

Company profile and financial results[2]
As of 31 December 2018, Norilsk Nickel's resource base on the Taimyr and Kola Peninsulas consisted of 785 mt of Proved and Probable Ore Reserves and 2,036 mt of Measured Mineral and Indicated Mineral Resources. Its key assets are located in the Norilsk region, the Kola Peninsula and the Trans-Baikal Territory in Russia, with foreign production assets located in Finland and South Africa.

In 2019, Norilsk Nickel produced 229 kt of nickel, 499 kt of copper, 2,922 koz of palladium and 702 koz of platinum. Compared to 2018, the following is to be noted:

- Growth in production of nickel (+ 5%) was attributed to a gradual ramp-up of a nickel refinery operating a new chlorine-leaching technology, the expansion of carbonyl nickel production, as well as the launch of low-grade nickel concentrate production targeting third parties at Kola MMC, and more third-party feed processed at Norilsk Nickel Harjavalta, Finland (production of nickel from own Russian feed increased by 4%).
- Growth in the production of copper (+ 5%) was driven by the ramp-up of the Bystrinsky (Chita) project, increased mined ore volumes and higher copper grades at the Talnakh mines, as well as increased production of copper concentrate and copper cathodes at Kola MMC from the matte received from the Polar Division (production of copper from own Russian feed increased by 5%).
- An increase in PGM production (+ 7% palladium, + 8% platinum) was attributed to the release of a work-in-progress inventory at Krasnoyarsk Precious Metals Refinery and processing of the feed purchased from third parties at Norilsk Nickel Harjavalta (production of PGMs from own Russian feed increased by 7%).

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 investment in Norilsk Nickel amounted to USD 13,586 million as at 31 December 2019, a significant increase in comparison with the market value as of 31 December 2018 (USD 8,286 million), due to the positive trends in metal prices.

[1] PGMs means platinum group metals.
[2] Production and operational data in this section are derived from https://www.nornickel.com/.

Projects

BEMO project
The BEMO project involves the construction of the 3,000 MW Boguchany HPP and Boguchany Aluminium Smelter in the Krasnoyarsk Territory in Siberia.

The construction of 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 2019, 257,713 tonnes of aluminium were produced, which is 111,025 tonnes more than in 2018. A total of 727,095 tonnes of aluminium have been produced since the start of the commissioning.

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

Boguchany HPP is the fourth step of the Angara Hydroelectric Power Chain, the largest hydro project ever completed in Russia. Construction of the power plant was suspended in the 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 Boguchany project comprises Boguchany HPP (the average annual electricity output: 17.6 billion kWh) and an aluminium smelter capable of producing 600,000 tonnes of metal per year.

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

The hydro power plant started the commercial supply of electricity to the wholesale electricity and capacity market on 1 December 2012. Since its launch, Boguchany HPP has generated 83.726 TWh of electricity. During 2019, the hydro power plant produced and delivered 16.104 TWh to the wholesale electricity and capacity market for the first time in the entire period of operation, which exceeds the 2018 electricity output by 18.5%, or 2.492 TWh.

Taishet
Construction of Taishet Aluminium Smelter started in 2006. Due to unfavourable market conditions, RUSAL decided to suspend the project in 2009. After an economic recovery and an improvement in market conditions in 2016, the Board of Directors of RUSAL decided to resume construction of LC-1 (first series) of Taishet Aluminium Smelter, and approved the start of preparatory work. Actual construction of Taishet Aluminium Smelter resumed in 2017.

The project includes the construction of an aluminium smelter in Taishet in the Irkutsk Region (Eastern Siberia), with a design production capacity of the LC-1 (first series) of 352 pots, or 428.5 ktpa. The total electricity consumed by the LC-1 (first series) is 6,370 million kWh.

As of 31 December 2019, RUSAL invested USD 998 million (excluding VAT) in the LC-1 (first series) construction project.

Assets overview

	Location	Installed capacity	2019 production	2018 production	Capacity utilisation rate, %
ALUMINIUM SMELTERS					
Bratsk Aluminium Smelter	Russia (Irkutsk Region)	1,009 ktpa	1,008 kt	1,009 kt	100%
Krasnoyarsk Aluminium Smelter	Russia (Krasnoyarsk Territory)	1,019 ktpa	1,018 kt	1,015 kt	100%
Sayanogorsk Aluminium Smelter	Russia (Republic of Khakassia)	542 ktpa	539 kt	536 kt	99%
Novokuznetsk Aluminium Smelter	Russia (Kemerovo Region)	215 ktpa	215 kt	215 kt	100%
Khakas Aluminium Smelter	Russia (Republic of Khakassia)	297 ktpa	294 kt	291 kt	99%
Irkutsk Aluminium Smelter	Russia (Irkutsk Region)	422 ktpa	422 kt	419 kt	100%
Kandalaksha Aluminium Smelter	Russia (Murmansk Region)	76 ktpa	72 kt	72 kt	95%
Volgograd Aluminium Smelter	Russia (Volgograd Region)	69 ktpa	69 kt	64 kt	100%
Urals Aluminium Smelter	Russia (Sverdlovsk Region)	75 ktpa	–	–	0%
Nadvoitsy Aluminium Smelter[1]	Russia (Republic of Karelia)	24 ktpa	–	6 kt	0%
KUBAL	Sweden	128 ktpa	120 kt	125 kt	94%
ALSCON	Nigeria	24 ktpa	–	–	0%
Boguchany Aluminium Smelter[2]	Russia (Krasnoyarsk Territory)	600 ktpa (300 ktpa in operations)	258 kt	147 kt	100%

[1] Nadvoitsy Aluminium Smelter has been completely mothballed. In August 2018, it was decided to completely shut down the plant (until that time, ½ of potroom 4 was in operation) with subsequent mothballing of the plant.

[2] 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.

	Location	Installed capacity	2019 production	2018 production	Capacity utilisation rate, %
ALUMINA REFINERIES					
Achinsk Alumina Refinery	Russia (Krasnoyarsk Territory)	1,069 ktpa	823 kt	851 kt	77%
Bogoslovsk Alumina Refinery	Russia (Sverdlovsk Region)	1,030 ktpa	1,017 kt	1,002 kt	99%
Urals Alumina Refinery	Russia (Sverdlovsk Region)	900 ktpa	915 kt	910 kt	102%
Friguia Alumina Refinery	Guinea	650 ktpa	368 kt	182 kt	57%
QAL	Australia	3,950 ktpa	691 kt[3]	738 kt[3]	87%
Eurallumina	Italy	1,085 ktpa	–	–	0%
Aughinish Alumina Refinery	Ireland	1,990 ktpa	1,893 kt	1,874 kt	95%
Windalco	Jamaica	1,210 ktpa	461 kt	502 kt	38%
Nikolaev Alumina Refinery	Ukraine	1,700 ktpa	1,690 kt	1,715 kt	99%
BAUXITE MINES					
Timan Bauxite	Russia (Republic of Komi)	3,300 ktpa	3,221 kt	3,325 kt	98%
North Urals Bauxite Mine	Russia (Sverdlovsk Region)	3,000 ktpa	2,353 kt	2,326 kt	78%
Compagnie des Bauxites de Kindia	Guinea	3,500 ktpa	3,121 kt	3,451 kt	89%
Friguia Bauxite and Alumina Complex	Guinea	2,100 ktpa	1,304 kt	720 kt	62%
Bauxite Company of Guyana Inc.	Guyana	1,700 ktpa	1,412 kt	1,394 kt	83%
Windalco	Jamaica	4,000 ktpa	1,856 kt	1,791 kt	46%
Dian-Dian	Guinea	3,000 ktpa	2,780 kt	840 kt	93%

[3] Pro–rata share of capacity and production attributable to RUSAL.

Leading the way to decarbonisation

A number of En+ Group's partnerships focus on market-side policies, and initiating market change, whether it is to establish a new green aluminium market, or to accelerate change towards a low-carbon energy system.

En+ GROUP

In April 2017, En+ Group became a partner of the **Carbon Pricing Leadership Coalition** (CPLC), a voluntary partnership to advance the carbon pricing agenda and apply a price on carbon throughout the global economy. En+ Group and RUSAL remain the only two Russian partners of the CPLC.

Within the goal to support industry, as well as global decarbonisation, En+ Group joined the **Energy Transitions Commission** (ETC) in July 2019. The ETC is an organisation aimed to accelerate change towards low-carbon energy within hard to abate sectors, and through this, enable robust economic development and limit the rise in global temperature to well below 2 degrees Celsius.

En+ Group is a Strategic Partner Associate of the **World Economic Forum.** The Forum is an International Organisation, and a platform for Public-Private Cooperation. The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas. The Group's partnership with the Forum extends to the Group's presence at Forum's global events, including the Annual Meeting in Davos, where En+ Group vocally expressed support for decarbonisation of the aluminium industry.

The World Economic Forum and the ETC helped governments of India and Sweden establish the Mission Possible Platform a platform led by the Forum that strives for decarbonisation of hard-to-abate sectors.

As part of the Mission Possible Platform, an aluminium specific initiative, Aluminium for Climate has been established with the aid of En+ Group. En+ Group is among the initial members of the initiative since September 2019, and has since pushed for greater outreach and development of the initiative. En+ Group's ambition is to lead the net-zero transition of the global aluminium industry. Aluminium for Climate aims to unite the aluminium industry, to set the industry's future direction, promote industry's transparency in terms of the carbon footprint, develop global interest in green aluminium, and create a new market for a cleaner, low carbon footprint aluminium. The initiative unites aluminium producers, policy makers, consumer oriented producers, certification associations, and is expanding to involve the power sector.

En+ Group and RUSAL are among companies actively contributing to **B20 policy recommendations.** The companies are members of the **Business and Industry Advisory Committee to the OECD (BIAC).** En+ Group also chairs the Russian part of the **Energy and Green Economy Working Group at the BRICS Business Council.**

In July 2019, En+ Group joined the **United Nations Global Compact** (UNGC). Companies that join the Global Compact commit to 10 Principles that cover Human Rights, Labour, Environment and Anti-Corruption aspects of corporate sustainability. Together with the National Network, UNGC Russia, En+ Group continues to promote decarbonisation and corporate sustainability on a domestic scale, as well as help build and develop an overall position of Russian businesses relating to the world's top environmental challenges.

For more information see p. 78

Power segment review

Market overview[1]

Overview of the Russian power sector

The Russian Federation's power sector is among the largest in the world, with installed electricity capacity of 246.3 GW and electricity output of 1,080.6 TWh as of 2019. The majority of Russia's electricity demand is met by thermal power plants that use natural gas and thermal coal as their primary fuel. In Siberia, thermal power plants make up 51% of installed capacity and hydrogenation makes up the remaining 49%.

The Unified Energy System (UES) of Russia covers most of the Russian territory. Grid interconnections between different energy systems are limited; therefore, the Russian wholesale power and capacity market is split into two pricing zones. The first pricing zone includes the territory of the European part of Russia (including the Urals), while the second pricing zone encompasses Siberia. The differences in capacity mix and fuel mix define the electricity price drivers in each of the price zones in Russia.

The Siberian Integrated Energy System (IES) has an operational area of 4,944,300 sq km, with a population of approximately 19 million people. The Siberian IES comprises of 112 power plants with a total installed capacity of 52.1 GW, including 25.3 GW of HPPs (48.6%), 26.6 GW of TPPs (51.0%) and 225 MW of solar plants (0.4%). The grid of the Siberian IPS consists of 110, 220, 500 and 1150 kV lines. The total length of power lines is 101,288 km.

A unique feature of the Siberian IPS 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 in proximity to regions where the coal is mined.

Electricity demand

Electricity consumption in the UES of Russia increased by 0.4% year-on-year to 1,059.4 TWh. Electricity consumption in the European–Ural price zone[2] decreased by 0.4% to 807.7 TWh. Electricity consumption in the Siberian IES increased by 0.6% in FY 2019 to 211.4 TWh.

Electricity supply

In 2019, electricity output in the UES of Russia improved by 0.9% year-on-year to 1,080.6 TWh (1,070.9 TWh in 2018). Electricity output in the European–Ural price zone was flat from 2018, at 828.1 TWh.

Electricity output within the Siberian IES in 2019 was 208.7 TWh, up 1.7% year-on-year. Output from HPPs in Siberia increased by 5.8% year-on-year to 107.8 TWh. In 2019 the Group's HPPs generated approximately 59.6% of the total electricity produced by hydropower stations in the Siberian IES. At the same time, thermal power plants decreased their electricity production by 2.4% year-on-year to 100.8 TWh.

In 2019, combined heat and power (CHP) plants accounted for 48.3% of full-year electricity output within the Siberian IPS, while HPPs accounted for 51.6%.

The total installed electricity capacity of the UES of Russia as of 1 January 2020 amounted to 246.3 GW and increased by 3.1 GW in 2019. The increase can be explained by a 3.0 GW commissioning of new capacity, a 1.75 GW decommissioning of old capacity and a 1.9 GW capacity increase linked to remarking, corrections, etc. In the second price zone, 182 MW was commissioned and 61 MW remarked without any decommissions.

Electricity and capacity prices

In the Siberian IES zone, electricity spot prices are effectively determined by the production costs of the least efficient coal-fired generation plant (mostly CHPs and condensing power plants), with HPPs (and some CHPs operating in must-run mode) 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 hydro power, the price of electricity can exhibit significant fluctuations throughout the course of the year.

One of the major factors exerting significant influence in the medium term is the water inflow to Siberian HPPs, which determines the availability of low-cost hydro power for the wholesale market. Over the last few years, there has been a period of low water levels, which consequently reduced the availability of hydro power. However, in 2019, the hydrological situation improved.

In 2019, spot prices for the European–Ural price zone (the first price zone) grew by 3.3% year-on-year and averaged RUB 1,288 per MWh, while the spot prices for the Siberian price zone (the second price zone) remained broadly flat from the previous year: 0.2% higher year-on-year, averaging RUB 890 MWh.

While electricity prices generally reflect short-term variations in the supply-demand balance and cover generators' variable costs, capacity prices cover fixed costs and sustain CAPEX requirements.

Reflecting the long-term nature of these decisions, the capacity market functions rather differently to the electricity market, with annual auctions carried out to determine the price and availability of capacity in four years' time. Currently capacity prices are thus determined through to 2025 and, from 2018, are indexed annually at the previous year's Consumer Price Index (CPI) minus 0.1% (previously they were indexed at CPI minus 1%).

In 2019, the Ministry of Energy of the Russian Federation defined rules for the indexation of price parameters at competitive capacity outtake (CCO), which provide for a 20% growth in price parameters until 2024 and growth with inflation afterwards. Furthermore, the take-off period was increased to six years: starting from 2019, the CCO will be conducted for the 2022–2024 period and further CCO will be conducted every year with the period of delivery in six years.

Capacity prices[3]

'000 RUB/MW/month	2018	2019	2020	2021	2022	2023	2024
Second price zone	186	190	191	225	264	267	279

The CCO price for the first price zone grew by 3.7% year-on-year in 2019 (including CPI – 0.1% indexation). The capacity price for the second price zone grew by 6.7% year-on-year in 2019 (including CPI – 0.1% indexation).

		2019	2018	Change, %
CAPACITY PRICES (INCLUDING CPI – 0.1% INDEXATION)				
First price zone	'000 RUB/MW/month	124.1	119.7	+ 3.7%
Second price zone		213.7	200.3	+ 6.7%
ELECTRICITY SPOT PRICES[4]				
First price zone	RUB/MWh	1,288	1,247	+ 3.3%
Second price zone	RUB/MWh	890	888	+ 0.2%
Nizhny Novgorod Region	RUB/MWh	1,335	1,308	+ 2.1%
Irkutsk Region	RUB/MWh	789	842	– 6.4%
Krasnoyarsk Territory	RUB/MWh	784	824	– 4.9%

Electricity spot prices in the 2nd price zone didn't change as compared to 2018 (+ 0.2%) because coal prices growth has been compensated by the increase of HPP production due to a more favourable hydrological situation.

Electricity spot prices in the Irkutsk Region and Krasnoyarsk Territory are lower than in 2018 mainly due to higher HPP production together with simultaneous grid constraints on the transit lines between eastern and western parts of Siberia and changes in consumption structure in the second half of 2019.

[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] Capacity prices are defined by supply-demand balances and are set in real terms, which until the end of 2017 were linked to CPI – 1%, and which, since the beginning of 2018, have been linked to CPI– 0.1%.

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

Operational performance

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.

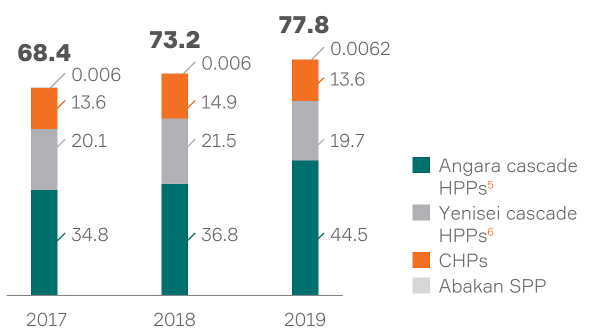
As at 31 December 2019, the total installed electricity capacity of the Group's power assets amounted to 19.5 GW,[1] while its total installed heat capacity amounted to 15.8 Gcal/h. As at 31 December 2019, 77.4% of the installed electricity capacity was represented by HPPs, with the remaining 22.6% accounted for by CHPs (which are predominantly coal-fired) and one solar plant.

The Company produced 77.8 TWh[2] of electricity in 2019, which represented 7.2% of Russia's total electricity generation and 36.4% of the Siberian IES' total electricity generation for the period.

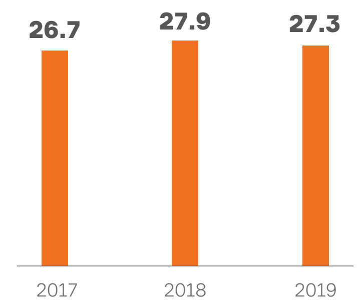
Hydro power generation

Hydro power generation is the key area of the Group's Power segment. The Group operates five HPPs,[3] including three of the five largest HPPs in Russia and of the twenty largest HPPs globally, in each case in terms of installed electricity capacity. In 2019, the Power segment's HPPs produced 64.2 TWh of electricity, which accounted for 82.5% of the total electricity generated by the Group.

Total electricity production[4] (TWh)



Heat generation (mn Gcal)



Total electricity output by the Angara cascade HPPs (Irkutsk, Bratsk and Ust-Ilimsk HPPs) increased by 20.9% year-on-year to 44.5 TWh in 2019, due to increased water reserves in the reservoirs of the HPPs on Angara cascades, as well as increased water levels in the Bratsk reservoir, which reached 399.00 m as at the end of 2019, vs 396.43 m at the end of 2018.

In 2019, Krasnoyarsk HPP's total power generation decreased from 21.5 TWh in 2018 by 8.4% to 19.7 TWh, mainly due to a decrease in water in the Krasnoyarsk reservoir, in turn caused by low inflow in the second quarter of 2019 compared to the same period of the previous year. At the end of 2019, the level of the Krasnoyarsk reservoir was 236.03 m, in comparison with 236.74 m at the end of 2018.

Combined heat and power plants

The Group's CHPs decreased electricity output in 2019 by 8.7% year-on-year to 13.6 TWh, primarily as a result of higher HPP production on the back of more favourable hydrological conditions compared to the previous year. Heat generation amounted to 27.3 million Gcal (down 2.2% year-on-year).

Abakan Solar Power Plant (SPP) generated 6.2 GWh in 2019 (up 3.3% year-on-year).

[1] Including Onda HPP with installed power capacity 0.08 GW (located in the European part of Russia, leased to UC RUSAL); excluding Boguchany HPP with installed power capacity of 3,000 MW (50/50 JV between UC RUSAL and RusHydro).
[2] Excluding Onda HPP with installed power capacity 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 0.08 GW (located in European part of Russia, leased to UC RUSAL); excluding Boguchany HPP with installed power capacity of 3,000 MW (50/50 JV of UC RUSAL and RusHydro).
[5] Includes Irkutsk, Bratsk, Ust-Ilimsk HPPs.
[6] Krasnoyarskaya HPP.

Retail

The Company, through its subsidiaries LLC Irkutskenergosbyt, JSC Volgaenergosbyt and LLC MAREM+, 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 that is located within the boundaries of these operational areas and which applies for such a contract.

Electricity transmission and distribution

As at 31 December 2019, the Group operated a transmission and distribution system of approximately 41,000 km of high and low voltage lines with an annual output of approximately 48 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.

Coal production

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

Coal prices in the domestic market are determined based on the level of competition and demand from various categories of consumers in the region (energy, utilities, other industrial enterprises, population).

Projects

The New Energy modernisation programme
New Energy is a programme aimed at modernising the power plants of the Angara and Yenisei HPP cascade with a view for ramping up the energy output at the same water volume passing through the hydro power turbines; another objective is to reduce the environmental footprint by curbing the greenhouse gas emissions of the Company's coal-fired power plants. In 2019, the programme has enabled En+ Group to ramp up its power output by 1.68 TWh.

The programme assumes a large-scale overhaul and replacement of the core equipment of the Company's largest Siberian HPPs, i.e. Krasnoyarsk, Bratsk, Irkutsk and Ust-Ilimsk HPPs. The programme envisages modernisation of hydroelectric generation units; replacement of runners, transformers and open-type switchgear. Higher efficiency (max + 8%) will be provided by the new runners' improved blades and by utilising new materials. Higher safety and better reliability of the HPPs is another priority of the modernisation, which will mitigate the risks associated with cavitation and address the HPP generator wear problem.

Bratsk HPP (18 generation units)	Ust-Ilimsk HPP (16 generation units)	Krasnoyarsk HPP (12 generation units)	Irkutsk HPP (8 generation units)
PROJECTS COMPLETED AND UNDERWAY			
12 of 18 runners replaced (2007–2017) 6 remaining runners to be replaced by 2026	4 of 16 runners replaced (2014–2018)	2 of 12 runners replaced (2016–2019) 6 of 12 runners to be replaced by 2025	4 of 8 generation units to be replaced by 2023

Investment is expected to total RUB 21 billion in the period to 2026 (about USD 339.2 million as of 31 December 2019[7]), including funds already invested in the project.

The HPP efficiency will match that of the world's best performers after the New Energy programme is completed, providing for better reliability and a higher quality power supply to our Siberian consumers. On top of the expected economic improvement, the New Energy programme will positively impact the environment of the Siberian regions in which we operate. Hydroelectric energy is used to partially replace the energy generated by coal-fired power plants and thus let avoid GHG emissions to the extent of 1.95 mt of CO_2e in 2019. The modernised turbines incorporate an up-to-date runner design that prevents turbine oil leakage into water.

[7] Calculated based on USD/RUB exchange rate of 61.91 as at 31 December 2019.

CHP modernisation programme
The Group participated in the 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 of the wholesale market, providing with the key criteria for modernisation, parameters of capacity supply after the modernisation and return on investment. Through this programme the Group will improve the reliability and safety of 1,295 MW of its CHP capacity (29.5% of total CHP capacity). Total expected CAPEX for CHPs is USD 245 million[1] (RUB 15.2 billion).

Small HPP project
In 2019, as a part of the state programme backed by the CAC mechanism for renewable projects, En+ Group started design engineering works for a small-scale Segozerskaya HPP with a total capacity of 8.1 MW in Karelia, Russia. Total expected CAPEX for small HPP construction is approximately USD 23 million[1] (RUB 1.4 billion).

En+ Group has formed a portfolio of projects with a total installed capacity of about 200 MW. Depending on the results of the project feasibility study, a decision will be made on when these projects will be implemented.

Assets overview

	Location	Installed capacity	2019 production	2018 production
HYDROPOWER PLANTS				
Irkutsk HPP	Russia (Irkutsk Region)	662.4 MW	4.1 TWh	3.1 TWh
Bratsk HPP	Russia (Irkutsk Region)	4,500 MW	21.1 TWh	17.3 TWh
Ust-Ilimsk HPP	Russia (Irkutsk Region)	3,840 MW	19.3 TWh	16.3 TWh
Krasnoyarsk HPP	Russia (Krasnoyarsk Territory)	6,000 MW	19.7 TWh	21.5 TWh
COMBINED HEAT AND POWER PLANTS				
CHP-10	Russia (Irkutsk Region)			
Electricity		1,110 MW	3.8 TWh	4.1 TWh
Heat		563 Gcal/h	0.4 mn Gcal	0.5 mn Gcal
CHP-9	Russia (Irkutsk Region)			
Electricity		619 MW	2.1 TWh	2.2 TWh
Heat		3,232.4 Gcal/h	6.1 mn Gcal	5.9 mn Gcal
Novo-Irkutsk CHP	Russia (Irkutsk Region)			
Electricity		726 MW	2.6 TWh	2.9 TWh
Heat		2,075.8 Gcal/h	5.6 mn Gcal	5.7 mn Gcal
Ust-Ilimsk CHP	Russia (Irkutsk Region)			
Electricity		515 MW	0.9 TWh	1.0 TWh
Heat		1,015.0 Gcal/h	1.6 mn Gcal	1.6 mn Gcal
CHP-11	Russia (Irkutsk Region)			
Electricity		320.3 MW	0.6 TWh	0.9 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		2,071.2 Gcal/h	3.5 mn Gcal	3.9 mn Gcal
Novo-Ziminskaya CHP	Russia (Irkutsk Region)			
Electricity		260 MW	1.0 TWh	0.9 TWh
Heat		818.7 Gcal/h	1.5 mn Gcal	1.5 mn Gcal
Avtozavodskaya CHP	Russia (Nizhny Novgorod Region)			
Electricity		505 MW	1.6 TWh	1.9 TWh
Heat		2,226.0 Gcal/h	3.3 mn Gcal	3.6 mn Gcal
Solar power plant				
Abakan solar power plant	Russia (Republic of Khakassia)	5.2 MW	6.2 mn kWh	6.0 mn kWh
Other assets[2]				
Electricity		142.4 MW	0.6 TWh	0.7 TWh
Heat		2,748.9 Gcal/h	4.3 mn Gcal	4.2 mn Gcal

[1] Calculated based on USD/RUB exchange rate of 61.91 as at 31 December 2019.

[2] Including Onda HPP, CHP-12, CHP-16, electric boiler house of PJSC Irkutskenergo, EnSer CHP, Baikalenergo (heat generation only), CJSC ArmRusCogeneratsia, LLC EuroSibEnergo-Kuban, Khakass utility services (heat generation only), LLC Generazia Tepla.

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	
	2019	2018
		(USD mn)
Revenues	**11,752**	**12,378**
Gross profit	**2,879**	**4,169**
Gross profit margin	24.5%	33.7%
Results from operating activities (EBIT)	**976**	**2,280**
Operating profit margin	8.3%	18.4%
Pre-tax profit	**1,580**	**2,268**
Profit for the year	**1,304**	**1,862**
Net profit margin[1]	11.1%	15.0%
Adjusted EBITDA[2]	**2,127**	**3,287**
Adjusted EBITDA margin[3]	18.1%	26.6%
Net debt[4]	10,204	11,094
Net working capital[5]	2,042	2,811
Free cash flow[6]	1,614	877
Basic earnings per share[7]	1.356	1.692
Equity attributable to shareholders of the Company	4,330	2,655

[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 634 million and 571 million weighted average number of shares in 2019 and 2018, respectively.

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 logistics services and coal resources to the Group. The Metals segment consists of RUSAL, which includes RUSAL's equity investment in Norilsk Nickel.

RUSAL is the second largest aluminium producer globally with a high degree of vertical integration and operations throughout all the major stages of aluminium production, from the mining of raw materials to the sale of value-added products to end users. With its competitive mining and refinery operations covering the major material consumption needs of RUSAL's production facilities, and the historically low-energy, low-cost smelting operations located in Siberia, RUSAL has one of the lowest costs of production in the industry globally, according to CRU.

The Company's management believes that the division of the results of the Group's operations into the Power segment and Metals segment 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 intersegmental eliminations, in order to analyse changes, developments and trends by reference to the individual segment's results of operations (Power segment and Metals segment). Amounts attributable to the Power segment and Metals segment are presented prior to intersegmental eliminations between the two segments. All transactions between entities within the Power segment are eliminated.

Revenues

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

	Year ended 31 December	
	2019	2018
		(USD mn)
Sales of primary aluminium and alloys	7,906	8,165
Sales of electricity	1,300	1,329
Sales of alumina and bauxite	668	984
Sales of semi-finished products and foil	563	527
Sales of heat	462	461
Other revenues	853	912
Total revenues	**11,752**	**12,378**

	Year ended 31 December 2019	2018
	(USD mn)	
Metals segment (RUSAL)	9,711	10,280
Power segment	2,989	3,147
Business segment revenues	12,700	13,427
Elimination of intersegmental revenues	(948)	(1,049)
Total revenues	**11,752**	**12,378**

The Group's revenue is mainly attributable to RUSAL's operations. In 2019 and 2018, RUSAL's revenue (before intersegmental elimination) accounted for 76.5% and 76.6% of the Group's revenue, respectively. In 2019 and 2018, the Power segment's revenue (before intersegmental elimination) accounted for 23.5% and 23.4% of the Group's revenue, respectively.

The Group's revenue decreased by USD 626 million, or 5.1%, from USD 12,378 million in 2018 to USD 11,752 million in 2019. This decrease was primarily due to a fall in RUSAL's revenue, following a 15.1% decrease in the LME aluminium price to an average of USD 1,792 per tonne in 2019, from USD 2,110 per tonne in 2018, and a decrease of 25.0% in the average alumina sales price, which was compounded by a 9.2% decrease in the sales volumes of alumina. The decrease was partially offset by a 13.8% increase in sales of primary aluminium and alloys in 2019 as compared with 2018. The Group's revenue was also affected by a decrease in the Power segment's revenue, mainly following the rouble's depreciation.

Cost of sales

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

	Year ended 31 December 2019	2018
	(USD mn)	
Metals segment (RUSAL)	8,113	7,446
Power segment	1,736	1,751
Business segment cost of sales	9,849	9,197
Elimination of intersegmental cost of sales	(976)	(988)
Total cost of sales	**8,873**	**8,209**

The cost of sales in the Power segment and RUSAL 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 the Metals segment, 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 664 million, or 8.1%, from USD 8,209 million in 2018 to USD 8,873 million in 2019.

The growth was primarily attributable to the increase in the cost of sales of RUSAL by USD 667 million, or by 9.0%, to USD 8,113 million for the year ended 31 December 2019, as compared to USD 7,446 million for the year ended 31 December 2018. The increase was driven by a 13.8% increase in primary aluminium sales volume, which was partially offset by a depreciation of the Russian rouble against the US dollar between the comparable periods.

Gross profit

The Group's gross profit for 2019 decreased by USD 1,290 million, or 30.9%, to USD 2,879 million from USD 4,169 million in 2018.

The Group's gross profit margin decreased from 33.7% in 2018 to 24.5% in 2019.

Distribution, general and administrative expenses

The Group's distribution, general and administrative expenses were almost flat year-on-year, with a 2.5% decrease from USD 1,509 million in 2018 to USD 1,471 million in 2019.

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.

	Year ended 31 December 2019	2018
	(USD mn)	
RECONCILIATION OF ADJUSTED EBITDA		
Results from operating activities	976	2,280
Add:		
Depreciation and amortisation	806	752
Loss on disposal of property, plant and equipment	24	11
Impairment of non-current assets	321	244
Adjusted EBITDA	**2,127**	**3,287**

The Group's results from operating activities for 2019 decreased by USD 1,304 million, or 57.2%, to USD 976 million from USD 2,280 million for 2018.

Results from operating activities attributable to the Power segment increased by USD 6 million, or 0.7%, from USD 849 million in 2018, to USD 855 million in 2019; results from operating activities attributable to RUSAL decreased by USD 1,394 million, or 94.1%, from USD 1,481 million in 2018 to USD 87 million in 2019.

Adjusted EBITDA is defined as results from operating activities adjusted for depreciation and amortisation, 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 is analysed by segment (before intersegmental elimination) for the years indicated.

At a glance
OPERATING REVIEW
Sustainable development
Internal control and risk management
Corporate governance
Financial statements

	Year ended 31 December 2019	2018
	(USD mn, except %)	
Adjusted EBITDA RUSAL	966	2,163
Adjusted EBITDA Power segment	1,127	1,174
Consolidation adjustment	34	(50)
Adjusted EBITDA	**2,127**	**3,287**
Adjusted EBITDA margin RUSAL	9.9%	21.0%
Adjusted EBITDA margin Power segment	37.7%	37.3%
Adjusted EBITDA margin Group	**18.1%**	**26.6%**

In 2019, the Group's adjusted EBITDA decreased by USD 1,160 million, or 35.3%, to USD 2,127 million from USD 3,287 million in 2018. The decrease in 2019 as compared to 2018 was mainly due to the same factors that influenced the operating results of the Group.

Share of profits of associates and joint ventures

	Year ended 31 December 2019	2018
	(USD mn, %)	
Share of profit in Norilsk Nickel, with	1,587	885
Effective shareholding of	15.82%	13.39%
Share of profit in BEMO project, with	49	41
Effective shareholding of	28.44%	24.07%
Share of profit in other associates/joint ventures	33	22
Share of profits of associates and joint ventures	**1,669**	**948**

The Group has a number of associates and joint ventures, which are accounted for in the financial statements under the equity method (see Note 13 to the Annual Financial Statements). The principal associates and joint ventures include Norilsk Nickel, Queensland Alumina Limited and the BEMO project.

The Group's share of the profits of its associates and joint ventures increased by USD 721 million, or 76.1%, to USD 1,669 million in 2019 from USD 948 million in 2018.

The change in the share of the profits of the associates and joint ventures in 2019 as compared to 2018 can primarily be attributed to the increase of profit from the Group's investment in Norilsk Nickel.

The market value of the investment amounted to USD 13,586 million and USD 8,286 million as at 31 December 2019 and 31 December 2018, 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. The Group's finance costs primarily consist of interest expense on interest-bearing liabilities and net foreign exchange losses.

	Year ended 31 December 2019	2018
		(USD mn)
Change in fair value of derivative financial instruments	–	171
Interest income	82	44
Other finance income	1	1
Total finance income	**83**	**216**
Interest expense – third parties	(987)	(915)
Interest expenses on company loans from related parties – companies capable of exerting significant influence	(13)	(2)
Net foreign exchange losses	(114)	(253)
Change in fair value of derivative financial instruments	(21)	–
Other finance costs	(13)	(6)
Total finance costs	**(1,148)**	**(1,176)**

The Group's finance income for 2019 decreased by USD 133 million, or 61.6%, to USD 83 million from USD 216 million in 2018, mainly as a result of the change in fair value of derivative financial instruments in 2019 (a loss of USD 21 million in 2019 as compared to a gain of USD 171 million in 2018).

The Group's finance costs for 2019 decreased by USD 28 million, or 2.4%, from USD 1,176 million in 2018 to USD 1,148 million in 2019 as a result of foreign exchange losses (USD 114 million in 2019 compared to the USD 253 million in 2018) and interest expenses increased (USD 987 million in 2019 compared to USD 915 million in 2018).

Income tax expense

The Group's income tax expense for 2019 decreased by USD 130 million, or 32.0%, to USD 276 million from USD 406 million in 2018, as a result of the lower profit before taxation in 2019 as compared to 2018. The current tax expense decreased by USD 93 million, or 20.1%, during this period, primarily due to the decrease in taxable profits. Deferred tax increased by USD 37 million from USD 56 million in 2018, to a tax benefit of USD 93 million in 2019, primarily due to the accruals of certain temporary differences, changes in the fair value of derivative financial instruments and the reversal of deferred withholding tax related to the Group's share in Norilsk Nickel's profits.

Profit before taxation

For the reasons described above, the Group recorded a profit before taxation of USD 1,580 million in 2019 as compared to USD 2,268 million in 2018. In 2019, the Power segment generated a profit before taxation of USD 492 million compared to USD 365 million in 2018. In 2019, RUSAL generated a profit before taxation of USD 1,054 million as compared to USD 1,953 million in 2018.

Profit for the year

For the reasons described above, the Group's profit for the year ended 31 December 2019 was USD 1,304 million, as compared to a profit for the year ended 31 December 2018 of USD 1,862 million.

Metals segment

In 2019 and 2018, RUSAL accounted for 76.5% and 76.6% of the business segments' revenues (before adjustments), respectively. As at 31 December 2019 and 31 December 2018, the assets of RUSAL accounted for 60.8% and 60.6% of the Group's total assets (before adjustments), respectively.

Selected financial data

The following table sets forth selected data of RUSAL (before intersegmental elimination) for the periods indicated.

	Year ended 31 December	
	2019	2018
		(USD mn)
Revenues	**9,711**	**10,280**
Gross profit	**1,598**	**2,834**
Gross profit margin	16.5%	27.6%
Pre-tax profit	**1,054**	**1,953**
Profit for the period	**960**	**1,698**
Net profit margin	9,9%	16.5%
Adjusted EBITDA	**966**	**2,163**
Adjusted EBITDA margin	9.9%	21.0%
Adjusted net (loss)/profit[1]	(270)	856
Recurring net profit[2]	**1,273**	**1,695**
Recurring net profit margin[3]	**13.1%**	**16.5%**

[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 RUSAL.

Revenues

The following table sets forth components of RUSAL's sales data (before intersegmental elimination) for the years indicated.

	Year ended 31 December	
	2019	2018
Sales of primary aluminium and alloys		
Revenue, USD mn	8,019	8,293
Sales volumes, kt	4,176	3,671
Average sales price (USD/t)	1,920	2,259
Sales of primary alumina		
Revenue, USD mn	664	975
Sales volumes, kt	1,753	1,930
Average sales price (USD/t)	379	505
Sales of foil and other aluminium products, USD mn	**410**	**346**
Other revenue, USD mn	**618**	**666**
Total revenues	**9,711**	**10,280**

RUSAL's revenue decreased in 2019 by USD 569 million, or by 5.5%, to USD 9,711 million from USD 10,280 million in 2018, following a 15.1% decrease in the average LME aluminium price and a decrease in alumina sales price and volumes.

Revenue from sales of primary aluminium and alloys decreased by USD 274 million, or by 3.3%, to USD 8,019 million in 2019, as compared to USD 8,293 million in 2018, primarily due to a 15.0% decrease in the weighted-average realised aluminium price per tonne (to an average of USD 1,920 per tonne in 2019 from USD 2,259 per tonne in 2018) driven by a decrease in the LME aluminium price (to an average of USD 1,792 per tonne in 2019 from USD 2,110 per tonne in 2018), which was partially offset by a 13.8% increase in primary aluminium and alloys sales volume.

Revenue from sales of alumina decreased by 31.9% to USD 664 million for the year ended 31 December 2019 from USD 975 million for the year ended 31 December 2018, due a decrease in the average sales price by 25.0%, together with a decrease in sales volumes of 9.2%.

Revenue from sales of foil and other aluminium products increased by USD 64 million, or by 18.5%, to USD 410 million in 2019, as compared to USD 346 million in 2018, due to an increase in revenue from sales of aluminium wheels by USD 62 million between the comparable periods.

Revenue from other sales, including sales of other products, bauxite and energy services decreased by 7.2% to USD 618 million for the year ended 31 December 2019 as compared to USD 666 million for the previous year, due to a 3.5% decrease in sales of other materials (such as silicon by 23.0%, aluminium powder by 10.6%, potassium sulphate by 15.5%).

Cost of sales

The following table sets forth components of RUSAL's cost of sales (before intersegmental elimination) for the years indicated.

	Year ended 31 December	
	2019	2018
		(USD mn)
Cost of alumina	764	877
Cost of bauxite	483	495
Cost of other raw materials and other costs	2,515	2,833
Purchases of primary aluminium from joint ventures	454	307
Energy costs	2,054	2,147
Depreciation and amortisation	549	498
Personnel expenses	499	582
Repair and maintenance	358	74
Net change in provisions for inventories	(16)	(20)
Change in finished goods	453	(347)
Total cost of sales	**8,113**	**7,446**

RUSAL's cost of sales increased by USD 667 million, or by 9.0%, to USD 8,113 million for the year ended 31 December 2019, as compared to USD 7,446 million for the year ended 31 December 2018. The increase was primarily driven by a 13.8% increase in primarily aluminium sales volume, which was partially offset by the depreciation of the Russian rouble against the US dollar between the comparable periods.

The cost of alumina decreased by USD 113 million, or by 12.9%, to USD 764 million in 2019 as compared to USD 877 million in 2018, primarily due to a 16.5% decrease in alumina purchase price between the two periods.

The cost of raw materials (other than alumina and bauxite) and other costs decreased by 11.2% for the year ended 31 December 2019 compared to the same period of 2018, due to a decrease in raw material purchase price (prices for calcined petroleum coke by 12.5%, raw pitch coke by 4.9%, anode blocks by 15.7%, caustic soda by 33.0%).

The cost of bauxite was almost flat between the comparable periods.

Energy costs decreased by USD 93 million, or by 4.3%, to USD 2,054 million for the year ended 31 December 2019, as compared to USD 2,147 million for the year ended 31 December 2018 due to the depreciation of the Russian rouble against the US dollar, and a decrease in the average electricity prices between the same periods.

Finished goods mainly consist of primary aluminium and alloys (approximately 92%). The dynamic of change between the reporting periods was driven by fluctuations in the physical inventory of primary aluminium and alloys between the reporting dates: a 38.0% decrease in 2019 and a 40.7% increase in 2018.

Adjusted EBITDA and adjusted EBITDA margin

In 2019, RUSAL's adjusted EBITDA (before intersegmental elimination) decreased by USD 1,197 million, or 55.3%, to USD 966 million from USD 2,163 million in 2018. The factors that contributed to the decrease in adjusted EBITDA margin were the same ones that influenced the operating results.

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

	Year ended 31 December	
	2019	2018
		(USD mn)
Reconciliation of adjusted EBITDA		
Results from operating activities	87	1,481
Add:		
Amortisation and depreciation	566	513
Loss on disposal of property, plant and equipment	22	12
Impairment of non-current assets	291	157
Adjusted EBITDA	**966**	**2,163**

The following table sets forth a reconciliation of RUSAL's adjusted net profit and RUSAL's recurring net profit to RUSAL's net profit for the periods indicated.

	Year ended 31 December	
	2019	2018
		(USD mn)
Reconciliation of adjusted net (loss)/profit		
Net profit for the period	960	1,698
Adjusted for:		
Share of profits and other gains and losses attributable to Norilsk Nickel, net of tax effect	(1,543)	(839)
Change in derivative financial instruments, net of tax (20%)	22	(160)
Impairment of non-current assets, net of tax	291	157
Adjusted net (loss)/profit	**(270)**	**856**
Add back:		
Share of profits of Norilsk Nickel, net of tax	1,543	839
Recurring net profit	**1,273**	**1,695**

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

Power segment

The Power segment is engaged in all aspects of the power industry, including power generation, power trading and supply, as well as supporting operations engaged in the supply of logistics services and coal resources to the Group.

In 2019 and 2018, the Power segment accounted for 23.5% and 23.4% of the business segments' revenues (before adjustments), respectively. As at 31 December 2019 and 31 December 2018, the assets of the Power segment accounted for 39.2% and 39.4% of the Group's total assets (before adjustments), respectively.

Selected financial data

The following table sets forth selected data of the Power segment (before intersegmental elimination) for the periods indicated.

	Year ended 31 December	
	2019	2018
		(USD mn)
Revenues	**2,989**	**3,147**
Gross profit	**1,253**	**1,396**
Gross profit margin	41.9%	44.4%
Results from operating activities (EBIT)	**855**	**849**
Operating profit margin	28.6%	27.0%
Pre-tax profit	**492**	**365**
Profit for the period	**311**	**211**
Net profit margin	10.4%	6.7%
Adjusted EBITDA	**1,127**	**1,174**
Adjusted EBITDA margin	37.7%	37.3%

Revenues

The following table sets forth components of the Power segment's sales data (before intersegmental elimination) for the years indicated.

	Year ended 31 December	
	2019	2018
Average rate RUB/USD	**64.74**	**62.71**
		(USD mn)
Sales of electricity		
Revenue, USD mn	1,376	1,472
Sales volumes, TWh	93.6	91.4
Average sales price (RUB/MWh)	952	1,010
Sales of capacity		
Revenue, USD mn	487	462
Sales volumes, GW/year	170.4	163.5
Average sales price ('000 RUB/MW)	185	177
Sales of heat		
Revenue, USD mn	425	424
Sales volumes, mn Gcal	23.8	23.9
Average sales price (RUB/Gcal)	1,156	1,114
Sales of semi-finished products, USD mn	**180**	**195**
Sales of ferromolybdenum, USD mn	**67**	**53**
Other revenues, USD mn	**454**	**541**
Total, USD mn	**2,989**	**3,147**

The Power segment's revenue decreased by USD 158 million, or 5.0%, to USD 2,989 million in 2019 from USD 3,147 million in 2018, mainly reflecting the depreciation of the Russian rouble in 2019 compared to 2018 (the average RUB/USD exchange rate went up 3.2%) and a decrease in the average electricity sales price (by 5.7%).

Revenue from electricity sales decreased by 6.5% year-on-year to USD 1,376 million in 2019. The decrease was mainly driven by the depreciation of the Russian rouble in 2019 and lower electricity sales prices compared to 2018. This was partially offset by a 2.4% increase in electricity sales volumes.

Capacity sales improved by 5.4% year-on-year to USD 487 million in 2019, due to an increase in capacity sales prices and volumes. Heat sales in 2019 were flat from 2018.

The Power segment's electricity generation increased from 73.2 TWh in 2018 to 77.8 TWh in 2019. In 2018, HPPs generated 58.3 TWh of electricity, or 79.6% of the total electricity generated by the Power segment, while in 2019 they generated 64.2 TWh of electricity, or 82.5% of the total electricity generated by the Power segment. The increase in HPP generation can be primarily explained by increased water reserves in the Angara cascade HPP reservoirs,[1] as well as increased water levels in the Bratsk reservoir.

[1] Irkutsk, Bratsk and Ust-Ilimsk HPPs.

Cost of sales

The following table sets forth components of the Power segment's cost of sales (before intersegmental elimination) for the years indicated.

	Year ended 31 December	
	2019	2018
		(USD mn)
Electricity and capacity	399	452
Personnel expenses	334	321
Depreciation, depletion and amortisation	234	225
Cost of raw materials and fuel	271	285
Aluminium	111	118
Electricity transmission costs	158	160
Other	229	190
Total cost of sales	**1,736**	**1,751**

For 2019, the Power segment's cost of sales was almost flat on 2018's USD 1,751 million, with a slight decrease of USD 15 million, or 0.1%, to USD 1,736 million.

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.

	Year ended 31 December	
	2019	2018
		(USD mn)
Adjusted EBITDA (HPPs)	978	981
Adjusted EBITDA (CHPs)	66	57
Adjusted EBITDA (Coal)	38	59
Adjusted EBITDA (Other and unallocated)	45	77
Adjusted EBITDA (Power segment)	**1,127**	**1,174**
Adjusted EBITDA margin (Power segment)	37.7%	37.3%
Adjusted EBITDA margin (HPPs)	86.0%	85.1%
Adjusted EBITDA margin (CHPs)	8.6%	6.8%
Adjusted EBITDA margin (Coal)	12.9%	16.6%

In 2019, the Power segment's adjusted EBITDA (before intersegmental elimination) decreased by USD 47 million, or 4.0%, to USD 1,127 million, from USD 1,174 million in 2018. The decline was driven by a decrease in average electricity spot prices and the depreciation of the Russian rouble, but was partially offset by the increase in electricity generation volumes. In 2019, the Power segment's adjusted EBITDA level increased from 35% to 54% of the Group's adjusted EBITDA (before consolidation adjustments).

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 86.8% in 2019 and 83.6% in 2018.

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.

	Year ended 31 December	
	2019	2018
		(USD mn)
Reconciliation of adjusted EBITDA		
Results from operating activities	**855**	**849**
Add:		
Amortisation and depreciation	240	239
Loss/(gain) on disposal of property, plant and equipment	2	(1)
Impairment of non-current assets	30	87
Adjusted EBITDA	**1,127**	**1,174**

Net assets

	Year ended 31 December	
	2019	2018
		(USD mn)
Group		
Non-current assets	16,813	15,453
Current assets	7,218	5,829
Non-current liabilities	(13,185)	(11,917)
Current liabilities	(3,474)	(3,963)
Net assets	**7,372**	**5,402**
Metals segment		
Non-current assets	11,546	10,711
Current assets	6,268	5,066
Non-current liabilities	(8,677)	(8,314)
Current liabilities	(2,390)	(2,254)
Net assets	**6,747**	**5,209**
Power segment		
Non-current assets	10,371	9,320
Current assets	1,138	917
Non-current liabilities	(4,556)	(3,672)
Current liabilities	(1,213)	(1,764)
Net assets	**5,740**	**4,801**

In 2019, the Group's net assets increased by USD 1,970 million to USD 7,372 million as at 31 December 2019, from USD 5,402 million as at 31 December 2018.

In 2019, the Metal segment's net assets increased by USD 1,538 million, or by 29.5%, to USD 6,747 million as at 31 December 2019, from USD 5,209 million as at 31 December 2018. This was mainly caused by an increase in total assets, driven primarily by an increase in investments in associates and cash and cash equivalents, which was partially offset by an increase in trade and other payables.

In 2019, the Power segment's net assets as at 31 December 2019 increased by USD 939 million, or by 19.6%, to USD 5,740 million, from USD 4,801 million as at 31 December 2018. This was mainly caused by an increase in investment in the Metals segment following the Glencore deal, and the appreciation of the Russian rouble against the US dollar (RUB/USD 61.91 as at 31 December 2019 compared to RUB/USD 69.47 as at 31 December 2018).

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, the Power and Metals segments as at the dates indicated.

	As at 31 December	
	2019	2018
		(USD mn)
Group		
Inventories	2,542	3,037
Short-term trade and other receivables	2,082	1,389
Dividends receivable	(430)	–
Trade and other payables	(2,152)	(1,615)
Net working capital	**2,042**	**2,811**
Metals segment		
Inventories	2,460	3,006
Short-term trade and other receivables	1,781	1,102
Dividends receivable	(430)	–
Trade and other payables	(1,770)	(1,274)
Net working capital	**2,041**	**2,834**
Power segment		
Inventories	138	121
Short-term trade and other receivables	383	349
Dividends receivable	–	–
Trade and other payables	(511)	(395)
Net working capital	**10**	**75**

As at 31 December 2019, the Group's net working capital amounted to USD 2,042 million, compared to USD 2,811 million as at 31 December 2018.

The decrease in inventories (by USD 495 million from USD 3,037 million as at 31 December 2018 to USD 2,542 million as at 31 December 2019) was accompanied by the sale of surplus inventories of primary aluminium that had been accumulated by the end of 2018.

Trade and other receivables, net of dividends receivable, increased by USD 263 million from USD 1,389 million as at 31 December 2018 to USD 1,652 million as at 31 December 2019, and trade and other payables increased by USD 537 million from USD 1,615 million to USD 2,152 million.

Liquidity and capital resources

General

In 2019, 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 the Power and Metals segments. There were no cross-segment obligations other than those in the ordinary course of business.

Dividends

During the year ended 31 December 2019 the Group did not declare or pay any dividends.

In March 2018, the Parent Company declared and paid interim dividends for 2017 to the amount of USD 68 million (USD 0.119 per share).

Cash flows

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

	Year ended 31 December	
	2019	2018
		(USD mn)
Cash flows from operating activities	2,561	1,708
Cash flows from/(used in) investing activities	92	(452)
Cash flows used in financing activities	(1,588)	(960)
Net change in cash and cash equivalents	**1,065**	**296**
Cash and cash equivalents at the beginning of the period, excluding restricted cash	1,140	957
Effect of exchange rate changes on cash and cash equivalents	60	(113)
Cash and cash equivalents at the end of the period, excluding restricted cash[1]	**2,265**	**1,140**
Free cash flow	1,614	877

Cash flows from operating activities

The Group's cash flows from operating activities for 2019 were USD 2,561 million, an increase of USD 853 million, or 49.9%, compared to USD 1,708 million in 2018. This increase was primarily due to changes in net working capital of USD 885 million in 2019, compared to USD (1,372) million for 2018.

Cash flows generated from/(used in) investing activities

The Group's cash flows from investing activities for 2019 were USD 92 million, and were primarily attributable to dividends received from associates and joint ventures (mainly Norilsk Nickel), partially offset by capital expenditures on the acquisition of property, plant and equipment.

The Group's cash flows used in investing activities for 2018 were USD 452 million, and were primarily attributable to capital expenditures on the acquisition of property, plant and equipment; intangible assets; and other investments and acquisition of subsidiaries, which were partially offset by dividends received from associates and joint ventures (mainly Norilsk Nickel).

[1] Restricted cash pledged under a Swiss Law Pledged Agreement with BNP Paribas (Suisse) SA and Allied Irish Banks amounted to USD 13 million as at 31 December 2019 and USD 43 million as at 31 December 2018.

Cash flows used in financing activities

The Group's cash flows used in financing activities for 2019 were USD 1,588 million, an increase of USD 628 million from USD 960 million in 2018. This change was primarily due to a net cash outflow of USD 494 million from the repayment of borrowings in 2019, compared to USD 14 million in 2018.

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.

	Year ended 31 December	
	2019	2018
		(USD mn)
Reconciliation of free cash flow		
Group		
Cash flows generated from operating activities	2,561	1,708
Adjusted for:		
Capital expenditures (acquisition of property, plant and equipment and acquisition of intangible assets)	(1,061)	(1,004)
Dividends from associates and joint ventures	1,141	909
Interest received	62	39
Interest paid	(1,021)	(881)
Restructuring fees and expenses related to issuance of shares	(42)	(19)
Settlement of derivative financial instruments	(26)	125
Free cash flow	**1,614**	**877**
Metals segment		
Cash flows generated from operating activities	1,652	680
Adjusted for:		
Capital expenditures (acquisition of property, plant and equipment and acquisition of intangible assets)	(848)	(834)
Dividends from associates and joint ventures	1,141	909
Interest received	31	29
Interest paid	(553)	(490)
Restructuring fees	(33)	(6)
Settlement of derivative financial instruments	(26)	125
Free cash flow	**1,364**	**413**

	Year ended 31 December 2019	2018
	(USD mn)	
Power segment		
Cash flows generated from operating activities	932	1,039
Adjusted for:		
Capital expenditures (acquisition of property, plant and equipment and acquisition of intangible assets)	(236)	(181)
Interest received	31	10
Interest paid	(468)	(391)
Restructuring fees and expenses related to issuance of shares	(9)	(13)
Free cash flow	**250**	**464**

Capital expenditures

In 2019 and 2018, the Group's capital expenditures (comprising the acquisition of property, plant and equipment, as well as the acquisition of intangible assets) were USD 1,061 million and USD 1,004 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 of the Power and Metals segments for the periods indicated.

	Year ended 31 December 2019	2018
	(USD mn)	
Metals segment	848	834
Power segment	236	181

RUSAL recorded a total capital expenditure of USD 848 million for the year ended 31 December 2019. RUSAL's capital expenditure in 2019 focused on maintaining existing production facilities: re-equipment to the amount of USD 368 million, pot rebuild costs of USD 131 million, and the development CAPEX of USD 349 million.

In 2019, capital expenditure by the Power segment amounted to USD 236 million. Maintenance CAPEX accounted for 58% of total capital expenditure. The Power segment continued investment in three key areas: the technical connections of its power supply infrastructure (including a new substation for Taishet Aluminium Smelter), improvements in efficiency of CHPs, and the New Energy HPP modernisation programme.

Cash

As at 31 December 2019 and 31 December 2018, the Group's cash and cash equivalents, excluding restricted cash, were USD 2,265 million and USD 1,140 million, respectively. As at 31 December 2019 and 31 December 2018, the Power segment's cash and cash equivalents were USD 497 million and USD 339 million, respectively. Meanwhile, the Metals segment's cash and cash equivalents were USD 1,768 million and USD 801 million, respectively.

Loans and borrowings

The nominal value of the Group's loans and borrowings was USD 9,855 million as at 31 December 2019, not including bonds, which amounted to an additional USD 2,601 million.

Set out below is an overview of certain key terms of the principal facilities in the Group's loan portfolio as at 31 December 2019.

Facility/Lender	Principal amount outstanding as at 31 December 2019	Tenor/Repayment schedule	Pricing
Metals segment (RUSAL)			
SYNDICATED FACILITIES			
PXF facility	USD 1.085 bn	Up to USD 1.085 bn syndicated aluminium pre-export finance term facility – until November 2024; equal quarterly repayments starting from January 2022	3-month LIBOR plus 2.25% p.a.
BILATERAL LOANS			
Nordea Bank Abp	USD 200 mn	January 2021, bullet repayment at final maturity date	1-month LIBOR plus 2.4% p.a.
Russian Regional Development Bank (RRDB)	USD 200 mn	December 2020, bullet repayment at final maturity date	3.6% p.a.
Sberbank loan	USD 2.1 bn	December 2024, quarterly repayments starting from June 2021	3-month LIBOR plus 3.75% p.a.
	RUB 110.2 bn		9.15%
BONDS			
Eurobond	USD 592 mn	February 2022, repayment at final redemption date	5.125% p.a.
Eurobond	USD 491 mn	May 2023, repayment at final redemption date	5.3% p.a.
Eurobond	USD 498 mn	February 2023, repayment at final redemption date	4.85% p.a.
RUB bonds	RUB 60 bn (equivalent to USD 936 mn after cross-currency swaps)	Four tranches, the last repayment is November 2029, repayments at final redemption dates, subject to a bondholders' put option exercisable within 3.0–3.5 years	3.65%–4.69% p.a. (after cross-currency swaps)
Power segment			
Sberbank	RUB 99.5 bn	December 2026, quarterly repayments starting from September 2020	The key rate of the Bank of Russia + 1.5% p.a.
Sberbank and VTB	RUB 85.5 bn	June 2023, quarterly repayments starting from September 2019	The key rate of the Bank of Russia + 2% p.a. (except for RUB 4.6 bn tranche bearing 10.5% p.a.)

Security

As of 31 December 2019, the Metals segment's debt (save for several unsecured loans and bonds) is primarily secured by the assignment of receivables under specified contracts, pledges of shares in certain non-operating companies, designated accounts, and shares in Norilsk Nickel (representing a 25% plus 1 share of Norilsk Nickel's total nominal issued share capital).

As of 31 December 2019, the Power segment's debt (save for unsecured working capital loans of certain operating companies from Gazprombank, Sberbank and other banks) is primarily secured by pledges of shares and interests in certain operating and non-operating companies, properties, plant and equipment, and designated accounts.

Key events

- On 25 October 2019, RUSAL entered into a new five-year sustainability-linked pre-export finance facility for USD 1,085,000,000. The interest rate is subject to a sustainability discount or premium depending on the Company's fulfilment of the sustainability key performance indicators (KPI). The proceeds were used partly to refinance the principal outstanding under the existing up to USD 2 billion pre-export finance facility.
- In December 2019, EuroSibEnergo, a subsidiary, entered into a seven-year RUB 99.5 billion (USD 1.6 billion) loan agreement with Sberbank to refinance fully its existing obligations on more favourable commercial terms.
- In February 2020, the Group entered into two loan agreements with Sberbank:

Loan 1 – three-year RUB 100.8 billion loan agreement to finance the acquisition of a 21.37% stake in the Parent Company for USD 1.6 billion from VTB

Loan 2 – loan agreement allowing the extension of final maturity of Loan 1 for another four years during 2022.

Debt capital markets

- On 20 March 2019, the Group executed the put option under its Panda bonds issue (the first tranche) and redeemed bonds with a notional value of CNY 680 million (USD 101 million).
- On 29 March 2019, PJSC RUSAL Bratsk announced a new coupon rate of 0.01% per annum in respect of its series 08 bonds. On 10 April 2019, the Company exercised a put option on the outstanding RUB-denominated bonds series 08 and redeemed bonds with a notional value of RUB 23.8 million.
- On 4 April 2019, PJSC RUSAL Bratsk announced a new coupon rate of 0.01% per annum in respect of its series BO-01 bonds. On 18 April 2019, the Company exercised a put option on the outstanding RUB-denominated bonds series BO-01 and redeemed bonds with a notional value of RUB 3.8 billion.
- On 29 April 2019, the placement of the exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-01 (totalling RUB 15 billion with a coupon rate of 9.0%) was completed, and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. The maturity of the bonds is 10 years, subject to bondholders' put option exercisable in April 2022. In addition to the placement, the Group entered into a cross-currency interest rate swap, which resulted in the exchange-traded rouble bonds exposure being translated in full into US dollar exposure, with a maturity of 3 years and an interest rate of 4.69%.
- On 11 July 2019, the placement of the exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-02 (in the amount of RUB 15 billion with a coupon rate of 8.6%) was completed, and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. The maturity of the bonds is 10 years, subject to bondholders' put option exercisable in January 2023. In addition to the placement, the Group entered into a cross-currency interest rate swap, which resulted in the exchange-traded rouble bonds exposure being translated in full into US dollar exposure, with a maturity of 3.5 years and an interest rate of 4.45%.
- On 4 September 2019, the Group executed the put option under its Panda bonds issue (the second tranche) and redeemed bonds with a notional value of CNY 480 million (USD 67 million).
- On 12 September 2019, the placement of the exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-03 (totalling RUB 15 billion with a coupon rate of 8.25%) was completed, and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. The maturity of the bonds is 10 years, subject to bondholders' put option exercisable in September 2022. In addition to the placement, the Group entered into two cross-currency interest rate swaps, which resulted in the exchange-traded rouble bonds exposure being translated in full into US dollar exposure, with a maturity of 3 years for both swaps and interest rates of 3.82% and 3.85%.
- On 14 November 2019, placement of the exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-04 (totalling RUB 15 billion with a coupon rate of 7.45%) was completed, and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. The maturity of the bonds is 10 years, subject to bondholders' put option exercisable in November 2022. In addition to the placement, the Group entered into a cross-currency interest rate swap, which resulted in the exchange-traded rouble bonds exposure being translated in full into US dollar exposure, with a maturity of 3 years and an interest rate of 3.65%.

Contingencies

The summary of the Group's principal contingencies is set out below. For a detailed discussion of the Group's contingencies in 2019, 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. Notable recent events in the Russian Federation suggest that the authorities are becoming more active in their attempts to enforce, through the Russian court system, interpretations of the tax legislation, particularly 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. It would therefore seem 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 2019, the amount of claims where management assesses outflow as possible approximates USD 21 million (31 December 2018: USD 31 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 2019 and 31 December 2018, was 51.9% and 57.7%, respectively.

Return on equity

The Group's return on equity – the amount of net profit as a percentage of total equity – was 17.7% and 34.5% for the years ended 31 December 2019 and 31 December 2018, 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 2019 and 31 December 2018, was 1.1x and 2.6x, 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.

After making enquiries of management, the Directors have a reasonable expectation that the Group can continue in operation and meet its commitments as they fall due. Accordingly, the Directors believe that adoption of the going concern basis in preparing the financial statements is appropriate.

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 2019 ('000 USD)

	Production fees	Taxes or levies on corporate sales, production or profits	Royalties	Dividends	Signing-on, discovery and production bonuses	License fees, rental charges, entry fees and other consideration for licenses and/or concessions	Infrastructure improvement payments	TOTAL
Russia	–	45,600	–	–	–	13,167	629	59,396
Kazakhstan[1]	–	30,126	–	–	–	1,221	256	31,604
Ukraine	–	211	–	–	–	32	5	248
Guinea	–	5,243	–	–	–	–	–	5,243
Guyana	–	69	793	–	–	108	–	969
Jamaica	–	11,240	671	–	–	35	–	11,946
Total	**–**	**92,490**	**1,463**	**–**	**–**	**14,563**	**890**	**109,406**

[1] Located in Kazakhstan, Bogatyr Coal LLP is a 50:50 joint venture between RUSAL and Samruk-Energo.

SUSTAINABLE DEVELOPMENT

EN+ GROUP AIMS TO BE A SUSTAINABLE AND RESPONSIBLE PARTNER ACROSS ALL OF ITS ACTIVITIES

Sustainable development

Being a global aluminium and renewable power producer, En+ Group is committed to integrating sustainable development principles and values into daily operations.

Sustainability is at the core of En+ Group's business. The Group realises the importance of the transparent disclosure of its activities in environmental protection, human capital management, health and safety, and community engagement. This section of the Annual Report provides an overview of the activities of En+ Group which were aimed at the continuous improvements in sustainability performance. More detailed information on such activities will be provided in the Sustainability Report 2019.

En+ Group's top sustainable development priorities are:

+ Environmental protection
+ Responsibility for employees
+ Community engagement
+ Sustainable economic development
+ Transparency

In 2019, the Health, Safety and Environment Committee (the "HSE Committee") of the Board of Directors was established to periodically review the effectiveness of the Group's health, safety and environmental ("HSE") strategies, systems, policies and practices, as well as the results of any HSE audits; to consider the areas of significant corporate and individual HSE risks; and to assess whether the appointed executives manage the identified risks effectively.

In September 2019, En+ Group reaffirmed its commitments to sustainability with the launch of the Environmental Advisory Board, which advises the Board of Directors on how to deliver its extensive environmental agenda and identify emerging environmental issues.

En+ Group's robust focus on controlling its impact on climate and the natural environment aligns strongly with the ambitions of the United Nations' Sustainable Development Goals (SDGs). En+ Group supports all 17 of the UN SDGs, but our focus and determination lie with improving the lives and well-being of our employees and of local communities around the world which can be seen in our seven adopted goals. They are:

For more information see p. 18.

In July 2019, as part of its strategy to lead a global shift towards low carbon aluminium, En+ Group joined the Energy Transitions Commission ("ETC"). By joining the ETC, En+ Group aims to draw on the international expertise of the Commission's members to identify new ways to work towards a global energy transition, and achieve the Group's greenhouse gas reduction targets.

In order to contribute to the global movement to establish a global net-zero carbon economy, En+ Group has signed the commitment to the UN's Business Ambition for 1.5 °C movement in September 2019, and started to work to establish science-based emissions reduction targets (or "SBTi") aligned with a net-zero future. The Business Ambition for 1.5 °C brings together a broad coalition of businesses, civil society and UN leaders to make their critical and necessary contribution to limiting the global temperature increase to within 1.5 °C above pre-industrial levels. This follows the latest climate science indications that 1.5 °C emissions targets are needed to limit the worst impacts of climate change.

In strategic partnership with the World Economic Forum, En+ Group is among the leading members of the Aluminium for Climate initiative. The initiative will bring the most proactive leaders of the industry together to focus on new technological and market-driven solutions to improve the environmental performance of the entire sector. The main objective is to accelerate the transition to a low-carbon, Paris Agreement compatible aluminium sector by addressing the key barriers that are holding back progress.

In 2019, En+ Group joined the United Nations Global Compact ("UNGC"), demonstrating and emphasising its commitment to corporate sustainability. En+ Group is committed to ten core principles on human rights, labour, environment and anti-corruption and follows these principles in its daily operations. With UNGC Network Russia, En+ Group pushes for greater commitments from local businesses and strives to consolidate and build a united climate vision among Russian businesses.

Being the largest global independent hydro power generator, En+ Group was the first Russian company to endorse the United Nations Global Compact's CEO Water Mandate, joining global business leaders committed to improving water management and stewardship. Harnessing the potential of the world's largest freshwater reservoir, Lake Baikal, sustainable and responsible water management is at the core of the Group. With this endorsement, En+ Group will seek to collaborate with global leaders on this important issue and expand the scope and geographical reach of our research to help address the issues around water and sanitation globally.

In December 2015, RUSAL became a member of the Aluminium Stewardship Initiative ("ASI") under the category Production and Transformation. ASI is a voluntary global sustainable development initiative for the aluminium value chain. One of the mandatory requirements for participation in the initiative is certification for compliance with ASI standards. In 2019, the Metals segment's management company and three production facilities, including the Timan Bauxite Mine, Irkutsk Aluminium Smelter, and Urals Aluminium Smelter were successfully certified against the ASI Performance Standard and ASI Chain of Custody Standard.

Environmental protection

En+ Group places a special emphasis on environmental protection and global climate change issues as sustainable development priorities. En+ Group realises that its operations inevitably have an impact on water, land, air quality and biodiversity, and accordingly takes significant steps to mitigate and minimise them.

En+ Group goes above and beyond basic legal requirements in the regions where it operates, but also initiating its own environmental protection projects in order to improve its environmental performance. Every year, the Company invests in technological development, equipment modernisation, enhanced production efficiency, and environmental protection activities.

Beyond the Group's own footprint, the Group provides reliable access to renewable power sources, thereby enabling customers to reduce their carbon footprints. The Metals segment produces more than 90% of its aluminium using carbon-free and renewable hydro power and as a consequence it reduces the carbon footprint of its products.

In 2019, there were no major[1] incidents related to spillage, air pollution, or water and soil pollution, and no related claims filed, no fines imposed.

Environmental management

En+ Group is committed to being a world leader in addressing climate change and environmental issues. The continuous improvements to our existing environmental management system and the application of the core values of the Group's environmental policy at all production facilities is at the core of this commitment.

The decision-making system of the Group is based on the following principles:
+ The identification and assessment of environmental and climate risks generated by the Group's facilities
+ Compliance with environmental legislation in the regions where the Group operates
+ The prevention and mitigation of environmental and climatic impacts
+ Engagement with stakeholders and respect for their views

The planning, management and reporting of environmental protection activities are carried out by the environmental protection departments or the environmental protection specialists of En+ Group entities, and include addressing the environmental issues resulting from operations through approving objectives and budgets, financing initiatives, controlling the permitting process, conducting environmental risk assessments, and other activities.

The production facilities owned by En+ Group entities, or those which are under operational control of En+ Group, successfully apply the environmental management system, which is based on ISO 14001:2015 and is aimed at the reasonable use of natural resources and mitigation of adverse environmental impacts.

Environmental risk management is carried out in accordance with internally approved procedures. Any inconsistencies identified through governmental supervision and voluntary audits are recorded and followed by the development and implementation of corrective measures.

En+ Group was fully compliant with all environmental laws in its countries of operation in 2019.

En+ Group's subsidiary leads WWF Russia transparency rating for power companies

JSC Irkutskenergo, which manages the Group's energy assets in the Irkutsk Region, has topped Russia's first ranking of power companies for transparency on environmental responsibility.

Compiled by WWF Russia, the rating took into account fossil fuel powered heat and electricity production. The environmental transparency ratings for companies in these sectors were assessed according to 24 criteria. The calculation was carried out by the National Rating Agency's Analytical Centre using a methodology developed by WWF Russia, and was part of WWF's People for Nature project, supported by the European Union.

Climate change

En+ Group is set to reduce its carbon footprint and works with a wide range of partners to enhance global policy and the industry's response. Due to the energy-intensive nature of the Group's businesses, minimising the climate impacts of production processes is one of the most important strategic objectives. While there is already an established GHG reduction strategy in the Metals segment, En+ Group is in the process of developing an integrated environmental strategy for the Group which will include GHG reduction goals.

TCFD

En+ Group is currently developing its corporate format for disclosing financial data related to climate change based on a set of recommendations from the FSB Task Force on Climate-related Financial Disclosures (the "TCFD").

The TCFD disclosure of climate change risks project consists of two phases:
+ Disclosure of climate change risks by the Metals segment
+ Disclosure of climate change risks by the Power segment

Under both phases, climate change risks are to be identified and recorded. After that, more detailed work in order to develop our plans to mitigate and minimise these risks is to be carried out. The next steps are to identify five top risks and to develop several scenarios to mitigate or minimise them. The results of this work will be considered in the CDP (the Carbon Disclosure Project) report for 2019.

Key projects

ALLOW
Carbon labelling is an appropriate takeaway from the new approach to decarbonisation, based on international, regional, national and local initiatives of limiting GHG concentrations in the Earth's atmosphere.

The demand for climate-friendly goods is clearly growing among consumers. In 2017, En+ Group's unique mix of production segments enabled its Metals segment to start offering its proprietary aluminium brand ALLOW. ALLOW aluminium is manufactured with a total level of GHG emissions from both smelter and power generation (providing energy for electrolysis) of less than 4 tonnes of CO_2e per tonne of aluminium. The average emissions in the industry are around 12 tonnes of CO_2e per tonne of aluminium.

The Company verified its primary aluminium alloys in accordance with the criteria of the ALLOW brand in 2019 with the help of the international audit company TÜV Austria. 78% of the Company's primary aluminium output was confirmed to be compliant with the criteria attributed to this brand. The calculations followed the Aluminium Carbon Footprint Technical Support Document developed by the International Aluminium Institute.

Forest project
In 2019, the Metals segment helped to implement one of the Russia's largest reforestation and forest protection project within the framework of a comprehensive programme of carbon footprint reduction. The Company funded the planting of more than 1 million trees in the Krasnoyarsk Territory and the Irkutsk Region, and arranged aerial forest protection of more than 500,000 hectares of the lower Yenisei forestry in the Krasnoyarsk Territory.

En+ Group entities won Russia-wide Climate and Responsibility 2019 contest for best management of GHG emission reduction activities

RUSAL and EuroSibEnergo-Hydrogeneration jointly with Krasnoyarsk HPP finished at the top of the corporate competition.

The Russia-wide Climate and Responsibility award has been presented for the third year in a row. Supported by the Ministry of Economic Development and the Ministry of Natural Resources and Environment of the Russian Federation, the award is intended to support industry initiatives to reduce GHG emissions and their negative impact on the environment. The jury includes high-ranking officials of Russia's federal ministries and members of international institutions, such as the WWF and UNESCO.

Three sets of indices were used to assess the nominees: GHG emission change dynamics, environmental management within the overall governance system, and the effectiveness of GHG emission reduction projects.

The jury rated En+ Group's New Energy HPP modernisation programme highly. In 2018, the programme enabled En+ Group to avoid 1.8 Mt of GHG emissions by partially replacing energy from coal-fired power plants with HPP output. This additional power generation substitutes power produced by fossil fuel plants (coal-fired in the case of Siberia), when operating in condensing mode (the most inefficient mode where only power is produced).

RUSAL's achievements in reducing the negative impact on the climate system came out on top in the contest, with RUSAL awarded the highest position in the Best Arranged GHG Emission Reduction category.

[1] Major incidents are incidents that cause a major contamination of soil, air or water and lead to court penalties (after all stages of appeal), with damages in excess of USD 1 million. Majority (significance) is assessed in accordance with the Company's risk management system.

Performance

Despite the Group's efforts to reduce GHG emissions, total greenhouse gas emissions in the Group in 2019 were higher than in 2018. This slight growth occurred due to a number of factors.

GHG emissions (Scope 1 and 2) in the Metals and Power segments,[1, 2] million tonnes of CO_2e

	Metals segment[3]	Power segment[4]	En+ Group
2018	25.86	24.17	50.03
2019	27.94	22.43	50.37

GHG emissions growth in the Metals segment in 2019 was caused by the restoration of production volumes, as well as the introduction of new production capacity.

The main source of GHG emissions in the Power segment are the CHPs of JSC Irkutskenergo which provide energy to consumers by burning fossil fuels. The amount of fossil fuels burnt depends on the mix and volume of heat and electricity loads. The dynamics of fuel consumption for heat supply largely depend on the outdoor temperature.

The dynamics of fuel consumption for electricity supply is mainly influenced by the market demand for electricity generation through the condensation cycle, which peaked in 2018 and amounted to 6.1 TWh (5.1 TWh in 2017, 5.3 TWh in 2019). This peak was also a result of low water season in Lake Baikal and a decrease in electricity generation at HPPs. Over the past 3 years, 2018 was the coldest. In 2018, the average outdoor temperature in Irkutsk during the heating period dropped to -8.3 °C (-6.1 °C in 2017, -7.1 °C in 2019).

Despite an increase in absolute emissions in 2019 compared to 2018, the Metals segment avoided 320 kt of CO_2e emissions (659 kt CO_2e in 2018–2019) by taking measures to reduce of PFC emissions and anode consumption at smelters.

En+ Group's Power segment also avoided 2,082 kt of CO_2e emissions in 2019 by taking measures in the following key areas:
+ Raising the efficiency of HPP turbines, substituting environmentally-damaging condensation mode generation at CHPs with HPP output – 1,950 kt of CO_2e
+ Efficient fuel use and energy saving initiatives – 132 kt of CO_2e

Further efforts are being made at four of En+ Group's HPPs (Bratsk, Irkutsk, Krasnoyarsk, and Ust-Ilimsk) to raise turbine efficiency, enabling more electricity to be generated from the same level of water flow. In 2019, the modernisation and replacement of the primary equipment at our HPPs translated to an additional generation of 1.68 TWh of renewable electricity per year, and to a reduction in the adverse environmental effects from the coal power plants, which will have a positive impact on the environmental situation in Siberian regions. The Company plans to continue modernising these HPPs, replacing runners and generation units until 2026.

En+ Group is also implementing a strategy to grow the use of renewable energy sources. In 2019, a project aimed at the construction of a small-scale Segozerskaya HPP in Russia (Karelia), initiated by the Company, was selected in a competition for renewable energy projects. The commissioning of this small-scale HPP is slated for the end of 2022.

The Metals segment's GHG emissions in electrolysis operations

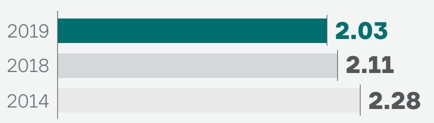
The Metals segment, represented by RUSAL, places special emphasis on minimising climate impact by applying the highest international standards of quality and governance to the entire production chain, fully compliant with the requirements of the new green economy.

One of RUSAL's corporate targets in minimising anthropogenic impact on the climate system is a reduction of the direct GHG emissions per tonne of aluminium of the existing electrolysis operations by 15% versus the 2014 level by 2025.

In 2019, RUSAL achieved an 11% reduction in its direct GHG emissions per tonne of electrolysis operations versus the 2014 level, which is fully in line with the phased time schedule to achieve the corporate targets.

The chart below shows the reduction of direct GHG emissions per tonne in electrolysis operations.

tCO_2e/tAl



[1] Figures are preliminary and may be changed following the verification process.
[2] Expansion of scope of assets included in calculation of the indicators in comparison with the indicator disclosed in the Sustainability Report 2018.
[3] Including emissions from aluminium, alumina and silicon operations, bauxite and nepheline mining.
[4] Including emissions from electricity and heat production by generating assets of En+ Group, and also emissions of motor vehicles.

RUSAL is recognised as global leader by Carbon Disclosure Project (CDP)

In 2015, RUSAL joined the Carbon Disclosure Project (CDP) assuming the obligation, alongside other global business leaders, to disclose its GHG emissions. GHG emission data of aluminium smelters, alumina refineries and silicon plants have been published within the framework of preparation of annual reports to be submitted to CDP. In the 2019 CDP report, RUSAL was an industry leading "B" rating.

In terms of collecting and recording GHG emission data, the CDP rates RUSAL among the top 3% of companies for the implementation of a progressive model of engaging contractors along the production chain on climate change. The Company was acknowledged as a global leader in supplier engagement on climate change, and was included in the Supplier Engagement Leaderboard of 160 global forerunners based on the 2019 results.

Air emissions (excluding GHG emissions)

En+ Group is committed to reducing the negative impact it may have on the atmosphere. The Group is implementing a number of initiatives to ensure that technological improvements, which contribute to emissions reduction, are carried out in a timely manner. The Group complies with all the necessary internal and government regulations in all its countries of operation.

The Metals segment's key initiatives to reduce its negative impact on the atmosphere are:
+ Implementing Eco-Søderberg technology (at KrAZ, BrAZ, IrkAZ, and NkAZ)
+ Constructing and modernising gas treatment plants (at BrAZ, IrkAZ, NkAZ, KUBAL, UAZ, Kremny, Rusal Kremny Ural, and Achinsk Alumina Refinery)

In 2019 the energy-saving and energy efficiency initiatives run under the operational development programme of JSC Irkutskenergo have enabled the Company to reduce its pollutant emissions by 0.3 kt. JSC Irkutskenergo also upgraded the electrostatic precipitators at Novo-Irkutsk CHP to reduce the plant's pollutant output.

One of the Group's main projects aimed at reducing the adverse impact of its metallurgical facilities on the environment involves introducing advanced, highly efficient dry gas treatment facilities, which will capture up to 99.8% of both hydrogen fluoride and the solid fluorides present in exhaust gases in the smelter's reduction area. Their use reduces not only the gross emissions from the production facility, but also the amount of gas treatment waste disposed at specialised landfills.

Since 2018, the Company has been implementing a comprehensive plan to reduce emissions in Russian cities, including Krasnoyarsk, Bratsk and Novokuznetsk, as a part of the Ecology national project and Clean Air federal programme. The main goal of the latter is to reduce the level of air pollution in large industrial centres, including a reduction of at least 20% of the total emissions of pollutants into the atmospheric air by 2024 in the 12 most environmentally problematic cities of Russia: Bratsk, Krasnoyarsk, Lipetsk, Magnitogorsk, Mednogorsk, Nizhny Tagil, Novokuznetsk, Norilsk, Omsk, Chelyabinsk, Cherepovets and Chita. The programme is to significantly improve the air quality in these cities (below limits) and improve the quality of life of the population.

The Group's aim is to contribute to this programme's ambitious goal of reducing air pollutant emissions in these cities by at least 20% by 2024, compared to 2017.

Water resources

En+ Group facilities draw water from both surface and underground sources for operational and production needs. Alumina refineries and power facilities are the Group's biggest water consumers due to their technological requirements and processes. The Company rarely suffers from water shortages at its facilities and there are currently no critical water-related risks (water consumption or disposal).

The most important areas of En+ Group's efforts to minimise its impact on water resources are:
+ Reducing fresh water consumption
+ Reducing wastewater discharge and concentration of pollutants in wastewater
+ Increasing recycled water volumes

There are no significant risks relating to water management (water consumption and water disposal).

Climate change mitigation

Beyond the Group's efforts to push the market towards carbon taxation and acceptance of a greener aluminium, En+ Group's partnership reflect the Group's strides to support climate change mitigation

To express support for global mitigation efforts, the Group has committed to disclose its environmental impact through the Carbon Disclosure Project and the International Aluminium Institute. RUSAL has been involved in the **Carbon Disclosure Project** since 2015, informing stakeholders about its products' carbon footprint, climate risks assessments, and climate targets. CDP aims to make environmental reporting and risk management a business norm, and drive disclosure, insight and action towards a sustainable economy. The company has also committed itself to fully disclosing its greenhouse gas emissions from its aluminium, alumina, bauxite and other facilities. CDP identified RUSAL as one of the global leaders for engaging with its suppliers on climate change.

The International Aluminium Institute (IAI), where RUSAL has been a member since 2002, collects statistical and other relevant information, encourages and assists in the continuous progress in the healthy, safe and environmentally sound production of aluminium, and communicate the views and positions of the aluminium industry to international agencies and other relevant parties.

En+ Group has endorsed the **UN Global Compact's CEO Water Mandate** in November 2019, expressing the commitment to water stewardship. In implementing water stewardship, the Group also commits to identify and reduce critical water risks to our businesses, seize water-related opportunities, and contribute to water security and the Sustainable Development Goals.

Science Based Targets, a joint initiative by CDP, UNGC, World Resources institute and WWF was established to raise corporate ambition and help businesses pursue bolder solutions to climate change. Within its framework, En+ Group has signed the pledge for **Business Ambition for 1.5 °C,** assuring calibration of decarbonisation plans with the ambition required to limit warming to 1.5 °C by aligning our GHG emission reduction targets, across all relevant scopes, with 1.5 °C emissions scenarios.

The Group also continues its role as a founding partner of the **Climate Partnership of Russia,** pushing for greater involvement in global climate issues from its Russian partners.

For more information see p. 38.

Lake Baikal

The Group's key HPPs are located on the Angara River which is the only river flowing from Lake Baikal. Declared a UNESCO World Heritage site in 1996, Eastern Siberia's Lake Baikal is the largest and deepest freshwater lake in the world. The lake itself and the area along its shores provide a unique habitat for a large number of plant and animal species, many of which are endemic to the region. This unique ecosystem is secured by the 1999 Federal Law On the Protection of Lake Baikal.

En+ Group is committed to harnessing the natural power of the Angara River in a sustainable and responsible way. All operations meet regulatory requirements in Russia.

On 4–9 July 2019, the waterflow through Irkutsk HPP was reduced to 1,600 cubic metres per second as a measure to ensure safe floodwater flow to the Irkut River. Despite this measure, the resulting HPP output did not see a significant negative impact. The electricity output of the Angara cascade HPPs (including Boguchany HPP) was 20.6% higher in 2019 compared to 2018, because of the year-on-year water level increase in the Angara River, and the increase in water available from the HPP reservoirs.

The abundant floodwater from the Iya, Oka, Irkut and Belaya Rivers accumulated during the summer of 2019 provided an additional 3.3 meters of water to the Bratsk reservoir versus the 2018 level, which led to the higher electricity output from the Angara cascade HPPs.

Cooperation Agreement with the Severtsov Institute of Ecology and Evolution

En+ Group and the Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences signed an agreement of cooperation in December 2019. The institute will serve as a base for a future laboratory study into the impact of micro and nanoplastics on living organisms. The laboratory will also analyse microplastic content in samples taken during expeditions to Lake Baikal. Our partners from the institute will arrange environmental monitoring of Lake Baikal and the Angara River. The long-term agreement envisages activities aimed at minimising the negative impact on the environment, including projects to restore biodiversity.

Roundtable discussion on microplastics

In recognition of the fact that microplastic pollution is an urgent threat to the environment, the Company set up a roundtable discussion of the issue. The event Microplastic, an Invisible Threat on a Global Scale was held on 18 December 2019 at the UN Information Centre in Moscow. The round table was attended by representatives of the business community, the Russian Parliament, the Ministry of Natural Resources and Environment of the Russian Federation, UNGC Network Russia, WWF Russia, UNEP (United Nations Environment Programme), Russian environmental NGOs, and leading Russian research institutions. The roundtable issued a resolution including several conclusions and recommendations that highlight the urgency of, and solutions to, microplastic particle water pollution.

Waste

En+ Group is passionate about increasing its share of recycling, safe disposal and storage. The Group is actively developing new waste management sites, as well as renovating and modernising existing facilities to make sure waste is disposed of and stored safely. All our waste management sites are compliant with the necessary regulations.

Alumina and aluminium production waste

The most significant types of waste in terms of volume are bauxite and nepheline residue, which are considered to be non-toxic waste. They amount to over 80% of the total waste generated by RUSAL.

In cooperation with R&D centres and institutions, RUSAL is developing and applying new methods of specific waste reduction in its aluminium smelting and alumina refining facilities. The Company's smelters and refineries are actively seeking to reduce the load on its solid waste and residue storage facilities.

Residue volumes are directly related to the dynamics of production and other factors, such as the depth of ore beds and the alumina content present in processed ore and bauxites.

The Company is taking the following measures to increase the share of waste processed:

+ Recycling spent refractory pots
+ Removing sulphates from gas treatment solutions – pilot plants are at Krasnoyarsk Aluminium Smelter and Novokuznetsk Aluminium Smelter
+ Extracting scandium oxide from bauxite residue – a pilot site for obtaining scandium oxide has been established

Like all the world's leading aluminium companies, RUSAL continues to seek out cost-efficient technology for the use of bauxite residue. For example, Urals Aluminium Smelter launched industrial production of scandium concentrate from bauxite residue using a proprietary method.

Ash and slag waste

The volumes of generated ash and slag waste directly depend on the volumes of heat and electricity generated at CHPs as well as coal combustion parameters.

JSC Irkutskenergo seeks out, develops and applies new methods of ash waste disposal in cooperation with leading R&D institutions and production companies. The Company relentlessly strives to find new methods of ash waste utilisation and treatment.

The following measures are currently underway to enhance the Company's waste treatment:

+ Raising the volume of fly ash disposal – modernisation of Novo-Irkutsk CHP's dry ash discharge plant
+ Extracting iron bearing concentrate – a pilot plant at CHP-9
+ Sales of ash waste to manufacturers of construction materials
+ Production of ash and slag material for the reclamation of waste disposal facilities and coal reserves.

Tailing dams management

2019 was marked with major dam disasters on different sides of the globe. For this reason, En+ Group and peer companies from all over the world pay a particular attention to the safety of operations of our dams.

En+ Group closely monitors and analyses the causes of such disastrous events in order to learn lessons and prevent similar situations at its own facilities.

To prevent any accidents and significant impact on the environment, bauxite and nepheline residue storage areas together with ash and slag waste storage areas are subject to comprehensive control.

+ Hydraulic structures are inspected daily and periodically, and their condition is constantly monitored by instrumentation.
+ The Company carries out certification of personnel operating the hydraulic structures and provides professional development for technicians who perform technical supervision of safety at hydraulic structures.
+ The Company is studying the use of the dry bauxite and nepheline residue stacking process, which uses press filters and eliminates the impact of the liquid phase on the safety of mud disposal areas.

En+ Group operates several large tailing dams. Safety at these dams is a key priority for the Group. Based on the investigations of accidents at external companies' tailing dams, En+ Group has planned to implement the following actions:

+ Constant health and safety monitoring measures aimed at maintaining the reliability of tailing dams
+ The training and professional development of personnel
+ A targeted audit of mud disposal areas at alumina refineries to make sure they comply with hydraulic structure health and safety rules
+ A transition to the dry mud disposal process. Study of the use of the dry mud disposal process, which uses press filters and eliminates the impact of the liquid phase on the safety of mud disposal areas
+ Planning for the development of mud and ash dumps. Formulation of strategic plans for the development of mud and ash dumps in order to maintain and expand production levels, while ensuring the company has enough capacity for waste disposal

Mine wastes

The stripped overburden is usually placed back into the mined-out openings (internal dumping), which leads to further land rehabilitation.

Persistent organic pollutants

In line with the Russian Federation's plan to comply with the commitments stipulated by the Stockholm Convention on Persistent Organic Pollutants (POPs), En+ Group developed a long-term programme for polychlorinated biphenyl-containing waste disposal that will meet the requirements for this commitment by 2022.

Aughinish Alumina Ltd waste management initiatives

The management of the Bauxite Residue Disposal Area (BRDA) at Aughinish Alumina Ltd. (AAL), Ireland is a fine example of En+ Group's best practices in land rehabilitation and waste management at work. Aughinish Alumina Ltd. implemented the best available technology to treat the residue by using an industrial mud farming process. Vegetation and screening programmes have been in place for many years to improve visual perspectives. One of the Company's priorities is to develop ways to reuse the bauxite residue.

Being a partner of EIT RawMaterials, a major global commodity consortium funded by the EU's European Institute of Innovation and Technology, AAL plays an active role in many European projects aimed at developing bauxite waste reuse technologies. EIT RawMaterials' strategic goal is to turn raw materials into a powerful force for Europe. AAL is participating in the RECOVER project, launched in 2016 to develop a new technology for the reuse of bauxite waste in the production of technically complex products, such as inorganic polymers. Construction of an experimental-industrial plant is under way, with experimental-industrial tests planned for 2020 at the AAL site.

The technology used in the project uses a high temperature sintering of the bauxite residue (BR) with coke, to produce an amorphous BR slag. The BR slag is cooled, ground and blended with an alkali solution to produce a dense inorganic polymer. Other additives, such as surfactant and alumina powder are used to produce porous inorganic polymer. The products from the process will be construction materials, namely dense blocks for non-load bearing construction, fire retardant panels and porous blocks.

The construction of a five-module pilot plant is near completion – each module is a custom-made high cube container equipped with benchmark branded equipment. The first two sections deal specifically with bauxite residue, while the last three will produce inorganic polymer from waste slag.

In 2020, a Pilot Plant and Product Demonstration Event will be hosted at AAL. This is the project's opportunity to showcase the mobile pilot plant, exhibiting the flagship products made with the technology, and also other products made from bauxite residue.

AAL is also part of RemovAL a large research project funded by the EU. The main premise of RemovAL is that no single technology can be viable or use the bulk of the BR produced; therefore, more than one element must be combined in order to achieve viable and meaningful BR utilisation. For example, RA along with the ETC is developing and piloting residue dealkalisation which reduces the soda content of the residue to < 0.5%, making it amenable for use in steelmaking and the cement industry.

Other projects within RemovAL include the production of lightweight aggregates for building applications, converting BR into ready-made mortar for the synthesis of inorganic polymers, and the production of pig iron and ferro-silica alloys from BR.

Land resources

Restoring disturbed land is one of the main focuses of En+ Group. According to En+ Group's accounting policy, the expected costs of decommissioning facilities and restoring the environment are reflected in the Group's international financial statements as reserves.

Restoration of disturbed land is carried out in the following areas:

+ Restoring disturbed terrain and soil fertility once mining activity (open-pit mining) is finished
+ Rehabilitating production and consumption waste disposal facilities (ash dumps, landfills, etc.)
+ Rehabilitating disturbed and contaminated land.

Energy

The Company's core strategy in energy production and consumption is threefold: the uninterrupted supply of electricity and heat to third-party consumers, the increase of electricity generation at hydropower plants, and the reduction of grid losses and internal consumption of energy at generating facilities.

Special-purpose programmes and energy efficiency projects are in place at all of the Group's entities.

Energy saving technologies are widely employed, from the optimisation of energy generation modes and equipment designs, to the reduction of heat losses and adoption of optimised maintenance procedures within the technical and technological parameters of operations.

With hydro power fuelling more than 90% of RUSAL's aluminium output, the Company strives to minimise its industrial carbon footprint, including by implementing energy efficiency measures.

All smelters of the Aluminium Division have successfully implemented energy efficiency projects. The energy efficiency measures implemented in 2019 helped reduce the smelters' aggregate energy consumption by 4% versus 2011 across the Aluminium Division.

Biodiversity

The production facilities of the Group's Power segment are located in various regions of the Russian Federation and its production facilities within the Metals segment are located in various regions of the world, with core facilities located in Siberia, a unique ecoregion with a myriad of unique plant and animal species not found elsewhere. En+ Group engages in the preservation of biodiversity across all of these geographies in accordance with its sustainable development principles.

For many years, environmental activities have been running through the programme, monitoring the anthropogenic (industrial) impact on the ecosystems of the Stolby National Nature Reserve near Krasnoyarsk. The monitoring programme covers various components of the ecosystem, such as soil, plants, water, bed sediments, and also the condition of snow cover. A comprehensive approach to analysing the chemical composition of various media helps identify the extrinsic chemical pollutants entering the natural environment (air pollution from industries, transportation, hydrocarbon fuel energy) and distinguish them from intrinsic chemicals natural to the reserve.

The Group's entities have also participated in the Environmental Monitoring project, which monitors specially protected areas located in proximity to the Group's industrial facilities. Monitoring is conducted in partnership with the Khakassia regional branch of the Russian Geographical Society, the Shushensky Bor National Park, the Khakassky State Nature Reserve, and the Sayano-Shushenskiy Biosphere Reserve in several administrative districts of the Krasnoyarsk Territory and southern regions of the Republic of Khakassia. Field studies were conducted in pine forests located within the aluminium smelters' emission impact area and beyond.

Scientists of the Institute of Biology of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, monitor the fish populations of the Vym River at the Timan Bauxite deposit development area.

This monitoring provides data that can be used to assess the current condition of the environment, and make adjustments to environmental protection activities and design solutions, in order to reduce the negative impact that comes with industrial development of the region. Moreover, the research materials represent a unique and regularly updated scientific database of the natural areas of Russia's northern regions.

Conservation of aquatic biological resources

For the past six years, En+ Group has been successfully carrying out the restoration of aquatic biological resources. Over this period, more than 1.5 million young peled (northern whitefish) have been released into the waters of the Angara Region. The species is a relative of cisco and omul, reaching an adult weight of 2 kg to 2.5 kg. Sturgeon and grayling are also seen as valuable fish species for the area, and within the reporting period, 10,000 and 8,000 young sturgeon and graylings, respectively, were released into the rivers and reservoirs of the region.

The cultivation of young fish for replenishment of fish stocks is carried out annually at fish hatcheries that specialise in the reproduction of valuable fish species.

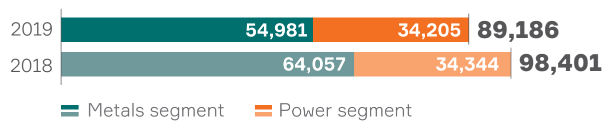
Young peled fish are released directly from a fish pond to the Belaya River, from where most of them swim to the Angara River and the Bratsk Reservoir. After two years, the mature fish are expected to spawn in to the Belaya, Irkut and Kitoy Rivers, among others.

Responsibility for employees

People

En+ Group is one of the largest employers in Russia, providing jobs to almost 90,000 people across all regions of operation. The total average number of employees (full-time equivalent) by each segment of the Group is set out in the following graph.[1]

Average number of employees



In order to increase efficiency, the Metals segment carried out restructuring and outsourced some functions, leading to a decrease in the average number of Group employees in 2019.

The Company's key HR objectives are recruiting and retaining highly skilled personnel, increasing employee engagement, and creating attractive working conditions and work environment for employees, contributing to their professional development and the well-being of their families.

Social security programmes

The Group's production facilities have developed a social benefits system focused on building and maintaining long-term employee motivation by providing targeted social benefits. Benefits are provided equally to all full-time and part-time employees of En+ Group.

En+ Group provides stable, competitive salaries and comprehensive social benefits for its employees as well as remuneration based on skills, performance and grade. The remuneration and motivation system also includes multiple wage and salary benefits (time-based bonus system), incentive programmes and other additional benefits.

The Company uses motivational systems that result in highly productive work of employees:

+ Bonuses from the fund of the head of the enterprise
+ Annual performance related bonuses
+ Payments to employees who have received corporate, state or departmental awards
+ Payments to employees actively participating in social projects of the Company's enterprises

For several years the key production units of the Group in Russia have been providing employees with the following key social benefits:

+ Financial aid to employees (payments for the birth of a child, parental leave until the child reaches six months old, aid to the families with three or more children under 18, to those who have an income below the regional minimum wage, payments for anniversary, funeral of a close relative)
+ Recreation at health resorts
+ Pension benefits for employees (co-financing together with the employee of his/her pension savings through non-state pension funds in excess of mandatory payments by the employer)
+ Medical services (including voluntary medical insurance)
+ Sports activities
+ Provision of food to employees during the working day at the production site
+ Reimbursement of housing costs when managers or highly-specialised experts need to move to the region where the Company's operations are located, as well as the possibility of compensation for rental housing for young specialists with particularly valuable and rare skills
+ Childcare programmes (partly covering costs of children going to health resort treatment and summer health camps);
+ Support for non-working pensioners (additional benefits to state pension are provided to those retired before 2007, additional payments are made for former heads of departments, and there is also compensation for energy and heat supply in the apartments of employees who retired after working for the Company)
+ Holding festive events for workers and members of their families (on the occasion of anniversaries of the enterprises, Day of Metallurgist and other holidays, as well as annual New Year parties and gifts for children of employees)
+ Other social expenses (subsidised transport, additional paid social vacation under the collective bargaining agreement and local regulations, and compensation in case of work-related accidents)

Additionally, in 2019, there was a differentiated increase in wages of the employees of the Group's enterprises, which took into account the dynamics of the purchasing power of wages and the level of wages in specific enterprises in comparison with the local labour markets.

Personnel training and development

The key objective of En+ Group in personnel training is to cultivate professional skills, which enable employees to deliver the requisite operational and production quality and efficiency, while ensuring safety and fostering long-term technological development within the industry.

[1] Figures may be subject to slight change in the process of verification of the Sustainability Report 2019.

The existing mandatory personnel training system in the power industry regulates the training and procedures required for every position in the industry. En+ Group's corporate training system supplements and completes the mandatory system, by taking the specific requirements of our external environment into account. Our training and development programmes cover all education levels, from that of a school pupil to a technical manager.

Classroom programmes include:

+ professional training and skills development; additional professional education
+ simulator training and psychophysiological support for operational personnel
+ corporate competitions in professional skills
+ modular programmes for internal talent pool building and training
+ career guidance and additional targeted training, with potential further employment for students of specialised universities in Siberia.

In 2019, 142 students (31 project teams) from Irkutsk National Research Technical University (INRTU), one of the region's leading universities, participated in the annual Energy Lab innovative projects competition.

The Company's long-term production expertise has been put to use in building a simulator-based training programme, which was adopted in 2019 to ensure the professional development of current operational staff.

In addition, En+ Group developed an innovative programme to hone new practical skills and safe methods of working at height, in order to reduce the risk of occupational injuries. A dedicated facility hosts the programme, which will allow our personnel to remain professional and competent.

To foster creative thinking skills and to help colleagues come up with innovative solutions to production challenges, training programmes based on the TRIZ approach (Russian: the Theory of Inventive Problem Solving) have been actively introduced.

The Metals segment is continuously developing its personnel training systems by arranging and improving professional training, increasing the relevance of our functional academies, and creating targeted modular programmes to meet our business objectives.

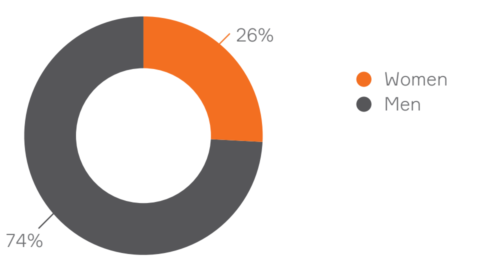
Our functional academies' approach empowers employees to enhance their skills in topics of study relevant to the Company's targets and strategy.

Personal and professional diversity

The Company is proactive in ensuring the diversity of its staff in an environment offering opportunities for both professional and personal growth.

The Board of Directors is aware that the Group's stakeholders strive for higher personal and professional diversity at the top management level and on the Board of Directors itself.

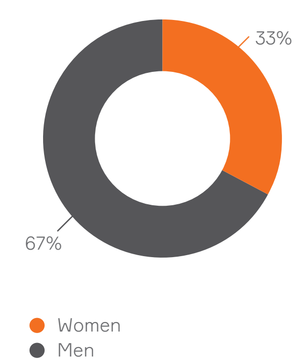
Workforce gender diversity in 2019



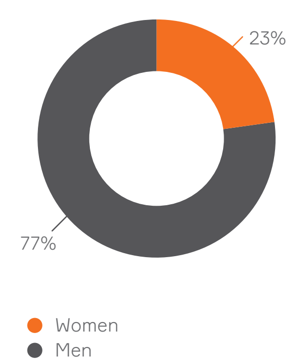
En+ Group sees the complete elimination of all forms of discrimination as essential to our success. We have a stable rate of female participation in our labour force at 26%.

The nature of our business means that numerous operations in the production process are classified as highly hazardous. Female participation in such operations is heavily regulated, especially in Russia and the CIS countries. This is to say that we are already at about the natural level of female participation for the industry; however, we are continuing to strive towards an ever more inclusive and diverse working environment.

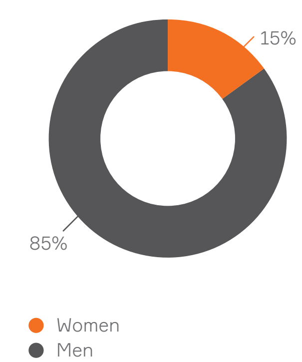
En+ Group's Board gender diversity in 2019



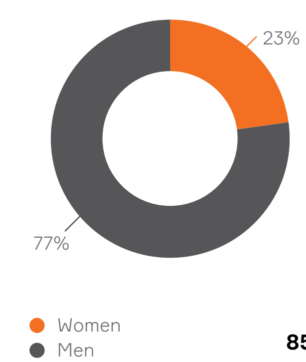
Management team gender diversity in 2019



Senior management gender diversity in 2019



Middle management gender diversity in 2019



Creating and ensuring equal opportunities

En+ Group aspires to create an enabling and non-discriminating working environment.

We work towards ensuring equal opportunities in hiring, promotion, training and remuneration for all employees, regardless of their ethnicity, nationality, religious beliefs, gender, age, sexual orientation, marital status, disability or any other characteristics, within the framework of the current law.

In the event of injury, employees are provided with permanent employment, training and vocational assistance, whenever needed.

Occupational health and safety

En+ Group is committed to improving its occupational health and safety system and endeavours to provide its employees and contractors with safe and comfortable working conditions at all stages of operations. The Group believes that each human life is of the utmost importance and diligently strives to prevent work-related fatalities.

The Company complies with both legal health and safety requirements and its own internal standards, which are often even stricter than the rules prescribed by legislation. En+ Group arranges all necessary health and safety briefings and training sessions and also carries out health and safety audits to ensure that all employees appreciate the importance of their own safety. The Company keeps track of and investigates all incidents regardless of severity. This includes incidents resulting in micro-injuries, and instances of employees' health deteriorating over a period of time. The findings of these investigations are used to develop and implement corrective actions, intended to prevent future accidents.

Health and safety performance

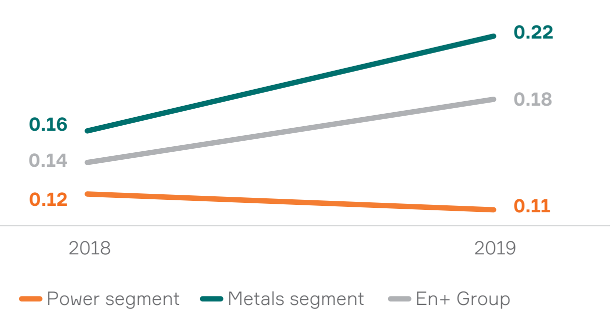
We regret to announce that 2019 saw five fatal accidents involving En+ Group employees. In-depth internal investigations were conducted into each one of the accidents to determine the critical factors and root causes at play, and corrective actions have since been developed and put into place. The HSE Committee considers a detailed report on any incident that has involved a fatality. Zero fatalities and no injuries are the overall goal for all of En+ Group.

In 2019, the Group's overall Lost Time Incident Frequency Rate (LTIFR)[1] was 0.18, an increase on 2018's 0.14. This came as a result of a decrease in hours worked in the Metals segment of about 20%, on the back of minor changes to business structure in 2019. At the same time, the number of injuries sustained by staff increased at a number of aluminium smelters that had no injuries in 2018. The Group's target for 2020 is to reduce LTIFR to 0.16.

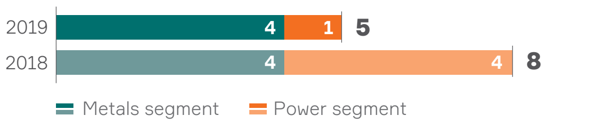
In 2019, the Metals segment's LTIFR was 0.22, and its 2020 target is to reduce this to 0.19.

In 2019, the Power segment managed to achieve its target LTIFR of 0.11, and its 2020 ambition is to reduce LTIFR to 0.10.

Lost time injury frequency rate



Fatalities



[1] Per 200,000 hours worked.

The results of our efforts to ensure health and safety

In order to ensure the health and safety of our employees, we constantly rework our existing occupational health and safety management system, and continuously develop new, and innovative ways of promoting safe working practices among our employees.

In 2019, En+ Group developed a three-year Strategic Plan to improve its Occupational Safety Culture under the Vision Zero concept. The main aim of this plan is the gradual improvement of health and safety indicators through a series of projects, some of which were implemented in 2019.

As part of the Self-Suspension programme, every employee is granted the guaranteed right to refuse work that poses a risk of injury. Compliance with this programme is ensured at each of En+ Group's enterprises by their respective director.

In 2019, En+ Group launched a programme to better monitor employees' alcohol levels before they start a shift in combined heat and power plants. This programme aims to eliminate the possibility of someone under the influence of alcohol accessing the premises, and reinforces the Company's zero tolerance approach to alcohol and drugs. The Company is planning to roll out this system to all hydropower plants.

In 2019, the Group started to allocate a separate portion of its budget for health and safety purposes, and hopes to achieve a 90% health and safety budget execution by 2020.

The Power segment implemented an ongoing health and safety monitoring project in 2019. The project allowed the Company to combine reactive and proactive health and safety performance indicators at all production sites into one integrated metric, which is now used continuously to monitor and make adjustments to health and safety efforts. The ongoing monitoring indicator is also used as a KPI to determine the size of the quarterly bonus.

In order to strengthen managerial leadership, health and safety results and performance indicators have been discussed at monthly top management meetings and health and safety conference calls since the beginning of 2019. During the meetings production site managers personally report on health and safety performance, discuss the findings of workplace audits, and share best practices to improve health and safety practices.

In 2019, the Power segment of the Group held a health and safety poster contest, aimed at promoting corporate values and production's Cardinal Rules. Winners were named in the categories of Basic Rules, Values, and Health and Safety Culture, with a special audience favourite prize also awarded. Some 300 posters were submitted to the contest and over 6,000 votes cast. The contest helped our employees to creatively engage with the topic of safety culture through art. Some of the posters submitted to the contest are now being used at production sites to visually present information about potential risks.

The Company's Metals segment introduced the Chessboard project in 2019, in order to engage employees throughout the organisation on health and safety matters. A pilot project to create an automated information system for the safety of operations is undergoing trials, while a new process safety management system is being gradually introduced at metal powder production sites.

JSC RUSAL Novokuznetsk has installed an advanced testing facility to train staff in safe methods of working at height, while JSC RUSAL Achinsk has implemented the Safe Floor project in its hydrochemistry shop, thanks to which the number of injuries sustained employees through slips and falls has been significantly reduced.

The Guinean production sites are implementing the Third-Party Safety programme on the Guinean Railroad project, which aims to improve the safety of the local population in areas where the Group's assets are located.

Goals for 2020:
+ Achieve zero fatalities
+ Reduce LTIFR
+ Build an effective management system based on international best practices

Community engagement

We are committed to developing our local communities and strive to make a positive contribution to social well-being in all the regions where we operate. We invest in community projects that align with the needs of local people, as well as our business activities. For this reason, our community engagement priorities lie in urban development, healthy living, education, the environment, and employee engagement with local people. We believe these initiatives build a positive social climate and relationships with our communities that are based on respect, trust and mutual understanding.

In 2019, we reviewed our approach to community investment to ensure our overarching strategies in both the Metals and Power segments work more effectively, and resonate well with our people and communities. We placed a particular emphasis on two global social investment areas: urban infrastructure development and volunteering, while at the same time continuing our commitment to sports and healthy living, education, and environmental programmes. We also improved guidance around decision making on community engagement at both the Group and subsidiary levels, and create more robust internal regulation mechanisms. As a result, both the Metals segment and the Power segment launched updated social policies in 2019. These included the establishment of social policy committees comprising financial, HR (human resources), PR (public relations), GR (government relations) and security experts, carrying out an executive role at both the Group and subsidiary levels. This enables the Company to manage risks and opportunities, and to establish and follow a comprehensive, transparent and coherent approach for assessing potential projects that support and shape synchronised decisions and actions across all businesses.

Our key programmes

Infrastructure and urban development

Infrastructure development is key for attracting investment and ensuring the social and economic growth of cities and towns today, especially smaller towns. The better the conditions, the lower the outflow of capital and workforce.

The Company conducts sociological research in its cities of operation in Russia, receiving feedback from local communities. The results of these studies have shown that one of the key concerns of local people was with the quality of infrastructure and public spaces. To meet the expectations of local communities, the Metals segment stepped up its urban development programme in 2019. In addition, the Power segment plans to carry out a number of infrastructure projects in its community strategic framework in 2020, such as children's playgrounds, cycle tracks and pedestrian paths along the Irkutsk HPP's dam, as well as the co-financing of the renovation and construction of secondary schools in the area.

In Guinea, RUSAL is involved in the construction of basic infrastructure facilities, making a vital difference by providing locals with access to a full range of modern amenities. In 2019, the Company completed the construction of a fully equipped elementary school in Nianaya, Kindia Prefecture.

Response to help people affected by flooding in the Irkutsk Region

The end of June was a time of high water in Siberia, and 83 settlements in the Irkutsk Region suffered from flooding. 11,000 houses were flooded and 22 bridges were partially or completely destroyed. The floods affected 39,000 locals and over 500 of En+ Group employees working at Tulunugol, a subsidiary of Vostsibugol, which manages En+ Group's coal assets.

From the first days of the disaster, the Company focused on restoring power, which was essential to the ongoing rescue operations, establishing a reliable supply of food and water, and opening up transport links. En+ Group worked in close cooperation with the Ministry of the Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters (EMERCOM of Russia), the regional government and municipalities, and all of the volunteers involved.

Support efforts were managed from a flood relief headquarters, established by En+ Group in the town of Tulun, where one of the Irkutsk Region's largest coal mines is located. All available information on affected Tulunugol employees and their families was centralised at the headquarters, which was responsible for evaluating damage caused by the natural disaster and the majority of critical operations, from running an extensive victim support programme to distributing relief equipment.

The Group temporarily relocated those made homeless by the flooding to hotel accommodation, and children of the Group employees were sent to summer camps in the Irkutsk Region. The Group employees provided water for drinking and sanitation for those evacuated. Tulunugol worked with local groups to ensure the appropriate security was in place to prevent looting, while the Group also supplied local authorities with heavy equipment to move debris in flooded areas and to recover houses carried away by the water.

USD
340,000
was provided to the victims of the flooding in Siberia

The Company supported employees who suffered from the flooding through aid packages and volunteering campaigns:

+ Employees from the Metals and Power segments raised funds, and the Group matched all donations. As a result, almost USD 340,000[1] (about RUB 22.0 million) was provided to the victims of the flooding
+ First-aid kits and food packages were distributed to families. By the New Year, our employees received adult and child food packages
+ Power segment employees in Irkutsk, Krasnoyarsk and Nizhny Novgorod ran a Get Your Child to School volunteering event. By 1 September, school bags with all the necessary school kits, were collected and delivered to the children of our employee victims of the flooding
+ The Company delivered humanitarian aid comprising furniture, household appliances, dishes and household items needed for normal everyday life, as many of our employees had lost all of their belongings

In addition, En+ Group committed to building a new ski base in Tulun as part of its sports programme Get on Your Skis Everyone!, with construction work to be completed in spring 2020.

[1] Calculated based on USD/RUB average exchange rate of 64.74 for 2019.

RUSAL Territory

RUSAL Territory is a programme for the social and economic development of the regions in which RUSAL operates, providing support for the construction and renovation of communal facilities, the urban environment, and socially significant community spaces. Since its launch in 2011, the programme has supported social and infrastructure projects in 22 cities, towns and villages, and built or renovated hundreds of social infrastructure facilities, which provide access to a better social infrastructure for members of the local community. In 2017, the Company conducted comprehensive studies of local communities and developed social policy strategies in 12 regions of RUSAL's presence. In 2019, RUSAL installed 21 modern playgrounds, equipped 10 sports facilities, set up 5 community centres, established more than 30 educational buildings and landscaped 9 public spaces, including a major project to create modern, comfortable and safe public spaces in the historical centre of Krasnoyarsk.

Also in 2019, RUSAL relaunched the RUSAL Territory grant competition in a new format to support large-scale projects in open public spaces, increasing the size of the grant to USD 772,000[2] (RUB 50 million). For the contest, which started in November 2019, 26 projects were announced as eligible for the amount of USD 24.7 million[2] (RUB 1.6 billion) in financing. In 2020, the results of the competition will be drawn up, with the Company planning to provide up to a total of USD 7.7 million[2] (RUB 500 million) in support to the best projects in its cities of presence.

[2] Calculated based on USD/RUB average exchange rate of 64.74 for 2019.

The Company also procured school equipment for the Nelson Mandela School in the village of Debele, and funded catering during school exams. Another project focused on providing local people with access to drinking water. Several artesian wells were drilled with funding from the Company in different areas of the Kindia Region, Boké Prefecture, and Fria Prefecture. The Company also provided charitable support for local infrastructure projects in villages of the Fria Prefecture.

In Jamaica, company volunteers took part in special projects at local schools. They performed repair works to fix school buildings, community centres and facilities in the host communities of St Catherine, St Ann and Manchester. Major infrastructural work continued at Crescent Primary School as the Company assisted with the construction of a perimeter wall to prevent students from accessing the railway tracks nearby. Financial assistance was also given to the Jamaica National Children's Home, after it had been damaged extensively by fire.

Volunteering

Corporate volunteering is important to ensure the Company remains engaged with employees and local people, and establishes sustainable relations with both of these communities and the government. The Company's volunteering programmes bring together a wide variety of people, including production facility employees, schoolchildren, students, and representatives from social and educational institutions. To maximise its social impact, the Company has been developing programmes and technology that make it easier for local residents to volunteer.

The largest programmes include RUSAL's Helping is Easy programme, launched in 2014 to encourage volunteering; the annual environmental volunteering Project 360 campaign; Yenisei Day and Green Wave; the Believe in Miracles, Create Miracles! New Year's charity marathon; and The Energy of Our Hearts charity sports festival. Each year, during Christmas and New Year, employees donate money to, or buy goods for, local charities to help ease the cost of the holiday season for less fortunate people.

The Company was a founding member of Russia's National Council for Corporate Volunteering (NCCV), created to share best practices and encourage collaborative volunteer work. The council brings together more than 30 large Russian companies and has branches in 12 regions of Russia. The Irkutsk branch of the NCCV, founded in 2018, ran a number of joint volunteering events in 2019, including providing aid to the victims of the Irkutsk Region flooding.

The Power segment's **Project 360 campaign**

The Project 360 campaign is one of the largest voluntary eco-initiatives in Russia, and is aimed at cleaning up Lake Baikal's shoreline. Over the campaign's nine years, it has brought together many thousands of volunteers. To date, volunteers have collected tonnes of waste; renovated tourist facilities and several hundred metres of nature trails; removed construction waste from conservation areas; planted thousands of trees; and removed kilometres of fishing nets. Project 360 campaign volunteers include Company employees, employees from 30 regional and international companies, as well as ordinary people from across the Irkutsk Region and Buryatia.

The Metals segment's **Yenisei Day**

Launched in 2011, Yenisei Day is a large-scale environmental volunteering project in the Krasnoyarsk Territory and the Republics of Khakassia and Tuva, which aims to clean up the coastal zones of the Yenisei River. Since its inception, the Company has run over 300 environmental initiatives and attracted thousands of volunteers, who have collected and removed waste from the river banks and released young fish into its waters. Yenisei Day has become a universally recognised annual tradition of the region, and in 2019 was scaled up to 12 cities of Russia, where urban environmental events were held under the unifying name of River Day.

We also support volunteering initiatives in Ireland. Employees and local people participate in annual charity fund-raising events – a 10 km run and 6 km walk on the Nature Trails of Aughinish. In 2019, our employees supported a charity promoting good mental health in the local community. The Company also sponsored a number of charitable events where employees worked to raise funds for projects in local hospitals and hospices, and support charities. Some RUSAL Aughinish employees also donate their time by volunteering with charitable organisations, and the Company fully supports their efforts. Participation is far reaching and has a very positive influence on our own corporate culture.

Sports and healthy living

En+ Group supports programmes to ensure healthy living and promote the well-being of local people. One of the Company's largest sports and healthy lifestyle projects in Russia is Get on Your Skis Everyone!, jointly run since 2016 by En+ Group, RUSAL, and the Russian Ski Racing Federation. The Company has built partnerships with regional sports authorities and ski racing federations, and improved the quality of ski infrastructure by upgrading ski resorts, stadiums and other facilities. For example, in 2019, the Company continued the reconstruction of the Severny Artek stadium in Bratsk, along with the home arena of the ice hockey team Metallurg Magnitogorsk, and started the reconstruction of a skiing centre in Divnogorsk. It also donated a number of Russian-produced snowcats to sports stadiums and training bases in the cities of Angarsk, Bratsk, Krasnoyarsk, Kemerovo, Abakan and Syktyvkar, in order to service ski tracks. The Company supported youth ski teams by purchasing and delivering ski equipment to athletes, and supported the preparation and launch of training courses for ski trainers. In 2019, the Company launched the Ski Coach of the Year competition, through which five trainers won scholarships.

En+ Group also supports sports activities in other countries. Throughout 2019, the Company contributed to the development of local and national Jamaican sports through the sponsorship of football, table tennis, cricket and athletic programmes at several institutions. The Company also hosted several events at its sports complexes at Ewarton Works, Port Esquivel and Kirkvine Works.

In Ireland, RUSAL Aughinish provided support and sponsorship to a large number of local Gaelic Athletics Association Clubs, and is the main sponsor of the local island of Aughinish football club. These clubs provide training for both adults and children in rural communities in hurling, Gaelic football and handball. In addition, the company sponsored a variety of local sports clubs. Employees and their children are active participants in these clubs as players and volunteer coaches. There is also a sports facility within the site used by both employees and members of the local community.

Another area of focus is the improvement of healthcare in vulnerable communities. We believe that healthy communities develop to their maximum potential, and better perform in all functions of life. All the Company's enterprises in Guinea have their own medical services. This includes four dispensaries, a hospital with round-the-clock posts that examine workers before their shift, and provide emergency medical care. Our patients receive consultations and treatment on a regular basis, and children are vaccinated against infectious diseases. The Company provides medical staff with training and holds health education events for workers.

In the Kindia region of Guinea, RUSAL built the Russian-Guinean Research Centre of Epidemiology and Prevention of Infectious Diseases, which is being used as a clinical base for field trials of the Ebola vaccine. In early 2019, the company finished a two-year vaccine research programme, during which 2,000 local residents were voluntarily vaccinated. Once verified by the World Health Organisation, this vaccine will officially join the fight to prevent Ebola worldwide.

Supporting NGO's environmental programmes

Environmental issues and climate change are the number one priority for governments and businesses around the world. The preservation of our natural world relies on the contribution of every one of us, every day, 365 days a year, to maintain the health of the environment, and respect the needs of communities that depend on natural resources. Along with the environmental programmes outlined on pages 74–83 of this Report, En+ Group supports a number of initiatives run by local NGOs and communities:

+ **Partnership with the Great Baikal Trail (BBT) Association**

  Through its partnership with the BBT Association, an organisation focused on environmental education and sustainable development, En+ Group supports responsible eco-tourism in the region, creating safe tourist trails and reducing the impact of human activity on the fragile Baikal ecosystem. In 2019, over 400 volunteers from 16 countries took part in the BBT Association projects. Over 60 km of trails were built and maintained, and four educational projects were conducted, in which children from small settlements on the shores of Lake Baikal took part.

+ **Partnership with Protect Baikal Together**

  Our cooperation with the local organisation, Protect Baikal Together, enables the Company to educate children about the Irkutsk Region and its unique ecosystem. Children are taught to observe nature, understand environmental processes, and assess the impact of humans on the world around us. In 2019, over 800 schoolchildren based in the Irkutsk Region took part in the project. Throughout the whole period of the partnership, several thousand people have taken part in these educational events.

+ **Partnership with the Revival of Siberian Land Youth Charitable Foundation**

The Environmental Entrepreneurship School Project (EESP) is a Russian educational project to develop environmental entrepreneurship. Since the start of our partnership in 2012, 16 sessions of EESP have taken place, with the participation of more than 730 young entrepreneurs and almost 290 new business ideas pitched. Some entrepreneurs have since reviewed their existing businesses and given them a second lease on life. The project covers dozens of cities, towns and villages in the Irkutsk Region, the Republic of Buryatia and beyond.

In 2019, the Power segment reviewed the efficiency of the environmental section of its community strategy. The study showed that the above-mentioned projects supported by the Company have reached a new level of development and stability. The Company therefore decided to switch to a new format for supporting NGOs and environmental projects – to develop and launch En+ Group Environmental Project Grant Contest. We believe this mechanism will give the Company a transparent and effective tool to finance more environmental projects run by NGOs, scientific bodies and local communities, which meet the real needs of the territory, and contribute to the conservation of water bodies and climate change action. Increasing the footprint of our corporate grant programme will enable us to support natural territories not only in Siberia, but also in other regions where the Company operates. The pilot of our grant programme starts in March 2020 in Siberia. In 2021, we plan to extend the programme to other Russian regions where we operate.

Education

En+ Group puts significant work into developing educational programmes, particularly those aimed at training up future engineers and technicians to meet the requirements of our business, the industry and the development of local communities. We seek to attract students into engineering professions, and create the necessary conditions to ensure that every child and student has equal access to a quality education.

In Russia, En+ Group supports the Robotics: Engineering and Technical Personnel of Innovative Russia Programme, which provides targeted training for young people considering a career in engineering, by encouraging the development of the key skills of the future, immersing the participants in real business environments, and identifying priority areas for regional development. Siberia's most prominent robotics festival RoboSib has been held since 2013 as part of this programme. The festival winners have regularly represented Russia at international robotics competitions in the USA, Europe and Asia. In early 2020, we ran RoboSib-2020 which was the biggest yet. About 800 students from 5 regions of Russia and China participated, with more than 5,000 attendees. Of the 164 teams of schoolchildren and students participating in the competition, 76 won RoboSib awards. The winners included teams from the Irkutsk Region, Krasnoyarsk Territory, the Republic of Buryatia, Saint Petersburg, and China.

In Ireland, RUSAL Aughinish participates in an industry-led initiative called Limerick for Engineering. The primary goal of the initiative is to increase the quality and quantity of engineering talent available in the region by encouraging primary and post-primary students to explore the world of STEM (Science, Technology, Engineering and Mathematics) while also promoting engineering as a career choice. In 2019, RUSAL Aughinish participated in the Limerick for Engineering Showcase, which gave students the opportunity to meet with industry professionals, who provided information about their chosen fields and demonstrated some of the interesting technology they work with. The Company representatives also visited local schools and gave talks and demonstrations regarding engineering and RUSAL Aughinish. In addition, the Company hosted a number of local school and university visits to the plant, where pupils learned about the alumina production process and were taken on a tour of the plant.

Scholarship programmes for students in Jamaica and Guinea

For many years, the Metals segment has been fostering the training of local specialists by giving scholarships and support to young students.

In 2011, a number of Guinean students received RUSAL scholarships to study at various universities in Russia. Tuition and accommodation were fully funded by RUSAL. In 2017, this programme yielded its first results, with four participants graduating with honours. In addition to university support, RUSAL provided the students with practical training at its enterprises, as well as in the Company's Moscow office. As a result, several Guinean students stayed on to take up employment at RUSAL's enterprises in Russia. RUSAL also employs graduates of the RUSAL 2011 Scholarship programme back in Guinea.

In 2018, RUSAL announced a new intake for the RUSAL scholarship programme, and the Guinean winners were aged between 18 and 25. The RUSAL 2018 Scholarship educational programme lasts for six years, during which the Company will fund the training of Guinean mining specialists, railway workers or economists, as well as builders, medical or administrative workers. In 2019, students of the RUSAL 2018 Scholarship programme successfully completed their preparatory language courses and moved onto the main phase of training.

In 2019, the Company continued to support Jamaican students studying at Siberian Federal University in Krasnoyarsk. In addition to tuition and accommodation costs, Windalco provides monthly grants to help with personal maintenance costs. Each year, scholarships are awarded to five final-year engineering students at the University of Technology. The financial support helps students complete their final year engineering research projects, as well as cover tuition costs ahead of graduation. Bursaries were also granted to students attending tertiary institutions across the island to help with tuition costs. Students were selected based on their academic performance, financial needs, involvement in extra-curricular activities, as well as their knowledge of the bauxite industry.

Sustainable economic development

Research and development

The Company performs vast research and development activities to introduce environmentally friendly technologies into production cycles to save resources and reduce costs.

Metals segment

Eco-Søderberg
The majority of aluminium produced in Russia uses Søderberg technology, invented in 1920. The development of the aluminium industry, a greater focus on environmental issues, and the surge in demand for aluminium have resulted in new technological breakthroughs to reduce environmental impact and boost production efficiency.

In 2009, UC RUSAL's Engineering and Technology Centre designed a new generation of Søderberg cells, reinvigorating traditional production technology. The new technology was named Eco-Søderberg and significantly cut emissions while increasing production efficiency.

The Eco-Søderberg process was included on the list of the best available technologies in Russia, and is being successfully refined and enhanced in all key areas. As part of the Eco-Søderberg process' development, UC RUSAL created improved gas collection sections, with emission-reducing characteristics and a robotic tightness monitoring system, thus further boosting the efficiency of covers. In order to create an upgraded, cost-cutting cell degassing system design, production has been centralised at RUSAL's iron casting facilities.

A comprehensive programme to roll out the Eco-Søderberg production process across all the aluminium smelters of the Company is continuing: about 400 cells were converted to the new technology in 2019.

In order to ensure access to raw materials and to cement the status of the Eco-Søderberg process as an environmentally friendly technology, a new process has been developed to make environmentally friendly hybrid and compound pitches. The process uses petroleum ingredients, resulting in a lower content of polyaromatic by-products compared to the chemical coke production process, at just 30%–40%. With the help of our partners, pilot batches were produced (more than 200 kt), and field tests were successfully carried out. There are no similar technologies in the world that significantly (several times) reduce the content of benzopyrene by replacing coke and coal pitch with petroleum ingredients. In the pilot production, tests confirmed the quality of the produced pitch and the high economic efficiency of the environmentally friendly production process.

Inert anode technology
UC RUSAL is actively developing an inert anode technology. Introducing this technology into the production process will lead to the elimination of greenhouse gas and polyaromatic hydrocarbon emissions. As a result of anodes consumption reduction, operating costs will be reduced by 10%, and capital expenditure on new projects – by more than 30%.

The Company is constantly working to minimise its carbon footprint. RUSAL is currently testing pilot reduction cells with inert anodes at the KrAZ site. However, before using the technology on an industrial scale, it is necessary to carry out a lot of work to determine technical and economic indicators, develop a fundamentally new logistics system for raw materials, and work out options for transferring the existing technology from carbon to inert anodes.

New reduction cells
The Company is successfully developing new, resource-saving reduction cells. High-capacity RA-550 cells are being operated in the pilot potroom of Sayanogorsk Aluminium Smelter. The new reduction cells have proved their ability to deliver energy efficiency and smash environmental performance targets. The cells have a current efficiency of 96%, a power consumption of below 12,800 kWh, and fluoride emissions of under 0.15 kg per tonne.

The programme is continuing to replace existing cell designs with energy-efficient ones with eco-friendly bulk carbon material cell lining. Super high-capacity RA-300 and OA-300 cells have outperformed their global counterparts – 12,600 kWh/t and 12,800 kWh/t of aluminium, respectively, while the electricity consumption of other types of cells has been cut by 200–400 kWh/t of aluminium. To date, the Company has already replaced more than 2,600 cells with the energy-efficient design, and more than 800 cells now have the eco-friendly lining. In addition to the environmental benefits of the lining, which reduces waste from the aluminosilicate lining part by 60%–80%, the use of bulk carbon materials and the recycling of them reduces the costs of cell cathode relining by 20%–30%.

Scandium oxide from red mud
Engineering solutions to optimise scandium oxide production from red mud (bauxite tailings) have been developed in the laboratory and proven at the pilot industrial unit. This has enabled further cost cuts in scandium oxide production, from USD 480 per kg of Sc_2O_3 to USD 254, and producing the by-product RZM, a medium weight group concentrate, in the process. An industrial module for scandium oxide production from red mud has been designed in line with technological regulations for the confirmed volume of consumption, so that the Company can start to produce its own Al–Sc alloys. Further steps are being taken to reduce operating costs for the production of aluminium-scandium alloys by optimising and eliminating a number of process areas.

Power segment

The Group keeps up to date with new developments in scientific research. In 2019, the Company continued the implementation of its innovative R&D programme, including a series of projects in:
+ Renewable energy sources
+ Energy transmission (electricity and heat)
+ Smart Grids, monitoring and diagnostics of equipment
+ Energy efficiency (cost optimisation, reliability improvement)
+ Energy storage (batteries, storage facilities)

By the year end, the Group achieved its targets for scientific research and pilot testing in the following projects:

Perovskite solar panels
The development of a new, post-silicon generation of solar cells with high efficiency and low production costs. Since 2016, the Company has been engaged in active scientific research to develop perovskite solar modules in cooperation with Moscow State University (MSU), Japan's National Institute of Advanced Industrial Science and Technology, the Chemical materials Evaluation and REsearch BAse (CEREBA), and the National Institute for Materials Science, as well as researchers from the University of Rome (Italy) and the University of Valencia (Spain), among other research centres.

The project has seen substantial success both in fundamental aspects of perovskite solar science, and in creating laboratory prototypes. Nine relevant patents were issued in Russia, and four PCT applications have been filed. Thirteen academic papers were published, including one in the reputable Nature Nanotechnology.

In 2019, our joint research with MSU continued, with a USD 1.7 million[1] (RUB 108 million) grant agreement signed with the Russian Scientific Foundation, where the Company acts as an industrial partner providing an additional USD 371,000[1] (RUB 24 million). The next steps in the research will focus on the development of new approaches to creating and improving the stability of hybrid halide perovskite materials. The project will continue until 2022.

The development of UAV (quadcopter) monitoring methods for grid facilities
Power line monitoring procedures have been optimised by the use of quadcopters. In comparison with a conventional inspection by specialists, the drone aerial services slash inspection times down to a quarter.

Eco-monitoring on Lake Baikal
En+ Group continued its joint research, underway since 2016, with the Biology Department of Moscow State University into the key problems facing Lake Baikal. Researchers from MSU, the Institute for Information Transmission Problems of the Russian Academy of Sciences (Kharkevich Institute), Siberian Federal University (Krasnoyarsk) and Irkutsk State University participated in the two and a half month long expedition.

In addition to the analysis of the chemical characteristics of the lake's water, the expedition sought to determine the causes of a higher intensity of filamentous algae blooming, which signals a change in the lake's overall pollution level. The expedition also assessed the condition of population of the endemic sponge Lubomirskia baicalensis, which acts as the lake's main "filter", and analysed the reasons for its necrosis.

The expedition paid special attention to levels of plastic pollution in the water. An unprecedented expanse of Lake Baikal was covered by the expedition. Previously, the common belief was that the problem did not affect the lake. However, early findings indicate that the lake has high concentrations of microplastic, quite comparable to other regions of the planet.

[1] Calculated based on USD/RUB average exchange rate of 64.74 for 2019.

At a glance
Operating review
SUSTAINABLE DEVELOPMENT
Internal control and risk management
Corporate governance
Financial statements

INTERNAL CONTROL AND RISK MANAGEMENT

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 system and risk management.

The Board has established an Audit and Risk Committee (the "ARC") 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 Directorate for Control and Internal Audit (the "Directorate for Control"), which is independent of management and reports to the ARC and the Board. The Directorate for Control assists the ARC and the Board in overseeing the financial and economic activities of the Group and the related systems of internal control and risk management.

The Directorate for Control reports regularly to the ARC 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 Directorate for Control 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 Directorate for Control 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, to enhance control of operational and technological processes, commercial activities, personnel management, implementation of investment projects, financing, etc.
+ Conducting audits to prevent and identify fraudulent activities 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 selection of suppliers of raw materials, other materials, services, including construction and/or installation works) in the interests of effective cost management for the Group (including by participating in Tendering Committees and overseeing the work of Tendering Committees across the Group's operating companies)

The operational and financial control objectives are achieved through comprehensive audits and controls inspections conducted by the Directorate for Control in accordance with the annual audit plan (approved by the ARC) using a risk-based approach. In addition, the Directorate for Control conducts unscheduled audits as requested by management and provides an independent opinion in the fields and areas requiring immediate decision-making by management. The Directorate for Control uses audit findings to develop corrective actions aimed at minimising or eliminating any failures of weaknesses identified by audits, and also with a view to preventing such breaches in the future. The Directorate for Control regularly informs management and the ARC of its audit and review findings, and also about the status of 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
+ Development, implementation, adoption and improvement of policies and procedures aimed at compliance with the applicable policy and regulatory requirements and prevention of breaches thereof
+ Providing training and advice on compliance with policies and regulatory requirements, including training in the Company's policy on countering corruption and fraud
+ Promotion and development of a compliance culture across the Group to ensure the ethical behaviour of management and employees and their commitment to the principle of compliance with all applicable requirements

3. Regulation of business processes

+ Development of the Group's ICS 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 travel, etc.)
+ Development of uniform standards of commercial activities (e.g. the Generalised Regulations on Procurement in accordance with applicable law and regulations, the 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, scrap, production system project for tube products, production system project to substitute copper cable with aluminium cable)
+ 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 Directorate for Control implemented a set of key measures in 2019 to support and improve the ICS.

1. Targets for control over the Group's commercial activities and development of measures to increase the efficiency of commercial activities

+ Improvements in the efficiency of tendering procedures for sales of ferrous and non-ferrous scrap metal
+ Development and adoption of the uniform Regulations on Procurement across all Group's entities, including tendering procedures
+ Approval of the uniform Regulations on Tender Committees for the Group
+ Adoption of the Category Management Policy
+ Adoption of a uniform approach to the budget pricing practices of the Group

2. Control over sales of the Company's illiquid assets

+ Development of the Regulations on Illiquid Inventories and Non-Core Assets

3. Development and adoption of a framework of regulations for the ICS

+ Regulations on Powers of Attorney
+ Methodological recommendations on disciplinary measures
+ Procedure for developing and adopting timeframes for document approval in the 1C electronic document flow system
+ Completion of preparation for all of the Group's entities to transition to a new electronic document flow system
+ Implementation of contractor restriction labelling in the Company's accounting systems
+ Initiation of amendments to the Innovation Activities Policy to strengthen project monitoring procedures

Risk management

The Company has established a risk management system, which is an integral part of the Company's ICS 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.

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, based on the identification of any risks to the business processes of stand-alone 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 responsibilities of all participants of the risk management process.

Risk maps are used to illustrate the risks of operating companies and 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 risk map of the Company includes a list of all possible risks that may threaten the objectives of the Company in the next calendar year.

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.

The risk monitoring results are submitted to the management, the Chief Executive Officer, the ARC and the Board of Directors of the Company. Responsibility for effective risk management rests with the Chief Executive Officer of the Company.

The Company's key risk management developments in 2019:

1. In April 2019, the En+ Risk Management training course developed by the Directorate for Control was made available through the En+ Corporate University portal to improve awareness of risk management basics among all employees and promote the application of knowledge gained from the course throughout the organisation
2. Local Risk Management Regulations were developed and adopted for all entities of the Company to foster a strong risk culture across all operating entities and ensure proper operation of the En+ risk management system
3. During 2019, force majeure risks were identified and included in the En+ Risk Map (major faults, natural calamities, terror attacks etc.) for all entities of the Company.

Key risks facing the Group

1. Operational risks

1.1. Risks of natural disasters, epidemics and terrorism

Coronavirus and its impact on global economic and Group's activity. The first months of 2020 have seen significant global market turmoil triggered by the outbreak of the coronavirus. Along with other factors, including a sharp decrease in the price of oil, this has resulted in high volatility on the stock market, with a considerable drop of indices, as well as a depreciation of the Russian rouble.

As a result of the COVID-19 outbreak during 2020, aluminium prices have continued to deteriorate. This factor has an adverse impact on the revenue and profitability of the Group, partially offset by rouble depreciation. As aluminium prices are forecast to continue to remain at depressed levels in 2020, management is implementing a number of measures including, but not limited to, cost and working capital optimisation, and negotiations with the Group's lenders, as appropriate.

At the date of this Report, the Group continues to assess the impact of these factors on its financial position and future cash flows and thoroughly monitors all developments. COVID-19 can affect the health of the Company's staff and management. The Company has designed and put in place a range of measures to maximise safety for the Company's staff and minimise COVID-19's impact on the Company's operations. The Company also complies with all instructions by the Russian Government, which has put in place national programmes to prevent COVID-19 from affecting the population of Russia (quarantine, work-from-home policies, etc.).

1.2. Technological risks

Operational hazards. The Group's power generation, aluminium and other operations are subject to hazards and risks that could lead to property damage or injury or death to persons.

Risk of equipment failure. The Group's assets (many of which were commissioned during the Soviet era) require regular maintenance and modernisation in order to extend their operating lives. Any failures could lead to accidents, cause disruption to the Group's business and/or lead to the incurrence of significant unscheduled repair costs. Equipment failures or other difficulties may result in production curtailments or shutdowns.

Power output. The Group's hydro power generation facilities are subject to fluctuations in water flows, which could result in decreased power generation and therefore lower-than-planned revenues from electricity and capacity sales.

Ore Reserves and Mineral Resources. Ore Reserves and Mineral Resources data are estimates only and are inherently uncertain, and said Ore Reserves and Mineral Resources may be depleted more rapidly than anticipated.

1.3.Procurement and commercial risks

Relations with third parties. The Group's power operations are dependent upon third parties that provide services in the wholesale electricity market, such as the System Operator. The Group relies on third-party suppliers of certain goods and materials, including equipment.

Fuel supply. A portion of the Group's power operations require gas and fuel oil in their operations, and the Group is, therefore, exposed to disruptions in supply or increases in prices.

Interdependence of the Power segment and Metals segment. RUSAL is among the Power segment's largest customers, with the Power segment supplying electricity to RUSAL's aluminium smelters. There is, therefore, a high level of interdependence between these two segments.

1.4. Personnel risks

Key senior management personnel. The Group relies on the services of key senior management personnel in taking strategic and operational decisions. The risks that top management of the Group may adopt incorrect and inefficient managerial decisions are largely mitigated by the corporate procedures exercised by the Board of Directors and relevant committees to control decision making crucial for the Group's activities, and also by the high level of qualification and professional experience of the senior management personnel of the Group.

Labour disruptions, shortages of skilled labour and labour cost inflation. The Group relies on skilled labour in the operation of its assets and is, therefore, exposed to any changes in the cost and availability of such skilled labour. Further, a significant amount of the Group's employees in Russia are members of labour unions, and the Group is exposed to disruption through workplace slowdown, stoppages or strikes.

2. Financial and market risks

2.1. Financial risks

Leverage. The Group has high leverage and a substantial amount of its borrowings are secured and subject to covenants. The Group must continue to generate sufficient cash and maintain its operating performance at an adequate level in order to avoid breaching these covenants.

The terms of the credit facility agreements impose certain limits on the Group's capital expenditure and payment of dividends. Failure by the Group to comply with the terms and conditions of these agreements may materially adversely affect the Group and its shareholders.

Group dividend structure. The Company's ability to meet its obligations depends to a large extent upon receipt of sufficient funds from its subsidiaries, and the Company is reliant on the ability of the Group's subsidiaries to distribute dividends to the Company.

Foreign currency. The Group reports its financial results in US dollars, while certain subsidiaries denominate their revenues and/or costs in Russian roubles, euros and/or Ukrainian hryvnias. As such, the Group is exposed to exchange rate fluctuations, which may affect its financial results.

Interest rates. A significant amount of the Group's total borrowings have variable interest rates, potentially leading to a large increase in interest cost.

Customer default. If a customer is unable to pay for the power supplied to them, the Group may not be able to terminate the contract or suspend the electricity supply unilaterally under applicable regulations. In particular, regulations governing the retail heat and electricity market are particularly stringent and the Group must follow a number of steps before any reduction or cut-off (which may not be permitted in certain circumstances) in supply to non-paying retail customers. Certain subsidiaries of the Group are guaranteeing suppliers to the electricity market in the Irkutsk and Nizhny Novgorod Regions, and are obliged to conclude an electricity supply contract with any customer applying for such contract that is located within the operational area of the respective company, regardless of the credit standing of said customer.

2.2. Market risks

Fluctuations in demand for electricity and heat. The demand for electricity and heat varies seasonally and from year to year, due to weather conditions and other factors, and the Group's results of operations rely on its ability to accurately address or forecast seasonal and yearly fluctuations in demand.

Technology advances. The energy market is subject to far-reaching technological changes, both on the supply side and on the demand side, which could in turn lead to structural changes in the market. The Group risks being unable to react to such changes and/or match the technological advances of its competitors. The Company pays significant attention to new power technologies and their possible use in industrial power supply.

Key risks related to the Metals segment operational performance. The Group owns certain metallurgical assets representing its Metals segment, where the world's largest aluminium producer, RUSAL, is the largest asset. In its operations the Metals segment faces the following key risks:
(i) it operates in a cyclical industry that experiences price and demand volatility on regular basis, which might have a material adverse effect on the Group's performance and financial results;
(ii) a high level of competition in the aluminium industry;
(iii) lower aluminium prices on international and local markets may have negative impact on its results of operations;
(iv) risk of non-payment or loss of major customers; and
(v) it depends on the provision of uninterrupted transportation services and access to infrastructure, for the transportation of its materials and end products across significant distances, which is outside of the RUSAL's control, and the prices for such services (particularly rail tariffs) could increase.

Competition. The Group may become subject to increased competition in each of the industries in which it operates, notably in the power (due to the ongoing liberalisation of the power markets) and aluminium industries, which in turn could result in loss of market share in any Group industry and downwards pressure on prices for any of its products.

In addition, the aluminium industry itself competes with other industries for certain other materials, in particular:
(i) steel (used in transport, construction, packaging and engineering);
(ii) plastics (used in packaging and construction); and
(iii) copper (used in electrical applications and heat exchangers).

3. Corporate risks

3.1. Legislative and regulatory risks

Regulatory reform of the power market. The Russian electricity and capacity markets have undergone significant regulatory change in recent years. The authorities continue to reform the rules related to, in particular:
(i) capacity modernisation and decommissioning;
(ii) transmission and distribution tariffs; and
(iii) capacity prices for certain types of power generators, and may in the future impose unforeseen additional new rules and regulations in any area.

Natural monopolies. A number of the Group's companies have natural monopoly status under the Russian law. Regulations imposed on such companies include:
(i) tariffs for the part(s) of their services that are considered to be monopolistic;
(ii) requirements for the non-discriminatory provision of services to all market participants; and
(iii) the exercise by the Russian tariff supervision authorities of control over certain material transactions or investments carried out by them.

Tariff regulation and price fluctuations. The Group's power subsidiaries are currently required to sell certain amounts of their planned output of electricity (primarily to households) under regulated contracts at tariffs set by the relevant regulator. Heat generation and distribution tariffs and electricity transmission and distribution tariffs are also subject to regulation in Russia.

Environmental and health and safety regulations. Ensuring compliance by the Group's subsidiaries with environmental and health and safety laws and regulations requires the commitment of financial resources. Environmental aspects of the Group's operations are priority issues, with all operating companies of the Group having programmes in place to ensure compliance with the standards as set forth by international and Russian environmental legislation. In addition, new environmental laws or regulations could lead to further operational restrictions or obligations on the Group.

Anti-monopoly laws. The Group is subject to certain requirements under Russian anti-monopoly laws.

Reliance on licences and permits. The operational licences and permits that the Group's subsidiaries require from various government entities and agencies may be invalidated, suspended or may not be issued or renewed, or may contain onerous terms and conditions that restrict the Group's ability to conduct operations or lead to substantial compliance costs or administrative penalties.

3.2. Political risks

Sanctions. On 6 April 2018, the Office of Foreign Assets Control (OFAC) of the US Treasury designated certain legal and natural persons to its Specially Designated Nationals List.

On 27 January 2019, after negotiations with OFAC and as a result of a plan proposed by the Rt Hon Lord Barker of Battle, the OFAC restrictions on business transactions and dealings in the Company's securities were lifted. The restrictions on the majority shareholder are maintained and are regulated by OFAC separately.

There is a risk that the Company and its subsidiaries may get put on the OFAC sanctions list again, or that other sanctions may be imposed with potential damage of similar significance.

Countries of operation. The Group is exposed to risks relating to the multi-jurisdictional regulatory, social, legal, tax and political environment in which the Group operates.

In addition, unregulated prices for electricity and capacity may fluctuate or be subject to limitations.

3.3. Other corporate risks

Adverse publicity. Adverse media speculation, claims and other public statements could adversely affect the Company's reputation and the value of the GDRs.

Code of Corporate Ethics

In 2013, the Board approved the Code of Corporate Ethics and the Code of Ethical Standards in Russian and English. Similar documents were approved and adopted across the Group's operating companies. The following documents and regulations were developed, approved and implemented:
+ Approach to the organisation of the corporate ethics system
+ Policies regarding conflicts of interests and their identification
+ Approach to the identification and investigation of fraud

The Code of Corporate Ethics strives to ensure that business is conducted in compliance with the highest ethical standards. The Code covers every aspect of the Group's activities, including what is expected from all employees, as well as individuals related to En+ Group's activities.

The key ethical values to which all employees of the En+ Group's companies are committed are as follows:
+ Respect of the personal rights and interests of all employees
+ Responsibility
+ Trust in employees
+ Honesty and transparency
+ Efficiency in order to achieve maximum results in all that we do
+ Fairness and impartiality
+ Care
+ Commitment to ongoing development

A new version of the Code of Corporate Ethics is being developed at the Company at present.

CORPORATE GOVERNANCE

GOOD GOVERNANCE IS BASED ON CLEAR ROLES AND RESPONSIBILITIES, AND WE AIM TO ENSURE THAT OUR GOVERNANCE PROCEDURES COVER ALL AREAS OF DECISION-MAKING ACROSS THE GROUP

Corporate governance

The Company is committed to high standards of corporate governance. The Group plans 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.

The Company has made substantial changes to its corporate governance practices throughout 2018, 2019 and 2020 to date (as discussed below), 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 is capable of committing to and maintaining high international standards of corporate governance. Furthermore, with effect from the Continuance Date, 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. As a consequence, the Company's memorandum of association and articles of association previously governed by Jersey law have been superseded by a new charter (the "Charter"), and the Company's name has been changed to EN+ GROUP IPJSC.

Following completion of the Continuance, the Company's ordinary shares were admitted to the Level One Quotation List of the Moscow Exchange, thereby creating a more diversified platform for investors in the Company's equity securities. The Company's GDRs were delisted from the Moscow Exchange and retained their listing on the London Stock Exchange.

Following the Continuance, the Company aims to comply with the recommendations of the Russian Corporate Governance Code. In its corporate governance practices, the Company is also guided by the Listing Rules of the Moscow Exchange.

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 Exchange, 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.

Adhering to high standards of corporate governance is an important element in attracting fresh 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 En+ Group's stakeholders for the strategic management of the Company. The day-to-day running of the Company falls within the competence of the CEO.[1] 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.

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 the OFAC Sanctions
+ the ongoing growth of the Company's value for the benefit of all stakeholders

[1] The Charter uses the term "General Director" which is used interchangeably with the term "CEO" in public disclosures made by the Company.

At a glance

11 directors – 6 independent non-executive directors[2]

5 Board committees

All Board committees chaired by independent non-executive directors

August 2019 En+ joins the UN Global Compact

September 2019 The Environmental Advisory Board was established

17 February 2020 En+ lists ordinary shares on the Level One Quotation List of the Moscow Exchange

20 April 2020 En+ GDRs are delisted from the Moscow Exchange (17 April 2020 was the last trading date for the GDRs on the MOEX)

Corporate governance structure

The Company's corporate governance structure includes the following key elements:

General shareholders meeting

For more information see p. 109

Board

For more information see p. 110

CEO

For more information see p. 128

[2] Until Igor Lojevsky's unexpected death on 12 April 2020 there were 7 independent non-executive directors.

Timeline of corporate governance changes

27 January 2019

New independent non-executive directors were appointed following the lifting of the OFAC Sanctions from the Company and its subsidiaries, UC RUSAL and JSC EuroSibEnergo

8 February 2019

1. Two new Board committees were established:
2. Health, Safety and Environment Committee
3. Regulation and Compliance Committee (now the Compliance Committee)
4. The Rt Hon Lord Barker of Battle was appointed as Executive Chairman of the Board and Mr Christopher Burnham was appointed as Senior Independent Director
5. Three new non-executive directors were appointed

29 May 2019

The annual general shareholders meeting of the Company took place. One new non-executive director was appointed

9 July 2019

En+ reincorporated in Russia and En+'s new Charter was registered

24 September 2019

En+ launched its EAB, tasked with advising the Board on the delivery of its environmental agenda and identifying emerging environmental issues

14 November 2019

The Board amended the Group's financial reporting schedule from a quarterly to a semi-annual basis.

The Board adopted the following internal documents:
+ Regulations on Dividend Policy
+ Regulations on the general shareholders meeting

13 December 2019

The Board of Directors adopted the following internal documents:
+ Regulations on the Audit and Risk Committee
+ Regulations on the Remuneration Committee
+ Regulations on the Health, Safety and Environment Committee
+ Regulations on the Corporate Governance and Nominations Committee
+ Regulations on the Compliance Committee (previously the Regulation and Compliance Committee)
+ Regulations on the Board of Directors
+ Regulations on the Corporate Secretary
+ Regulations on the Internal Audit

17 February 2020

En+ Group's ordinary shares were admitted to trading on the Level One Quotation List of the Moscow Exchange

General shareholders meeting

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 Company shares
+ the acquisition in the Company's outstanding shares
+ 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 the quorum for 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 per cent 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 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.

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 (shareholders) holding no less than 10 per cent of voting shares in the Company as at the date of the request. The extraordinary GSM convened at the request of shareholders (a shareholder) holding at least 10 per cent of voting shares in the Company shall be held within 50 days from the date of the request to convene the extraordinary GSM.

The Charter envisages a procedure for electronic voting at GSM. Voting may be carried out in electronic form if this is envisaged by the decision of the Board. Ballots may be filled out in electronic form on the Internet, or sent to the Company's email address.

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 Russian Accounting Standards
+ 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 per cent 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 2019, the annual GSM of the Company was held on 29 May 2019. This meeting was held prior to the Continuance Date and therefore was governed by Jersey law and the corresponding provisions of the MAA of EN+ GROUP PLC.

The annual GSM considered and passed the following resolutions:
+ "That the audited financial statements of the Company, the report of the directors of the Company ("Directors") and the auditor's report on the financial statements of the Company, each for the year ended 31 December 2018 be received and considered"
+ "That JSC KPMG be appointed as the auditor of the Company, to hold office until the conclusion of the next annual general meeting, and that the Directors be authorized to fix the remuneration of the auditor for the financial year ending 31 December 2019"
+ "To re-appoint Hon Christopher Bancroft Burnham as director of the Company"
+ "To re-appoint Alexander Chmel as director of the Company"
+ "To re-appoint Vadim Geraskin as director of the Company"
+ "To re-appoint Carl Hughes as director of the Company"
+ "To re-appoint Nicholas Jordan as director of the Company"
+ "To re-appoint Igor Lojevsky as director of the Company"
+ "To re-appoint Joan MacNaughton CB Hon FEI as director of the Company"
+ "To re-appoint Elena Nesvetaeva as director of the Company"
+ "To re-appoint Andrey Sharonov as director of the Company"
+ "To re-appoint Ekaterina Tomilina as director of the Company"
+ "To appoint Anastasia Gorbatova as director of the Company"

Board of Directors

As at 31 December 2019, there were twelve directors on the Board, including seven independent non-executive directors, four non-executive directors and the Executive Chairman of the Board.

In accordance with the Barker Plan[1] 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:
+ Hon Christopher Burnham
+ Carl Hughes
+ Joan MacNaughton CB
+ 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.

The following individuals were appointed as non-executive directors:
+ Vadim Geraskin (appointed on 8 February 2019)
+ Ekaterina Tomilina (appointed on 8 February 2019)
+ Elena Nesvetaeva (appointed on 8 February 2019)
+ Anastasia Gorbatova (appointed on 29 May 2019)

Each of the above directors, except for Igor Lojevsky who unexpectedly passed away on 12 April 2020, is currently serving on the Board. 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.

Board composition and attendance

Board attendance and number of meetings in 2019

	Appointed on	Resigned on	Attendance[2]
EXECUTIVE DIRECTORS			
Timur Valiev	27.06.2018	27.01.2019	2/2
Alexander Krovushkin	27.06.2018	27.01.2019	2/2
Mikhail Likhotnikov	27.06.2018	27.01.2019	2/2
Konstantin Molodkin	27.06.2018	27.01.2019	2/2
Alexander Shistko	27.06.2018	27.01.2019	2/2
Yuri Dvoryanskiy	27.06.2018	27.01.2019	2/2
Denis Kholodilov	27.06.2018	27.01.2019	2/2
NON-EXECUTIVE DIRECTORS			
Vadim Geraskin	08.02.2019	–	17/18
Ekaterina Tomilina	08.02.2019	–	13/18
Elena Nesvetaeva	08.02.2019	–	16/18
Anastasia Gorbatova	29.05.2019	–	10/10

[1] Lord Barker's plan regarding the removal of the 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://www.enplusgroup.com/en/investors/results-and-disclosure/.

[2] The number of meetings attended/maximum number of meetings the directors could have attended.

	Appointed on	Resigned on	Attendance[2]
INDEPENDENT NON-EXECUTIVE DIRECTORS			
Lord Barker[3]	17.10.2017	–	19/20
Philippe Mailfait	30.09.2009	25.04.2019	6/8
Christopher Burnham	27.01.2019	–	14/18
Alexander Chmel	27.01.2019	–	18/18
Carl Hughes	27.01.2019	–	17/18
Nicholas Jordan	27.01.2019	–	15/18
Igor Lojevsky	27.01.2019	–	16/18
Joan MacNaughton	27.01.2019	–	15/18
Andrey Sharonov	27.01.2019	–	16/18
Total number of meetings			20

During 2019, the Board held 20 meetings with 11 of them in the form of absentee voting.

Board's focus during the year

Area of focus	Matters considered and decisions adopted
Strategy and risk	18 December 2019 • The Board considered a revised report on the assessment of health, safety and environmental matters • The Board considered a report on instructions complied with as part of the control and regular assessment of the results of the Board's activity and the reports of chairpersons of the Board committees • The Board approved the Company's Business Plan for 2020 • The Board approved the principles of the Company's operational strategy • The Board approved the results of the assessment of the performance by the Chairman of the Board 14 November 2019 The Board adopted a decision to amend the Group's financial reporting schedule, moving from quarterly to semi-annual reporting 17 September 2019 The Board approved the Company's Sustainability Report 2018

[3] Executive Chairman of the Board effective from 8 February 2019.

Area of focus	Matters considered and decisions adopted
Succession and leadership	14 February 2019 The Board updated the composition of the Audit and Risk Committee and of the Health, Safety and Environment Committee 8 February 2019 • The Board appointed Lord Barker as Executive Chairman of the Board and Christopher Burnham as Senior Independent Director • The Board approved the appointment of Vadim Geraskin, Ekaterina Tomilina and Elena Nesvetaeva as non-executive directors • The Board updated the composition of the Audit and Risk Committee, the Remuneration Committee and the Corporate Governance and Nominations Committee, and approved the establishment of the Health, Safety and Environment Committee and the Regulation and Compliance Committee (now the Compliance Committee)
Corporate governance	13 December 2019 The Board adopted the following documents: • Regulations on the Corporate Governance and Nominations Committee • Regulations on the Audit and Risk Committee • Regulations on the Remuneration Committee • Regulations on the Compliance Committee • Regulations on the Health, Safety and Environment Committee • Regulations on the Internal Audit • Regulations on the Board of Directors • Regulations on the Corporate Secretary The Board approved annual KPIs for the CEO The Board appointed Egor Ivanov as Director of the Internal Audit Directorate 14 November 2019 The Board adopted the following documents: • Regulations on the General Shareholders Meeting • Regulations on Dividend Policy 3 October 2019 The Board approved changes to the general levels of compensation payable to members of the Board 24 September 2019 The Board approved the creation of the Environmental Advisory Board
Financial performance	14 November 2019 The Board approved the consolidated interim condensed financial information for the three and nine months ended 30 September 2019 and the separate interim condensed financial information for the nine months ended 30 September 2019 23 August 2019 The Board approved the adjusted consolidated interim condensed financial information as at and for the three and six month periods ended 30 June 2019 15 August 2019 The Board approved the consolidated interim condensed financial information as at and for the three and six month periods ended 30 June 2019 30 May 2019 The Board approved the consolidated interim condensed financial information for the three months ended 31 March 2019 28 March 2019 The Board approved the consolidated financial statements for the year ended 31 December 2018

Directors’ and officers’ insurance

The liability of all members of the Board of Directors related to the exercise of their duties at the Company is insured under a D&O liability insurance policy, which represents insurance against any in-scope losses of the Directors. The insurance premium under the D&O insurance policy is USD 406,500.

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 Company’s auditors (for the audit of financial statements in accordance with IFRS, or other internationally recognised rules other than IFRS)
+ The approval of the register holder of the Company
+ The appointment of the sole executive body (the CEO) of the Company

The Board has taken steps to ensure that the 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.

Biographies of the directors currently serving on the Board

The Rt Hon Lord Barker of Battle PC

Executive Chairman of the Board

Appointed: 17 October 2017
Appointed as Executive Chairman of the Board: 8 February 2019
Year of birth: 1966

Lord Barker was appointed as Independent Chairman of the Board in October 2017, immediately prior to the Company's successful IPO on the London Stock Exchange and the Moscow Exchange.

In February 2019 he was appointed as Executive Chairman of the Board.

Lord Barker was previously a member of the British House of Commons from 2001 to 2015. From 2010 to 2014 Lord Barker served as UK Minister of State for Energy & Climate Change under Prime Minister David Cameron, becoming the longest serving British energy minister for a generation.

In August 2015 he was made a life Peer and, since October 2015, has been a member of the UK House of Lords.

Lord Barker has extensive business experience in the energy sector, mergers and acquisitions, corporate finance, investor relations, and private equity gained prior to a successful career in politics.

Lord Barker was educated at Lancing College, London University and London Business School.

Hon Christopher Bancroft Burnham

Independent Non-Executive Director, Senior Independent Director

Appointed: 27 January 2019
Appointed as Senior Independent Director: 8 February 2019
Year of birth: 1956

Mr Burnham is the Chairman and Chief Executive Officer of Cambridge Global Capital, LLC, headquartered in Washington, D.C. He co-founded Cambridge after a distinguished career in government, diplomacy, banking, and private equity. Mr Burnham is a globally recognised expert in the implementation of accountability and transparency, and the implementation of best practice in government, corporations, and inter-governmental organisations, having served as Under Secretary General for Management of the United Nations, Under Secretary of State for Management (acting), and Assistant Secretary of State for Resource Management and Chief Financial Officer of the U.S. Department of State.

At the U.S. Department of State, he built and led the implementation of performance measures down to the mission level while modernising the global reporting system across 270 offices in 170 countries. As COO of the UN and a member of the cabinet of Kofi Annan, he instituted sweeping governance reforms, including the establishment of the first UN Ethics Office, the first United Nations Independent Audit Advisory Committee, the adoption of new International Public Sector Accounting Standards, the first comprehensive consolidated annual report in the history of the United Nations, and a new whistleblower protection policy that received independent recognition as the "gold standard." He also implemented unrivalled financial disclosure reporting by senior United Nations officials and staff based on the U.S. Government model, an unprecedented sexual harassment policy, and initiated a taskforce to investigate corruption within UN procurement that led to prosecutions and convictions by the U.S. District Attorney's office of the Southern District of New York.

Mr Burnham has been confirmed twice by the United States Senate.

In addition, Mr Burnham is the former Vice Chairman and Managing Director of Deutsche Asset Management where he co-founded and led Deutsche Bank's direct private equity group, RREEF Capital Partners, and oversaw the bank's reentry into private equity after an eight-year absence. He also chaired Deutsche Bank's asset management governance committee in Germany.

A combat veteran of the United States Marine Corps (Reserve) who retired at the rank of Lieutenant Colonel, Mr Burnham volunteered for active duty in 1990 and served as an infantry platoon commander in the Gulf War. He and his men were part of the lead Allied forces to reach and liberate Kuwait City.

Since 2013, Mr Burnham has served as Chairman and Chief Executive Officer of Cambridge Global Capital, a venture capital investment firm focused on opportunities in life sciences, cyber and data security, and AI/data analytics.

Mr Burnham studied national security policy at Georgetown's National Security Studies Program, and is a graduate of Washington and Lee University, and Harvard University, where he earned an M.P.A. in 1990.

Carl D. Hughes

Independent Non-Executive Director

Appointed: 27 January 2019
Year of birth: 1962

Carl D. Hughes joined Arthur Andersen in 1983, where he qualified as a Chartered Accountant and became a Partner in 1993. Throughout his professional career he specialised in the oil and gas, mining and utilities sectors, becoming 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 UK 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 is a Non-executive Director and Audit Committee Chairman of EnQuest PLC; a member of the board of the Audit Committee Chairs' Independent Forum in the UK; a member of the Finance and Audit Committee of the Energy Institute; a Director and Trustee of the Premier Christian Media Trust and the Lambeth Conference Company; a member of the Development Board of St Peter's College, Oxford; a member of the General Synod of the Church of England; and deputy chairman and chairman of the Finance and Investment Committees, respectively, of The Archbishops' Council.

Carl 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 is a Fellow of the Energy Institute.

Joan MacNaughton CB Hon FEI

Independent Non-Executive Director

Appointed: 27 January 2019
Year of birth: 1950

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 is a Non-Executive Director of the James Hutton Institute, and sits on several other advisory boards.

From 2010 to 2016, Joan was Executive Chair of the annual assessment of countries' energy policies for the World Energy Council, the "Trilemma", and is now Honorary Chair. In 2012, she was Vice Chair of the UN Committee on the Policy Dialogue of the CDM. From 2006 to 2012, she served on the Board of Governors of Argonne Laboratory at the University of Chicago, where she chaired the budget committee.

She was a board member of the International Emission Trading Association, of which she is now an Honorary Fellow. She is an Honorary Fellow and Past President of the Energy Institute, as well as a Distinguished Fellow of both the Institute of Energy Economics of Japan, and of the Global Federation of Competitiveness Councils. From 2007 to 2013, she was a Senior Research Fellow at the Oxford Institute for Energy Studies. For several years she has moderated a roundtable of ministers and CEOs at the annual Clean Energy Ministerial Meetings.

From 2007 to 2011, Joan set up and then led Alstom's department for clean power advocacy, and until December 2012 acted as Global Advisor on Sustainable Policies for the company. She was a member of the Executive Board responsible for the P&L of Alstom Power. She spent six years as a NED of a FTSE 250 property development company.

In UK Government until 2007, she held a wide range of positions including as Chief of Staff to the Deputy Prime Minister to Prime Minister Margaret Thatcher and later to two Cabinet Ministers. From 2002, as Director General of Energy, Joan played a key role in shaping UK energy policy. She led a major change programme and made a significant contribution to international energy policy, including overseeing the energy agenda during the UK Presidency of the EU and leading the work on the Clean Energy Action Plan agreed at the G8 Gleneagles Summit. From 2004 to 2006, she was Chair of the Governing Board of the International Energy Agency, leading a review of the IEA's strategy and the emergency response to the supply disruption caused by Hurricane Katrina.

At a glance
Operating review
Sustainable development
Internal Control and Risk Management
CORPORATE GOVERNANCE
Financial Statements

Nicholas Jordan

Independent Non-Executive Director

Appointed: 27 January 2019
Year of birth: 1959

Nicholas Jordan has more than 30 years' experience in senior positions in leading global financial institutions.

He was Executive Chairman of Big Un Limited from May 2018, until October 2018, and served as its Non-Executive Chairman from March 2018 to May 2018. He stepped up to the position of Executive Chairman to help with the restructuring of the business, following a series of reporting and accounting issues which eventually led to the company being placed in administration.

He has also served as Chairman of Supervisory Board at 4finance Group S.A. (part of the Finstar Group), having earlier been the Chief Executive Officer at Finstar Financial Group (another subsidiary) from 2015 to 2017.

Until 2015, he was the Co-Chief Executive Officer of Goldman Russia at Goldman Sachs, and prior to this Mr Jordan served as Chief Executive Officer of Russia & the Commonwealth of Independent States at UBS Group AG from June 2010.

He worked briefly for Lehman Brothers and Nomura again focused on Emerging Markets.

Mr Jordan worked for more than 10 years with Deutsche Bank, eventually becoming Vice Chairman and Head of the Russian Office. He was responsible for overseeing the securities, trading and asset management departments. He served as Vice President of Global Department Banking Services – Eastern European Markets and Director of Investment Banking Department – Russia during his time with the business.

He joined Manufacturers Hanover in 1985 and developed an international career in the firm that was first acquired by Chemical Bank, who eventually moved him to London where he became the Vice President of the London office and head of the Emerging Markets business. The firm was eventually acquired by Chase, shortly after which Mr Jordan left to join Deutsche Bank.

Mr Jordan started his banking career as a Treasury Assistant at the Bank of New York.

Nicholas Jordan has a BA in Political Science from Boston University.

Andrey Sharonov

Independent Non-Executive Director

Appointed: 27 January 2019
Year of birth: 1964

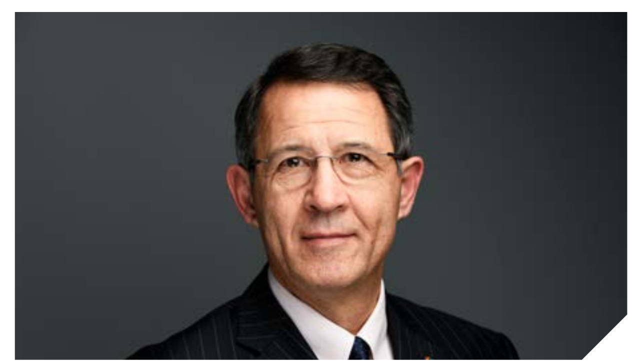
Andrey Sharonov joined the SKOLKOVO Business School team in September 2013. Prior to this, he served as Deputy Mayor in the Moscow Government for economic policy. In 2013, he was appointed as Dean of SKOLKOVO Business School and in September 2016 he was elected President of the Business School.

Mr Sharonov was born in Ufa in 1964. He graduated from Ufa State Aviation Technical University and the Russian Academy of Public Administration under the President of the Russian Federation, and holds a PhD in sociological science. From 1989 to 1991 Mr Sharonov was a People's Deputy of the USSR, and until 1996 was Chairman of the State Committee of the Russian Federation for Youth Affairs. Between 1996 and 2007 he served in the Ministry of Economic Development and Trade of the Russian Federation as department head, deputy minister and state secretary. From 2007 through 2010 Mr Sharonov was managing director and chairman of the Board of Directors of Troika Dialog Investment Company, and headed their investment banking business. Mr Sharonov is a Chairman of the Board of NefteTransService LLC, and a member of the Management Board of PJSC Sovcomflot, PJSC PhosAgro and JSC Medicina, among others.

By the directive of the Moscow Mayor dated 22 December 2010, Mr Sharonov was appointed as Deputy Mayor in the Moscow Government for Economic Policy and Chairman of the Regional Energy Commission. Mr Sharonov headed the Executive Committees of the Moscow Urban Forum and Open Innovations Forum. Mr Sharonov was awarded the Aristos prize for "Independent Director" in 2009, the national award "Director of the Year – 2009" for "Independent Director" and the international award "Person of the Year – 2012" for "Business Reputation". He also received a special award for personal contribution to the development of corporate management in 2016 from the Independent Directors Association and the Russian Union of Industrialists and Entrepreneurs. Mr Sharonov was awarded the Order of Honour and is an Honoured Economist of the Russian Federation. He also received President's Letters of Gratitude in 2003, 2008 and 2018.

Alexander Chmel

Independent Non-Executive Director



Appointed: 27 January 2019
Year of birth: 1956

Alexander Chmel holds the position of Senior Advisor to the Board Practice of Spencer Stuart in Russia and the CIS. He has extensive experience working as an independent director, chairman, and as a member of audit committees of Russian public companies, including PJSC ENEL RUSSIA, PJSC ChelPipe, PJSC Vysochaishy (GV Gold).

During his career, Mr Chmel spent 22 years in senior management roles in PricewaterhouseCoopers on various projects in energy, utilities and mining in Russia and Central and Eastern Europe. After retiring from PricewaterhouseCoopers, Mr Chmel worked from 2014 to 2016 as an Adjunct Professor and a Director of Corporate Programmes at the Executive Education Department of the Moscow School of Management SKOLKOVO, designing and delivering development programmes for key management personnel of major Russian companies.

In 2016 Alexander Chmel became one of the Top 50 Independent Directors in Russia, compiled by the national rating "Director of the Year". He holds a Diploma in Company Direction from the Institute of Directors (UK).

Ekaterina Tomilina

Non-Executive Director

Appointed: 8 February 2019
Year of birth: 1974

Ekaterina Tomilina joined the Board of En+ Group as a non-executive director in 2019.

She is currently the Director of Corporate Finance at Basic Element Company LLC.

She joined RUSAL in 2000 as the Head of its Structured Finance and Capital Markets Department. In 2012, Ekaterina Tomilina was appointed as Director of Corporate Finance at RM Rail, which is part of Russian Machines, an industrial and engineering company controlled by Basic Element.

Ms Tomilina held various finance positions at investment company Alfa Group and Tyumen Oil Company from 1997 until 2000, where she oversaw finance, trade and international matters.

Ekaterina Tomilina is a graduate of the Moscow State University of International Relations (MGIMO), with a degree in International Economics.

Elena Nesvetaeva

Non-Executive Director

Appointed: 8 February 2019
Year of birth: 1971

Elena Nesvetaeva joined the Board of En+ Group as a non-executive director in 2019.

She has extensive experience working on investments and in the banking sector and currently heads the Investment Department at Basic Element Company LLC where she has held several senior positions since she joined the company in 2009. At Basic Element Ms Nesvetaeva manages the company's investment projects and portfolio, and is responsible for driving the group's investment strategy and asset valuation, as well as acquisition projects and M&A transactions.

She previously worked in the banking sector and for a large timber-processing holding.

Elena Nesvetaeva graduated with distinction from the Faculty of Economics of the 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.

Vadim Geraskin

Non-Executive Director

Appointed: 8 February 2019
Year of birth: 1968

Vadim Geraskin joined the Board of En+ Group as a non-executive director in 2019.

He has significant experience in government relations at both the national and regional level.

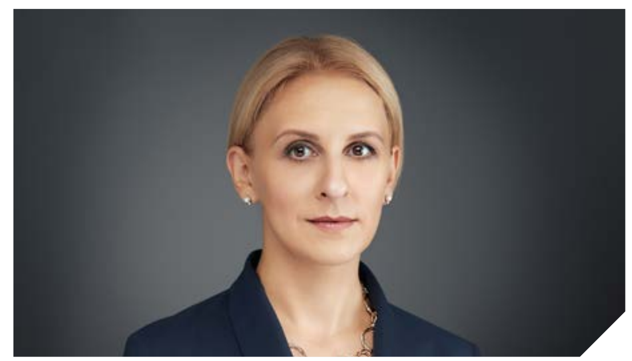
Since September 2012, he has been the deputy CEO for Government Relations at Basic Element Company LLC where he is responsible for company interaction with the federal and regional government authorities, the Federal Assembly and the Russian Government. Mr Geraskin is also heavily involved in pushing the company's socioeconomic development programmes in the regions where it operates.

Mr Geraskin headed RUSAL's Natural Monopolies Administration for eight years before joining Basic Element, and previously headed RUSAL's transport and logistics administration as well as the company's Transport Department. He served as CEO of oil and gas company Zarubezhcontract from 1997 to 2000, prior to which he worked for Aluminproduct Company between 1993 and 1997.

Vadim Geraskin graduated from Lomonosov Moscow State University with a degree in Physics.

Anastasia Gorbatova

Non-Executive Director



Appointed: 29 May 2019
Year of birth: 1979

Anastasia Gorbatova joined the Board of En+ Group as a non-executive director in May 2019.

She is the head of M&A and International Projects at Basic Element Company LLC.

Her background includes working at top tier law firms and advising Russian and international blue chip companies on multibillion cross border transactions on M&As, EPC, capital markets and corporate finance.

Anastasia Gorbatova is a graduate of the Moscow State University of International Relations (MGIMO) with a degree in Law (cum laude).

Biographies of directors who served on the Board in 2019 and have resigned as at the date of this report

Igor Lojevsky
Independent Non-Executive Director

Appointed: 27 January 2019
Resigned: 12 April 2020
Year of birth: 1957
Year of death: 2020

Dr Igor Lojevsky had extensive experience of board-level governance in large, complex organisations with international scope of operations in both an executive and non-executive capacity.

His past practical experience included chairmanship and membership positions in the Strategic, Audit and Remuneration & Nomination Committees of major banking, mining, transportation and energy companies.

He exceled in strategic guidance, support and constructive challenge to controlling shareholders, as well as CEOs and respective executive teams.

Mr Lojevsky served as Vice Chairman of Eastern Europe for Deutsche Bank's Asset & Wealth Management and Corporate Banking & Securities divisions until his retirement in August 2014.

Originally Mr Lojevsky joined Deutsche Bank in 2000 as a member of the London corporate finance team, covering clients from the energy industry in the countries of the former Soviet Union. He joined Deutsche Bank from the World Bank in Washington, D.C., where he was Energy Policy Implementation Advisor for Europe and Central Asia.

Igor Lojevsky earned his PhD in Finance from EDHEC - Business School/EDHEC-Risk Institute. He was a Research Associate and a member of the International Advisory board of EDHEC-Risk Institute (London, Nice) and Adjunct Professor of the Higher School of Economics (Moscow).

Dr Lojevsky co-authored a monograph on management titled Top Management – Theory and Practice.

Dr Lojevsky remained a member of the Board until his unexpected death on 12 April 2020.

Philippe Mailfait
Independent Non-Executive Director

Appointed: 30 September 2009
Resigned: 25 April 2019
Year of birth: 1951

Philippe Mailfait has served as member of the Board of Directors since September 2009 as an independent director. Mr Mailfait also holds the position of independent director at various other companies. Prior to joining the Group, he held different executive positions at Banque Worms and Banque de Gestion Privée (Paris), Morgan Grenfell & Co. (London and Paris), Marceau Investissements and Trianon Finance (Paris).

Mr Mailfait holds a degree in Economics and Finance from Institut d'Etudes Politiques de Paris and an MBA from HEC Montreal, University of Montreal.

Timur Valiev
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1979

Timur Valiev was appointed by a resolution of the Board with effect from 27 June 2018, having served as General Counsel of En+ Group since July 2013. He has extensive professional experience in managing court activities, claims and contracting, legal support of M&A projects and the creation of joint ventures. Prior to joining the Group, 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.

Alexander Krovushkin
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1968

Alexander Krovushkin was appointed by a resolution of the Board with effect from 27 June 2018. Mr Krovushkin joined JSC Irkutskenergo in 1993 and held various technical and senior positions at Novo-Irkutsk CHP of JSC Irkutskenergo. Since August 2017, he has served as Branch Director of Novo-Irkutsk CHP of JSC Irkutskenergo. Mr Krovushkin headed several projects, for example a project aimed at the optimisation of water supply and water sewage, along with the implementation of the Production Efficiency Improvement Programme.

Alexander Shistko
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1970

Alexander Shistko was appointed by a resolution of the Board with effect from 27 June 2018. He joined Krasnoyarsk HPP in 1992 and has held several technical and senior positions. Since September 2017, he has served as Deputy Chief Production Officer (Operation and Reconstruction) of Krasnoyarsk HPP. Mr Shistko has managed and implemented a series of projects, for example the creation of an automatic emergency response scheme and the development of a decision-making system based on measurements from data retrieval devices.

Mikhail Likhotnikov
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1970

Mikhail Likhotnikov was appointed by a resolution of the Board with effect from 27 June 2018. He joined LLC Plant Networks (Nizhny Novgorod) in 2004, and has served as General Director of LLC Plant Networks since January 2015. Mr Likhotnikov introduced a comprehensive services project aimed at smaller enterprises, which brought a positive economic effect to the company.

Yuri Dvoryanskiy
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1983

Yuri Dvoryanskiy was appointed by a resolution of the Board with effect from 27 June 2018. He has served as Chief Engineer of LLC EuroSibEnergo-Hydrogeneration since April 2018. Having joined JSC Irkutskenergo in 2006, he has held various positions at JSC Irkutskenergo, the Irkutsk-based branch of Vostokenergozashchita and OJSC Firm Energozashchita. Since April 2018, Mr Dvoryanskiy has served as Chief Engineer of LLC EuroSibEnergo-Hydrogeneration. He has implemented a series of projects, for example projects to avoid fines at the wholesale capacity market and reduce in-house power consumption at HPPs.

Konstantin Molodkin
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1983

Konstantin Molodkin was appointed by a resolution of the Board with effect from 27 June 2018. He joined Bratsk HPP in 2005 and has held various technical and senior positions both there and at JSC Irkutskenergo. Since February 2018, he has served as Branch Director of LLC EuroSibEnergo-Hydrogeneration of Bratsk HPP. Mr Molodkin has managed and implemented a series of projects, for example projects aimed at the optimisation of the inventory supply process and raising the efficiency of operations at hydro power plants.

Denis Kholodilov
Executive Director

Appointed: 27 June 2018
Resigned: 27 January 2019
Year of birth: 1975

He was appointed by a resolution of the Board with effect from 27 June 2018 and subsequently resigned on 27 January 2019. Mr Kholodilov joined JSC Irkutskenergo in 1997 and has held various technical and senior positions at Novo-Irkutsk CHP of JSC Irkutskenergo. Since May 2012, he has served as Deputy Chief Technology Officer (Modernisation) and Head of the Production and Technology Department at Novo-Irkutsk CHP of JSC Irkutskenergo. Mr Kholodilov was directly involved in a series of projects aimed at raising the efficiency and reliability of power plant equipment.

Training and professional development of the Board members

Newly elected directors complete an induction training programme 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

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 and Nominations Committee and the Remuneration 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 2019, the Company held two external-advisor-led training sessions for its Board members, which were dedicated to, amongst other topics, enhancing and developing the Company's audit and corporate governance practices in connection with the Continuance, and the corporate governance standards and requirements applicable to the Company following the Continuance and the listing of the Company shares on the MOEX.

Committees of the Board

Overview

As at the date of this Report the Board has established five committees to assist it in exercising its functions:

+ the Audit and Risk Committee (the "ARC")
+ the Corporate Governance and Nominations Committee (the "CGNC")
+ the Remuneration Committee (the "RemCom")
+ the Health, Safety and Environment Committee (the "HSE Committee")
+ the Compliance Committee (the "CC") (previously the Regulation and Compliance Committee)

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 Committees was reorganised following the lifting of sanctions against the Company on 27 January 2019. The composition of the Company's existing Board committees was amended on 8 February 2019 and further on 14 February 2019. The details regarding each of the Committees are set out below.

Committees attendance and number of meetings in 2019[1]

	ARC	RemCom	CGNC	HSE Committee	CC
NON-EXECUTIVE DIRECTORS					
Vadim Geraskin	–	–	–	5/5	–
INDEPENDENT NON-EXECUTIVE DIRECTORS					-
Lord Barker[2]	–	–	0/0	5/5	4/4
Philippe Mailfait (until 25 April 2019)	1/3	0/0	0/0	–	–
Christopher Burnham	7/8	7/7	–	–	4/4
Alexander Chmel	8/8	7/7	–	5/5	–
Carl Hughes	8/8	–	6/6	–	4/4
Nicholas Jordan	–	7/7	5/6	–	–
Igor Lojevsky	–	7/7	-	–	4/4
Joan MacNaughton	–	–	5/6	5/5	4/4
Andrey Sharonov	7/8	–	6/6	–	–
Total number of meetings	8	7	6	5	4

Audit and Risk Committee

Pursuant to the Regulations on the Audit and Risk Committee, approved by a Resolution of the Board of Directors of EN+ GROUP IPJSC on 13 December 2019, the ARC consists of four 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 ARC is currently comprised as follows:

+ Carl Hughes, as chairman
+ Christopher Burnham
+ Alexander Chmel
+ Andrey Sharonov

[1] The number of meetings attended/maximum number of meetings the directors could have attended.

[2] Executive Chairman of the Board effective from 8 February 2019.

At a glance
Operating review
Sustainable development
Internal Control and Risk Management
CORPORATE GOVERNANCE
Financial Statements

The ARC 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

The ARC is also responsible for reviewing the effectiveness of the external audit process. JSC KPMG ("KPMG") has been the external auditor to the Company since 2009, and the team is led by Yerkozha Akylbek. As part of the annual external audit review, the ARC considers the fee proposals and, in the context of the relevant professional and regulatory requirements, the effectiveness of the external audit process in determining whether to re-appoint KPMG.

The ARC also considers the effectiveness of any other external auditor, in conjunction with any other relevant Board committees.

Auditor's remuneration for audit and non-audit services

For the year ended 31 December 2019, the total fees for audit and non-audit services provided by the Group's external auditor, KPMG, are set out below:

	USD mn	%
Total audit services	7.6	87%
Total non-audit services	1.1	13%
Total fees paid to the audit firm[1]	8.7	100%

In 2019, the ARC held eight meetings and considered the Company's consolidated and standalone financial statements, business plan performance updates, regular reports on external and internal audits, as well as the development of the Group's Internal Audit function and improvement of internal controls. The ARC also reviewed the Group's approach to managing cyber security risks and the annual business planning process.

Corporate Governance and Nominations Committee

Pursuant to the Regulations on the Corporate Governance and Nominations Committee approved by a Resolution of the Board of Directors of EN+ GROUP IPJSC on 13 December 2019, the CGNC consists of four members, who shall be independent directors, recognised as such pursuant to the Listing Rules of the Moscow Exchange. The CGNC meets at least three times a year.

The CGNC is currently comprised as follows:
+ Andrey Sharonov, as chairman
+ Carl Hughes
+ Nicholas Jordan
+ Joan MacNaughton

The CGNC's primary role is to oversee the Company's corporate governance matters and determine the priorities of the Group in the area of corporate governance.

The primary responsibilities of the CGNC 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
+ interfacing with shareholders (including minority shareholders) to develop recommendations to shareholders regarding voting on the Board elections
+ 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
+ planning appointments so as to ensure continuity of activities of the sole executive body, 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 sole executive body 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 sole executive body, in the interests of the Company's competitiveness and development, and succession planning for such persons

In 2019, the CGNC held six meetings. The majority of CGNC meetings have been to consider and nominate individuals for employment or selecting candidates as Board members of the Company or its subsidiaries. A key issue for the CGNC has been consideration of corporate governance issues in advance of listing of the Company's shares on the MOEX.

Remuneration Committee

The Remuneration Committee comprises four members, all of whom shall be independent directors recognised as such pursuant to the Listing Rules of the Moscow Exchange. The RemCom meets at least three times a year.

The current RemCom is comprised as follows:
+ Nicholas Jordan, as chairman
+ Christopher Burnham
+ Alexander Chmel

Igor Lojevsky was a member of the RemCom until his unexpected death on 12 April 2020.

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 sole executive body, the Corporate Secretary, the head of the Internal Audit Service, and developing parameters of short-term and long-term incentive programmes for the sole executive body
+ 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 sole executive body in the context of the established remuneration criteria, and performing a preliminary assessment of achievement by the sole executive body of the targets under the Long-Term Incentive Programme
+ 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
+ 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 sole executive body in the annual report and on the Company's website

In 2019, the RemCom held seven meetings and considered the remuneration levels for Board members.

Health, Safety and Environment Committee

The Health, Safety and Environment Committee is a newly established committee in 2019. It comprises four members and meets at least once per quarter of the Company's financial year. The current composition of the HSE Committee is as follows:
+ Joan MacNaughton, as chair
+ Lord Barker
+ Alexander Chmel
+ Vadim Geraskin

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 2019, the HSE Committee held five meetings and considered regular HSE reports, development goals in HSE and ESG, and accession to the UN Global Compact.

Compliance Committee[2]

The Compliance Committee was established following the removal of the Company from OFAC's SDN list. The CC comprises five members and holds meetings at least once per quarter of the Company's financial year.

[1] Total audit fees include UC RUSAL's fees disclosed in its Annual report.

[2] Previously the Regulation and Compliance Committee.

The CC is currently comprised as follows:
+ Christopher Burnham, as chairman
+ Lord Barker
+ Carl Hughes
+ Joan MacNaughton

Igor Lojevsky was a member of the CC until his unexpected death on 12 April 2020.

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 2019, the CC held four meetings and considered matters relating to the implementation of OFAC's requirements and the development of the Company's Sanctions Compliance Policy.

Environmental Advisory Board

In order to enhance its commitment to sustainability, on 25 September 2019 the Company announced the launch of its new Environmental Advisory Board (the "EAB")[1]. The EAB is chaired by Adnan Z. Amin, who was the first Director-General of the International Renewable Energy Agency ("IRENA"), an intergovernmental organisation charged with driving the transition towards the use of renewable energy on a global scale.

The EAB advises the Board on delivering its environmental agenda and identifying emerging environmental issues.

The members of the EAB include Joan MacNaughton, Chair of The Climate Group and of the Advisory Board of the New Energy Coalition of Europe, as well as external advisors with specific expertise in both environmental and wider sustainability issues.

Share Dealing Code

Upon admission to the Main Market of the London Stock Exchange in November 2017, the Company adopted a code of 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 Russian law provisions).

Shareholdings of Directors

As at the date of this Report Mr Carl David Hughes holds 5,000 GDRs in the Company, which he has acquired on 3 April 2020. Throughout 2019, none of the directors directly or indirectly held any shares in the Company and none of the directors concluded any transactions with the Company shares.

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.

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.

[1] On 28 April 2020, the Board decided to temporarily suspend work of the EAB. The Group remains commited to its climate and broader environmental agenda.

En+ Group's management team

Biographies of the current management team

Vladimir Kiriukhin
Chief Executive Officer (CEO)

Year of birth: 1956

Vladimir Kiriukhin was appointed as Chief Executive Officer of EN+ GROUP PLC on 1 November 2018. He oversees the Company's long-term strategy, business development and cooperation with key external stakeholders, including regulators.

A long-serving member of En+ Group, Mr Kiriukhin has served as Chief Executive Officer of EN+ Development since 2009. Between 2001 and 2008, he held several senior positions at EuroSibEnergo, En+ Group's 100% subsidiary, operating energy assets, including First Deputy CEO and CEO. Before joining the Company, he held senior positions at Russian Aluminium and MAREM+ between 1999 and 2001.

Mr Kiriukhin was a Chairman of the Board at JSC Irkutskenergo (majority owned En+ Group energy subsidiary in the Irkutsk Region). He has previously served on the supervisory boards of Russia's Financial Market Council, JSC Krasnoyarsk HPP, Moscow Energy Exchange and Council of Energy Producers.

Mr Kiriukhin is a member of the Governmental Commission on Electric Power Sector Development, which coordinates regulatory decisions on key issues facing the Russian electric power industry.

Vladimir Kiriukhin graduated from the All-Union Institute of Interindustrial Information with a PhD in engineering, having previously obtained a major in mathematics from the Higher Naval School of Radio Electronics.

Vladimir Kiriukhin does not hold any shares in the Company and has not entered into any transactions with the Company shares during 2019.

Mikhail Khardikov
Chief Financial Officer

Year of birth: 1982

Mikhail Khardikov was appointed as Chief Financial Officer of En+ Group in 2018. His role includes responsibility for finance, tax, treasury and supervision of budget, and reporting and consolidation of subdivisions.

Mr Khardikov joined the Company's subsidiary EuroSibEnergo in November 2010 as Investor Relations Director, and then served as Corporate Finance Director from December 2012 until June 2014. In July 2014, he was appointed as Chief Financial Officer of EuroSibEnergo, and in November 2018 he was appointed as Chief Executive Officer of EuroSibEnergo.

Prior to joining EuroSibEnergo, Mr Khardikov served in senior positions at JSC Bashkirenergo, JSC OGK-3, JSC HC Metalloinvest and LLC COALCO.

Mikhail Khardikov, PhD, graduated in Management from Tomsk State University in 2003, then, in 2007, completed a career broadening programme in Strategic Management at the Russian Presidential Academy of National Economy and Public Administration under the Government of the Russian Federation. In 2009, he completed the Economy and State Regulation of Economy programme.

Vyacheslav Solomin

Chief Operating Officer

Year of birth: 1975

Vyacheslav Solomin was appointed as Chief Operations Officer in 2018. He focuses on day-to-day operations and project management, implementation of management best practices, and digital strategy as well as strengthening the Group's environmental practices.

Mr Solomin joined the Group in 2007 as Chief Financial Officer of EuroSibEnergo, where he was appointed as Deputy CEO in 2010. In May 2014 he was appointed as CEO of EuroSibEnergo.

Before joining EuroSibEnergo, he held senior positions with the financial departments of INTER RAO UES Power Generating Company and SIBUR Holding. He also worked for PricewaterhouseCoopers for nine years.

Vyacheslav Solomin graduated from Far Eastern State University, Vladivostok and the University of Maryland University College (USA).

Natalia Albrekht

Chief People Officer

Year of birth: 1972

Natalia Albrekht was appointed as En+ Group's Chief People Officer in October 2019. Ms Albrekht graduated from Bauman Moscow State Technical University, majoring in Applied Mechanics.

In 2002, Ms Albrekht served as Director of the Subscription Services Department at OJSC NTV Plus, later Deputy Director General for Sales and Development of the Federal Sales Center CJSC (part of IES Holding), and General Director of Integrated Settlement Center LLC.

Moving to the STS Media holding, in 2009, she was appointed as Deputy General Director for Organisational Development, Human Resources and Administrative Issues.

Since 2012, she has held the position of Vice President of OJSC Rostelecom. In 2013, she headed the HR department of PJSC VTB Bank as a Senior Vice President. For the past six years, she has been Executive Vice President for Organisational Development and Human Resources at OJSC VimpelCom.

Natalia Albrekht has an international CIPD certification in HR management.

Vera Kurochkina

Deputy CEO for Public Relations

Year of birth: 1970

Vera Kurochkina was appointed as Deputy CEO for Public Relations of En+ Group in 2018, prior to which she served as PR Director of UC RUSAL. Ms Kurochkina is responsible for developing and implementing En+ Group's communications strategy, supporting the company's key projects through the media, charity and social programmes, internal communications, and establishing cooperation with industrial and non-commercial associations.

Between 2003 and 2006, Ms Kurochkina was head of UC RUSAL's media relations department. From 2000 to 2001, she managed a group of projects at Mikhailov & Partners, a strategic communications agency. Prior to this, in 1998 – 2000, she was a marketing and communications manager at PricewaterhouseCoopers.

Vera Kurochkina graduated from the Peoples' Friendship University of Russia with honours, and from the Finance Academy under the Government of the Russian Federation.

Egor Ivanov

Head of Control and Internal Audit

Year of birth: 1977

Egor Ivanov has been Head of Control and Internal Audit at En+ Group since December 2017. He is responsible for the implementation, structuring and improvement of the Internal Control system, supporting the risk management system of the Company, and implementation and maintenance of internal control over the purchasing activities of the Company.

From 2012 to 2017, he served as Head of Control, Internal Audit and Business Coordination at UC RUSAL. Previously he headed the Directorate for Control, Internal Audit and Business Coordination, led UC RUSAL's planning and budgeting department, and served as the Company's First Deputy CFO.

Prior to joining UC RUSAL, Mr Ivanov worked at ITERA Group, one of the largest independent manufacturers and suppliers of natural gas in the CIS and Baltic countries.

Egor Ivanov graduated with a degree in accounting, analysis and business auditing from the Financial Academy of the Russian Government.

Igor Galanin

Human Resources Director

Year of birth: 1976

Igor Galanin was appointed as En+ Group's Human Resources Director in March 2019. He is responsible for the Group's HR management strategy, the implementation of staff engagement policies and the management of recruitment programmes.

From 2015 until 2019, Mr Galanin served as Human Resources Director at JSC Irkutskenergo, a subsidiary of En+ Group.

Since 1999, Mr Galanin has had extensive experience in Human Resource management, in a range of industries – for example, from 2001 to 2010, he worked in the automotive sector.

Igor Galanin graduated with a degree in Engineering from the Nizhny Novgorod State University of Architecture and Civil Engineering in 1998. He also received a degree in economics from Lobachevsky State University, Nizhny Novgorod, in 2000. He obtained his MBA degree (Personnel Management) from Nizhny Novgorod State Technical University in 2005.

Alexander Danilov

General Counsel

Year of birth: 1972

Alexander Danilov was appointed as Acting General Counsel of the Company in March 2019. He is responsible for legal support to the Company's business/projects, legal proceedings and general supervision of legal functions at En+ Group's businesses.

Before joining the Company, Mr Danilov held various legal positions at LUKOIL Overseas Group. Prior to his experience with LUKOIL, he was a Partner at Akin Gump Strauss Hauer & Feld LLP from December 2006.

Alexander Danilov graduated cum laude from the international law faculty of the Moscow State Institute of International Relations in 1995, and received his LL.M. from the University of Michigan Law School in 2000, along with an MBA degree from the University of Chicago Booth School of Business in 2016.

Yulia Chekunaeva

Director for Capital Markets and Strategic Initiatives

Year of birth: 1982

Yulia Chekunaeva is the Director for Capital Markets and Strategic Initiatives. She is responsible for capital markets, investor relations, non-financial reporting, international strategic partnerships and stakeholder management.

Ms Chekunaeva joined the Company in September 2016. She successfully led the execution team of EN+'s IPO on the London Stock Exchange in November 2017.

Before joining the Group, Ms Chekunaeva was Executive Director at Goldman Sachs Global Investment Research. Prior to GS, between 2002 and 2010, she was employed at Sberbank of Russia in various positions, the latest of which being Head of Metals and Mining Corporate Lending in Sberbank CIB, dealing with their Largest Corporate Clients department.

She holds an MSc from Warwick Business School (the University of Warwick) in Economics and Finance. She completed her undergraduate studies at the International College of Economics and Finance, which allowed her to graduate with two degrees: a BSc in Economics with honours from the State University – Higher School of Economics, and a BSc in Banking and Finance from the London School of Economics and Political Sciences.

Andrey Lymarev

Chief Technical Officer

Year of birth: 1972

Andrey Lymarev was appointed as Chief Technical Officer of En+ Group's EuroSibEnergo in January 2017. He is in charge of the development of a medium and long-term technical strategy for the Company, manages the maintenance of the Company's energy assets and oversees the accident rate reduction strategy.

Before joining EuroSibEnergo, Mr Lymarev was Deputy Chief Engineer for Repairs and then Deputy Chief Engineer for Maintenance at INTER RAO Electricity Generation Management from 2015 to 2016.

From 1992 to 2015, he worked his way up from a turbine inspection operator to Chief Technical Officer (in 2004) at the Siberian Energy Company.

He was awarded the Gratitude of the Ministry of Energy of the Russian Federation in 2008 and an Honorary Diploma from the Ministry of Energy of the Russian Federation in 2012.

Georgy Borisov

Chief Compliance Officer

Year of Birth: 1971

Georgy Borisov joined the Company in September 2019. He oversees compliance with Group policies, standards and procedures, provides guidance to En+ Group businesses and drives compliance with regulatory obligations.

Mr Borisov is a transactional lawyer with twenty five years of post-qualification experience in Russia and in the UK, holding Russian and US law degrees. For many years prior to joining En+ Group he practiced law as an associate and later as a partner at various international law firms including Baker Botts, Latham Watkins and K&L Gates.

Georgy Borisov graduated from the international law faculty of the Moscow State Institute of International Relations in 1995, and received his LL.M. degree in 1996 from The John Marshall Law School in Chicago, Illinois, USA.

David Pogosbekov

Commercial Director

Year of birth: 1981

David Pogosbekov was appointed as Commercial Director of En+ Group in 2018. Mr Pogosbekov's responsibilities include price optimisation in procurement by streamlining and consolidating purchases across the Company, the development of a unified procurement policy, and the development of uniform engagement standards for suppliers and contractors.

He joined En+ Group in 2008 as a tax manager of the Company's hydropower segment, EuroSibEnergo, where he was appointed as Commercial Director in 2011. He subsequently became the CEO of EuroSibEnergo Trading House in 2015.

In 2003, David Pogosbekov graduated from the Finance Academy under the Government of the Russian Federation with a degree in Finance and Credit. He started his career in tax consulting with both Russian and international consultancies including Deloitte.

Biographies of the management team members who served through 2019 and have resigned as at the date of this Report

Evgeny Tikhonov

Business Development Director (resigned on 30 September 2019)

Year of birth: 1972

Evgeny Tikhonov was appointed as Development Director of En+ Group's EuroSibEnergo in 2011. He was responsible for the company's strategy and new projects (acquisition of assets, construction of power plants, exploration of new business opportunities, etc.).

Mr Tikhonov joined EuroSibEnergo in May 2011. Prior to that, he worked for seven years as Director of the Energy Projects Department at TNK-BP, where he developed the company's energy strategy. Previously, he was a project manager and leading consultant for CARANA Corp., an international consulting company.

Evgeny Tikhonov graduated from the Belarusian State University with a PhD in Economics. He is a Certified Financial Manager (CFM).

Roman Kashcheyev

Chief Compliance Officer (resigned on 11 October 2019)

Year of birth: 1977

Roman Kashcheyev was appointed as Chief Compliance Officer of the Group in January 2019. He oversaw compliance with Group policies, standards and procedures, provided guidance to En+ Group businesses and drived compliance with regulatory obligations.

Mr Kashcheyev joined En+ Group in November 2017 as Head of International Corporate Governance, and was responsible for the implementation of best corporate practices and standards following the Company's IPO.

Prior to joining En+ Group, he had worked at UC RUSAL since 2005. Mr Kashcheyev was a member of the Supervisory Board of RUSAL Global Management B.V. between 2009 and 2017. In 2016, he was appointed as Global Compliance Officer of UC RUSAL.

From 2001 to 2005, Mr Kashcheyev worked as a project manager and business consultant at different consulting companies, including IBM Business Consulting Services.

Roman Kashcheyev holds a master's degree in Economics from Lomonosov Moscow State University. He also holds the ICA Diploma in Governance, Risk and Compliance.

Valery Freis

Deputy Chief Executive Officer and Head of Resource Protection (resigned on 20 January 2020)

Year of birth: 1954

Valery Freis was appointed as Deputy Chief Executive Officer and Head of Resource Protection at En+ Group in 2015. He was responsible for setting up the security methodology of the Company and oversaw the organisation and implementation of the security system of the Company.

Prior to joining En+ Group, Mr Freis was Head of Resource Protection at RUSAL Global Management from 2008. Prior to that he served as Deputy CEO for Security of JSC Irkutskenergo. Previously, he served in the financial police of Russia's Ministry of Internal Affairs.

Valery Freis graduated from the Kuibyshev Planning Institute in 1979.

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 2019, neither the CEO nor members of the management team concluded any transactions with the shares of the Company.

Corporate Secretary

Pursuant to the Regulations on the Corporate Secretary approved by the Board on 13 December 2019, 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:
+ participation 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
+ liaisons between the Company and its shareholders, and preventing corporate conflicts
+ improving the corporate governance system and practices of the Company.

Sergey Makarchuk (year of birth: 1982) was appointed as Secretary of the Board on 10 April 2019 and Corporate Secretary of En+ on 14 November 2019.

After working at various law firms, Sergey Makarchuk worked for RUSAL Group in 2007–2010 at the Corporate Governance Department of RUSAL Global Management B.V., responsible for legal corporate procedures, as well as compliance of the Group's foreign entities, the RUSAL Board, and Board Committees support. He was also involved in the Hong Kong SE & NYSE Euronext IPO of RUSAL, and served as Secretary to the Disclosure Committee of RUSAL, established in accordance with HK Listing Rules compliance requirements.

In 2011–2014, after his experience with RUSAL, Mr Makarchuk was Deputy Director of the Corporate Governance Department at JSC TNK-BP Management, and was in charge of support of the TNK-BP Office of the Board Secretary and other departments on legal corporate matters, registration procedures, approvals, compliance, document flow, the development of corporate governance system methodology, and coordinating shareholders representatives relations.

After the acquisition of TNK-BP by Rosneft, Mr Makarchuk continued working at Rosneft as Deputy Head of the Foreign Assets Department/Project Director of the Corporate Governance Department, with a similar remit.

Sergey Makarchuk graduated from the law faculty of Lomonosov Moscow State University in 2004, where he also obtained a special certificate in legal English translation.

Conflicts of interest and loans issued to members of the Board and the CEO

In 2019 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 2019 and up to the date of this Report, no loans have been issued by the Company (or any Group company) to members of the Board or the CEO.

Information for shareholders and investors

Ordinary shares

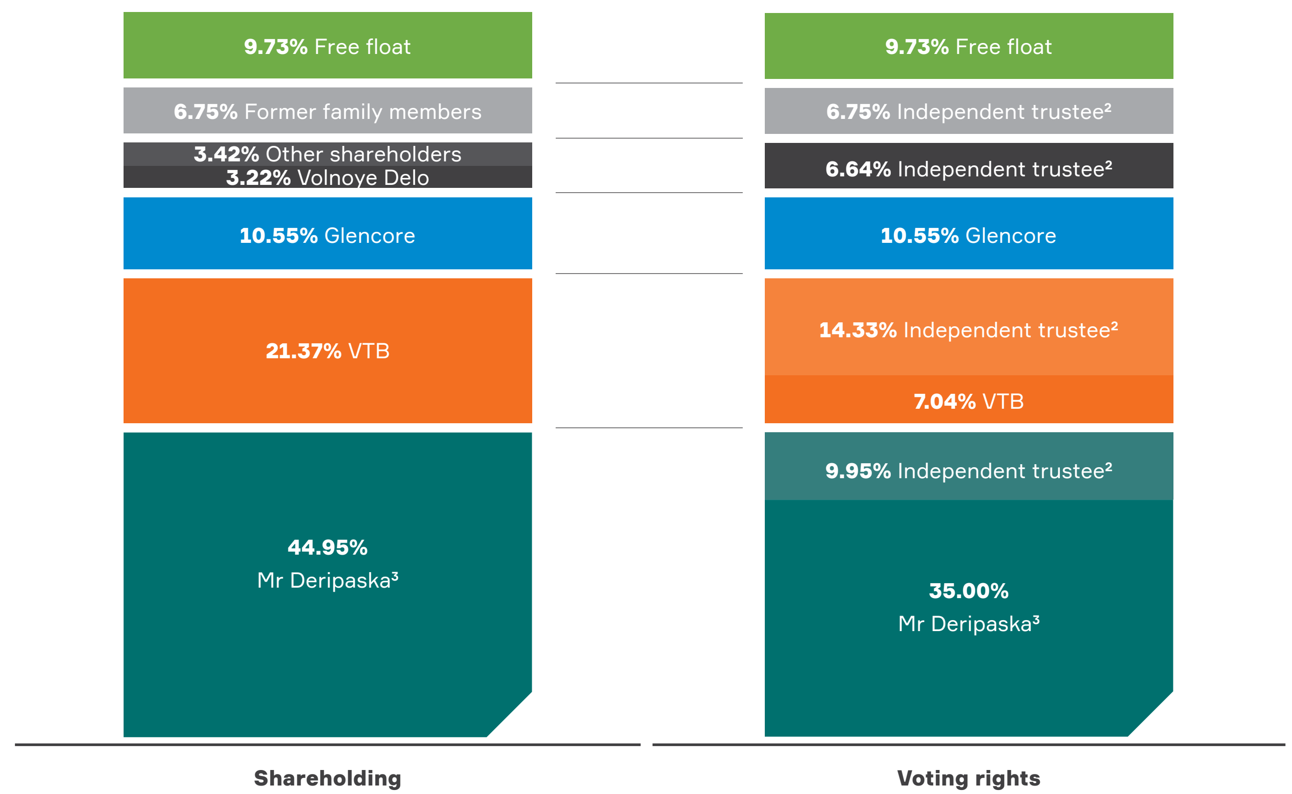
As at 31 December 2019, the share capital of En+ Group was divided into 638,848,896 ordinary shares with the par value of USD 0.00007 each.

Following the completion of the Lord Barker Plan, 67,420,324 new shares in the form of Global Depositary Receipts (GDRs) were issued to a subsidiary of Glencore International AG, representing approximately 10.55% of the enlarged share capital of the Company (638,848,896 shares), in exchange for the transfer to the Company by Amokenga Holdings Limited of its 8.75% holding in RUSAL in two stages. The first stage was settled on 31 January 2019, and 1.97% of RUSAL`s shares were transferred to the Company following the removal of the Company and UC RUSAL from the SDN list. The second stage was settled on 3 February 2020, and the remaining 6.78% of RUSAL`s shares were transferred to the Company.

On 18 February 2020, En+ Group's ordinary shares started to be traded on the Moscow Exchange under the trading ticker ENPG. The Moscow Exchange included ordinary shares of the Company in its Level One Quotation List. This listing will create a diversified platform for investors in equity securities of the Company, and increase the accessibility of the Company to capital markets. The Company's GDRs are listed on the London Stock Exchange. Investors are given optionality: they may trade their preferred form of the Company's securities on their preferred stock exchange.

Listing on the Moscow Exchange enables the Company to attract new shareholders and increase trading liquidity.

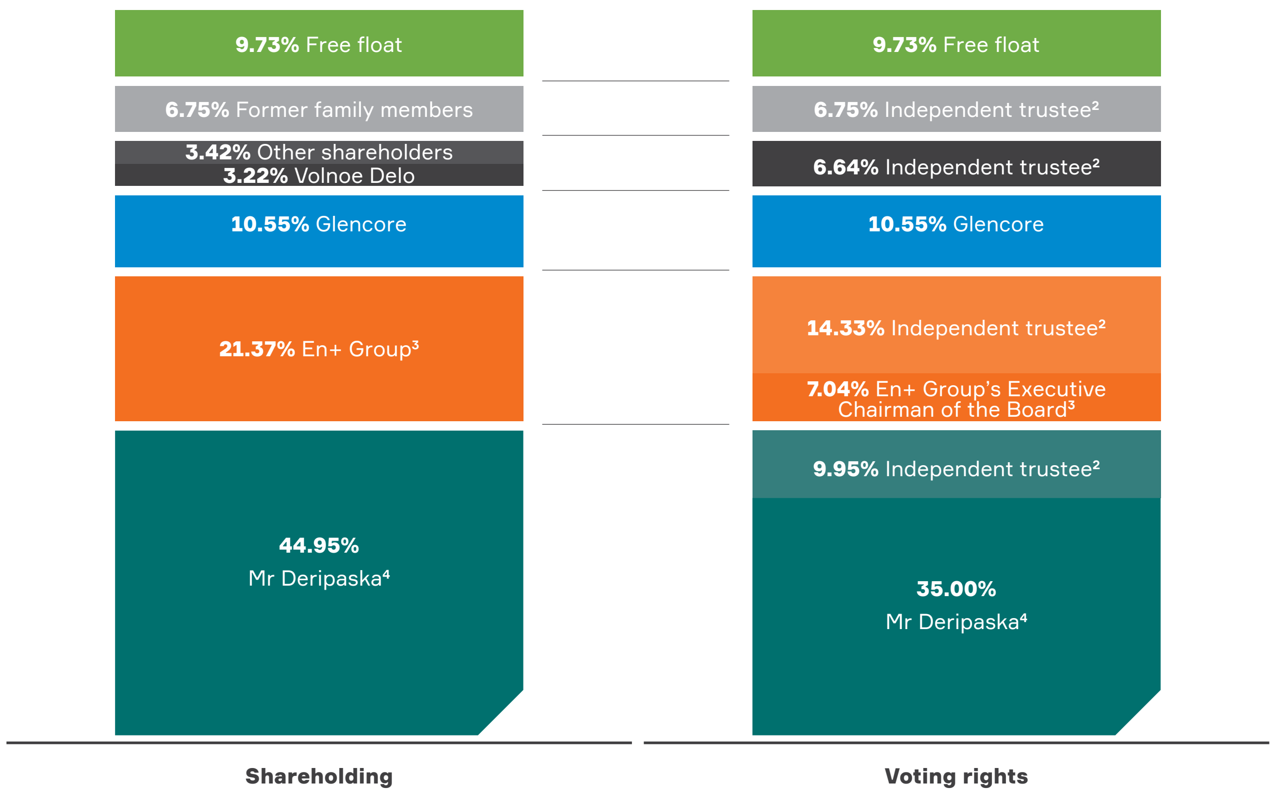
En+ Group's voting and shareholder structure as at 31 December 2019[1]



[1] Note: percentages may not add up to 100% due to rounding.
[2] Independent trustees, who exercise voting rights attaching to certain shares of the Company (37.68% in total), as required by OFAC: D.J Baker, David Crane, Arthur Dodge, Ogier Global Nominee (Jersey) Limited.
[3] 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%.

On 12 February 2020, the Group purchased 136,511,122 shares from VTB. As a result of this purchase, the Group's revised voting and shareholder structure is set out in the chart below:

En+ Groups voting and shareholder structure as at 31 March 2020[1]



The Company's management is not aware of any holdings in excess of 5% of the Company's share capital save for those disclosed by the Company immediately above.

Global Depositary Receipts

En+ Group's ordinary shares, in the form of GDRs, are listed on the London Stock Exchange (ticker: ENPL). One GDR represents one share.

Until 17 April 2020 inclusive, En+ Group's GDRs were listed on the Moscow Exchange (ticker: ENPL), and were included in the Level One Quotation List. The GDRs were subsequently delisted from the Moscow Exchange on 20 April 2020. During the two-month transition period prior to this date, when the two equity instruments (GDRs and ordinary shares) continued to be traded on the Moscow Exchange, the Company agreed with the depositary, Citibank N.A., to waive issuance and cancellation fees in the interest of its investors.

[1] Note: percentages may not add up to 100% due to rounding.
[2] Independent trustees, who exercise voting rights attaching to certain shares of the Company (37.68% in total), as required by OFAC: D.J Baker, David Crane, Arthur Dodge, Ogier Global Nominee (Jersey) Limited.
[3] Shares acquired from VTB by En+ Group's subsidiary as per the 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 Executive Chairman of the Board, Lord Barker, 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.

The contact details of Citibank N.A. are:

Citibank, N.A.

Tel: +1 (212) 723 5435

E-mail: CitiADR@Citi.com

Website: https://citiadr.factsetdigitalsolutions.com/www/drfront_page.idms

Registrar

Following En+ Group's continuance into the Russian Federation on 9 July 2019, the Company maintains its shareholders' register in Russia. The Company has appointed Joint Stock Company Interregional Registration Center (the "IRC") as its registrar. The shareholding records contained in the register maintained by Intertrust Corporate Services (Jersey) Limited were reflected in the Russian register as at the Continuance Date.

Contact details of IRC are:

JSC Interregional Registration Center ("IRC")

Tel: +7 (495) 234 4470

E-mail: info@mrz.ru

Website: www.mrz.ru

En+ Group's international securities identification numbers

For more information see p. 22

London Stock Exchange

London Stock Exchange

	Rule 144A GDR	Regulation S GDR
Ticker	ENPL	ENPL
ISIN[1]	US29355E1091	US29355E2081
Common Code[2]	171560667	170465199
CUSIP[3]	29355E109	29355E208

Moscow Exchange

MOSCOW EXCHANGE

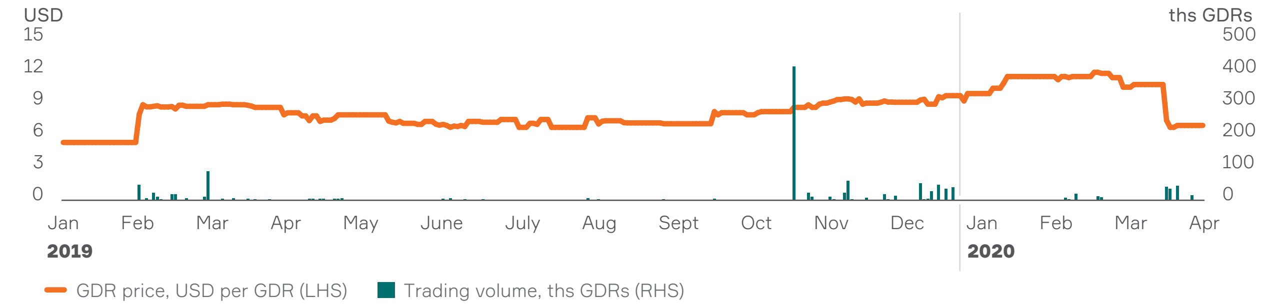
	Regulation S GDR (until 17 April 2020 inclusive)	Ordinary shares
Ticker	ENPL	ENPG
ISIN	US29355E2081	RU000A100K72

Instrument	Trading platform	Bloomberg code
GDRs	London Stock Exchange	ENPL LI
GDRs	Moscow Exchange (until 17 April 2020 inclusive)	ENPL RM
Ordinary shares	Moscow Exchange (since 18 February 2020)	ENPG RM

[1] ISIN (International Securities Identification Number) – international identification number of the share.
[2] Common Code – a nine-digit identification code issued jointly by CEDEL and Euroclear.
[3] CUSIP (Committee on Uniform Security Identification Procedures) – identification number is given to the issue of shares for the purposes of facilitating clearing.

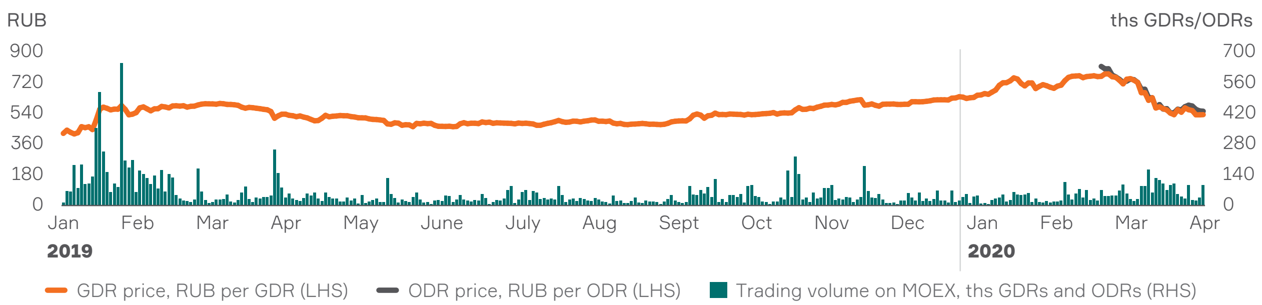
En+ Group share performance and trading volumes

London Stock Exchange



The price of En+ Group's GDRs on the LSE increased from USD 5.4 as at 2 January 2019 to USD 10.0 as at 31 December 2019. En+ Group's market capitalisation increased from USD 3.1 billion at the beginning of the year to USD 6.4 billion on 31 December 2019. The average daily trading volume during that period was 4,366 GDRs.

Moscow Exchange



The En+ Group's GDR price on the Moscow Exchange increased from RUB 421 as at 3 January 2019 to RUB 645 as at 30 December 2019. En+ Group's market capitalisation increased from RUB 240.6 billion at the beginning of the year to RUB 412.1 billion on 30 December 2019. The average daily trading volume during the year was 52,009 GDRs.

Share repurchases

During the reporting period, the Company did not, either itself or through a person acting in their 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 their own name but on the Company's behalf, hold any shares in treasury. However, since the reporting period the Company has undertaken the transaction discussed in more detail in the section of this Annual Report entitled "Acquisition of VTB's Stake".

Analyst coverage

Nine banks are currently covering En+ GDRs, forecasting a positive outlook for the Company, with five investment banks issuing a 'BUY' recommendation:
+ Sberbank CIB
+ Credit Suisse
+ Societe Generale
+ J.P. Morgan
+ Aton
+ UBS
+ Gazprombank
+ Bank of America Merrill Lynch
+ Citi

En+ Group's IR team interfaces with remaining brokers in order to extend analyst coverage, while monitoring and regularly communicating analyst consensus to the Company's Board of Directors and top management.

Credit ratings

En+ Group credit rating:

+ As at 31 December 2019, the Group had the Fitch rating 'BB-', Outlook Stable. On 12 February 2020, following the deal between the Company and VTB Group on the acquisition of 21.37% of En+ Group shares, Fitch downgraded En+ Group to 'B+', Outlook Stable

Currently, the Group is working on resuming coverage from other international rating agencies.

RUSAL credit ratings:

+ Fitch: 'B+', Outlook Stable
+ Moody's: 'Ba3', Outlook Stable
+ CCXR (Chinese rating agency): 'AAA', Outlook Stable, assigned due to Panda Bonds issued in Mainland China

Acquisition of VTB's stake

On 12 February 2020, the Company simplified its ownership structure through the USD 1.58 billion acquisition of VTB Group's 21.37% stake in En+ Group.

En+ Group acquired 136,511,122 shares from VTB Group for cash at a price of USD 11.57 per share, a significant discount to En+ Group's fundamental valuation. The removal of the VTB Group's overhang causes no disruption to arrangements made under the Barker Plan. The acquisition was financed by a RUB 100.8 billion loan from Sberbank.

The deal provides future optionality to further simplify the Group's ownership structure. All or part of the shares acquired may be used:
+ in connection with strategic activity; and/or
+ to undertake a secondary offering to increase free float, broaden institutional ownership and improve liquidity, subject to market conditions

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[1] (as long as the Company is a RUSAL shareholder), and
+ seventy-five per cent (75%) of Free Cash Flow of the En+ Power Segment, but in any event at least USD 250 million per year.

The Regulations on Dividend Policy is available on the Company's website.

Dividend payments

During 2019, the Company did not approve any dividend distributions. The Company anticipates that dividend payments shall 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 Market Abuse Regulations 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. En+ does not have a formal diversity policy in place, as the Corporate Governance and Nominations Committee is mindful of diversity when considering potential candidates for appointment to 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

[1] 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.

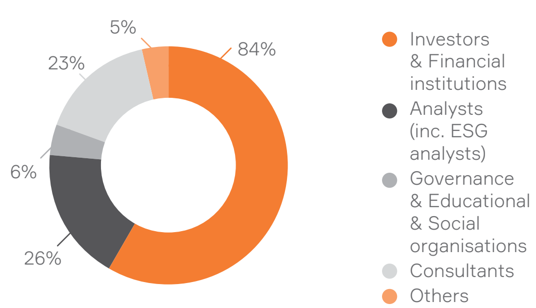
ESG communication with the investment community

In 2019, the Company set an ambitious goal to lead the process of building a low-carbon future. To achieve this goal, among other measures, En+ organised the following set of ESG events to actively communicate its view to stakeholders and ESG investors

+ A Climate Week ESG breakfast in New York entitled "Climate Emergency: Will Investors Step Up?" (25 September 2019), aimed to encourage dialogue on the necessity for investors and the private sector to come forward and take a stand against climate change

+ ESG events on the main Company's trading floors at the Moscow Exchange and the London Stock Exchange (15 and 28 November 2019) aimed to educate investors on En+'s commitment to ESG

Participants mix



In line with the Company's integrated approach, the New York ESG breakfast was organised during the UN Climate Week to discuss the pivotal role of private finance and institutional investors in fighting climate change. To give a 360 degree view on the issues raised, the Company invited diverse speakers to participate in the panel discussion, and used pooling questions as an effective interactive instrument to promote an online dialogue with attendees, and understand the views of the audience. The discussions between participants demonstrated a high level of awareness of ESG issues among both the private sector and government stakeholders.

During the Moscow and London events, the Group elaborated on its commitment to ESG as part of its drive to address the climate crisis and achieve a global, low carbon economy through engagement with policy and industry initiatives, as well as by integrating decarbonisation into the core of the Company's business model.

In total, all three events pulled in over 120 participants. The ESG breakfast in New York attracted a particularly diverse audience: in addition to investors and financial institutions, the event was attended by analysts, consultants, and representatives of educational, governance and social organisations.

During the ESG breakfast in New York, attendees took a deep dive into the trends driving interest in ESG issues, with a special focus placed on climate change. Panellists discussed how the transition to a low-carbon economy is transforming financial services markets, and how investment professionals should respond to both the risks and opportunities this presents.

The Moscow and London events were of the greatest interest to investors and analysts, and being focused entirely on the Company's ESG performance, were the first events of their kind for the Company. Participants gave exceptionally positive feedback, noting the comprehensive disclosure of the Company's equity story, along with a great audience and quality of materials. In particular, it was pointed out that the Company's event at the Moscow Exchange attracted the larger number of guests than similar events of other issuers in 2019, and the exceptional level of teamwork between the Board and management was highlighted. Attendees acknowledged that the Group had set a new benchmark in Russia for best practice governance, with two-thirds of the Directors independent, and one-third of them women.

Remuneration disclosure report

In recent years, the Company notably went through:

+ The largest Russian IPO in 2017 globally since 2012, and the first IPO by a Russian Company on the London Stock Exchange since 2014
+ Imposition of the threat of US sanctions on the Group on 6 April 2018; development and implementation of "the Barker Plan" which established world class corporate governance for EN+, and, thereafter, lifting of the sanctions threat on 27 January 2019

As the Company returned to its path of growth and development in 2019, we established a Remuneration Committee to ensure that the remuneration policy would be directly linked to achievement of our strategic goals and operational excellence.

In 2019, Heidrick & Struggles were commissioned to analyse, assess and compare the Company's management evaluation system with those of comparable international and Russian public manufacturing companies. Their research concluded that the Company's short-term incentive plan (STIP) was a working solution and compliant with Russian standards. En+ Group's STIP was deemed to be on a fair basis and, based on monthly assessment, focused on results.

Objectives of the Employee remuneration policy

Our remuneration policy is based on the principle of creating;

> "...a remuneration structure that would enable the Company to attract, remunerate and retain qualified specialists that will, in their turn, enable the Company to achieve its strategic objectives; provide for a balance between achievement of short-term results of the operating activities and the long-term objectives of the Company; and create value for its shareholders, given the risks that may impact the variable component of remunerations."

Structure of remuneration

Our remuneration structure ensures sustainable growth and development while bringing value to shareholders.

Total compensation consists of three parts:

+ **Base salary**

  Base salary is stipulated by the agreements concluded with each Management team member. Each base salary reflects the level of competence and responsibility of the respective manager, his/her professional experience, etc.

  The base salary levels are determined on the basis of a comparison with the base salaries in other comparable Russian and foreign industry peers, as well as subject to the sphere of responsibility and achievements of a given Management team member.

+ **Annual bonus payable upon each year end, subject to individual KPI achievements and the Company's financial result for the relevant year**

  KPIs are set at the beginning of each financial (calendar) year. Targets can be either (i) quantitative (financial/operational), or (ii) qualitative (project and other strategic goals).

Examples of current components of the KPI charts of the management:

Target name	Target scope
Financial performance	Adjusted EBITDA
	Free Cash Flow
HSE and sustainability	Lost Time Injury Frequency Rate (LTIFR)
	Ensuring the absence of environmental incidents (accidents, violations)
Strategy	Achievement of strategic goals and successful realisation of development projects
Other projects	In accordance with the Director's area of responsibility

+ **Additional compensations and benefits**

The current Bonus Policy stipulates an optional bonus payment for implementation of tasks that are beyond the scope of the main KPIs for the relevant year, but are important for the Company.

The remuneration policy also includes fixed fees for participation in working committees in addition to other payments. During 2019, the fee value for participation has been changed due to re-registration in Russian jurisdiction in Kaliningrad on 9 July 2019.

Remuneration for other risk-taking employees

Top managers of En+ Group subsidiaries are considered as risk-taking employees. Application of the remuneration policy for these employees is aligned with the Board of Directors' principles and structure.

Employee compensation and benefits

The Company ensures a competitive total compensation portfolio for its employees, providing them with meal expenses reimbursement, medical insurance for every employee, alongside with a market wage rate in order to attract and retain qualified specialists.

Remuneration of Board members

On 3 October 2019, the Board considered and approved the general levels of compensation for Board members.

All members of the Board except for the Chairman, whose compensation is approved separately, are entitled to receive remuneration in the amount of EUR 215 thousand (c. USD 241 thousand)[1] gross per annum, paid monthly.

All members of the Board, except for the Chairman, are entitled to receive additional remuneration for serving on a committee or other structural units of the Board:

+ EUR 26 thousand (c. USD 29 thousand)[1] gross per annum for chairing a committee or other structural unit of the Board
+ EUR 18 thousand (c. USD 20 thousand)[1] 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 2019 accounted for USD 10.2 million excluding social insurance.

In addition, in 2019, the Company paid a total of USD 0.7 million as reimbursement of expenses incurred by Board members in connection with the performance of their functions.

General levels of compensation of Board of Directors members

	Before 9 July	After 9 July
	USD thousand per year per participation	USD thousand per year per participation
Board of Directors member	168	241
Chairman of the Committee	20	29
Committee member	14	20

[1] Calculated based on EUR/USD exchange rate of 1.12 as at 31 December 2019.

Total annual remuneration of the members of the Board of Directors in 2019

	Year ended 31 December 2019		
	Directors' fee USD million	Discretionary bonuses USD million	Total USD million
	(% of total compensation)	(% of total compensation)	
Executive Chairman	1.9	5.9	7.8
	24%	76%	
Non-executive directors	**0.7**	**-**	**0.7**
	100%	-	
Independent Non-executive Directors	**1.7**	**-**	**1.7**
	100%	-	
Total	4.3	5.9	10.2
	42%	58%	

FINANCIAL STATEMENTS

EN+ GROUP IS CONSTANTLY ENHANCING DISCLOSURE PROCEDURES TO ALIGN TO BEST CORPORATE STANDARDS

Consolidated Financial Statements

for the year ended 31 December 2019

CONTENTS

Statement of Management's Responsibilities for the Preparation and Approval of the Consolidated Financial Statements for the year ended 31 December 2019

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 4-9, 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 2019 in accordance with International Financial Reporting Standards ("IFRS").

In preparing the consolidated financial statements, management is responsible for:

- selecting suitable accounting principles and applying them consistently;
- making judgements and estimates that are reasonable and prudent;
- stating whether International Financial Reporting Standards have been followed, subject to any material departures disclosed and explained in the 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 26 March 2020 and were signed on its behalf by:

General Director of
EN+ GROUP IPJSC

Vladimir Kiriukhin

Independent Auditors' Report

To the Shareholders of EN+ GROUP IPJSC (formerly EN+ GROUP PLC)

Opinion

We have audited the consolidated financial statements of EN+ GROUP IPJSC (formerly EN+ GROUP PLC) (the "Company") and its subsidiaries (the "Group"), which comprise the consolidated statement of financial position as at 31 December 2019, the consolidated statements of profit or loss and other comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 December 2019, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS).

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the independence requirements that are relevant to our audit of the consolidated financial statements in the Russian Federation and with the International Code of Ethics for Professional Accountants (including International Independence Standards), and we have fulfilled our other ethical responsibilities in accordance with the requirements in the Russian Federation and the International Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Audited entity: EN+ GROUP IPJSC

Registration No. in the Unified State Register of Legal Entities 1193926010398

Oktyabrskaya st. 8, office 34, Kaliningrad, Kaliningrad Region, 236006, Russian Federation.

Independent auditor: JSC "KPMG", a company incorporated under the Laws of the Russian Federation, a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

Registration No. in the Unified State Register of Legal Entities 1027700125628.

Member of the Self-regulatory Organization of Auditors Association "Sodruzhestvo" (SRO AAS). The Principal Registration Number of the Entry in the Register of Auditors and Audit Organisations: No. 12006020351.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Valuation of property, plant and equipment

Please refer to the Note 11 in the consolidated financial statements.

The key audit matter	How the matter was addressed in our audit
The Group has significant property, plant and equipment balance which is material to the consolidated financial statements as at 31 December 2019. Current global market conditions, including fluctuations in LME aluminium prices, coal prices, market premiums and alumina purchase prices, uncertainty regarding volumes and tariffs for electricity transmission, may indicate that some property, plant and equipment items may be subject to either impairment loss or reversal of previously recognised impairment loss. This is in particular related to such cash generating units (CGUs) as aluminium and alumina plants, bauxite mines, coal mines and Irkutsk GridCo. As at the reporting date management performs valuation of the recoverable amount of the Group's assets and cash generating units as their value in use. Due to the inherent uncertainty involved in forecasting and discounting future cash flows, which are the basis of the assessment of recoverability, this is one of the key judgmental areas that our audit is concentrated on.	For aluminium, alumina, bauxite, coal and Irkutsk GridCo CGUs we evaluated the reasonableness of the expected cash flow forecasts by comparing them with the latest budgets approved by the Board of Directors, externally derived data as well as our own assessments in relation to key inputs such as production levels, forecasted aluminium sales prices, forecasted coal sales prices, forecasted volumes and tariffs of electricity transmission, forecasted alumina purchase prices, costs inflation, foreign currency exchange rates, discount rates and terminal growth rates. We also considered the historic accuracy of management's forecasts by comparing prior year forecasts to actual results. We used our own valuation specialists to assist us in evaluating the assumptions and methodology used by the Group. In particular, we challenged: - aluminium and alumina smelters and bauxite mines costs projections by comparing them with historical results and industry peers; - coal prices and tariffs for electricity transmission by comparing them with historical data, economic and industry forecasts; - volumes of electricity transmission by comparing them with historical volumes and potential Taishet aluminium smelter demand; - the key assumptions for long term revenue growth rates in the forecasts by comparing them with historical results, economic and industry forecasts; and

EN+ GROUP IPJSC
Independent Auditors' Report
Page 3

	- the discount rates used. Specifically, we recalculated the Group's weighted average cost of capital using market comparable information. We also performed sensitivity analysis on the discounted cash flow forecasts and assessed whether the Group's disclosures about the sensitivity of the outcome of the impairment assessment to changes in key assumptions, including forecasted aluminium, alumina, coal prices and transmission tariffs, coal sales and electricity transmission volumes, terminal growth and discount rates, reflected the risks inherent in the valuation of property, plant and equipment.

Other Information

Management is responsible for the other information. The other information comprises the information included in the Group's Annual Report but does not include the consolidated financial statements and our auditors' report thereon. The Annual Report is expected to be made available to us after the date of this auditors' 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 Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

EN+ GROUP IPJSC
Independent Auditors' Report
Page 4

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

— Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all

EN+ GROUP IPJSC
Independent Auditors' Report
Page 5

relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is:

Yerkozha Akylbek

JSC "KPMG"

Moscow, Russia

26 March 2020

		Year ended 31 December	
		2019	**2018**
	Note	**USD million**	**USD million**
Revenues	5	11,752	12,378
Cost of sales		(8,873)	(8,209)
Gross profit		**2,879**	**4,169**
Distribution expenses		(632)	(629)
General and administrative expenses		(839)	(880)
Impairment of non-current assets		(321)	(244)
Net other operating expenses	6	(111)	(136)
Results from operating activities		**976**	**2,280**
Share of profits of associates and joint ventures	13	1,669	948
Finance income	8	83	216
Finance costs	8	(1,148)	(1,176)
Profit before taxation		**1,580**	**2,268**
Income tax expense	10	(276)	(406)
Profit for the year		**1,304**	**1,862**
Attributable to:			
Shareholders of the Parent Company		860	967
Non-controlling interests	16(f)	444	895
Profit for the year		**1,304**	**1,862**
Earnings per share			
Basic and diluted earnings per share (USD)	9	**1.356**	**1.692**

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 161 to 245.

	Note	Year ended 31 December 2019 USD million	2018 USD million
Profit for the year		1,304	1,862
Other comprehensive income			
Items that will never be reclassified subsequently to profit or loss:			
Actuarial (loss)/gain on post-retirement benefit plans	18(b)	(17)	10
Revaluation of non-current assets	11(e)	-	301
Taxation	10(c)	-	(60)
		(17)	251
Items that are or may be reclassified subsequently to profit or loss:			
Foreign currency translation differences on foreign operations		202	(222)
Foreign currency translation differences for equity-accounted investees	13	450	(811)
Disposal of subsidiary		4	-
Share of other comprehensive income of associates	13	-	10
Change in fair value of cash flow hedge	19	34	-
Change in fair value of financial assets		(2)	(2)
		688	(1,025)
Other comprehensive income for the year, net of tax		671	(774)
Total comprehensive income for the year		**1,975**	**1,088**
Attributable to:			
Shareholders of the Parent Company		1,236	741
Non-controlling interests	16(f)	739	347
Total comprehensive income for the year		**1,975**	**1,088**

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 161 to 245.

	Note	31 December 2019 USD million	2018 USD million
ASSETS			
Non-current assets			
Property, plant and equipment	11	9,883	9,322
Goodwill and intangible assets	12	2,376	2,195
Interests in associates and joint ventures	13	4,248	3,701
Deferred tax assets	10(b)	165	125
Derivative financial assets	19	33	33
Other non-current assets		108	77
Total non-current assets		**16,813**	**15,453**
Current assets			
Inventories	14	2,542	3,037
Trade and other receivables	15(b)	2,082	1,389
Short-term investments		241	211
Derivative financial assets	19	75	9
Cash and cash equivalents	15(d)	2,278	1,183
Total current assets		**7,218**	**5,829**
Total assets		**24,031**	**21,282**
EQUITY AND LIABILITIES			
Equity	16		
Share capital		-	-
Share premium		1,516	973
Additional paid-in capital		9,193	9,193
Revaluation reserve		2,722	2,718
Other reserves		198	(62)
Foreign currency translation reserve		(5,493)	(5,024)
Accumulated losses		(3,806)	(5,143)
Total equity attributable to shareholders of the Parent Company		**4,330**	**2,655**
Non-controlling interests	16(f)	3,042	2,747
Total equity		**7,372**	**5,402**
Non-current liabilities			
Loans and borrowings	17	11,258	10,007
Deferred tax liabilities	10(b)	1,243	1,219
Provisions – non-current portion	18	536	459
Derivative financial liabilities	19	27	24
Other non-current liabilities		121	208
Total non-current liabilities		**13,185**	**11,917**
Current liabilities			
Loans and borrowings	17	1,224	2,270
Provisions – current portion	18	71	71
Trade and other payables	15(c)	2,152	1,615
Derivative financial liabilities	19	27	7
Total current liabilities		**3,474**	**3,963**
Total equity and liabilities		**24,031**	**21,282**

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 161 to 245.

	Note	Year ended 31 December 2019 USD million	2018 USD million
OPERATING ACTIVITIES			
Profit for the year		**1,304**	**1,862**
Adjustments for:			
Depreciation and amortisation		806	752
Impairment of non-current assets		321	244
Net foreign exchange loss	8	114	253
Loss on disposal of property, plant and equipment	6	24	11
Share of profits of associates and joint ventures	13	(1,669)	(948)
Interest expense	8	1,000	917
Interest income	8	(82)	(44)
Income tax expense	10	276	406
Dividend income	8	(1)	(1)
Reversal of impairment of inventories		(18)	(22)
Impairment of trade and other receivables	6	2	65
Provision for legal claims	6	22	5
Change in fair value of derivative financial instruments	8	21	(171)
Operating profit before changes in working capital		**2,120**	**3,329**
Decrease/ (increase) in inventories		535	(468)
Increase in trade and other receivables		(238)	(201)
Increase/ (decrease) in trade and other payables		588	(701)
Cash flows from operations before income tax		**3,005**	**1,959**
Income taxes paid	10(f)	(444)	(251)
Cash flows from operating activities		**2,561**	**1,708**

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 161 to 245.

	Note	Year ended 31 December 2019 USD million	2018 USD million
INVESTING ACTIVITIES			
Proceeds from disposal of property, plant and equipment		46	23
Acquisition of property, plant and equipment		(1,024)	(982)
Acquisition of intangible assets		(37)	(22)
Other investments		(77)	(345)
Return of prepayment for investment in associate		44	-
Interest received		62	39
Dividends from associates and joint ventures		1,141	909
Dividends from financial assets		5	4
Proceeds from disposal of financial assets		15	1
Contribution to joint venture		(78)	-
Acquisition of subsidiaries		(35)	(53)
Change in restricted cash		30	(26)
Cash flows from/(used in) investing activities		**92**	**(452)**
FINANCING ACTIVITIES			
Proceeds from borrowings		5,872	4,431
Repayment of borrowings		(6,366)	(4,445)
Acquisition of non-controlling interest		(5)	(103)
Interest paid		(1,021)	(881)
Restructuring fees and expenses related to issuance of shares		(42)	(19)
Settlement of derivative financial instruments		(26)	125
Dividends to shareholders	16(d)	-	(68)
Cash flows used in financing activities		**(1,588)**	**(960)**
Net increase in cash and cash equivalents		**1,065**	**296**
Cash and cash equivalents at beginning of the year, excluding restricted cash		1,140	957
Effect of exchange rate changes on cash and cash equivalents		60	(113)
Cash and cash equivalents at end of the year, excluding restricted cash	15(d)	**2,265**	**1,140**

Restricted cash amounted to USD 13 million and USD 43 million at 31 December 2019 and 31 December 2018, 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 161 to 245.

EN+ GROUP IPJSC

Consolidated Statement of Changes in Equity for the year ended 31 December 2019

USD million

	Attributable to shareholders of the Parent Company								
	Share premium	**Additional paid-in capital**	**Revaluation reserve**	**Other reserves**	**Foreign currency translation reserve**	**Accumulated losses**	**Total**	**Non-controlling interests**	**Total equity**
Balance at 1 January 2018	**973**	**9,193**	**2,471**	**(72)**	**(4,544)**	**(6,030)**	**1,991**	**2,394**	**4,385**
Comprehensive income									
Profit for the year	-	-	-	-	-	967	967	895	1,862
Revaluation of hydro assets as at 31 December 2018 (16(e),11(e))	-	-	305	-	-	-	305	(4)	301
Taxation (10(c))	-	-	(61)	-	-	-	(61)	1	(60)
Other comprehensive income for the year	-	-	-	10	(480)	-	(470)	(545)	(1,015)
Total comprehensive income for the year	**-**	**-**	**244**	**10**	**(480)**	**967**	**741**	**347**	**1,088**
Transactions with owners									
Change in effective interest in subsidiaries (16(a))	-	-	3	-	-	(12)	(9)	6	(3)
Dividends to shareholders (16(d))	-	-	-	-	-	(68)	(68)	-	(68)
Total transactions with owners	**-**	**-**	**3**	**-**	**-**	**(80)**	**(77)**	**6**	**(71)**
Balance 31 December 2018	**973**	**9,193**	**2,718**	**(62)**	**(5,024)**	**(5,143)**	**2,655**	**2,747**	**5,402**
Balance at 1 January 2019	**973**	**9,193**	**2,718**	**(62)**	**(5,024)**	**(5,143)**	**2,655**	**2,747**	**5,402**
Comprehensive income									
Profit for the year	-	-	-	-	-	860	860	444	1,304
Other comprehensive income for the year	-	-	-	9	367	-	376	295	671
Total comprehensive income for the year	**-**	**-**	**-**	**9**	**367**	**860**	**1,236**	**739**	**1,975**
Transactions with owners									
Change in effective interest in subsidiaries (16(a))	543	-	4	251	(836)	477	439	(444)	(5)
Total transactions with owners	**543**	**-**	**4**	**251**	**(836)**	**477**	**439**	**(444)**	**(5)**
Balance 31 December 2019	**1,516**	**9,193**	**2,722**	**198**	**(5,493)**	**(3,806)**	**4,330**	**3,042**	**7,372**

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 161 to 245.

1. Background

(a) Organisation

EN+ GROUP IPJSC (the “Parent Company”) 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). As at the reporting date 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 and the 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”).

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.

As at 31 December 2019 Mr. Oleg Deripaska beneficially controls and exercises voting rights in respect of 35% of the voting shares of the Company and cannot exceed his direct or indirect shareholding over 44.95% of the shares of the Company.

The other significant holders as at 31 December 2019 were as follows:

	Shareholding	**Voting rights**
VTB	21.37%	7.04%
Citi (Nominees), including	15.47%	15.47%
Glencore Group Funding Limited	*10.55%*	*10.55%*
Other shareholders	18.21%	4.81%
Independent trustees	-	37.68%

Glencore Group Funding Limited is a subsidiary of Glencore Plc.

Related party transactions are detailed in note 23.

In February 2020 subsequent to the reporting date the Group acquired 21.37% of its shares from VTB for cash at a price of $11.57 per share (note 17(a)). The voting rights in respect of acquired shares representing 14.33% of En+ Group's issued share capital are retained with independent trustees. Votes attaching to the remaining 7.04% of shares will be voted by the Chairman of the Parent Company’s Board at the Board’s direction.

(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, Nigeria 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 aspects of the power industry, including electric power generation, power trading and supply. It also includes supporting operations engaged in the supply of logistics services and coal resources to the Group. The Group's principal power plants are located in East Siberia, Russia.

(c) Business environment in emerging economies

The Russian Federation, Ukraine, Jamaica, Nigeria 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.

Starting in 2014, the United States of America, the European Union and some other countries have imposed and gradually expanded economic sanctions against a number of Russian individuals and legal entities. The imposition of the sanctions has led to increased economic uncertainty, including more volatile equity markets, a depreciation of the Russian rouble, a reduction in both local and foreign direct investment inflows and a significant tightening in the availability of credit. As a result, some Russian entities may experience difficulties accessing the international equity and debt markets and may become increasingly dependent on state support for their operations. The longer-term effects of the imposed and possible additional sanctions are difficult to determine.

The first months of 2020 have seen significant global market turmoil triggered by the outbreak of the COVID-19. Together with other factors, including a sharp decrease in the oil price, this has resulted in significant stock market volatility with a considerable drop in market indices, as well as a depreciation of the Russian Rouble. The Group is assessing the impact of these market developments for its financial position, financial performance and future cash flows.

The consolidated financial statements reflect management's assessment of the impact of the Russian, Ukrainian, Jamaican, Nigerian 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 ("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 Group to below 50%;
- establishing independent voting arrangements for the Parent Company's shares held by certain shareholders;
- making changes in the corporate governance framework, including, inter alia, overhauling the composition of the EN+ Board to ensure that independent directors constitute the majority of the Board, and ongoing transparency through auditing, reporting and certifications by the Parent Company and UC RUSAL to OFAC concerning compliance with the conditions for sanctions' removal.

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").

This is the first set of the Group's annual financial statements in which IFRS 16 Leases has been applied. Changes to significant accounting policies are described in note 3(c). A number of other new standards are also effective from 1 January 2019 but they do not have a material effect on the Group's financial statements.

Due to the transition method chosen by the Group in applying this standard, comparative information throughout these financial statements has not been restated to reflect the requirements of the new standards.

A number of new standards are effective for annual periods beginning after 1 January 2020 and earlier application is permitted; however, the Group has not early adopted the new or amended standards in preparing these consolidated financial statements.

The following amended standards and interpretations are not expected to have a significant impact on the Group's consolidated financial statements.

- *Amendments to References to Conceptual Framework in IFRS Standards.*
- *Definition of a Business (Amendments to IFRS 3).*
- *Definition of Material (Amendments to IAS 1 and IAS 8).*
- *IFRS 17 Insurance Contracts.*
- *Interest Rate Benchmarking Reform (Amendments to IFRS 9, IAS 39 and IFRS 7).*

(b) 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.

(c) Functional and presentation currency

The Parent Company's functional currency is the United States Dollar ("USD") because it reflects the economic substance of the underlying events and circumstances of the Parent Company. The functional currencies of the 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.

(d) 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.

(e) Consolidation of OJSC Irkutsk Electric Grid Company ("Irkutsk GridCo")

In December 2009, the Group sold to third parties under share purchase contracts all the shares in two Cypriot companies of the Group controlling 34.16% of the shares in Irkutsk GridCo; subsequently the Group purchased 19.9% of the shares in Irkutsk GridCo. The arrangements attached to the share purchase contracts enable the Group to retain certain rights with respect to the disposed shares and the sale did not result in deconsolidation. As at 31 December 2019, the effective interest in Irkutsk GridCo held by the Group is 52.4% (31 December 2018: 52.3%).

As laws and regulations in the electricity sector in Russia are continuing to develop there is uncertainty with respect to the legal interpretation of the existing arrangements which enables the Group to control Irkutsk GridCo and, consequently, these may be interpreted by the Russian regulatory authorities as noncompliant with applicable legislation upon enforcement. Management believes that such arrangements are compliant with the legislation and therefore the Group has the ability to control Irkutsk GridCo as described above. Should the arrangements be found non-compliant upon their enforcement, the Group may be required to unwind the arrangements subsequent to their enforcement and sell Irkutsk GridCo to a third party at that time.

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 2018, except for those disclosed in 3(c), and have been consistently applied to all periods presented in these consolidated financial statements.

(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, potential voting rights that presently are exercisable 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.

Non-controlling interests are presented in the consolidated statement of financial position within equity, separately from equity attributable to the equity shareholders of the Group. 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 Group.

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 notes 15 and 20) 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 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.

(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 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.

(c) Adoption of IFRS 16 Leases

IFRS 16 introduced a single, on-balance sheet accounting model for lessees. As a result, the Group, as a lessee, has recognised right-of-use assets representing its rights to use the underlying assets and lease liabilities representing its obligation to make lease payments. Lessor accounting remains similar to previous accounting policies.

The Group has applied IFRS 16 using the modified retrospective approach, under which the cumulative effect of initial application is recognised in retained earnings at 1 January 2019. Accordingly, the comparative information presented for 2018 has not been restated – i. e. it is presented, as previously reported, under IAS 17 and related interpretations. The details of the changes in accounting policies are disclosed below.

(i) Definition of a lease

Previously, the Group determined at contract inception whether the arrangement was or contained a lease under IFRIC 4 *Determining Whether an Arrangement contains a Lease*. The Group now assesses whether a contract is or contains a lease based on the new definition of a lease. Under IFRS 16, a contract is, or contains, a lease if the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration.

On transition to IFRS 16, the Group elected to apply the practical expedient to grandfather the assessment of which transactions are leases. It applied IFRS 16 only to contracts that were previously identified as leases. Contracts that were not identified as leases under IAS 17 and IFRIC 4 have not been reassessed. Therefore, the definition of a lease under IFRS 16 has been applied only to contracts entered into or modified on or after 1 January 2019.

At inception or on reassessment 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 has elected not to separate non-lease components and will instead account for the lease and non-lease components as a single lease component.

(ii) As a lessee

The Group leases many assets, including land, properties and production equipment.

As a lessee, the Group previously classified leases as operating or finance leases based on its assessment of whether the lease transferred substantially all of the risks and rewards of ownership. Under IFRS 16, the Group recognises right-of-use assets and lease liabilities for most leases – i. e. these leases are on-balance sheet.

However, the Group has elected not to 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 group presents right-of-use assets as part of property plant and equipment, the same line item as it presents underlying assets of the same nature that it owns. The carrying amounts of right-of-use assets are presented below.

	Property, plant and equipment		
USD million	**Land and buildings**	**Machinery and equipment**	**Total**
Balance at 1 January 2019	38	12	50
Balance at 31 December 2019	**34**	**7**	**41**

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.

Accounting policy

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 will be 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 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.

The lease liability is subsequently increased by the interest cost on the lease liability and decreased by lease payments 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.

The Group has applied 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 have 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.

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.

Transition

Previously, the Group classified property and equipment leases as operating leases under IAS 17. These mainly include land plots, office spaces and items of machinery and equipment. The leases run for different periods of time, with longer periods for land plots. Some leases include an option to renew the lease for an additional period after the end of the non-cancellable period. Some leases provide for additional rent payments that are based on changes in various indices.

At transition, for leases classified as operating leases under IAS 17, lease liabilities were measured at the present value of the remaining lease payments, discounted at the Group's incremental borrowing rate as at 1 January 2019. Right-of-use assets are measured at an amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments.

The Group used the following practical expedients when applying IFRS 16 to leases previously classified as operating leases under IAS 17:

- Applied the exemption not to recognise right-of-use assets and liabilities for leases with less than 12 months of lease term.

- Excluded initial direct costs from measuring the right-of-use asset at the date of initial application.

- Used hindsight when determining the lease term if the contract contains options to extend or terminate the lease.

For the leases that were classified as finance leases under IAS 17, the carrying amount of the right-of-use asset and the lease liability at 1 January 2019 were determined at the carrying amount of the lease asset and lease liability under IAS 17 immediately before that date.

As a lessor

The accounting policies applicable to the Group as a lessor are not different from those under IAS 17. However, 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.

(iii) Impacts on financial statements

Impacts on transition

On transition to IFRS 16, the Group recognised additional right-of-use assets and additional lease liabilities in equal amounts. The impact on transition is summarised below.

USD million	**1 January 2019**
Right-of-use assets presented in property, plant and equipment less impairment losses	50
Lease liabilities	50

When measuring lease liabilities for leases that were classified as operating leases, the Group discounted lease payments using its incremental borrowing rate at 1 January 2019. The weighted average rate applied is 10%.

USD Million	1 January 2019
Discounted using incremental borrowing rate at 1 January 2019	80
- Recognition exemption for leases with less than 12 month of lease term at transition	(21)
- Termination options reasonably certain to be exercised	(9)
Lease liabilities recognised at 1 January 2019	50

Impacts for the period

As a result of initially applying IFRS 16, in relation to the leases that were previously classified as operating leases, the Group recognised USD 41 million of right-of-use assets and USD 49 million of lease liabilities as at 31 December 2019. USD 33 million of lease liabilities are long-term and included in other non-current liabilities, USD 16 million of lease liabilities are short-term and included in other payables.

Also in relation to these leases under IFRS 16, the Group has recognised USD 11 million of depreciation charges, and USD 6 million of interest costs from these leases for the reporting period. USD 8 million of right-of-use assets have been impaired during the year ended 31 December 2019. The Group's total cash outflow for leases was in the amount of USD 15 million.

The expense relating to short-term leases in the amount of USD 34 million and is included in cost of sales or administrative expenses depending on type of underlying asset. 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 145 million.

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 to make decisions about resources to be allocated to the segment and assess its performance and for which discrete consolidated 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.

The Board of Directors has commissioned a full review of strategic options with respect to the Irkutsk-region coal and coal-fired power assets as part of the Group's commitment to minimizing its carbon footprint. As the first step the Group have started the spin-off of Irkutsk region coal-fired heat business unit into 100% Irkutskenergo subsidiary. As at the date of these financial statements and the reporting date the first step is still in process.

(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 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 measure used for reporting segment results is 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 for any period 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.

Year ended 31 December 2019

USD million	Metals	Power	Adjustments	Total
Statement of profit or loss and other comprehensive income				
Revenue from external customers	_9,593_	_2,159_	-	_11,752_
Primary aluminium and alloys	7,906	-	-	7,906
Alumina and bauxite	668	-	-	668
Semi-finished products and foil	410	153	-	563
Electricity	61	1,239	-	1,300
Heat	44	418	-	462
Other	504	349	-	853
Inter-segment revenue	_118_	_830_	_(948)_	-
Total segment revenue	**9,711**	**2,989**	**(948)**	**11,752**
Operating expenses (excluding depreciation and loss on disposal of PPE)	(8,745)	(1,862)	982	(9,625)
Adjusted EBITDA	**966**	**1,127**	**34**	**2,127**
Depreciation and amortisation	(566)	(240)	-	(806)
Loss on disposal of PPE	(22)	(2)	-	(24)
Impairment of non-current assets	(291)	(30)	-	(321)
Results from operating activities	**87**	**855**	**34**	**976**
Share of profits of associates and joint ventures	1,669	-	-	1,669
Interest expense, net	(557)	(361)	-	(918)
Other finance costs, net	(145)	(2)	-	(147)
Profit before tax	**1,054**	**492**	**34**	**1,580**
Income tax expense	(94)	(181)	(1)	(276)
Profit for the year	**960**	**311**	**33**	**1,304**
Additions to non-current segment assets during the year	(887)	(327)	23	(1,191)

EN+ GROUP IPJSC
Notes to the Consolidated Financial Statements for the year ended 31 December 2019

USD million	Metals	Power	Adjustments	Total
Statement of financial position				
Segment assets, excluding cash and cash equivalents and interests in associates and jointly ventures	11,793	6,409	(697)	17,505
Investment in Metals segment	-	4,595	(4,595)	-
Cash and cash equivalents	1,781	497	-	2,278
Interests in associates and jointly ventures	4,240	8	-	4,248
Total segment assets	**17,814**	**11,509**	**(5,292)**	**24,031**
Segment liabilities, excluding loans and borrowings and bonds payable	2,820	1,534	(177)	4,177
Loans and borrowings	8,247	4,235	-	12,482
Total segment liabilities	**11,067**	**5,769**	**(177)**	**16,659**
Total segment equity	6,747	5,740	(5,115)	7,372
Total segment equity and liabilities	**17,814**	**11,509**	**(5,292)**	**24,031**
Statement of cash flows				
Cash flows from operating activities	**1,652**	**932**	**(23)**	**2,561**
Cash flows from/(used in) investing activities	**246**	**(177)**	**23**	**92**
Acquisition of property, plant and equipment, intangible assets	(848)	(236)	23	(1,061)
Other investments	(85)	8	-	(77)
Dividends from the jointly controlled entities and other associates	1,141	-	-	1,141
Interest received	31	31	-	62
Other investing activities	7	20	-	27

EN+ GROUP IPJSC
Notes to the Consolidated Financial Statements for the year ended 31 December 2019

USD million	Metals	Power	Adjustments	Total
Cash flows used in financing activities	**(949)**	**(639)**	**-**	**(1,588)**
Interest paid	(553)	(468)	-	(1,021)
Restructuring fee and expenses related to issuance of shares	(33)	(9)	-	(42)
Settlements of derivative financial instruments	(26)	-	-	(26)
Other financing activities	(337)	(162)	-	(499)
Net change in cash and cash equivalents	**949**	**116**	**-**	**1,065**

EN+ GROUP IPJSC
Notes to the Consolidated Financial Statements for the year ended 31 December 2019

Year ended 31 December 2018

USD million **Statement of profit or loss and other comprehensive income**	Metals	Power	Adjustments	Total
Revenue from external customers	*10,145*	*2,233*	-	*12,378*
Primary aluminium and alloys	8,165	-	-	8,165
Alumina and bauxite	984	-	-	984
Semi-finished products and foil	346	181	-	527
Electricity	77	1,252	-	1,329
Heat	44	417	-	461
Other	529	383	-	912
Inter-segment revenue	*135*	*914*	*(1,049)*	-
Total segment revenue	**10,280**	**3,147**	**(1,049)**	**12,378**
Operating expenses (excluding depreciation and loss on disposal of PPE)	(8,117)	(1,973)	999	(9,091)
Adjusted EBITDA	**2,163**	**1,174**	**(50)**	**3,287**
Depreciation and amortisation	(513)	(239)	-	(752)
Loss on disposal of PPE	(12)	1	-	(11)
Impairment of non-current assets	(157)	(87)	-	(244)
Results from operating activities	**1,481**	**849**	**(50)**	**2,280**
Share of profits/(loss) of associates and joint ventures	955	(7)	-	948
Interest expense, net	(471)	(408)	-	(879)
Other finance income/(costs), net	(12)	(69)	-	(81)
Profit before tax	**1,953**	**365**	**(50)**	**2,268**
Income tax expense	(255)	(154)	3	(406)
Profit for the year	**1,698**	**211**	**(47)**	**1,862**
Additions to non-current segment assets during the year	(837)	(197)	11	(1,023)

EN+ GROUP IPJSC
Notes to the Consolidated Financial Statements for the year ended 31 December 2019

USD million	Metals	Power	Adjustments	Total
Statement of financial position				
Segment assets, excluding cash and cash equivalents and interests in associates and jointly ventures	11,235	5,842	(679)	16,398
Investment in Metals segment	-	4,053	(4,053)	-
Cash and cash equivalents	844	339	-	1,183
Interests in associates and jointly ventures	3,698	3	-	3,701
Total segment assets	**15,777**	**10,237**	**(4,732)**	**21,282**
Segment liabilities, excluding loans and borrowings and bonds payable	2,282	1,445	(124)	3,603
Loans and borrowings	8,286	3,991	-	12,277
Total segment liabilities	**10,568**	**5,436**	**(124)**	**15,880**
Total segment equity	5,209	4,801	(4,608)	5,402
Total segment equity and liabilities	**15,777**	**10,237**	**(4,732)**	**21,282**
Statement of cash flows				
Cash flows from operating activities	**680**	**1,039**	**(11)**	**1,708**
Cash flows (used in)/from investing activities	**(106)**	**(357)**	**11**	**(452)**
Acquisition of property, plant and equipment, intangible assets	(834)	(181)	11	(1,004)
Other investments	(153)	(192)	-	(345)
Dividends from the jointly controlled entities and other associates	909	-	-	909
Interest received	29	10	-	39
Other investing activities	(57)	6	-	(51)

EN+ GROUP IPJSC
Notes to the Consolidated Financial Statements for the year ended 31 December 2019

USD million	Metals	Power	Adjustments	Total
Cash flows used in financing activities	**(517)**	**(443)**		**(960)**
Interest paid	(490)	(391)	-	(881)
Restructuring fee and expenses related to Offering	(6)	(13)	-	(19)
Settlements of derivative financial instruments	125	-	-	125
Dividends to shareholders	-	(68)	-	(68)
Other financing activities	(146)	29	-	(117)
Net change in cash and cash equivalents	**57**	**239**	**-**	**296**

(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, Ukraine and Armenia. 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 and an aluminium plant in Nigeria. In the Americas the Group operates one production facility in Jamaica, one in Guyana and a trading subsidiary in the United States of America.

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**	
	2019	**2018**
	USD million	**USD million**
Russia	4,235	4,441
Turkey	1,052	751
Netherlands	985	1,122
USA	652	890
South Korea	577	282
Italy	573	364
Poland	457	335
Japan	440	806
Germany	235	249
France	209	311
Norway	203	372
Greece	188	262
Sweden	162	337
China	119	77
Other countries	1,665	1,779
	11,752	**12,378**

Specified non-current assets	**31 December**	
	2019	**2018**
	USD million	**USD million**
Russia	12,587	11,754
Ireland	655	376
Guinea	230	152
Ukraine	158	158
Sweden	-	126
Unallocated	3,183	2,887
	16,813	**15,453**

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. 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	
	2019	**2018**
	USD million	**USD million**
Sales of primary aluminium and alloys	**7,906**	**8,165**
Third parties	5,338	4,706
Related parties – companies capable of exerting significant influence	2,554	3,443
Related parties – other	13	16
Related parties – associates and joint ventures	1	-

	Year ended 31 December	
	2019	2018
	USD million	USD million
Sales of alumina and bauxite	**668**	**984**
Third parties	301	601
Related parties – companies capable of exerting significant influence	161	218
Related parties – associates and joint ventures	206	165
Sales of semi-finished products and foil	**563**	**527**
Third parties	563	525
Related parties – associates and joint ventures	-	2
Sales of electricity	**1,300**	**1,329**
Third parties	1,259	1,268
Related parties – companies capable of exerting significant influence	1	-
Related parties – other	6	28
Related parties – associates and joint ventures	34	33
Sales of heat	**462**	**461**
Third parties	438	430
Related parties – companies capable of exerting significant influence	2	4
Related parties – other	22	27
Other revenues	**853**	**912**
Third parties	711	741
Related parties – companies capable of exerting significant influence	9	8
Related parties – other	16	27
Related parties – associates and joint ventures	117	136
	11,752	**12,378**

The Group's customer base is diversified and includes only one major customer - Glencore International AG (a member of Glencore International Plc Group which is a shareholder of the Parent Company and UC RUSAL Plc with nominal shareholding of 10.55% and 6.78% at the reporting date) with whom transactions have exceeded 10% of the Group's revenue. In 2019 revenues from sales of primary aluminium and alloys to this customer amounted to USD 2,325 million (2018: USD 3,115 million). All revenue of the Group relates to revenue from contracts with customers.

6. Net other operating expenses

	Year ended 31 December	
	2019	2018
	USD million	USD million
Impairment of trade and other receivables	(2)	(65)
Charity	(41)	(31)
Loss on disposal of property, plant and equipment	(24)	(11)
Provision for legal claims	(22)	(5)
Other operating expenses, net	(22)	(24)
	(111)	**(136)**

7. Personnel costs

Personnel costs comprise salaries, annual bonuses, annual leave and cost of non-monetary benefits. 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.

The Group also makes contributions for the benefit of employees to Russia's and the Ukrainian State's pension funds. The contributions are expensed as incurred.

	Year ended 31 December	
	2019	2018
	USD million	USD million
Contributions to defined contribution retirement plans	(254)	(247)
Contributions to defined benefit retirement plans	(4)	(1)
Total retirement costs	(258)	(248)
Wages and salaries	(1,058)	(1,135)
	(1,316)	**(1,383)**

8. Finance income and costs

Finance income comprises interest income on funds invested, dividend income, changes in the fair value of financial assets at fair value through profit or loss and foreign currency gains. Interest income is recognised as it accrues, using the effective interest method.

Finance costs comprise interest expense on borrowings, unwinding of the discount on provisions, 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.

Foreign currency gains and losses are reported on a net basis. Foreign exchange loss on loans and borrowing for the year ended 31 December 2019 amounted to USD 213 million.

	Year ended 31 December	
	2019	2018
	USD million	USD million
Finance income		
Interest income	82	44
Dividend income	1	1
Change in fair value of derivative financial instruments (refer to note 19)	-	171
	83	**216**
Finance costs		
Interest expense – *third parties*	(987)	(915)
Interest expenses on company loans from related parties – *companies capable of exerting significant influence*	(13)	(2)
Net foreign exchange loss	(114)	(253)
Change in fair value of derivative financial instruments (refer to note 19)	(21)	-
Other finance costs	(13)	(6)
	(1,148)	**(1,176)**

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 2019 and 31 December 2018.

	Year ended 31 December	
	2019	2018
Weighted average number of shares at the beginning of the period	571,428,572	571,428,572
Issuance of shares (note 16(a)(i))	67,420,324	-
Weighted average number of shares	634,231,066	571,428,572
Profit for the year attributable to the shareholders of the Parent Company, USD million	860	967
Basic and diluted earnings per share, USD	**1.356**	**1.692**

There were no outstanding dilutive instruments during the years ended 31 December 2019 and 31 December 2018.

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 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 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 liabilities. 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.

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 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	
	2019	2018
	USD million	USD million
Current tax expense		
Current tax for the year	(369)	(462)
Deferred tax expense		
Origination and reversal of temporary differences	93	56
	(276)	**(406)**

On 9 July 2019 the Parent Company redomiciled to Russia's SAR (special administrative region) and became a Russian tax resident. 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. Before redomiciliation, the Parent Company was a tax resident of Cyprus.

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 of 18%; Guinea of 0%; China of 25%; Kazakhstan of 20%; Australia of 30%; Jamaica of 25%; Ireland of 12.5% and Sweden of 21.4%. 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 9.55% and 14.35% for different subsidiaries. For the UC RUSAL's significant trading companies, the applicable tax rate is 0%. The applicable tax rates for the period ended 31 December 2018 were the same as for the period ended 31 December 2019 except for tax rates for subsidiaries domiciled in Sweden which amounted to 22% and tax rates for subsidiaries domiciled in Switzerland which amounted to 9.6% and 14.51% accordingly.

Reconciliation of effective tax rate

	Year ended 31 December			
	2019		2018	
	USD million	%	USD million	%
Profit before taxation	**1,580**	**(100)**	**2,268**	**(100)**
Income tax at tax rate applicable for the Parent Company	(316)	20	(454)	20
Other non-deductible/taxable items, net	(27)	2	(65)	3
Effect of changes in investment in Norilsk Nickel	154	(10)	63	(3)
Change in unrecognised deferred tax assets	(49)	3	(30)	1
Effect of reversal of impairment	(79)	5	35	(2)
Income tax related to prior periods, including provision	(2)	-	(117)	5
Effect of different income tax rates	43	(3)	162	(7)
Income tax	**(276)**	**17**	**(406)**	**17**

Recognised deferred tax assets and liabilities

Deferred tax assets and liabilities are attributable to the following items:

USD million	Assets		Liabilities		Net	
	31 December		31 December		31 December	
	2019	2018	2019	2018	2019	2018
Property, plant and equipment	84	61	(1,391)	(1,315)	(1,307)	(1,254)
Inventories	100	58	(13)	(15)	87	43
Trade and other receivables	34	22	(19)	(9)	15	13
Financial instruments	7	6	(8)	(8)	(1)	(2)
Tax losses carried-forward	78	52	-	-	78	52
Others	368	255	(318)	(201)	50	54
Tax assets/(liabilities)	671	454	(1,749)	(1,548)	(1,078)	(1,094)
Set off of tax	(506)	(329)	506	329	-	-
Net deferred tax assets/(liabilities)	**165**	**125**	**(1,243)**	**(1,219)**	**(1,078)**	**(1,094)**

(c) Movement in temporary differences during the year

USD million	1 January 2019	Recognised in profit or loss	Currency translation	31 December 2019
Property, plant and equipment	(1,254)	30	(83)	(1,307)
Inventories	43	44	-	87
Trade and other receivables	13	1	1	15
Financial instruments	(2)	1	-	(1)
Tax loss carry-forwards	52	25	1	78
Others	54	(8)	4	50
	(1,094)	**93**	**(77)**	**(1,078)**

USD million	1 January 2018	Recognised in profit or loss	Recognised in equity	Currency translation	31 December 2018
Property, plant and equipment	(1,384)	50	(60)	140	(1,254)
Inventories	36	5	-	2	43
Trade and other receivables	10	9	-	(6)	13
Financial instruments	9	(11)	-	-	(2)
Tax loss carry-forwards	62	(5)	-	(5)	52
Others	48	8	-	(2)	54
	(1,219)	**56**	**(60)**	**129**	**(1,094)**

Recognised tax losses expire in the following years:

	31 December 2019	31 December 2018
Year of expiry	**USD million**	**USD million**
Without expiry	78	52
	78	**52**

(d) Unrecognised deferred tax assets

Deferred tax assets have not been recognised in respect of the following items:

	31 December 2019 USD million	31 December 2018 USD million
Deductible temporary differences	855	808
Tax loss carry-forwards	337	331
	1,192	**1,139**

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:

	31 December 2019	31 December 2018
Year of expiry	**USD million**	**USD million**
Without expiry	335	330
From 2 to 5 years	2	1
Up to 1 year	-	-
	337	**331**

(e) Unrecognised deferred tax liabilities

The Group's subsidiaries have retained earnings where dividend distributions are subject to taxation, for which deferred taxation has not been provided because remittance of the earnings has been indefinitely postponed through reinvestment and, as a result, such amounts are considered to be permanently invested. It was not practicable to determine the amount of temporary differences relating to investments in subsidiaries where the Group is able to control the timing of reversal of the difference. Reversal is not expected in the foreseeable future.

(f) Current taxation in the consolidated statement of financial position represents:

	31 December 2019 USD million	31 December 2018 USD million
Net income tax payable/ (receivable) at the beginning of the year	116	(33)
Income tax for the year	369	462
Income tax paid	(424)	(251)
Dividend withholding tax	(57)	(47)
Income tax provision (note 18)	-	(20)
Translation difference	6	5
	10	**116**
Represented by:		
Income tax payable (note 15(c))	38	146
Income tax receivable (note 15(b))	(28)	(30)
Net income tax payable/(receivable)	**10**	**116**

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 electrolysers 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 recent 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.

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.

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) 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.

(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 proven and probable reserves;
- Other — 1 to 30 years.

isclosure

SD million	**Land and buildings**	**Machinery and equipment**	**Electrolysers**	**Hydroassets**	**Mining assets**	**Construction in progress**	**Other**	**Total**
ost/Deemed cost								
January 2018	4,582	7,526	2,340	4,151	684	2,048	361	21,692
dditions	20	23	101	-	7	872	-	1,023
cquired through business combinations	-	3	-	-	-	1	16	20
isposals	(12)	(69)	-	-	(4)	(92)	(5)	(182)
ransfers	150	329	118	13	8	(635)	17	-
eclassification to other assets	(6)	-	-		-	(16)	(4)	(26)
evaluation of hydro assets as at 1.12.2018	-	-	-	120	-	-	-	120
hange in estimate of site restoration rovision	-	-	-	-	(4)	-	-	(4)
ranslation difference	(266)	(302)	(15)	(706)	(101)	(106)	(27)	(1,523)
t 31 December 2018	**4,468**	**7,510**	**2,544**	**3,578**	**590**	**2,072**	**358**	**21,120**
RS 16 "Leases" application	38	12	-	-	-	-	-	50
t 1 January 2019	**4,506**	**7,522**	**2,544**	**3,578**	**590**	**2,072**	**358**	**21,170**
dditions	25	56	131	-	13	964	2	1,191
cquired through business combinations	4	-	-	-	-	2	-	6
isposals	(24)	(312)	(8)	-	(2)	(28)	(56)	(430)
ransfers	171	331	42	10	4	(575)	17	-
hange in estimate of site restoration rovision	-	-	-	-	14	-	-	14
ranslation difference	164	182	4	438	54	83	20	945
t 31 December 2019	**4,846**	**7,779**	**2,713**	**4,026**	**673**	**2,518**	**341**	**22,896**

EN+ GROUP IPJSC
Notes to the Consolidated Financial Statements for the year ended 31 December 2019

USD million	Land and buildings	Machinery and equipment	Electrolysers	Hydro assets	Mining assets	Construction in progress	Other	Total
Depreciation and impairment losses								
1 January 2018	**(2,415)**	**(5,148)**	**(2,025)**	**(102)**	**(578)**	**(1,214)**	**(270)**	**(11,752)**
Depreciation charge	(136)	(357)	(151)	(94)	(8)	-	(17)	(763)
Reversal of impairment/(impairment losses)	42	(20)	-	(12)	30	(116)	(2)	(78)
Disposals	4	56	-	-	-	7	5	72
Transfers	(14)	60	(46)	-	-	1	(1)	-
Reclassification to other assets	-	-	-	-	-	8	1	9
Revaluation of hydro assets as at 31.12.2018	-	-	-	181	-	-	-	181
Translation difference	159	196	12	27	83	38	18	533
At 31 December 2018	**(2,360)**	**(5,213)**	**(2,210)**	**-**	**(473)**	**(1,276)**	**(266)**	**(11,798)**
Depreciation charge	(152)	(384)	(144)	(95)	(10)	-	(17)	(802)
(Impairment losses)/ reversal of impairment/	(106)	(76)	(32)	-	(39)	(11)	5	(259)
Disposals	4	106	5	-	1	-	7	123
Transfers	5	8	-	-	-	-	-	13
Translation difference	(83)	(106)	(4)	(4)	(46)	(36)	(11)	(290)
At 31 December 2019	**(2,692)**	**(5,665)**	**(2,385)**	**(99)**	**(567)**	**(1,323)**	**(282)**	**(13,013)**
Net book value								
At 1 January 2018	2,167	2,378	315	4,049	106	834	91	9,940
At 31 December 2018	**2,108**	**2,297**	**334**	**3,578**	**117**	**796**	**92**	**9,322**
At 31 December 2019	**2,154**	**2,114**	**328**	**3,927**	**106**	**1,195**	**59**	**9,883**

Disposals of property, plant and equipment with net book value of USD 153 million represent cancellation of lease agreements

Depreciation expense of USD 775 million (2018: USD 721 million) has been charged to cost of goods sold, USD 10 million (2018: USD 12 million) to distribution expenses and USD 17 million (2018: USD 14 million) to administrative expenses.

Interest capitalised for the years ended 31 December 2019 and 31 December 2018 was USD 28 million and USD 21 million, respectively.

Included in construction in progress at 31 December 2019 and 31 December 2018 are advances to suppliers of property, plant and equipment of USD 102 million and USD 34 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 several factors that indicated that for a number of the Group's cash-generating units previously recognised impairment losses may require reversal and for a number of cash-generating units impairment losses may need to be recognised. These include a significant decrease of aluminium and alumina prices during the year as a result of LME and overall market instability, fluctuations of coal sale prices and additional volumes of electricity transmission set in further periods. In aluminium production, the Group benefited from decreases in cash costs due to decreases in alumina costs. For alumina cash generating units, the major influences were a decrease in alumina prices and favourable dynamics in energy prices being a significant part of cash cost. For bauxite cash generating units, bauxite sales prices were generally stable. For Irkutsk GridCo cash generating unit the regulated tariffs were set for additional volumes of electricity transmission from 2021.

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.

UC RUSAL

At 31 December 2019 and 31 December 2018 management identified several indicators that a number of the Group's cash-generating units may be impaired or that previously recognised impairment losses may need to be reversed.

Based on results of impairment testing as at 31 December 2019, management concluded that a reversal of previously recognised impairment losses relating to property, plant and equipment should be recognised in respect of Aughinish and Cobad cash generating units in the amount of USD 363 million. Additionally, management concluded that impairment losses in respect of KAZ, VgAZ, BAZ and UAZ, Kubal, Kremny and Windalco cash generating units, in the amount of USD 545 million should be recognised.

Based on results of impairment testing as at 31 December 2018, management concluded that a reversal of previously recognised impairment losses relating to property, plant and equipment should be recognised in respect of the BAZ and UAZ cash generating units in the amount of USD 177 million. Additionally, management concluded that an impairment loss in respect of the Cobad cash generating unit in the amount of USD 78 million should be recognised.

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	
	2019	2018
Kubikenborg Aluminium (Kubal)	11.1%	11.1%
Windalco	18.6%	21.0%
BAZ and UAZ (Bogoslovsk and Ural aluminium smelters)	12.5%	19.2%
KAZ (Kandalaksha aluminium smelter)	12.5%	14.0%
VgAZ (Volgograd aluminium smelter)	12.0%	13.0%
Compagnie de Bauxites de Dian-Dian (Cobad)	20.0%	22.0%
Kremny	13.0%	13.0%
Aughinish Alumina	12.0%	13.4%

The recoverable amount 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.

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 49 million at 31 December 2019 (2018: USD 146 million). These assets have been impaired in full. No further impairment of property, plant and equipment or reversal of previously recorded impairment was identified.

POWER

At 31 December 2019 and 2018 management identified several indicators that property, plant and equipment of the Coal and Irkutsk GridCo cash-generating units may be impaired or that previously recognised impairment losses may need to be reversed.

Based on results of impairment testing as at 31 December 2019, management concluded that no impairment losses or reversal of previously recognized impairment losses should be recognised.

Based on results of impairment testing as at 31 December 2018, management concluded that a reversal of previously recognised impairment losses relating to property, plant and equipment should be recognised in respect of the Coal cash generating unit in the amount of USD 36 million.

The following key assumptions were used to determine the recoverable amount of the Coal cash-generating unit:

	Year ended 31 December	
	2019	2018
Sales volumes of coal in 2020/2019	14,825 ths tonnes	14,951 ths tonnes
Expected growth of sales volumes of coal till 2029/2028	2%	2%
Weighted average price for coal in 2020/2019	USD 14 (RUB 929)	USD 14 (RUB 974)
Weighted average price growth after 2020/2019	4%	9%
Post-tax discount rate	13%	15%

The recoverable amount of the Coal cash-generating unit is particularly sensitive to changes in forecast of sales volumes, coal prices and applicable discount rates.

The following key assumptions were used to determine the recoverable amount of the Irkutsk GridCo cash-generating unit:

	Year ended 31 December	
	2019	2018
Sales volumes of electricity transmission in 2020/2019	46 mln MWh	45 mln MWh
Expected growth of sales volumes till 2029/2028	15,7%	19.9%
Tariffs for electricity transmission in 2020/2019	USD 6 -10 (RUB 393-628)	USD 6-9 (RUB 385-605)
Tariffs growth after 2020/2019	40%	42%
Post-tax discount rate	12.3%	12.3%

The anticipated price/tariffs growth included in the cash flow projections for the years from 2021 to 2029 has been based on the publicly available forecasts of Ministry of Economic Development of the Russian Federation.

The recoverable amounts estimated at 31 December 2019 and 31 December 2018 includes cash flows from sales of electricity transmission to Taishet aluminium smelter starting from 2021. If the Taishet aluminium smelter is not commissioned, a significant impairment of property, plant and equipment may need to be recognised.

The recoverable amount of the Irkutsk GridCo cash-generating unit is also particularly sensitive to changes in forecast electricity transmission volumes and tariffs, as well as applicable discount rates.

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 30 million (2018: USD 56 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 which subject to lien under loan agreements was USD 1,262 million at 31 December 2019 (31 December 2018: USD 1,112 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 2018 the independent appraiser estimated the fair value of hydro assets at USD 3,578 million with an equity effect of USD 301 million and revaluation loss of USD 11 million recognised in profit or loss.

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, there was no economic obsolescence as at 31 December 2019 or 2018.

The fair value measurement for hydro assets have been categorised as Level 3 fair values based on the inputs to the valuation techniques used.

As at 31 December 2019 a valuation by external independent appraiser was not performed because based on management's analysis, the fair value of hydro assets approximated their carrying amount at that date.

Net book value as at 31 December 2019 according to the cost model amounted to USD 404 million (31 December 2018: USD 358 million).

12. Goodwill and intangible assets

(a) Accounting policy

(i) Goodwill

On the acquisition of a subsidiary, an interest in a joint venture or an associate or an interest in a joint arrangement 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.

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. 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.

(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.

(b) Disclosure

USD million	Goodwill	Other intangible assets	Total
Cost			
Balance at 1 January 2018	**2,745**	**590**	**3,335**
Additions	48	40	88
Disposals	-	(9)	(9)
Foreign currency translation	(265)	(9)	(274)
Balance at 31 December 2018	**2,528**	**612**	**3,140**
Additions	-	43	43
Disposals	-	(22)	(22)
Foreign currency translation	158	12	170
Balance at 31 December 2019	**2,686**	**645**	**3,331**
Amortisation and impairment losses			
Balance at 1 January 2018	**(450)**	**(493)**	**(943)**
Amortisation charge	**-**	(5)	**(5)**
Foreign currency translation	**-**	3	**3**
Balance at 31 December 2018	**(450)**	**(495)**	**(945)**
Amortisation charge	**-**	(4)	**(4)**
Foreign currency translation	**-**	(6)	**(6)**
Balance at 31 December 2019	**(450)**	**(505)**	**(955)**
Net book value			
At 1 January 2018	2,295	97	2,392
At 31 December 2018	**2,078**	**117**	**2,195**
At 31 December 2019	**2,236**	**140**	**2,376**

(c) Amortisation charge

The amortisation charge is included in cost of sales 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 the following cash-generating units. 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 2019	Accumulated impairment loss 2019	Allocated goodwill 2018	Accumulated impairment loss 2018
UC RUSAL	2,429	(449)	2,301	(449)
Irkutskenergo	256	-	226	-
Strikeforce Mining and Resources Limited ("SMR")	1	(1)	1	(1)
	2,686	**(450)**	**2,528**	**(450)**

UC RUSAL

For the purposes of impairment testing, the entire amount of goodwill is allocated to the aluminium segment of UC RUSAL's operations. 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 2019, management analysed changes in the economic environment and developments in the aluminium industry and the Group's operations since 31 December 2018 and performed an impairment test for goodwill at 31 December 2019 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 8.2 million metric tonnes of alumina and of 15.4 million metric tonnes of bauxite. Bauxite and alumina are primarily used internally for the production of primary aluminium;
- Sales prices were based on the long-term aluminium price outlook derived from available industry and market sources at USD 1,802 per tonne for primary aluminium in 2020, USD 1,860 in 2021, USD 1,952 in 2022, USD 2,028 in 2023, USD 2,099 in 2024. Alumina prices were derived from the same sources as aluminium prices at USD 301 per tonne for alumina in 2020, USD 311 in 2021, USD 322 in 2022, USD 341 in 2023, USD 349 in 2024. 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 were RUB 65.8 in 2020, RUB 65.4 in 2021, RUB 63.9 in 2022, RUB 63.0 in 2023, RUB 63.6 in 2024. Inflation of 4.0% – 4.6% in RUB and 1.7% - 2.1% in USD was assumed in determining recoverable amounts;
- The pre-tax discount rate was estimated in nominal terms based on the weighted average cost of capital basis and was 11.3%;
- A terminal value was derived following the forecast period assuming a 1.7% annual growth rate.

Values assigned to key assumptions and estimates used to measure the units' recoverable amount was 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 44% and would lead to an impairment in amount of USD 1,241 million;
- A 5% increase in the projected level of electricity and alumina costs in the aluminium production would have resulted in a 21% decrease in the recoverable amount but would not lead to an impairment;
- A 1% increase in the discount rate would have resulted in a 11% 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 as at 31 December 2019.

At 31 December 2018, management analysed changes in the economic environment and developments in the aluminium industry and the Group's operations since 31 December 2017 and performed an impairment test for goodwill at 31 December 2018 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 8.1 million metric tonnes of alumina and of 16.5 million metric tonnes of bauxite. Bauxite and alumina are primarily used internally for production of primary aluminium;
- Sales prices were based on the long-term aluminium price outlook derived from available industry and market sources at USD 2,117 per tonne for primary aluminium in 2019, USD 2,159 in 2020, USD 2,193 in 2021, USD 2,193 in 2022 and USD 2,216 in 2023. 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 were RUB 66.8 in 2019, RUB 68.3 in 2020, RUB 66.7 in 2021, RUB 65.1 in 2022 and RUB 65.0 in 2023. Inflation of 4.0% – 4.5% in RUB and 1.6% - 2.4% in USD was assumed in determining recoverable amounts;
- The pre-tax discount rate was estimated in nominal terms based on the weighted average cost of capital basis and was 15.9%;
- A terminal value was derived following the forecast period assuming a 1.7% annual growth rate.

Values assigned to key assumptions and estimates used to measure the units' recoverable amount was based on external sources of information and historic data. Management believed 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 price level would have resulted in a decrease in the recoverable amount by 22% 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 14% 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 as at 31 December 2018.

POWER

Goodwill primarily resulted from the acquisition of Irkutskenergo. For the purposes of impairment testing, goodwill is allocated to the Irkutskenergo cash generating unit. This 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 Irkutskenergo in 2019 and 2018 was determined by reference to its value in use derived by discounting of the future cash flows generated from continuing use of production facilities within Irkutskenergo cash generating unit of the Group.

The following key assumptions were used to determine the recoverable amount of the segment at 31 December 2019:

- The sales volumes in 2020 were projected based on the approved budgets for 2020. In particular, the sales volumes of electricity in 2020 and 2021 were planned at the level of 70 million MWh. The expected growth till 2029 was estimated as 1.1% as compared to 2020. The sales volumes of heat in 2020 were planned at the level of 20 million Gcal and no growth till 2029 is expected.
- 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 0.5 – 27.2 (RUB 34-1,759) per MWh depending on market segment in 2020 and increased by 17-51% respectively till 2029. The tariffs for heat were estimated as USD 17.5 (RUB 1,133) per Gcal in 2020 and grew by 52% till 2029. Operating costs were projected based on the historical performance of Irkutskenergo and the anticipated increase during the projected period was in line with inflation.
- The post-tax discount rate was estimated in nominal terms based on the weighted average cost of capital amounted to 13.0% ;
- 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 segment at 31 December 2018:

- The sales volumes in 2019 were projected based on the approved budgets for 2019. In particular, the sales volumes of electricity in 2019 were planned at the level of 68 million MWh and 69 million MWh in 2020. The expected growth till 2028 was estimated as 7.4% as compared to 2019. The sales volumes of heat in 2019 were planned at the level of 20 million Gcal and no growth till 2028 is expected.
- 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 0.4 – 25.1 (RUB 30-1,747) per MWh depending on market segment in 2019 and increased by 20-42% respectively till 2028. The tariffs for heat were estimated as USD 16.4 (RUB 1,094) per Gcal in 2019 and grew by 42% till 2028. Operating costs were projected based on the historical performance of Irkutskenergo and the anticipated increase during the projected period was in line with inflation.
- The post-tax discount rate was estimated in nominal terms based on the weighted average cost of capital amounted to 14.1% ;
- A terminal value was derived following the forecast period assuming a 4% annual growth rate.

Reasonable possible changes in key assumptions will not lead to an impairment.

13. Interests in associates and joint ventures

An associate is an entity in which the Group or Company 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 or Company 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, whereas the Group's share of the post-acquisition post-tax items of the investees' other comprehensive income is recognised in the consolidated statement of other comprehensive income.

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.

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.

In the Group's statement of financial position, investments in associates and joint ventures are stated at cost less impairment losses, unless classified as held for sale (or included in a disposal group that is classified as held for sale).

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 2019	31 December 2018
	USD million	USD million
Balance at the beginning of the year	**3,701**	**4,459**
Group's share of profits, impairment and reversal of impairment	1,669	948
Acquisition and contribution to investments	78	-
(Return of prepayment)/prepayment for shares	(41)	41
Dividends	(1,609)	(946)
Group's share of other comprehensive income/(loss)	-	10
Foreign currency translation	450	(811)
Balance at the end of the year	**4,248**	**3,701**
Goodwill included in interests in associates	2,428	2,163

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: Group's effective interest	Proportion of ownership interest: Group's nominal interest	Principal activity
PJSC MMC Norilsk Nickel	Russian Federation	158,245,476 shares, RUB 1 par value	15.82%	27.82%	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%	Energy / Aluminium production

The summary of the consolidated financial statements of associates and joint ventures for the year ended 31 December 2019 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	5,868	12,899	163	535	1,528	2,942	260	488
Current assets	1,829	6,575	33	169	151	302	65	162
Non-current liabilities	(2,726)	(9,765)	(64)	(202)	(1,012)	(2,024)	(70)	(142)
Current liabilities	(1,509)	(5,422)	(132)	(373)	(83)	(166)	(53)	(136)
Net assets	**3,462**	**4,287**	**-**	**129**	**584**	**1,054**	**202**	**372**

	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	3,774	13,563	124	620	365	729	306	879
Profit/(loss) and impairment from continuing operations	1,587	5,966	-	4	49	(128)	33	69
Other comprehensive income	383	484	-	(1)	61	123	6	2
Total comprehensive income	**1,970**	**6,450**	**-**	**3**	**110**	**(5)**	**39**	**71**

The summary of the consolidated financial statements of associates and joint ventures for the year ended 31 December 2018 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	5,123	10,697	104	503	1,366	2,849	150	371
Current assets	1,267	4,554	38	196	126	252	105	352
Non-current liabilities	(2,633)	(9,420)	(67)	(194)	(986)	(1,972)	(38)	(173)
Current liabilities	(656)	(2,358)	(75)	(379)	(37)	(75)	(86)	(308)
Net assets	**3,101**	**3,473**	**-**	**126**	**469**	**1,054**	**131**	**242**

	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	3,247	11,670	140	701	288	575	971	3,306
Profit/(loss) and impairment from continuing operations	885	3,085	-	(1)	41	69	22	70
Other comprehensive income	(693)	(853)	-	(13)	(92)	(184)	(16)	(30)
Total comprehensive income	**192**	**2,232**	**-**	**(14)**	**(51)**	**(115)**	**6**	**40**

(a) PJSC MMC Norilsk Nickel

The Group's investment in Norilsk Nickel is accounted for using equity method and the carrying value as at 31 December 2019 and 31 December 2018 amounted USD 3,462 million and USD 3,101 million, respectively. The market values amounted USD 13,586 million and USD 8,286 million as at 31 December 2019 and 31 December 2018, respectively, 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 2019 and 31 December 2018 amounted to USD nil million. At 31 December 2019 management did not identify 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 values of the Group's investment in BEMO project as at 31 December 2019 and 31 December 2018 amounted USD 584 million and USD 469 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 2019 management did not identify any impairment indicators relating to the Group's investment in BoGES nor 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 2019, accumulated losses of USD 651 million (2018: USD 639 million) related to impairment charges at BoAZ have not been recognised because the Group's investment has already been fully written down to USD nil million.

Additional financial information of the Group's effective interest in BEMO project for the year ended 31 December 2019 and 31 December 2018 is presented below (all in USD million):

	31 December 2019	31 December 2018
	USD million	USD million
Cash and cash equivalents	60	51
Current financial liabilities	(41)	(12)
Non-current financial liabilities	(929)	(947)
Depreciation and amortisation	(17)	(19)
Interest income	3	2
Interest expense	(18)	(19)
Income tax expense	(12)	(11)

14. Inventories

Inventories are measured at the lower of cost or net realisable value. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

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	
	2019	2018
	USD million	USD million
Raw materials and consumables	1,247	1,293
Work in progress	669	703
Finished goods and goods for resale	789	1,217
	2,705	3,213
Provision for inventory obsolescence	(163)	(176)
	2,542	**3,037**

Inventories at 31 December 2019 and 31 December 2018 are stated at cost.

Inventories with a carrying value of USD 383 million and USD 5 million were pledged as collateral for secured bank loans at 31 December 2019 and 31 December 2018, 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.

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 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). The same applies to the Group's financial liabilities.

At a glance
Operating review
Sustainable development
Internal control and risk management
Corporate governance
FINANCIAL STATEMENTS

(i) ***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.

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.

UC RUSAL

The following table provides information about determined ECLs rates for trade receivables both as at 1 January 2019 and 31 December 2019.

	Weighted-average loss rate		**Credit-impaired**
	1 January 2019	**31 December 2019**	
Current (not past due)	2%	1%	No
1–30 days past due	10%	4%	No
31–60 days past due	40%	11%	No
61–90 days past due	50%	80%	No
More than 90 days past due	85%	92%	Yes

POWER

The following table provides information about determined ECLs rates for trade receivables both as at 1 January 2019 and 31 December 2019.

	Weighted-average loss rate		**Credit-impaired**
	1 January 2019	**31 December 2019**	
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.

(b) Trade and other receivables

	31 December	
	2019	**2018**
	USD million	**USD million**
Trade receivables from third parties	**715**	**572**
Trade receivables from related parties, including	**115**	**87**
Related parties – companies capable of exerting significant influence	*82*	*76*
Related parties – other	*2*	*4*
Related parties – associates and joint ventures	*31*	*7*
VAT recoverable	**447**	**330**

	31 December 2019 USD million	31 December 2018 USD million
Advances paid to third parties	**135**	**197**
Advances paid to related parties, including	**46**	**51**
Related parties – companies capable of exerting significant influence	-	*1*
Related parties – other	-	*1*
Related parties – associates and joint ventures	*46*	*49*
Other receivables from third parties	**218**	**174**
Other taxes receivable	**26**	**22**
Income tax receivable	**28**	**30**
Dividends receivable from related parties	**430**	**-**
Related parties – associates and joint ventures	*430*	-
Other current assets	**7**	**23**
	2,167	**1,486**
Allowance for doubtful debts	(85)	(97)
Total short-term receivables	**2,082**	**1,389**

(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:

UC RUSAL

	31 December 2019 USD million	31 December 2018 USD million
Current	448	346
Past due 0-30 days	99	62
Past due 31-60 days	30	6
Past due 61-90 days	-	2
Past due over 90 days	4	10
Amounts past due	133	80
	581	**426**

POWER

	31 December 2019 USD million	31 December 2018 USD million
Current	165	151
Past due 0-30 days	18	17
Past due 31-60 days	9	7
Past due 61-90 days	6	6
Past due 91 - 180 days	8	5
Past due over 180 days	-	-
Amounts past due	41	35
	206	**186**

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).

(c) Trade and other payables

	31 December 2019 USD million	31 December 2018 USD million
Accounts payable to third parties	**630**	**658**
Accounts payable to related parties, including	**49**	**31**
Related parties – companies capable of exerting significant influence	*3*	*5*
Related parties – other	-	*2*
Related parties – associates and joint ventures	*46*	*24*
Advances received from third parties	**562**	**72**
Advances received from related parties, including	**392**	**260**
Related parties – companies capable of exerting significant influence	*392*	*260*
Other payables and accrued liabilities	**224**	**239**
Income tax payable	**38**	**146**
Other taxes payable	**257**	**209**
	2,152	**1,615**

All of the trade and other payables are expected to be settled or recognised as income within one year or are repayable on demand.

(d) Cash and cash equivalents

	31 December 2019 USD million	31 December 2018 USD million
Bank balances, USD	1,310	51
Bank balances, RUB	329	461
Bank balances, EUR	118	300
Bank balances, other currencies	21	28
Cash in transit	-	16
Short-term bank deposits	476	273
Other cash equivalents	11	11
Cash and cash equivalents in the statement of cash flows	**2,265**	**1,140**
Restricted cash	13	43
Cash and cash equivalents in the statement of financial position	**2,278**	**1,183**

As at 31 December 2019 and 31 December 2018 included in cash and cash equivalents was restricted cash of USD13 million and USD43 million, respectively, pledged under a Swiss Law Pledged Agreement with BNP Paribas (Suisse) SA and Allied Irish Bank.

16. Equity

(a) Share capital, additional paid-in capital and transactions with shareholders

As at 31 December 2019 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 2019 and 31 December 2018 all issued ordinary shares were fully paid.

(i) Glencore deal

On 26 January 2019, the Parent Company issued 67,420,324 shares with a par value of USD 0.00007 each with a subsequent issue of GDRs on these shares, to Glencore Group Funding Limited pursuant to a securities exchange agreement in exchange for 8.75% shares in UC RUSAL ("Glencore deal").

Due to certain regulatory requirements, under the securities exchange agreement, Glencore has agreed to transfer its stake in UC RUSAL to the Parent Company in two stages. The first stage was settled on 31 January 2019 and 1.97% of RUSAL's shares was transferred to the Parent Company following the removal of the Parent Company and UC RUSAL from the SDN list (see note 1(d)), the remaining 6.78% of UC RUSAL's shares were transferred on 3 February 2020.

Under the Group's accounting policy, the Glencore deal was accounted for under the anticipated-acquisition method, as if the remaining 6.78% of UC RUSAL's shares had already been transferred. Fair value of the consideration transferred was determined with reference to market quotations on the London Stock Exchange.

As a result of the Glencore deal, non-controlling interests decreased by USD 435 million with respective increases of share premium of USD 543 million and other reserves of USD 251 million, and decreases of foreign currency translation reserve and accumulated losses by USD 836 million and USD 477 million, respectively.

(ii) Acquisition of non-controlling interests

In 2019 and 2018 the Group acquired 0.4% and 0.3% of Irkutskenergo shares for USD 5 million and USD 3 million, respectively. As a result the Group's shareholding as at 31 December 2019 in Irkutskenergo increased to 93.2% (as at 31 December 2018: 92.8%).

(b) Currency translation reserve

The currency translation reserve comprises all foreign exchange differences arising from the translation of the consolidated financial statements of foreign operations. The reserve is dealt with in accordance with the accounting policies set out in note 3(b).

(c) 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 accumulative 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.

(d) Dividends

During the year ended 31 December 2019 the Group did not declare and pay dividends.

In March 2018 the Parent Company declared and paid interim dividends for 2017 in the amount of USD 68 million (USD 0.119 per share).

Following redomiciliation in July 2019, 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.

(e) 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 2018, the fair value of hydro assets was estimated at USD 3,578 million (note 11(e)).

As a result of this fair value valuation, the Group recognised an additional revaluation reserve in the amount of USD 241 million net of tax (including USD 244 million attributable to shareholders of the Parent Company). During 2018, as a result of changes in effective interest in subsidiaries (note 11(e)), the revaluation reserve attributable to the Parent company increased by USD 3 million, net of tax.

(f) 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 2019

	UC RUSAL	Irkutskenergo Group*	OJSC Irkutsk Electric Grid Company	Total
NCI percentage	**43.1%**	**6.8%**	**47.6%**	
Assets	17,330	4,265	590	
Liabilities	(11,067)	(2,064)	(177)	
Net assets	**6,263**	**2,201**	**413**	
Carrying amount of NCI	2,701	145	196	**3,042**
Revenue	9,711	1,811	342	
Profit	960	172	19	
Other comprehensive income	578	(4)	-	
Total comprehensive income	**1,538**	**168**	**19**	
Profit attributable to NCI	418	19	7	**444**
Other comprehensive income attributable to NCI	267	7	21	**295**
				739
Cash flows generated from/(used in) operating activities	1,652	213	91	
Cash flows used in investing activities	246	(10)	(84)	
Cash flows (used in)/generated from financing activities	(949)	(176)	(16)	
Net increase/(decrease) in cash and cash equivalents	**949**	**27**	**(9)**	

* Net assets of Irkutskenergo Group were adjusted for the effect of Irkutskenergo investments in Irkutsk GridCo, Krasnoyarsk HPP and LLC KRAMZ.

31 December 2018

	UC RUSAL	Irkutskenergo Group*	OJSC Irkutsk Electric Grid Company	Total
NCI percentage	**51.9%**	**7.2%**	**47.7%**	
Assets	15,293	3,640	502	
Liabilities	(10,568)	(1,872)	(149)	
Net assets	**4,725**	**1,768**	**353**	
Carrying amount of NCI	2,451	128	168	**2,747**
Revenue	10,280	1,996	341	
Profit	1,698	102	14	
Other comprehensive income	(933)	(43)	-	
Total comprehensive income	**765**	**59**	**14**	
Profit attributable to NCI	881	9	5	**895**
Other comprehensive income attributable to NCI	(484)	(30)	(34)	**(548)**
				347
Cash flows generated from/(used in) operating activities	680	182	70	
Cash flows used in investing activities	(106)	(81)	(71)	
Cash flows (used in)/generated from financing activities	(517)	(76)	11	
Net increase/(decrease) in cash and cash equivalents	**57**	**25**	**10**	

* Net assets of Irkutskenergo Group were adjusted for the effect of Irkutskenergo investments in Irkutsk GridCo, Krasnoyarsk HPP and LLC KRAMZ.

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	
	2019	2018
	USD million	USD million
Non-current liabilities		
Secured bank loans	7,626	7,951
Unsecured bank loans	1,086	476
Bonds	2,546	1,580
	11,258	**10,007**

	31 December	
	2019	2018
	USD million	USD million
Current liabilities		
Current portion of secured bank loans	376	663
Current portion of unsecured bank loans	2	12
	378	**675**
Secured bank loans	210	252
Unsecured bank loans	509	848
Accrued interest	72	118
Bonds	55	377
	846	**1,595**
	1,224	**2,270**

(a) Loans and borrowings

	31 December	
	2019	2018
	USD million	USD million
Non-current liabilities		
Secured bank loans		
Variable		
USD – 3M Libor + 2.25 - 2.50%	1,070	1,405
USD – 3M Libor + 3.75%	2,089	3,328
USD – 1M Libor + 3.60%	54	-
EUR – 6M Euribor + 1.75%	1	3
RUB – CBR + 1.50% - 2.00%	2,581	1,159
Fixed		
RUB - fixed at 8.75% - 9.15%	1,792	1,987
RUB - fixed at 10.00% - 11.50%	39	69
	7,626	**7,951**
Unsecured bank loans		
Variable		
RUB – CBR + 1.00%	696	-
USD – 1M Libor + 2.4%	200	200
Fixed		
RUB – fixed at 5.00%-9.50%	190	276
	1,086	**476**
Bonds	2,546	1,580
	11,258	**10,007**
Current liabilities		
Current portion of secured bank loans		
Variable		
USD – 3M Libor + 2.50%	-	279
EUR – 6M Euribor + 1.75%-1.95%	2	2
RUB – CBR + 1.5% - 2.00%	321	111
Fixed		
RUB – fixed at 8.75%-11.5%	53	271
	376	**663**
Current portion of unsecured bank loans		
Fixed		
RUB – fixed at 5%-8.75%	2	12
	2	**12**
Secured bank loans		
Variable		
USD – 1M Libor + 4.50%	-	54
USD – 3M Libor + 1.65%	210	-
Fixed		
RUB - fixed at 5.00% - 9.25%	-	198
	210	**252**
Unsecured bank loans		
Variable		
RUB – CBR + 0.85% - 0.96%	230	-
RUB – CBR + 1.50% - 2.00%	14	211
Fixed		
USD - fixed at 3.60%	200	
RUB - fixed at 7.35%-10.50%	65	637

	31 December 2019 USD million	31 December 2018 USD million
	509	**848**
Accrued interest	72	118
Bonds	55	377
	846	**1,595**
	1,224	**2,270**

The secured bank and company loans (including guarantee agreement) are secured by pledges of shares of the following Group companies and associate:

	31 December 2019 % of shares	31 December 2018 % of shares
PJSC Norilsk Nickel	25+1 share	25+1 share
ILLC GERSHVIN (ex. Gershvin Investments Corp. Limited)	100	100
ILLC AKTIVIUM (ex. Aktivium Holding B.V.)	100	100
LLC ESE - Hydrogeneration	100	100
JSC Krasnoyarsk Hydro-Power Plant	50+1 share	50.72
PJCS Irkutskenergo	67.70	67.70
OJSC Irkutsk Electric Grid Company	-	33.27

The bank loans are also secured as at 31 December 2019 and 31 December 2018 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 25 October 2019 (31 December 2018: the syndicated Pre-Export Finance Term Facility Agreement (PXF) 24 May 2017);
- properties, plant and equipment – refer to note 11(d);
- inventories – refer to note 14.

UC RUSAL

On 25 October 2019, UC RUSAL entered into new five-year sustainability-linked pre-export finance facility for USD 1,085,000,000. The interest rate is subject to a sustainability discount or premium depending on UC RUSAL's fulfilment of the sustainability key performance indicators (KPI). The proceeds were partly used to refinance the principal outstanding under the existing pre-export finance facility of up to USD 2 billion.

As at 31 December 2019 UC RUSAL through its subsidiaries had outstanding REPO loans backed by Norilsk Nickel shares of 1,017,000, amounting to USD 210 million and maturing in June 2020.

During the year ended 31 December 2019, UC RUSAL made a principal repayment of USD 1,700 million and RUB 32,769 million (USD 512 million) under the syndicated Pre-Export Finance Term Facility Agreement (PXF) and credit facilities with Sberbank and Gazprombank, respectively.

In January 2018, UC RUSAL entered into a bilateral facility agreement with Nordea Bank AB with the following key terms: principal amount of USD 200 million, tenor of 3 years, interest rate of 1M Libor + 2.4% per annum with a bullet repayment. The proceeds were applied for partial prepayment of UC RUSAL's existing debt.

On 13 December 2018, UC RUSAL executed amendments to its existing credit facility with Sberbank for conversion of ½ of the principal outstanding amount of the loan into RUB at an interest rate 9.15%. Subsequently the amount of USD 2,107 million was converted into RUB.

As at 31 December 2018 UC RUSAL through its subsidiaries had outstanding REPO loan backed by Norilsk Nickel shares of 1,413,379, amounting to USD 194 million and maturing in June 2019.

During 2018, UC RUSAL made a principal repayments of USD 579 million, EUR 55 million (USD 68 million) and RUB 18 million (USD 3 million) under credit facilities with Gazprombank, VTB Capital and Credit Bank of Moscow

The nominal value of UC RUSAL's loans and borrowings was USD 5 612 million at 31 December 2019 (31 December 2018: USD 6,332 million).

POWER

In December 2019, EuroSibEnergo entered into a 7-year RUB 99.5 billion (USD 1.6 billion) loan agreement with Sberbank to fully refinance its existing obligations on more favorable commercial terms.

During 2019, EuroSibEnergo-Hydrogeneration made a scheduled repayment of principal in the amount of RUB 7,728 million (USD 119 million) under the EuroSibEnergo-Hydrogeneration syndicate facility.

In June 2018, EuroSibEnergo amended the RUB-denominated loan - maturity date was extended to June 2024, the first principal repayment was scheduled for March 2020 and the nominal interest rate was fixed at 8.8%.

In November 2018, EuroSibEnergo converted (via series of transactions) its USD-denominated loan to RUB 33,179 million at an average exchange rate of 66.45 RUB/USD and with an interest rate of 9.0% p.a. while the tenor and security remain unchanged.

The nominal value of Power loans and borrowings was USD 4,243 million at 31 December 2019 (31 December 2018: USD 3,932 million).

The fair value of the Group's liabilities measured at amortised cost approximate their carrying values as at 31 December 2019 and 31 December 2018.

Change of control over the Group as disclosed in note 1 entitled certain lenders to the Group with the right to request mandatory prepayment of outstanding indebtedness as stipulated in the respective loan agreements. The Group reached an agreement with lenders that this right could not be executed as at 31 December 2019.

In February 2020, the Group entered into 2 loan agreements with Sberbank:

Loan 1 – 3-year RUB 100.8 billion loan agreement to finance the acquisition of a 21.37% stake in the Parent Company for USD 1.6 billion from VTB (note 1(a)).
Loan 2 – loan agreement allowing the execution of the final maturity of the Loan 1 by another 4 years during 2022.

(b) Bonds

As at 31 December 2019, 27,751 series 08 bonds, 397,347 series BO-01 bonds, 15,000,000 series BO-001P-01 bonds, 15,000,000 series BO-001P-02 bonds, 15,000,000 series BO-001P-03 bonds, 15,000,000 series BO-001P-04 bonds were outstanding (traded in the market).

The closing market price at 31 December 2019 was RUB 917, RUB 982, RUB 1,030, RUB 1,047, RUB 1,026 and RUB 1,003 per bond for the six tranches, respectively.

On 20 March 2019, UC RUSAL executed the put option under Panda bonds issuance (the first tranche) and redeemed bonds with notional value CNY 680 million (USD 101 million).

On 29 March 2019, RUSAL Bratsk announced a new coupon rate in respect to the series 08 bonds at the level of 0.01% per annum. On 10 April 2019 the Company exercised a put option on the outstanding RUB-denominated bonds series 08 and redeemed the bonds with notional value of RUB 23.8 million.

On 04 April 2019, RUSAL Bratsk announced a new coupon rate in respect to the series BO-01 bonds at the level of 0.01% per annum. On 18 April 2019 the Company exercised a put option on the outstanding RUB-denominated bonds series BO-01 and redeemed the bonds with notional value of RUB 3.8 billion.

On 29 April 2019, the placement of RUB 15 billion exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-01 in the amount of with a coupon rate 9.0% was completed and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. Maturity of the bonds is ten years subject to bondholders' put option exercisable in April 2022. In addition to the placement, the Group entered into a cross-currency interest rate swap, which resulted in the exchange-traded rouble bonds exposure being translated in full into US-dollars with a maturity of 3 years and an interest rate of 4.69%.

On 11 July 2019, the placement of RUB 15 billion exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-02 with a coupon rate 8.60% was completed and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. Maturity of the bonds is ten years subject to bondholders' put option exercisable in January 2023. In addition to the placement, the Group entered into a cross-currency interest rate swap, which resulted in the exchange-traded rouble bonds exposure being translated in full into US-dollars with a maturity of 3.5 years and an interest rate of 4.45%.

On 04 September 2019, the Group executed the put option under Panda bonds issuance (the second tranche) and redeemed bonds with notional value CNY 480 million (USD 67 million).

On 12 September 2019, the placement of RUB 15 billion exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-03 with a coupon rate 8.25% was completed and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. Maturity of the bonds is ten years subject to a bondholders' put option exercisable in September 2022. In addition to the placement, the Group entered into 2 cross-currency interest rate swaps, which resulted in the exchange-traded rouble bonds exposure being translated in full into US-dollars with a maturity of 3 years for both swaps and interest rates of 3.82% and 3.85%.

On 14 November 2019, the placement of RUB 15 billion exchange-traded rouble bonds of PJSC RUSAL Bratsk series BO-001P-04 with a coupon rate 7.45% was completed and the exchange-traded rouble bonds commenced trading on the Moscow Exchange. Maturity of the bonds is ten years subject to a bondholders' put option exercisable in November 2022. In addition to the placement, the Group entered into a cross-currency interest rate swap, which resulted in the exchange-traded rouble bonds exposure being translated in full into US-dollars with the maturity of 3 years and an interest rate of 3.65%.

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.

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.

(b) Disclosure

USD million	Pension liabilities	Site restoration	Provisions for legal claims	Tax provisions	Total
Balance at 1 January 2018	**116**	**459**	**7**	**-**	**582**
Non-current	107	435	-	-	542
Current	9	24	7	-	40
Provisions made during the year	7	21	9	20	57
Provisions reversed during the year	-	(16)	-	-	(16)
Actuarial gains	(10)	-	-	-	(10)
Provisions used during the year	(8)	(7)	(5)	-	(20)
Change in estimates	-	(4)	-	-	(4)
Translation difference	(16)	(42)	(1)	-	(59)
Balance at 31 December 2018	**89**	**411**	**10**	**20**	**530**
Non-current	82	377	-	-	459
Current	7	34	10	20	71
Provisions made during the year	13	47	24	-	84
Provisions reversed during the year	(10)	(25)	-	-	(35)
Actuarial losses	17	-	-	-	17
Provisions used during the year	(8)	(2)	-	(20)	(30)
Change in estimates	-	14	-	-	14
Translation difference	10	14	3	-	27
Balance at 31 December 2019	**111**	**459**	**37**	**-**	**607**
Non-current	104	432	-	-	536
Current	7	27	37	-	71
	111	**459**	**37**	**-**	**607**

(c) Pension liabilities

As at 31 December 2019, the pension liability is represented by UC RUSAL USD 60 million (31 December 2018: USD 54 million) and Power USD 51 million (31 December 2018: USD 35 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 Irkutskenergo and Krasnoyarsk HPP. The Group also provides pension benefits to eligible participants at facilities located outside of the Russian Federation and Ukraine.

UC RUSAL

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 and Nigerian 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 2019 and 2018 was 46,581 and 58,089, respectively. The number of pensioners in all jurisdictions as at 31 December 2019 and 2018 was 41,699 and 44,966, respectively.

The Group expects to pay under the defined benefit retirement plans an amount of USD 4 million during the 12 month period beginning on 1 January 2020.

Actuarial valuation of pension liabilities

The actuarial valuations of the Group and the portion of the Group funds specifically designated for the Group's employees were completed by a qualified actuary, Robert van Leeuwen AAG, as at 31 December 2019, 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 2018 % per annum	**31 December 2018** % per annum
Discount rate	6.4	7.9
Expected return on plan assets	N/A	N/A
Future salary increases	8.4	7.8
Future pension increases	5.1	4.6
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 2019 and 31 December 2018 the Group's obligations were fully uncovered as the Group has only wholly unfunded plans.

POWER

The principal assumptions used in determining pension obligations for the pension plans are shown below:

	31 December 2019	**31 December 2018**
Discount rate	6.3%	8.5%
Future salary increases	5.6%	5.6%
Pension and inflation rate increases	4.1%	4.1%

(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 fair 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 2019	**31 December 2018**
Timing of cash outflows	2020: USD 26 million 2021-2025: USD 223 million 2026-2036: USD 125 million after 2036: USD 240 million	2019: USD 34 million 2020-2024: USD 214 million 2025-2035: USD 136 million after 2035: USD 222 million
Years required to fill the ash dumps	16.7	17.7
Discount rate for Irkutskenergo and Coal segment assets after adjusting for inflation	2.6%	4.6%
Risk free discount rate for UC RUSAL after adjusting for inflation	1.96%	3.10%

The risk free rate for the year 2018-2019 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 the Directors 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 2019, 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 37 million (31 December 2018: USD 10 million). The amount of claims, where management assesses outflow as possible approximates USD 21 million (31 December 2018: USD 31 million).

At each reporting date the Directors have assessed the provisions for litigation and claims and concluded that the provisions and disclosures are adequate.

(f) Tax provisions

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.

At each reporting date the Directors have assessed the provisions for taxation 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 2019		31 December 2018	
	USD million		USD million	
	Derivative assets	Derivative liabilities	Derivative assets	Derivative liabilities
Petroleum coke supply contracts and other raw materials	39	36	42	31
Forward contracts for aluminium and other instruments	21	18	-	-
Cross currency swap (note 17(b))	48	-	-	-
Total	**108**	**54**	**42**	**31**

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 following significant assumptions were used in estimating derivative instruments:

	2020	2021	2022	2023	2024	2025
LME Al Cash, USD per tonne	1,831	1,908	1,991	2,078	2,166	2,222
Platt's FOB Brent, USD per barrel	64	59	57	57	57	-

The movement in the balance of Level 3 fair value measurements of derivatives is as follows:

	31 December	
	2019	2018
	USD million	USD million
Balance at the beginning of the year	11	(50)
Unrealised changes in fair value recognised in statement of profit or loss (finance (expense)/income) during the year	(21)	171
Unrealised changes in fair value recognised in other comprehensive income (cash flow hedge) during the year	34	-
Realised portion of electricity, coke and raw material contracts and cross currency swap	30	(110)
Balance at the end of the year	**54**	**11**

During the year 2019 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.

Petroleum coke supply contracts and other raw materials

In May and September 2011, UC RUSAL entered into long-term petroleum coke supply contracts where the price of coke is determined with reference to the LME aluminium price and the Brent oil price. The strike price for aluminium is set at USD 2,403.45 per tonne and USD 1,735.03 per tonne, respectively, while the strike price for oil is set at USD 61.10 per barrel and USD 47.7 per barrel, respectively.

In May 2014, UC RUSAL entered into long-term petroleum coke supply contracts where the price of coke is determined with reference to the LME aluminium price and average monthly aluminium quotations, namely of Aluminum MW US Transaction premium, MB Aluminium Premium Rotterdam Low - High» and Aluminum CIF Japan premium. The strike price for aluminium is set at USD 1,809.65 per tonne while the strike aluminium premium quotations for US, Europe and Japan are set at USD 403.96 per tonne, USD 313.30 per tonne and USD 366.00 per tonne, respectively.

In November 2015, UC RUSAL entered into long-term pitch supply contracts where the price of pitch is determined with reference to the LME aluminium price. The strike price for aluminium is set at USD 1,508 per tonne.

20. Financial risk management and fair values

(a) Fair values

Management believes that the fair values of financial assets and liabilities approximate their carrying amounts.

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.

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.

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, 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.

As at 31 December 2019

		Carrying amount				Fair value			
	Note	Designated at fair value USD million	Financial assets at amortised cost USD million	Other financial 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	39	-	-	39	-	-	39	39
Forward contracts for aluminium and other instruments	19	21	-	-	21	-	-	21	21
Cross currency swaps	19	48	-	-	48	-	-	48	48
		108	**-**	**-**	**108**	**-**	**-**	**108**	**108**
Financial assets not measured at fair value*									
Trade and other receivables	15(b)	-	1,901	-	1,901	-	1,901	-	1,901
Short-term investments		-	241	-	241	-	241	-	241
Cash and cash equivalents	15(d)	-	2,278	-	2,278	-	2,278	-	2,278
		-	**4,420**	**-**	**4,420**	**-**	**4,420**	**-**	**4,420**
Financial liabilities measured at fair value									
Petroleum coke supply contracts and other raw materials	19	(36)	-	-	(36)	-	-	(36)	(36)
Forward contracts for aluminium and other instruments	19	(18)	-	-	(18)	-	-	(18)	(18)
		(54)	**-**	**-**	**(54)**	**-**	**-**	**(54)**	**(54)**
Financial liabilities not measured at fair value*									
Loans and borrowings	17(a)	-	-	(9,881)	(9,881)	-	(10,038)	-	(10.038)
Unsecured bond issue	17(b)	-	-	(2,601)	(2,601)	(1,002)	(1,700)	-	(2,702)
Trade and other payables	15(c)	-	-	(1,198)	(1,198)	-	(1,198)	-	(1,198)
		-	**-**	**(13,680)**	**(13,680)**	**(1,002)**	**(12,936)**	**-**	**(13,938)**

* The Group considers that the carrying amounts of short-term trade receivables and payables are a reasonable approximation of fair values.

As at 31 December 2018

	Note	Carrying amount: Designated at fair value USD million	Carrying amount: Financial assets at amortised cost USD million	Carrying amount: Other financial liabilities USD million	Carrying amount: Total USD million	Fair value: Level 1 USD million	Fair value: Level 2 USD million	Fair value: Level 3 USD million	Fair value: Total USD million
Financial assets measured at fair value									
Petroleum coke supply contracts and other raw materials	19	42	-	-	42	-	-	42	42
		42	-	-	**42**	-	-	**42**	**42**
Financial assets not measured at fair value*									
Trade and other receivables	15(b)	-	1,143	-	1,143	-	1,143	-	1,143
Short-term investments		-	211	-	211	-	211	-	211
Cash and cash equivalents	15(d)	-	1,183	-	1,183	-	1,183	-	1,183
		-	**2,537**	-	**2,537**	-	**2,537**	-	**2,537**
Financial liabilities measured at fair value									
Petroleum coke supply contracts and other raw materials	19	(31)	-	-	(31)	-	-	(31)	(31)
		(31)	-	-	**(31)**	-	-	**(31)**	**(31)**
Financial liabilities not measured at fair value*									
Loans and borrowings	17(a)	-	-	(10,320)	(10,320)	-	(10,391)	-	(10,391)
Unsecured bond issue	17(b)	-	-	(1,957)	(1,957)	(161)	(1,813)	-	(1,974)
Trade and other payables	15(c)	-	-	(1,283)	(1,283)	-	(1,283)	-	(1,283)
		-	-	**(13,560)**	**(13,560)**	**(161)**	**(13,487)**	-	**(13,648)**

* The Group considers that the carrying amounts of short-term trade receivables and payables are a reasonable approximation of fair values.

(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 2019 and 31 December 2018, 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 2019		31 December 2018	
	Effective interest rate %	USD million	Effective interest rate %	USD million
Fixed rate loans and borrowings				
Loans and borrowings (note 17(a))	0.01%-11.5%	4,942	4.85%-12.85%	5,407
		4,942		**5,407**
Variable rate loans and borrowings				
Loans and borrowings (note 17(a))	1.75%-8.25%	7,468	1.75%-9.75%	6,752
		7,468		**6,752**
		12,410		**12,159**

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 annualised 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	Effect on equity for the year
		USD million	USD million
As at 31 December 2019			
Basis percentage points	+100	(75)	(60)
Basis percentage points	-100	75	60
As at 31 December 2018			
Basis percentage points	+100	(68)	(54)
Basis percentage points	-100	68	54

(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 and EUR. 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.

EN+ GROUP IPJSC

Notes to the Consolidated Financial Statements for the year ended 31 December 2019

USD million	**USD-denominated vs. RUB functional currency**		**RUB-denominated vs. USD functional currency**		**EUR-denominated vs. USD functional currency**		**Denominated in other currencies vs. USD functional currency**	
	31 December		**31 December**		**31 December**		**31 December**	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
Non-current assets	-	-	3	3	-	1	8	-
Derivative financial assets	-	-	40	42	-	-	-	-
Trade and other receivables	1	1	662	640	55	91	43	28
Cash and cash equivalents	26	-	85	417	125	312	35	42
Loans and borrowings	(54)	(54)	(1,980)	(1,030)	-	-	-	-
Provisions	-	-	(66)	(102)	(26)	(26)	(14)	(10)
Derivative financial liabilities	-	-	(11)	(11)	-	-	-	-
Income taxation	-	-	(2)	(15)	-	-	(8)	(11)
Non-current liabilities	-	-	(1)	-	(6)	(6)	-	-
Short-term bonds	-	-	(7)	(161)	-	-	(49)	(216)
Trade and other payables	-	-	(351)	(393)	(42)	(61)	(74)	(54)
Net exposure arising from recognised assets and liabilities	**(27)**	**(53)**	**(1,628)**	**(610)**	**106**	**311**	**(59)**	**(221)**

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 2019		
		USD million	USD million
	Change in exchange rates	Effect on profit before taxation for the year	Effect on equity for the year
Depreciation of USD vs. RUB	15%	(240)	(240)
Depreciation of USD vs. EUR	10%	11	11
Depreciation of USD vs. other currencies	5%	(3)	(3)

	Year ended 31 December 2018		
		USD million	USD million
	Change in exchange rates	Effect on profit before taxation for the year	Effect on equity for the year
Depreciation of USD vs. RUB	5%	(28)	(28)
Depreciation of USD vs. EUR	5%	16	16
Depreciation of USD vs. other currencies	5%	(11)	(11)

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 other 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, except loans presented as payable on demand due to breach of covenant:

	31 December 2019 Contractual undiscounted cash outflow					
	Within 1 year or on demand	More than 1 year but less than 2 years	More than 2 years but less than 5 years	More than 5 years	TOTAL	Carrying amount
	USD million	USD million	USD million	USD million	USD million	USD million
Trade and other payables to third parties	1,149	-	-	-	1,149	1,149
Trade and other payables to related parties	49	-	-	-	49	49
Bonds, including interest payable	219	161	2,720	-	3,100	2,601
Loans and borrowings, including interest payable	1,763	2,528	6,825	1,005	12,121	9,881
	3,180	**2,689**	**9,545**	**1,005**	**16,419**	**13,680**
Financial guarantees issued: Maximum amount guaranteed	69	67	-	-	136	-

	31 December 2018 Contractual undiscounted cash outflow					
	Within 1 year or on demand	More than 1 year but less than 2 years	More than 2 years but less than 5 years	More than 5 years	TOTAL	Carrying amount
	USD million	USD million	USD million	USD million	USD million	USD million
Trade and other payables to third parties	1,252	-	-	-	1,252	1,252
Trade and other payables to related parties	31	-	-	-	31	31
Bonds, including interest payable	480	82	1,773	-	2,335	1,957
Loans and borrowings, including interest payable	2,507	2,052	5,844	2,428	12,831	10,320
	4,270	**2,134**	**7,617**	**2,428**	**16,449**	**13,560**
Financial guarantees issued: Maximum amount guaranteed	63	59	-	-	122	-

At 31 December 2019 and 31 December 2018, UC RUSAL's guarantee in respect of credit arrangement between BoAZ and VEB is presented as a contingent liability and included within the maximum exposure for the Group in the liquidity risk disclosure above (note 22(d)).

(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 bad debts 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 given.

At 31 December 2019 and 31 December 2018, the Group has no concentration of credit risk within any single largest customer but 14.6% and 4.8% 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 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 amount 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 2019	
	USD million	**USD million**
	Trade receivables	**Trade payables**
Gross amounts	99	(77)
Net amounts presented in the statement of financial position	**99**	**(77)**
Amounts related to recognised financial instruments that do not meet some or all of the offsetting criteria	(33)	33
Net amount	**66**	**(44)**

	Year ended 31 December 2018	
	USD million	**USD million**
	Trade receivables	**Trade payables**
Gross amounts	78	(51)
Net amounts presented in the statement of financial position	**78**	**(51)**
Amounts related to recognised financial instruments that do not meet some or all of the offsetting criteria	(28)	28
Net amount	**50**	**(23)**

21. Commitments

(a) Capital commitments

UC RUSAL

UC RUSAL has entered into contracts that result in contractual obligations primarily relating to various construction and capital repair works. The commitments at 31 December 2019 and 31 December 2018 approximated USD 298 million and USD 200 million, respectively. These commitments are due over a number of years.

POWER

The Power segment had outstanding capital commitments which had been contracted for at 31 December 2019 and 31 December 2018 in the amount of USD 326 million and USD 78 million, 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 2020-2034 under supply agreements are estimated from USD 3,257 million to USD 4,135 million at 31 December 2019 (31 December 2018: USD 2,932 million to USD 3,527 million) depending on the actual purchase volumes and applicable prices.

Commitments with a related party - joint venture for purchases of primary aluminium and alloys in 2020-2030 under supply agreements are estimated from USD 5,134 million to USD 8,636 million (31 December 2018: USD 6,375 million to USD 10,019 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 2020-2034 are estimated from USD 962 million to USD 1,292 million at 31 December 2019 (31 December 2018: from USD 509 million to USD 2,344 million) and will be settled at market prices at the date of delivery. Commitments with related parties for sales of alumina in 2020-2024 approximated from USD 413 million to USD 771 million at 31 December 2019 (31 December 2018: from USD 227 million to USD 363 million).

Commitments with related parties for sales of primary aluminium and alloys in 2020-2021 are estimated from USD 375 million to USD 563 million at 31 December 2019 (31 December 2018: from USD 493 million to USD 739 million). Commitments with third parties for sales of primary aluminium and alloys in 2020-2022 are estimated to range from USD 1,720 million to USD 2,559 million at 31 December 2019 (31 December 2018: from USD 832 million to USD 1,155 million).

(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. 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.

The Russian taxation system is continually evolving and is subject to frequent changes, starting from 1 January 2015, changes aimed at regulating tax consequences of transactions with foreign companies and their activities were introduced, such as the concept of beneficial ownership of income, taxation of controlled foreign companies, tax residency rules, country-by-country reporting etc. This legislation and practice of its application is still evolving and the impact of legislative changes should be considered based on the actual circumstances.

All these circumstances may create tax risks in the Russian Federation that are substantially more significant than in other countries. Management believes that it has provided adequately for tax liabilities based on its interpretations of applicable Russian tax legislation, official pronouncements and court decisions. However, the interpretations of the tax authorities and courts, especially due to reform of the supreme courts that are resolving tax disputes, could differ and the effect on these consolidated financial statements, if the authorities were successful in enforcing their interpretations, could be significant.

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 may become payable if these tax positions were not sustained at 31 December 2019 is USD 34 million (31 December 2018: USD 32 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 2019, the amount of claims, where management assesses outflow as possible approximates USD 21 million (31 December 2018: USD 31 million).

(d) Provision for guarantees

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.

In September 2013, UC RUSAL entered into an agreement with PJSC RusHydro to provide funds to BoAZ, if the latter is unable to fulfil its obligations under its credit facility with GK Vnesheconombank ("VEB"). This agreement represents a surety for the increased credit limit obtained for the financing of BoAZ. The aggregate exposure under the agreement is limited to RUB 16.8 billion (31 December 2019 and 2018 USD 272 million and USD 242 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.

At a glance
Operating review
Sustainable development
Internal control and risk management
Corporate governance
FINANCIAL STATEMENTS

(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, Glencore International Plc or entities under its control, associates and joint ventures and other related parties.

Sales to related parties for the year are disclosed in note 5, trade receivables from related parties are disclosed in note 15(b), accounts payable to related parties are disclosed in note 15(c).

Purchases of raw materials and services from related parties for the period were as follows:

	Year ended 31 December	
	2019	**2018**
	USD million	**USD million**
Purchase of raw materials	**(533)**	**(421)**
Companies capable of exerting significant influence	*(54)*	*(78)*
Other related parties	*(25)*	*(36)*
Associates and joint ventures	*(454)*	*(307)*
Energy costs	**(46)**	**(51)**
Companies capable of exerting significant influence	*(5)*	*(4)*
Other related parties	*(1)*	*(1)*
Associates and joint ventures	*(40)*	*(46)*
Other services	**(126)**	**(152)**
Other related parties	*(2)*	*(3)*
Associates and joint ventures	*(124)*	*(149)*
	(705)	**(624)**

(c) Related parties balances

At 31 December 2019, included in non-current assets are balances of related parties — associates and joint ventures of USD 2 million (31 December 2018: USD 42 million, net of impairment loss of USD 52 million recognized as a result of adoption of IFRS 9). At 31 December 2019, included in non-current liabilities are balances of related parties – associates and joint ventures of USD 11 million (31 December 2018: USD 10 million).

(d) Remuneration to key management

For the year ended 31 December 2019 remuneration to key management personnel during the year was represented by short-term employee benefits and amounted to USD 22 million (31 December 2018: USD 16 million).

24. Events subsequent to the reporting date

On 17 February 2020, the Parent Company's ordinary shares have been included into the "Level 1" part of the list of securities admitted to trading on Moscow Exchange. Other subsequent events are disclosed in notes 1(a), 1(c) and note 17(a).

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.

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 reportable business 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.

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 in 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.

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.

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.

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 2019	2018
UC RUSAL				
United Company RUSAL Plc	Jersey	Holding company	56.9%	48.1%
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 Refunery 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%
RUSAL RESAL LLC	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%
RUS-Engineering LLC	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%
Rusal America Corp.	USA	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 Komi Aluminii	Russian Federation	Alumina	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%
SUAL-PM LLC	Russian Federation	Aluminium powders production	100.0%	100.0%
JSC Kremniy	Russian Federation	Silicon production	100.0%	100.0%
RUSAL-Kremniy-Ural LLC	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 Sarl	Luxembourg	Finance services	100.0%	100.0%
ILLC AKTIVIUM (ex. Aktivium B.V.)	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%
RUSAL Taishet LLC	Russian Federation	Smelting	100.0%	100.0%
UC RUSAL Anode Plant LLC	Russian Federation	Anodes	100.0%	100.0%

Name	Place of incorporation and operation	Principal activities	Ownership and equity interest 31 December 2019	2018
POWER				
En+ Holding Limited	Cyprus	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	99.9%	99.9%
PJSC Irkutskenergo	Russian Federation	Power generation	93.2%	92.8%
OJSC Irkutsk Electric Grid Company	Russian Federation	Power transmission and distribution	52.4%	52.3%
LLC EuroSibEnergo - Hydrogeneration	Russian Federation	Power generation	100.0%	100.0%
LLC Avtozavodskaya TEC	Russian Federation	Power generation	96.5%	96.3%
LLC EuroSibEnergo-engineering	Russian Federation	Engineering services	100.0%	100.0%
LLC Kompaniya VostSibUgol	Russian Federation	Coal production	93.2%	92.8%
LLC KRAMZ	Russian Federation	Manufacturing of semi-finished products from primary aluminium	94.0%	93.7%
LLC Sorsk Mining and Metallurgical Complex	Russian Federation	Ore mining	100.0%	100.0%
LLC Sorsk Ferromolybdenum Plant	Russian Federation	Ore processing, ferromolybdenum production	100.0%	100.0%

The nominal ownerships indicated in the table above are the effective holdings, except for UC RUSAL shareholdings where 56.88% (nominal shareholding is 50.10%) is held by the Parent Company.

Glossary

Units of measurement

bn	Billion
EUR	Euro
Gcal	Gigacalorie, a unit of measurement for heating energy
Gcal/h	Gigacalorie per hour, a unit of measurement for heating power capacity
GW	Gigawatt (one million kilowatts)
GWh	Gigawatt-hour (one million kilowatt-hours)
kA	Kilo-amperes
km	Kilometre
kt	Thousand metric tonnes
ktpa	Thousand tonnes per annum
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour, a unit of measurement for produced electricity
mn	Million
mt	Million metric tonnes
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
pp	Percentage point
RUB	Rouble
ths	Thousand
t, tonne	One metric tonne (one thousand kilograms)
tpa	Tonnes per annum
TW	Terawatt (one billion kilowatts)
TWh	Terawatt-hour (one billion kilowatt-hours)
USD	United States dollar

Terms and abbreviations

AAR	Achinsk Alumina Refinery or RUSAL Achinsk or JSC “RUSAL Achinsk”, a company incorporated under the laws of the Russian Federation, which is a wholly-owned subsidiary of RUSAL
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
ALSCON	Aluminium Smelter Company of Nigeria Ltd., a company incorporated in Nigeria and in which UC RUSAL indirectly holds an 85% interest
ARC	Audit and Risk Committee
ATS	Joint-stock company “Administrator of the trading system of the wholesale electricity market”
Aughinish	Aughinish Alumina Refinery or Aughinish Alumina or Aughinish Alumina Limited, a company incorporated in Ireland, which is a wholly owned subsidiary of UC RUSAL
BAS	Bogoslovsk Aluminium Smelter, a branch of JSC RUSAL Ural
Basic Element	Basic Element Limited, a company incorporated in Jersey, of which Mr. Oleg Deripaska is the ultimate beneficial owner
BCGI	Bauxite Company of Guyana Inc., the company was founded in December 2004 under an agreement between UC RUSAL and the Government of Guyana. UC RUSAL owns a 90% stake in the company, while the remaining 10% belongs to the Guyanese government
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 thousand 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
Board	Board of Directors of the Company
BrAZ, Bratsk AS	Bratsk Aluminium Smelter or PJSC “RUSAL Bratsk”, a company incorporated under the laws of the Russian Federation, which is a wholly owned subsidiary of UC RUSAL
BS OHSAS 18001	BS OHSAS (Occupational Health and Safety Assessment Series) 18001:2007 is a standard that sets out the criteria for a health and safety management systems and can be certified to. BS OHSAS 18001 is being replaced by ISO 45001

CC	Compliance Committee of the Board, previously the Regulation and Compliance Committee
CCO	Competitive capacity outtake
CBK, Kindia	Compagnie des Beauxites de Kindia, located in Guinea
CGNC	Corporate Governance and Nominations Committee
CHP	Combined heat and power plant
CIS	The Commonwealth of Independent States
CO_2	Carbon dioxide
CO_2e	CO_2 equivalent
Continuance Date	9 July 2019, when: • 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
CRU	CRU International Limited
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
DTRs	The FCA's Disclosure Guidance and Transparency Rules
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
En+, En+ Group, we, the Company, the Group	EN+ GROUP International public joint-stock company / EN+ GROUP IPJSC and its subsidiaries whose results are included in the consolidated financial statements prepared in accordance with the International Financial Reporting Standards (or, where relevant, in relation to the Company prior to the Continuance, EN+ GROUP PLC)
EuroSibEnergo	JSC EuroSibEnergo is a 100% subsidiary of En+ Group, managing its power assets
FBA	Friguia Bauxite and Alumina Complex or Friguia Alumina Refinery or Friguia S.A., a company incorporated in Guinea, which is a wholly owned subsidiary of UC RUSAL
FCA	The UK's Financial Conduct Authority
FCF	Free Cash Flow
FSMA	The Financial Services and Markets Act 2000
GDR	Global depositary receipt
GHG	Greenhouse gas emissions
GHG emissions Scope 1	Direct GHG Emissions Direct GHG emissions occur from sources that are owned or controlled by the company, for example, 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 shall not be included in scope 1 but reported separately. GHG emissions not covered by the Kyoto Protocol, e.g. CFCs, NOx, etc. shall not be included in scope 1 but may be reported separately
GHG emissions Scope 2	Indirect Energy GHG Emissions Scope 2 accounts for GHG emissions 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 is generated
GSM	General shareholders meeting
HPP	Hydropower plant
HSE	Health, safety and environment
HSE Committee	The Health, Safety and Environment Committee
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
IFRS	The International Financial Reporting Standards
IPO	Initial public offering
Irkutskenergo	Irkutsk Public Joint Stock Company of Energetics and Electrification, a power generating company controlled by En+ as to more than 30% of its issued share capital
IrkAZ	Irkutsk Aluminium Smelter, a branch of RUSAL Bratsk in Shelekhov
ISO 9001	ISO 9001:2015 is an international standard "Quality management systems – Requirements" by International Organization for Standardization that sets out the criteria for a quality management system and is the only standard in the family that can be certified to
ISO 14001	ISO 9001:2015 is a standard "Environmental management systems – Requirements with guidance for use" by International Organization for Standardization that sets out the criteria for an environmental management system and can be certified to.
ISO 45001	ISO 45001:2018 is a standard "Occupational health and safety management systems – Requirements with guidance for use" by International Organization for Standardization that sets out the criteria for a 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
KAZ	Kandalaksha Aluminium Smelter, a branch of JSC RUSAL Ural
KhAZ	Khakas Aluminium Smelter
KrAZ	Krasnoyarsk Aluminium Smelter or JSC “RUSAL Krasnoyarsk”, a company incorporated under the laws of the Russian Federation, which is a wholly owned subsidiary of UC RUSAL
KUBAL	Kubikenborg Aluminium AB, a company incorporated in Sweden, which is a wholly owned subsidiary of UC RUSAL
LIBOR	In relation to any loan: • 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); or • (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.
LME	London Metal Exchange
LME aluminium price	Represents the average daily closing official LME spot prices for each period
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 which was calculated by the Group as a sum of fatalities and lost time injuries per million man-hours
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
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 sub-divided, 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
Moscow Exchange	Public Joint-Stock Company “Moscow Exchange MICEX-RTS” (short name “Moscow Exchange”)
Nadvoitsy Aluminium Smelter	A branch of JSC RUSAL Ural
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
Nikolaev Alumina Refinery	Nikolaev Alumina Refinery Company Limited, a company incorporated under the laws of the Ukraine, which is a wholly owned subsidiary of UC RUSAL
Norilsk Nickel	PJSC “MMC “NORILSK NICKEL”, a company incorporated under the laws of the Russian Federation
NkAZ	Novokuznetsk Aluminium Smelter or JSC “RUSAL Novokuznetsk”, a company incorporated under the laws of the Russian Federation, which is a wholly owned subsidiary of UC RUSAL
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
OHSAS 18001	Occupational Health and Safety Specification (OHSAS) 18001

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
pcs.	Pieces
PM Krasnoturyinsk	SUAL-PM-Krasnoturyinsk, a branch of LLC «SUAL-PM»
QAL	Queensland Alumina Limited, a company incorporated in Queensland, Australia, in which UC RUSAL indirectly holds a 20% equity interest
R&D	Research and development
RemCom	The Remuneration Committee
Review Period	Period from 1 January 2019 to 31 December 2019
RUSAL, the Metals segment	United Company RUSAL Plc, incorporated under the laws of Jersey with limited liability (56.88% owned by En+ Group)
Rusal Silicon Urals	LLC RUSAL Silicon Ural (formerly LLC SU-Silicon), an indirect non wholly-owned subsidiary of UC RUSAL
JSC RUSAL Ural	Joint Stock Company "United Company RUSAL Ural Aluminium", formerly JSC "Siberian-Urals Aluminium Company" (official short name JSC "SUAL"), a company incorporated under the laws of the Russian Federation, an indirect wholly-owned subsidiary of UC RUSAL
RusHydro	PJSC "RusHydro" ("Public Joint-Stock Company Federal Hydro-Generating Company – RusHydro"), a company organised under the laws of the Russian Federation, which is an independent third party
Samruk-Energo	A company incorporated in Kazakhstan, which is an independent third party
Samruk-Kazyna	The Kazakhstan state controlled national welfare fund

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 licenses issued by OFAC
SAYANAL	Joint-Stock Company RUSAL SAYANAL, an indirect wholly-owned subsidiary of UC RUSAL
SAZ	Sayanogorsk Aluminium Smelter or RUSAL Sayanogorsk or Sayanogorsk smelter or JSC "RUSAL Sayanogorsk", a company incorporated under the laws of the Russian Federation, which is a wholly owned subsidiary of UC RUSAL
SKAD, Casting and mechanical plant SKAD	Limited Liability Company «Casting and mechanical plant «SKAD» (the short official name is "Casting and mechanical plant «SKAD» Ltd."), a company incorporated under the laws of the Russian Federation
SPP	Solar power plant
SUAL PM	LLC SUAL-PM, an indirect wholly-owned subsidiary of UC RUSAL
SUBR	North Urals Bauxite Mine or JSC Sevuralboksitruda, a company incorporated in Russia, which is a wholly-owned subsidiary of UC RUSAL
TAZ	Taishet Aluminium Smelter or Taishet Smelter or Taishet or Limited Liability Company "RUSAL Taishet Aluminium Smelter", a wholly-owned subsidiary of UC RUSAL
Timan Bauxite	Joint Stock Company "Boksit Timana", a company incorporated under the laws of the Russian Federation, which is a non-wholly owned subsidiary of UC RUSAL
TPP	Thermal power plant
UAS	Urals Aluminium Smelter, a branch of JSC RUSAL Ural
UES	Unified Energy System
VAP	Value-added products. Includes wire rod, foundry alloys, billets, slabs, high purity and others
VgAZ	Volgograd Aluminium Smelter, a branch of JSC RUSAL Ural
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 UC RUSAL indirectly holds a 100% interest
y-o-y	Year-on-year

Contacts

Kaliningrad

8 Oktyabrskaya St., office 34, Kaliningrad, Kaliningrad Region, 236006, Russia

Tel.: +7 401 269 7436

Fax: +7 401 269 7437

Moscow

1 Vasilisy Kozhinoy St., Moscow, 121096, Russia

Tel: +7 495 642 7937

Fax: +7 495 642 7938

London

8 Cleveland Row, London SW1A 1DH, UK

Tel: +44 207 747 4900

Fax: +44 207 747 4910

Website

www.enplusgroup.com

For investors

IR Department

Tel: +7 495 642 7937

Email: ir@enplus.ru

Media enquiries

PR Department

Tel: +7 495 642 7937

Email: press-center@enplus.ru

Registrar

JSC “Interregional Registration Center” (“IRC”)

Tel: +7 495 234 4470

Email: info@mrz.ru

Website: www.mrz.ru

Depository Bank

Citibank, N.A.

Tel: +1 212 723 5435

Email: CitiADR@Citi.com

Website: https://citiadr.factsetdigitalsolutions.com/www/drfront_page.idms

All necessary contacts can also be found on the Company’s website.

DISCLAIMER

The information presented in this Annual Report only reflects the Company's position during the review period from 1 January 2019 to 31 December 2019 (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. 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.