



EN+ GROUP PLC

**Consolidated Financial Statements
for the year ended
31 December 2017**

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Statement of Directors' Responsibilities

The Directors acknowledge that it is their responsibility to prepare the consolidated financial statements for the year ended 31 December 2017, in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors have elected to prepare the financial statements in accordance with International Financial Reporting Standards.

Under company law the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Parent Company and of the profit or loss of the Parent Company for that period. In preparing these financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Parent Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Parent Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with Companies (Jersey) Law 1991. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the company and to prevent and detect fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in Jersey governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.



Independent Auditors' Report

To the Members of EN+ GROUP PLC

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of EN+ GROUP PLC (the "Company") and its subsidiaries (the "Group"), which comprise the consolidated statement of financial position as at 31 December 2017, 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 2017, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRS"), and have been prepared in accordance with the requirements of the Companies (Jersey) Law 1991.

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 International Ethics Standards Board for Accountants' *Code of Ethics for Professional Accountants* ("IESBA Code"), and we have fulfilled our other ethical responsibilities in accordance with the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

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.

Audited entity: EN+ GROUP PLC

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-regulated organization of auditors "Russian Union of auditors" (Association). The Principal Registration Number of the Entry in the Register of Auditors and Audit Organisations: No. 11603053203.



Valuation of property, plant and equipment

Please refer to the Note 12 in the 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 2017. Current global market conditions, including continuing growth in LME aluminium prices, set up of regulated tariffs for additional volumes of electricity transmission from 2021 and extension of coal sales to foreign markets may indicate that some previously impaired property, plant and equipment items may demonstrate a need for reversal of impairment. This is in particular related to such cash generating units ("CGUs") as Windalco, Irkutsk GridCo and Coal. 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 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 costs projections by comparing them with historical results and industry peers; - coal prices 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 - 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 rates and discount rates, reflected the risks inherent in the valuation of property, plant and equipment.
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Contingent liabilities and provisions

Please refer to the Notes 19 and 23 in the consolidated financial statements.

The key audit matter	How the matter was addressed in our audit
The Group operates in a number of jurisdictions and is exposed to a number of regulations and different tax regimes. Recognition, measurement and disclosure of provisions and contingent liabilities in respect of tax litigations and uncertain positions were matters of most significance in our audit because they require significant management judgements involving material amounts with high complexity in measurement. The Group applies judgement, experience and current practice in assessing future payments that may result from varying interpretations of different regulations and legislation. Whether a liability exists is often inherently uncertain and the estimate applied to determine the amount, if any, to be provided as liability, is inherently subjective.	We used our own tax specialists to assist us in analysis of the tax positions and to consider the assumptions used to evaluate tax positions and risks. In this area we performed the following audit procedures, among others: - we paid particular attention to significant matters that experienced notable development or that emerged during the period, for matters identified we considered whether an obligation exists, the appropriateness of provisioning and/or disclosure based on the facts and circumstances available; - we critically assessed the assumptions made by the Group's tax and legal specialists in respect of management's position on recording significant tax liabilities arising in the course of the Group's operations where the Group's tax positions may be challenged by tax authorities in their audits; - we inspected the tax authorities' acts and decisions based on the results of their audits and court decisions made with respect to tax disputes where Group companies are involved; - we analysed court practice in the area of tax disputes related to operations where the Group's tax positions may be challenged by tax authorities during their audit. We also assessed adequacy of disclosures on contingent liabilities in Note 23 to the consolidated financial statements with reference to the disclosure



	requirements of IAS 37 'Provisions, Contingent Liabilities and Contingent Assets'.
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Other Information

The Directors are 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 the Directors and Those Charged with Governance for the Consolidated Financial Statements

The Directors are responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS and the Companies (Jersey) Law 1991, and for such internal control as the Directors determine 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, the Directors are 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 the Directors either intend to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:



- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.
- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, 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.



Report on Other Legal and Regulatory Requirements

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Companies (Jersey) Law 1991 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the Company; or
- returns adequate for our audit have not been received from branches not visited by us;
or
- the consolidated financial statements are not in agreement with the accounting records;
or
- we have not received all the information and explanations we require for our audit.

The engagement partner on the audit resulting in this independent auditors' report is Yerkozha Akylbek.


Yerkozha Akylbek
For and on behalf of JSC "KPMG"
Recognized Auditors



Moscow, Russia

14 March 2018

		Year ended 31 December	
		2017	2016
	Note	USD million	USD million
Revenues	6	12,094	9,776
Cost of sales		(7,970)	(6,810)
Gross profit		4,124	2,966
Distribution expenses		(666)	(568)
General and administrative expenses		(863)	(709)
(Impairment)/reversal of impairment of non-current assets	5	(89)	18
Net other operating expenses	7	(136)	(34)
Results from operating activities		2,370	1,673
Share of profits of associates and joint ventures	14	621	847
Finance income	9	59	88
Finance costs	9	(1,432)	(1,241)
Results from disposal and deconsolidation of subsidiaries including items recycled from other comprehensive income	2(g)	-	298
Profit before taxation		1,618	1,665
Income tax expense	11	(215)	(304)
Profit for the year		1,403	1,361
Attributable to:			
Shareholders of the Parent Company		727	689
Non-controlling interests	17(g)	676	672
Profit for the year		1,403	1,361
Earnings per share			
Basic and diluted earnings per share (USD)	10	1,425	1,378

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 16 to 112.

		Year ended 31 December	
		2017	2016
	Note	USD million	USD million
Profit for the year		<u>1,403</u>	<u>1,361</u>
Other comprehensive income			
<i>Items that will never be reclassified subsequently to profit or loss:</i>			
Actuarial loss on post retirement benefit plans	19(b)	(8)	(2)
Revaluation of non-current assets	12(g)	-	3,175
Taxation	11(c)	-	(635)
		<u>(8)</u>	<u>2,538</u>
<i>Items that are or may be reclassified subsequently to profit or loss:</i>			
Foreign currency translation differences on foreign operations		39	284
Foreign currency translation differences for equity-accounted investees		245	675
Change in fair value of cash flow hedges		-	36
Items recycled from other comprehensive income on deconsolidation of subsidiaries		-	22
Share of other comprehensive income of associates	14	(28)	-
Unrealised gain on available-for-sale assets		9	7
		<u>265</u>	<u>1,024</u>
Other comprehensive income for the year, net of tax		<u>257</u>	<u>3,562</u>
Total comprehensive income for the year		<u>1,660</u>	<u>4,923</u>
Attributable to:			
Shareholders of the Parent Company		853	3,170
Non-controlling interests	17(g)	807	1,753
Total comprehensive income for the year		<u>1,660</u>	<u>4,923</u>

These consolidated financial statements were authorised for issue by the Board of Directors and were signed on its behalf by:

Maxim Sokov
 Director

Andrey Yashchenko
 Chief Financial Officer

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 16 to 112.

		31 December	
		2017	2016
	Note	USD million	USD million
ASSETS			
Non-current assets			
Property, plant and equipment	12	9,940	9,355
Goodwill and intangible assets	13	2,392	2,300
Interests in associates and joint ventures	14	4,459	4,156
Deferred tax assets	11(b)	87	108
Derivative financial assets	20	34	51
Other non-current assets		75	181
Total non-current assets		16,987	16,151
Current assets			
Inventories	15	2,495	2,034
Trade and other receivables	16(a)	1,279	1,401
Prepaid expenses and other current assets		56	59
Derivative financial assets	20	29	16
Cash and cash equivalents	16(c)	974	669
Total current assets		4,833	4,179
Total assets		21,820	20,330
EQUITY AND LIABILITIES			
Equity	17		
Share capital		-	-
Share premium		973	-
Additional paid-in capital		9,193	9,193
Revaluation reserve		2,471	2,456
Other reserves		(72)	(63)
Foreign currency translation reserve		(4,544)	(4,683)
Accumulated losses		(6,030)	(6,503)
Total equity attributable to shareholders of the Parent Company		1,991	400
Non-controlling interests	17(g)	2,394	1,785
Total equity		4,385	2,185
Non-current liabilities			
Loans and borrowings	18	10,962	12,095
Deferred tax liabilities	11(b)	1,306	1,394
Provisions – non-current portion	19	542	618
Derivative financial liabilities	20	61	3
Other non-current liabilities		262	177
Total non-current liabilities		13,133	14,287
Current liabilities			
Loans and borrowings	18	2,067	2,110
Provisions – current portion	19	40	64
Trade and other payables	16(b)	2,143	1,652
Derivative financial liabilities	20	52	32
Total current liabilities		4,302	3,858
Total equity and liabilities		21,820	20,330

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 16 to 112.

	Note	Year ended 31 December	
		2017	2016
		USD million	USD million
OPERATING ACTIVITIES			
Profit for the year		1,403	1,361
Adjustments for:			
Depreciation and amortisation		736	641
Impairment/(reversal of impairment) of non-current assets	5	89	(18)
Net foreign exchange gain		(29)	(57)
Loss on disposal of property, plant and equipment	7	28	15
Share of profits of associates and joint ventures	14	(621)	(847)
Interest expense	9	1,117	1,060
Net effect of discounting of trade receivables and payables		5	29
Interest income	9	(21)	(39)
Income tax expense	11	215	304
Dividend income	9	(1)	(2)
Impairment/(reversal of impairment) of inventories		3	(9)
Impairment of trade and other receivables	7	28	3
Provision for legal claims	7	-	4
Reversal of tax provision		(2)	-
Pension provision		3	3
Environmental provision		3	-
Change in fair value of derivative financial instruments	9	287	157
Result from disposal and deconsolidation of subsidiaries including items recycled from other comprehensive income	2(g)	-	(298)
Operating profit before changes in working capital		3,243	2,307
Increase in inventories		(431)	(85)
Increase in trade and other receivables		(163)	(37)
Increase/(decrease) in trade and other payables		294	(80)
Cash flows from operations before income tax		2,943	2,105
Income taxes paid	11(f)	(289)	(155)
Cash flows from operating activities		2,654	1,950

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 16 to 112.

		Year ended 31 December	
		2017	2016
	Note	USD million	USD million
INVESTING ACTIVITIES			
Proceeds from disposal of property, plant and equipment		48	35
Acquisition of property, plant and equipment		(970)	(834)
Acquisition of intangible assets		(20)	(17)
Interest received		14	27
Dividends from associates and joint ventures		806	336
Loans given to joint ventures		-	(6)
Dividends received		-	2
Contribution to short-term and long-term investments		-	(2)
Proceeds from long-term investments		7	11
Proceeds from disposal of available-for-sale investments		-	60
Acquisition of promissory notes		-	(22)
Proceeds from promissory notes		10	29
Repayment of short-term deposit		-	2
Acquisition of subsidiaries		(4)	-
Proceeds from disposal of a subsidiary	2(g)	-	298
Loans issued		(11)	(99)
Change in restricted cash		(4)	-
Cash flows used in investing activities		(124)	(180)
FINANCING ACTIVITIES			
Proceeds from borrowings		8,610	7,035
Repayment of borrowings		(9,832)	(5,858)
Acquisition of non-controlling interest	17(a)(ii)	(241)	(827)
Proceeds from disposal of shares in subsidiaries		-	39
Proceeds from Offering		1,000	-
Interest paid		(980)	(867)
Restructuring fees and expenses related to Offering		(64)	(14)
Payments from settlement of derivative instruments		(182)	(446)
Distributions to shareholder	17(e), 17(a)(iii)	(15)	(318)
Dividends to shareholders	17(d)	(373)	(318)
Dividends to non-controlling shareholders of subsidiaries	17(d)	(155)	(130)
Cash flows used in financing activities		(2,232)	(1,704)
Net increase in cash and cash equivalents		298	66
Cash and cash equivalents at beginning of the year, excluding restricted cash		656	577
Effect of exchange rate changes on cash and cash equivalents		3	13
Cash and cash equivalents at end of the year, excluding restricted cash	16(c)	957	656

Restricted cash amounted to USD 17 million and USD 13 million at 31 December 2017 and 31 December 2016, 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 16 to 112.

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
	-	9,193	-	(96)	(5,078)	(5,889)	(1,870)	873	(997)
Balance at 1 January 2016									
Comprehensive income									
Profit for the year	-	-	-	-	-	689	689	672	1,361
Revaluation of hydro assets as at 1 January 2016 (12(g))	-	-	1,479	-	-	-	1,479	554	2,033
Taxation	-	-	(296)	-	-	-	(296)	(111)	(407)
Revaluation of hydro assets as at 31 December 2016 (12(g))	-	-	1,131	-	-	-	1,131	11	1,142
Taxation	-	-	(226)	-	-	-	(226)	(2)	(228)
Other comprehensive income for the year	-	-	-	33	360	-	393	629	1,022
Total comprehensive income for the year	-	-	2,088	33	360	689	3,170	1,753	4,923
Transactions with owners									
Change in effective interest in subsidiaries (17(a))	-	-	368	-	35	(726)	(323)	(690)	(1,013)
Dividends to shareholders (17(d))	-	-	-	-	-	(280)	(280)	-	(280)
Dividends to non-controlling shareholders (17(d))	-	-	-	-	-	-	-	(130)	(130)
Other distributions (17(a) and (e))	-	-	-	-	-	(297)	(297)	(21)	(318)
Total transactions with owners	-	-	368	-	35	(1,303)	(900)	(841)	(1,741)
Balance 31 December 2016	-	9,193	2,456	(63)	(4,683)	(6,503)	400	1,785	2,185
Balance at 1 January 2017	-	9,193	2,456	(63)	(4,683)	(6,503)	400	1,785	2,185
Comprehensive income									
Profit for the year	-	-	-	-	-	727	727	676	1,403
Other comprehensive income for the year	-	-	-	(9)	135	-	126	131	257
Total comprehensive income for the year	-	-	-	(9)	135	727	853	807	1,660
Transactions with owners									
Shares issued upon Offering, net of related expenses of USD 27 million (17(a)(i))	973	-	-	-	-	-	973	-	973
Change in effective interest in subsidiaries (17(a)(ii))	-	-	15	-	4	(3)	16	(43)	(27)
Dividends to shareholders (17(d))	-	-	-	-	-	(350)	(350)	-	(350)
Dividends to non-controlling shareholders (17(d))	-	-	-	-	-	-	-	(155)	(155)
Other contributions (17(e))	-	-	-	-	-	99	99	-	99
Total transactions with owners	973	-	15	-	4	(254)	738	(198)	540
Balance 31 December 2017	973	9,193	2,471	(72)	(4,544)	(6,030)	1,991	2,394	4,385

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 16 to 112.

1. Background

(a) Organisation

EN+ GROUP PLC (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. The Parent Company’s registered office is 44 Esplanade, St Helier, Jersey, JE4 9WG, British Channel Islands.

EN+ GROUP PLC is a parent company for vertically integrated aluminium and power group, engaged in aluminium production, energy generation and distribution and other businesses (together with the Parent Company referred to as “the Group”).

On 8 November 2017 the Parent Company successfully completed an initial public offering (“Offering”) of global depositary receipts (“GDRs”) on the London Stock Exchange and the Moscow Exchange. The offer price has been set at USD 14 per GDR for London Stock Exchange and RUB 840 per GDR for the Moscow Exchange, with each GDR representing one ordinary share in the Parent Company. The total size of the offering amounted to 107,142,858 GDRs, representing USD 1.5 billion at the offer price, of which USD 1.0 billion (71,428,572 GDRs) is primary proceeds and USD 0.5 billion (35,714,286 GDRs) is a secondary component.

The shareholding structure of the Company as at 31 December 2017 and 31 December 2016 was as follows:

	31 December	31 December
	2017	2016
B-Finance Limited	53.86%	61.55%
Publicly held	18.75%	-
Basic Element Limited	12.22%	21.10%
Other shareholders	15.17%	17.35%
Total	100.00%	100.00%

The ultimate parent undertaking of the Group is Fidelitas International Investments Corp., the company incorporated in the Republic of Panama (“Fidelitas”), and the ultimate beneficial owner of the Group (the “Shareholder”) is Mr. Oleg Deripaska (“Mr. Deripaska”). He also has a number of other business interests outside of the Group. Related party transactions are detailed in note 24.

(b) Operations

As at 31 December 2017 the Group’s operations comprised the following:

United Company RUSAL Plc and its subsidiaries (“UC RUSAL”) operate in the aluminium industry primarily in the Russian Federation, Ukraine, Guinea, Jamaica, Ireland, Nigeria and Sweden and are 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.

Other activities of the Group include generation, transmission and distribution of energy in East Siberia, Russia, through its main power subsidiaries: JSC Eurosibenergo (“Eurosibenergo”), LLC Eurosibenergo-Hydrogeneration (“ESE-Hydrogeneration”), PJSC Irkutskenergo (“Irkutskenergo”)

and JSC Krasnoyarsk Hydro-Power Plant (“Krasnoyarsk HPP”), as well as its supporting operations engaged in the supply of logistics services and coal resources to the Group.

(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.

The conflict in Ukraine and related events has increased the perceived risks of doing business in the Russian Federation. The imposition of economic sanctions on Russian individuals and legal entities by the European Union, the United States of America, Japan, Canada, Australia and others, as well as retaliatory sanctions imposed by the Russian government, has resulted in 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. In particular, some Russian entities may be experiencing difficulties in accessing international equity and debt markets and may become increasingly dependent on Russian state banks to finance their operations. The longer term effects of recently implemented sanctions, as well as the threat of additional future sanctions, are difficult to determine.

The consolidated financial statements reflect management’s assessment of the impact of the Russian, Ukrainian, Jamaican, 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.

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”).

In preparing these consolidated financial statements the Group has applied the following standards and interpretations which are effective in respect of the financial years beginning on 1 January 2017.

- Amendments to IAS 7 *Statement of Cash Flows*
- Amendments to IAS 12 *Income taxes*
- Annual Improvements to IFRSs (Amendments to IFRS 12 *Disclosure of Interests in Other Entities*)

The IASB has issued the following amendments, new standards and interpretations which are not yet effective in respect of the financial years included in these consolidated financial statements, and which have not been adopted in these consolidated financial statements.

	Effective for accounting periods beginning on or after
IFRS 9, <i>Financial Instruments</i>	1 January 2018
IFRS 15, <i>Revenue from Contracts with Customers</i>	1 January 2018
IFRS 16, <i>Leases</i>	1 January 2019

The Group is required to adopt IFRS 9 *Financial Instruments* and IFRS 15 *Revenue from Contracts with Customers* from 1 January 2018. The Group has assessed the estimated impact that the initial application of IFRS 9 and IFRS 15 will have on its consolidated financial statements. The Group is in the process of making an assessment of the impact of IFRS 16 on its consolidated financial statements.

Based on preliminary assessment the new Standards IFRS 15 and IFRS 9 are not expected to have a significant effect on the consolidated financial statements of the Group. The estimated impact of the adoption of these standards on the Group's equity as at 1 January 2018 is based on assessments undertaken to date and is summarised below. The actual impacts of adopting the standards at 1 January 2018 may change because the new accounting policies are subject to change until the Group presents its first financial statements that include the date of initial application.

IFRS 9, *Financial instruments*

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. This standard replaces IAS 39 *Financial Instruments: Recognition and Measurement*.

(i) Classification - Financial assets

IFRS 9 contains a new classification and measurement approach for financial assets that reflects the business model in which assets are managed and their cash flow characteristics.

IFRS 9 contains 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 standard eliminates the existing IAS 39 categories of held to maturity, loans and receivables and available for sale.

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.

Based on its preliminary assessment, the Group does not believe that the new classification requirements will have a material impact on its accounting for trade receivables, loans, investments in debt securities.

(ii) Impairment - Financial assets

IFRS 9 replaces the 'incurred loss' model in IAS 39 with a forward-looking 'expected credit loss' ("ECL") model. This will require considerable judgement about how changes in economic factors affect ECLs, which will be determined on a probability-weighted basis.

The new impairment model will apply to financial assets measured at amortised cost or FVOCI, except for investments in equity instruments.

Under IFRS 9, loss allowances will be 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 trade receivables.

Lifetime ECL measurement applies if the credit risk of a financial asset at the reporting date has increased significantly since initial recognition and 12-month ECL measurement applies if it has not. An entity may determine that a financial asset's credit risk has not increased significantly if the asset has low credit risk at the reporting date. However, lifetime ECL measurement always applies for trade receivables without a significant financing component.

The Group believes that impairment losses are likely to increase and become more volatile for assets in the scope of the IFRS 9 impairment model. Based on the impairment methodology described below, the Group has preliminary estimated that application of IFRS 9's impairment requirements at 1 January 2018 would not result in significant additional impairment losses.

Trade and other receivables

The estimated ECLs were calculated based on actual credit loss experience over the past two years.

The estimated additional impairment loss for trade receivables was approximately USD 35-57 million as at 1 January 2018.

Cash and cash equivalents

The cash and cash equivalents are held with bank and financial institution counterparties, which are rated moderate to minimal credit risk as at 31 December 2017.

The Group considers that its cash and cash equivalents have low credit risk based on the external credit ratings of the counterparties.

The Group monitors changes in credit risk by tracking published external credit ratings.

The Group preliminary estimated that application of IFRS 9's impairment requirements at 1 January 2018 will not result in impairment to be recognised.

(iii) Classification - Financial liabilities

IFRS 9 largely retains the existing requirements in IAS 39 for the classification of financial liabilities.

However, under IAS 39 all fair value changes of liabilities designated as at FVTPL are recognised in profit or loss, whereas under IFRS 9 these fair value changes are generally presented as follows:

- the amount of change in the fair value that is attributable to changes in the credit risk of the liability is presented in OCI; and
- the remaining amount of change in the fair value is presented in profit or loss.

The Group's assessment did not indicate any material impact regarding the classification of financial liabilities at 1 January 2018.

(iv) Hedge accounting

When initially applying IFRS 9, the Group may choose as its accounting policy to continue to apply the hedge accounting requirements of IAS 39 instead of the requirements in IFRS 9. The Group has chosen to apply the hedge accounting requirements of IAS 39.

(v) Disclosures

IFRS 9 will require extensive new disclosures, in particular about hedge accounting, credit risk and expected credit losses. The Group's assessment included an analysis to identify data gaps against current processes and the Group is in the process of implementing the system and controls changes that it believes will be necessary to capture the required data.

(vi) Transition

The Group will take advantage of the exemption allowing it not to restate comparative information for prior periods. Differences in the carrying amounts of financial assets and financial liabilities resulting from the adoption of IFRS 9 will generally be recognised in retained earnings and reserves as at 1 January 2018.

The following assessments was made on the basis of the facts and circumstances that existed at the date of initial application:

- The determination of the business model within which a financial asset is held (held for collateral or held for trading).

IFRS 15, Revenue from contracts with customers

IFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised. It replaces existing revenue recognition guidance, including IAS 18 *Revenue*, IAS 11 *Construction Contracts* and IFRIC 13 *Customer Loyalty Programmes*.

(vii) Sales of goods

For the sale of primary aluminium, alloys, alumina, bauxite, coal and other products revenue is currently recognised when related risks and rewards of ownership transfer under delivery terms of the contracts. Revenue is recognised at this point provided that the revenue and costs can be measured reliably, the recovery of the consideration is probable and there is no continuing management involvement with the goods.

Under IFRS 15, revenue will be recognised when a customer will obtain control of the goods. Based on management's assessment this will not significantly impact the Group's revenue recognition approach and the timing of revenue recognition.

As part of sales of goods the Group also performs transportation to the point of delivery to customer under contract terms. In certain cases the control for goods delivered is transferred to customer at earlier point than the transportation is completed. Currently revenue is recognised both for goods and transportation services at the point in time when the risks and rewards of goods ownership transfer to customer.

Under IFRS 15, revenue from sale of goods will be recognised when a customer obtains control of the goods and revenue for the transportation after the above control transfer will be recognised over time from goods control transfer till completion of the transportation. Based on management's assessment such revenue deferral will not significantly impact the total amount of revenue recognised by the Group for each reporting period.

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 price finalisation the difference between estimated price and actual one is recognised as revenue from sale of goods. IFRS 15 application will not result in a significant change in the amount of revenue recognised and the moment of recognition. But IFRS 15 will impact the classification of the revenue recognised: revenue initially recognised at the moment of control transfer to the customer will be recognised as revenue

from contract with customers. The amount of price adjustment on finalisation will be recognised as other revenue.

(viii) *Rendering of services*

The Group is involved in sales of energy and provision of transportation services. Revenue from energy sales is recognised over time during the period when the energy is transferred to the customer. Based on management's assessment this will not significantly impact the Group's revenue recognition approach in terms of the timing of revenue recognition and amount of revenue recognised for the reporting period. Revenue from transportation services is related to the sales of goods and is considered above.

(ix) *Transition*

The Group plans to adopt IFRS 15 using the cumulative effect method, with the effect of initially applying this standard recognised at the date of initial application (i.e. 1 January 2018). As a result, the Group will not apply the requirements of IFRS 15 to the comparative period presented.

IFRS 16, *Leases*

IFRS 16 replaces existing leases guidance including IAS 17 *Leases*, IFRIC 4 *Determining whether an Arrangement contains a Lease*, SIC-15 *Operating Leases—Incentives* and SIC-27 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*.

The standard is effective for annual periods beginning on or after 1 January 2019. Early adoption is permitted for entities that apply IFRS 15 at or before the date of initial application of IFRS 16.

IFRS 16 introduces a single, on-balance sheet lease accounting model for lessees. A lessee recognises a right-of-use asset representing its right to use the underlying asset and a lease liability representing its obligation to make lease payments. There are recognition exemptions for short-term leases and leases of low value items. Lessor accounting remains similar to the current standard – i.e. lessors continue to classify leases as finance or operating leases.

The Group is currently assessing the impacts of adopting IFRS 16 on its financial statements.

(i) *Transition*

As a lessee, the Group can either apply the standard using a:

- retrospective approach; or
- modified retrospective approach with optional practical expedients.

The lessee applies the election consistently to all of its leases.

The Group plans to apply IFRS 16 initially on 1 January 2019, using the modified retrospective approach. Therefore, the cumulative effect of adopting IFRS 16 will be recognised as an adjustment to the opening balance of retained earnings at 1 January 2019, with no restatement of comparative information.

When applying the modified retrospective approach to leases previously classified as operating leases under IAS 17, the lessee can elect, on a lease-by-lease basis, whether to apply a number of practical expedients on transition. The Group is assessing the potential impact of using these practical expedients.

(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 12 and 20.

(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 judgments, 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.

Judgement 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 26.

(e) Consolidation of UC RUSAL

Following the UC RUSAL global offering and issuance of additional shares by UC RUSAL the Group's interest in UC RUSAL reduced below 50% to 47.41% by 31 December 2010. In November 2012 the Parent Company purchased additional 0.72% shares of UC RUSAL for cash consideration of USD 70 million.

The Group's management believes that its current 48.13% shareholding in UC RUSAL, considering the size and dispersion of shareholding of other UC RUSAL's vote holders and the terms of the shareholders' agreements between UC RUSAL's principal shareholders enable the Parent Company to retain control over UC RUSAL, and therefore UC RUSAL's results of operations are consolidated into the Group's consolidated financial statements. The terms of the shareholders' agreements include among others provisions entitling the Parent Company to:

- nominate at least 50% of UC RUSAL's board of directors and two independent directors;
- appoint UC RUSAL's CEO.

(f) 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 Cyprus companies of the Group controlling 34.16% of the shares in Irkutsk GridCo; subsequently the Group purchased back 19.9% 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 2017 effective interest in Irkutsk GridCo held by the Group is 52.3% (31 December 2016: 51.9%).

As laws and regulations in the electricity sector in Russia are in the developing stage there is an uncertainty with respect to the legal interpretation of the existing arrangements which enable the Group to control Irkutsk GridCo and 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.

(g) Deconsolidation and disposal of subsidiaries

Alpart

In July 2016 the Group entered into an agreement to sell its 100% stake in the Alumina Partners of Jamaica (“Alpart”) to the Chinese state industrial group, JIUQUAN IRON & STEEL (GROUP) Co. Ltd. (“JISCO”) for a consideration of USD 299 million. In November 2016 the Group completed the sale of Alpart and received the full consideration in cash.

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 2016 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 16 and 21) or, when appropriate, the cost on initial recognition of an investment in an associate or joint venture (refer to note 14).

(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.

A put option (a mandatory offer) to acquire a non-controlling interest in subsidiary after control has been obtained and accounted by the Group as an equity transaction whereby the issue of the put option 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.

(iii) *Acquisitions from entities under common control*

Business combinations arising from transfers of interests in entities that are under the common control of the shareholder that controls the Group are accounted for as if the acquisition had occurred at the beginning of the earliest period presented or, if later, at the date that common control was established. The assets and liabilities acquired are recognised at the carrying amounts recognised previously in the Group's controlling shareholder's consolidated financial statements. The components of the equity of the acquired entities are added to the same components within Group equity except that any share capital of the acquired entities is recognised as part of additional paid-in capital. Any cash paid for the acquisition is recognised directly in equity.

(iv) 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 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.

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 CEO 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 the following five segments:

- *Metals.* The Metals segment is comprised of UC RUSAL which is involved in mining and refining of bauxite into alumina; production and sale of primary aluminium, alumina and related products and also includes equity investment in Norilsk Nickel. The Metals segment is disclosed based on public financial statements of UC RUSAL. All adjustments made to UC RUSAL, including adjustments arising from different time of IFRS first time adoption, are included into reconciliation of reportable segment revenue, profit or loss, assets and liabilities.

The Power and Coal assets of UC RUSAL are included into the Metals segment.

- *Power.* The Power segment is involved in generation, transmission and distribution of energy in East Siberia and Volga regions of Russia.
- *Coal.* The Coal segment is engaged in the mining and sale of coal in the East Siberia region. Brown and fossil coals are the products of the segment.
- *Logistics.* The logistics segment is engaged in transportation services both for other segments and for the third parties.
- *Other.* The Other segment is comprised production and processing of molybdenum and ferromolybdenum, and also aluminium processing plant.

These business units are managed separately and results of their operations are reviewed by the CEO on a regular basis.

Management additionally analyses performance of the Group through principal business segments (note 4(c)).

(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 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 adjusted for income tax and other items not specifically attributed to individual segments, such as finance income, costs of loans and borrowings. The segment profit or loss is included in the internal management reports that are reviewed by the Group's CEO. Segment profit or loss is 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.

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, loss 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.

Reportable segments

Year ended 31 December 2017

USD million	Metals	Power	Coal	Logistics	Other	Total
Revenue from external customers	9,807	1,812	127	60	286	12,092
Inter-segment revenue	162	915	215	96	14	1,402
Total segment revenue	9,969	2,727	342	156	300	13,494
Segment profit/(loss)	1,222	330	7	18	(22)	1,555
Impairment of non-current assets	(84)	-	-	-	(1)	(85)
Loss on disposal of property, plant and equipment	(25)	(3)	-	-	-	(28)
Share of profits of associates and joint ventures	620	1	-	-	-	621
Interest expense, net	(572)	(418)	(10)	(13)	(25)	(1,038)
Other finance (costs)/income, net	(283)	12	(4)	-	1	(274)
Depreciation and amortisation	(488)	(221)	(16)	(4)	(6)	(735)
Income tax	(66)	(149)	-	(6)	3	(218)
Additions to non-current segment assets during the year	(852)	(129)	(27)	(138)	(12)	(1,158)
Cash and cash equivalents	831	113	1	12	1	958
Interests in associates and joint ventures	4,448	11	-	-	-	4,459
Other segment assets	10,495	6,180	361	217	143	17,396
Total segment assets	15,774	6,304	362	229	144	22,813
Loans and borrowings	(8,479)	(4,468)	(228)	(59)	(333)	(13,567)
Other segment liabilities	(2,851)	(1,289)	(124)	(166)	(117)	(4,547)
Total segment liabilities	(11,330)	(5,757)	(352)	(225)	(450)	(18,114)

Year ended 31 December 2016

USD million	Metals	Power	Coal	Logistics	Other	Total
Revenue from external customers	7,849	1,546	93	55	231	9,774
Inter-segment revenue	134	531	167	78	14	924
Total segment revenue	7,983	2,077	260	133	245	10,698
Segment profit/(loss)	1,179	317	(15)	18	(18)	1,481
Reversal of impairment/ (impairment) of non-current assets	44	(26)	-	-	-	18
Loss on disposal of property, plant and equipment	(12)	-	(3)	-	-	(15)
Share of profits/(loss) of associates and joint ventures	848	(1)	-	-	-	847
Interest expense, net	(598)	(320)	(12)	(4)	(24)	(958)
Other finance (costs)/income, net	(262)	155	(6)	(2)	1	(114)
Result from disposal and deconsolidation of subsidiaries including items recycled from other comprehensive income	298	-	-	-	-	298
Depreciation and amortisation	(453)	(166)	(15)	(1)	(6)	(641)
Income tax	(175)	(119)	(5)	(4)	-	(303)
Additions to non-current segment assets during the year	(583)	(262)	(11)	(28)	(11)	(895)
Cash and cash equivalents	544	96	7	5	3	655
Interests in associates and joint ventures	4,147	9	-	-	-	4,156
Other segment assets	9,761	5,981	302	74	123	16,241
Total segment assets	14,452	6,086	309	79	126	21,052
Loans and borrowings	(8,965)	(4,071)	(188)	(42)	(304)	(13,570)
Other segment liabilities	(2,188)	(1,464)	(114)	(41)	(105)	(3,912)
Total segment liabilities	(11,153)	(5,535)	(302)	(83)	(409)	(17,482)

(i) Reconciliation of reportable segment revenue, profit or loss, assets and liabilities

	Year ended 31 December	
	2017	2016
	USD million	USD million
Revenue		
Reportable segment revenue	13,494	10,698
Elimination of inter-segment revenue	(1,402)	(924)
Unallocated revenue	2	2
Consolidated revenue	12,094	9,776

	Year ended 31 December	
	2017	2016
	USD million	USD million
Profit/(loss)		
Reportable segment profit	1,555	1,481
Impairment of non-current assets	(4)	-
Income tax benefit/(expense)	3	(1)
Interest expense, net	(58)	(63)
Other finance costs	(3)	(19)
Unallocated expense	(90)	(37)
Consolidated profit for the year	1,403	1,361

	31 December	
	2017	2016
	USD million	USD million
Assets		
Reportable segment assets	22,813	21,052
Elimination of inter-segment receivables	(520)	(394)
Consolidation adjustment	(513)	(469)
Unallocated assets	40	141
Consolidated total assets	21,820	20,330

Liabilities		
Reportable segment liabilities	(18,114)	(17,482)
Elimination of inter-segment payables	520	394
Consolidation adjustments	2	-
Elimination of payables between unallocated and reportable segments, net of unallocated liabilities	157	(1,057)
Consolidated total liabilities	(17,435)	(18,145)

(ii) 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	
	2017	2016
	USD million	USD million
Russia	4,067	3,371
USA	1,445	1,193
Japan	872	610
Netherlands	728	664
Turkey	658	634
Greece	450	260
Poland	411	377
South Korea	380	313
Norway	295	179
France	277	178
Italy	261	244
Germany	259	200
Sweden	251	182
China	52	24
Switzerland	23	52
Other countries	1,665	1,295
	12,094	9,776

Specified non-current assets

	31 December	
	2017	2016
	USD million	USD million
Russia	13,058	12,454
Ireland	407	414
Guinea	200	117
Ukraine	183	192
Sweden	153	152
Unallocated	2,986	2,822
	16,987	16,151

(c) Principal business segments

Management analyses performance of the Group through two principal business segments:

1. “METALS” or “UC RUSAL” as described in note 4(a);
2. “ENERGY” (En+ Group excluding UC RUSAL, formerly EN+) is predominantly comprised of power assets and operations as described in note 1(b).

31 December 2017

	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
Non-current assets				
Property, plant and equipment	9,940	4,323	-	5,617
Goodwill and intangible assets	2,392	2,552	(469)	309
Interests in associates and joint ventures	4,459	4,448	-	11
Derivative financial assets	34	34	-	-
Deferred tax assets	87	63	-	24
Other non-current assets	75	72	(4,097)	4,100
	16,987	11,492	(4,566)	10,061
Current assets				
Inventories	2,495	2,414	(44)	125
Trade and other receivables	1,279	1,008	(113)	384
Prepaid expenses and other current assets	56	-	45	11
Derivative financial assets	29	29	-	-
Cash and cash equivalents	974	831	-	143
	4,833	4,282	(112)	663
Total assets	21,820	15,774	(4,678)	10,724

31 December 2016

	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
	9,355	4,065	-	5,290
	2,300	2,470	(469)	299
	4,156	4,147	-	9
	51	51	-	-
	108	51	-	57
	181	52	(4,094)	4,223
	16,151	10,836	(4,563)	9,878
	2,034	1,926	-	108
	1,401	1,130	(77)	348
	59	-	41	18
	16	16	-	-
	669	544	-	125
	4,179	3,616	(36)	599
	20,330	14,452	(4,599)	10,477

31 December 2017

	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
Equity				
Share capital	-	152	(152)	-
Share premium	973	-	-	973
Additional paid-in capital	9,193	15,786	(8,925)	2,332
Revaluation reserve	2,471	-	-	2,471
Other reserves	(72)	2,847	(2,951)	32
Foreign currency translations reserve	(4,544)	(8,801)	4,343	(86)
Accumulated losses/retained earnings	(6,030)	(5,540)	1,068	(1,558)
Total equity attributable to shareholders of the Parent Company	1,991	4,444	(6,617)	4,164
Non-controlling interests	2,394	-	2,054	340
	4,385	4,444	(4,563)	4,504
Non-current liabilities				
Loans and borrowings	10,962	7,744	-	3,218
Deferred tax liabilities	1,306	522	(2)	786
Provisions – non-current portion	542	427	-	115
Derivative financial liabilities	61	61	-	-
Other non-current liabilities	262	104	-	158
	13,133	8,858	(2)	4,277
Current liabilities				
Loans and borrowings	2,067	735	-	1,332
Provisions – current portion	40	27	-	13
Trade and other payables	2,143	1,658	(113)	598
Derivative financial liabilities	52	52	-	-
	4,302	2,472	(113)	1,943
Total equity and liabilities	21,820	15,774	(4,678)	10,724

31 December 2016

	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
	-	152	(152)	-
	-	-	-	-
	9,193	15,786	(8,925)	2,332
	2,456	-	-	2,456
	(63)	2,882	(2,969)	24
	(4,683)	(9,058)	4,477	(101)
	(6,503)	(6,463)	1,587	(1,627)
	400	3,299	(5,982)	3,083
	1,785	-	1,460	325
	2,185	3,299	(4,522)	3,408
	12,095	7,532	-	4,563
	1,394	585	-	809
	618	423	-	195
	3	3	-	-
	177	51	-	126
	14,287	8,594	-	5,693
	2,110	1,433	-	677
	64	40	-	24
	1,652	1,054	(77)	675
	32	32	-	-
	3,858	2,559	(77)	1,376
	20,330	14,452	(4,599)	10,477

Year ended

	31 December 2017				31 December 2016			
	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
Revenues	12,094	9,969	(1,110)	3,235	9,776	7,983	(689)	2,482
Cost of sales	(7,970)	(7,183)	1,040	(1,827)	(6,810)	(6,030)	689	(1,469)
Gross profit	4,124	2,786	(70)	1,408	2,966	1,953	-	1,013
Distribution expenses	(666)	(446)	26	(246)	(568)	(376)	-	(192)
General and administrative expenses	(863)	(632)	-	(231)	(709)	(531)	-	(178)
(Impairment)/reversal of impairment of non-current assets	(89)	(84)	-	(5)	18	44	-	(26)
Net other operating expenses	(136)	(101)	-	(35)	(34)	(22)	-	(12)
Results from operating activities	2,370	1,523	(44)	891	1,673	1,068	-	605
Share of profits of associates and joint ventures	621	620	-	1	847	848	-	(1)
Dividend income	-	-	(144)	144	-	-	(120)	120
Results from disposal and deconsolidation of subsidiaries including items recycled from other comprehensive income	-	-	-	-	298	298	-	-
Finance income	59	21	-	38	88	19	(105)	174
Finance costs	(1,432)	(876)	-	(556)	(1,241)	(879)	105	(467)
Profit before taxation	1,618	1,288	(188)	518	1,665	1,354	(120)	431
Income tax expense	(215)	(66)	2	(151)	(304)	(175)	-	(129)
Profit for the year	1,403	1,222	(186)	367	1,361	1,179	(120)	302
Profit attributable to:								
Shareholders of the Parent Company	727	1,222	(820)	325	689	1,179	(732)	242
Non-controlling interests	676	-	634	42	672	-	612	60
Profit for the year	1,403	1,222	(186)	367	1,361	1,179	(120)	302

Year ended

	31 December 2017				31 December 2016			
	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
USD million								
Profit for the year	1,403	1,222	(186)	367	1,361	1,179	(120)	302
Adjustments for non-cash items	1,840	906	142	792	946	298	120	520
Operating profit before changes in working capital	3,243	2,128	(44)	1,159	2,307	1,477	-	830
Changes in working capital	(300)	(326)	44	(18)	(202)	(177)	-	(25)
Cash flows from operations before income tax	2,943	1,802	-	1,141	2,105	1,300	-	805
Income taxes paid	(289)	(100)	-	(189)	(155)	(55)	-	(100)
Cash flows from operating activities	2,654	1,702	-	952	1,950	1,245	-	705
Cash (used in)/generated from investing activities, including:	(124)	2	(144)	18	(180)	103	(120)	(163)
Capital expenditure (including pot rebuilds and intangible assets)	(990)	(842)	-	(148)	(851)	(575)	-	(276)
Dividends from associates and joint ventures	806	806	-	-	336	336	-	-
Dividends from subsidiaries	-	-	(144)	144	-	-	(120)	120
Loans issued	(11)	(11)	-	-	(99)	-	-	(99)
Acquisition of subsidiaries	(4)	(1)	-	(3)	-	-	-	-
Proceeds from disposal of a subsidiary	-	-	-	-	298	298	-	-
Proceeds from disposal of available-for-sale investments	-	-	-	-	60	-	-	60
Interest received	14	8	-	6	27	17	-	10
Other receipts, net	61	42	-	19	49	27	-	22

Year ended

	31 December 2017				31 December 2016			
	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY	EN+ GROUP Consolidated	METALS	Adjustments	ENERGY
USD million								
Cash flows used in financing activities, including:	(2,232)	(1,421)	144	(955)	(1,704)	(1,305)	120	(519)
Interest paid	(980)	(493)	-	(487)	(867)	(452)	-	(415)
(Repayment of)/proceeds from borrowings, net	(1,222)	(411)	-	(811)	1,177	(143)	-	1,320
Acquisition of non-controlling interest	(241)	-	-	(241)	(827)	-	-	(827)
Payments from settlement of derivative instruments	(182)	(182)	-	-	(446)	(446)	-	-
Restructuring fees and expenses related to Offering	(64)	(36)	-	(28)	(14)	(14)	-	-
Proceeds from Offering	1,000	-	-	1,000	-	-	-	-
Proceeds from disposal of shares in subsidiaries	-	-	-	-	39	-	-	39
Distributions to shareholder	(15)	-	-	(15)	(318)	-	-	(318)
Dividends to shareholders	(373)	(299)	299	(373)	(318)	(250)	250	(318)
Dividends to non-controlling shareholders of subsidiaries	(155)	-	(155)	-	(130)	-	(130)	-
Net increase in cash and cash equivalents	298	283	-	15	66	43	-	23
Cash and cash equivalents at beginning of the year, excluding restricted cash	656	531	-	125	577	494	-	83
Effect of exchange rate changes on cash and cash equivalents	3	-	-	3	13	(6)	-	19
Cash and cash equivalents at end of the year, excluding restricted cash	957	814	-	143	656	531	-	125

5. 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.

	Year ended 31 December	
	2017	2016
	USD million	USD million
(Impairment)/ reversal of impairment of property, plant and equipment (note 12)	(25)	107
Impairment of other assets	(64)	(89)
	(89)	18

6. Revenues

Revenue from the sale of goods is recognised when the significant risks and rewards of ownership have been transferred to the buyer, recovery of the consideration is probable, the associated costs and possible return of goods can be estimated reliably, there is no continuing management involvement with the good and the amount of revenue can be measured reliably. This is generally when title passes. If it is probable that discounts will be granted and the amount can be measured reliably, then the discount is recognised as a reduction of revenue as the sales are recognised.

For the majority of sales transactions (excluding sales of electricity and heat) agreements specify that title passes on the bill of lading date, which is the date the commodity is delivered to the shipping agent.

Revenue is not reduced for royalties or other taxes payable from production.

Sales of electricity and heat are carried out on both regulated and unregulated power markets.

Revenue in the regulated power market in Russia is based on the application of authorised tariffs as approved by the Federal Tariff Service (for energy and capacity sales) and the Regional Energy Commission (for heat sales). Revenue is recognised on a monthly basis upon the delivery of the electricity and heat, excluding value-added tax.

Under competitive bilateral contracts electricity and capacity supply trading is based on unregulated prices negotiated between customers and suppliers. In order to sell necessary volume of electricity and capacity to the buyers the Group is required to purchase the equivalent volume from wholesale market. Management of the Group has exercised critical judgment in respect of transactions under free bilateral contracts to reflect their economic substance, thus the amounts of revenue and cost of sales are shown net for presentation purposes.

According to the Resolution of the Russian Government No. 1172 dated 27 December 2010 the seller is required to sell all electricity volume produced on wholesale market including the volume required for own production needs. In order to provide self-consumption the Group has to repurchase self-produced electricity back from wholesale market. The amounts of revenue and expenses of self-produced and consumed electricity volume are shown net for presentation purposes based on selling prices on a day-ahead market. Management believes that such presentation provides more relevant and meaningful information about the operation of the Group.

The Group's retail electricity and heating sales, other than to residential customers, are made on the basis of contracts signed with customers. Residential customers pay for their electricity usage on a monthly basis by means of a "self read" system. Residential customers pay for heating usage at a flat rate, based on a floor space of their apartments in square meters.

Revenue comprises the sales value of electricity and heating supplied to customers during the period, excluding value added tax ("VAT"). Electricity revenue is recognised on the date the metered information is read by or reported to the Group; heat sales are recognised as produced and delivered.

	Year ended 31 December	
	2017	2016
	USD million	USD million
Sales of primary aluminium and alloys	8,169	6,487
<i>Third parties</i>	5,537	3,991
<i>Related parties – companies capable of exerting significant influence</i>	2,622	2,489
<i>Related parties – companies under common control</i>	10	7
Sales of alumina and bauxite	778	655
<i>Third parties</i>	434	377
<i>Related parties – companies capable of exerting significant influence</i>	227	186
<i>Related parties – associates and joint ventures</i>	117	92
Sales of semi-finished products and foil	536	417
<i>Third parties</i>	536	416

	Year ended 31 December	
	2017	2016
	USD million	USD million
<i>Related parties – companies under common control</i>	-	1
Sales of electricity	1,319	1,200
<i>Third parties</i>	1,256	1,150
<i>Related parties – companies under common control</i>	47	36
<i>Related parties – associates and joint ventures</i>	16	14
Sales of heat	462	345
<i>Third parties</i>	434	322
<i>Related parties – companies capable of exerting significant influence</i>	2	-
<i>Related parties – companies under common control</i>	26	23
Sales of ferromolybdenum	66	51
<i>Third parties</i>	66	51
Other revenues	764	621
<i>Third parties</i>	637	515
<i>Related parties – companies capable of exerting significant influence</i>	8	11
<i>Related parties – companies under common control</i>	36	31
<i>Related parties – associates and joint ventures</i>	83	64
	12,094	9,776

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 UC RUSAL Plc with a 8.75% share) with whom transactions have exceeded 10% of the Group's revenue. In 2017 revenues from sales of primary aluminium and alloys to this customer amounted to USD 2,431 million (2016: USD 2,322 million).

7. Net other operating expenses

	Year ended 31 December	
	2017	2016
	USD million	USD million
Impairment of trade and other receivables	(28)	(3)
Charity	(35)	(25)
Provision for legal claims	-	(4)
Loss on disposal of property, plant and equipment	(28)	(15)
Other operating (expenses)/income, net	(45)	13
	(136)	(34)

Other expenses in the amount of USD 45 million for the year ended 31 December 2017 include penalties of USD 22 million that relate to the amount paid by the Group in relation to the legal claim from Swedish electricity supplier.

Management reassessed classification of transportation and other expenses in comparative data to comply with current year presentation. After reclassification they are recognised within distribution and administrative expenses instead of cost of sales and other operating expenses for the year ended 31 December 2016.

8. 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	
	2017	2016
	USD million	USD million
Contributions to defined contribution retirement plans	(273)	(227)
Contributions to defined benefit retirement plans	(4)	(3)
Total retirement costs	(277)	(230)
Wages and salaries	(1,133)	(939)
	(1,410)	(1,169)

9. 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 expenses 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.

	Year ended 31 December	
	2017	2016
	USD million	USD million
Finance income		
Net foreign exchange gain	29	41
Interest income	21	39
Dividend income	1	2
Other finance income	8	6
	59	88
Finance costs		
Interest expense – <i>third parties</i>	(1,115)	(1,053)
Interest expenses on company loans from related parties – <i>companies capable of exerting significant influence</i>	(2)	(7)
Change in fair value of derivative financial instruments (refer to note 20)	(287)	(157)
Other finance costs	(28)	(24)
	(1,432)	(1,241)

10. 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 2017 and 31 December 2016.

	Year ended 31 December	
	2017	2016
Issued ordinary shares at the beginning of the year	500,000,000	500,000,000
Issuance of shares on the Offering (note 17(a))	71,428,572	-
Weighted average number of shares	510,317,460	500,000,000
Profit for the year attributable to the shareholders of the Parent Company, USD million	727	689
Basic and diluted earnings per share, USD	1.425	1.378

In June 2017 and October 2017 the number of shares of the Parent Company was changed as described in Note 17(a). Therefore, basic and diluted earnings per share were retrospectively adjusted for the effect of the shares split. Shares issuance within Offering was accounted for the weighted average numbers of shares calculation for the year ended 31 December 2017 only.

There were no outstanding dilutive instruments during the years ended 31 December 2017 and 31 December 2016.

11. 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 liability. Such changes to tax liabilities will impact tax expenses in the period that such a determination is made. Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date. Deferred tax assets and liabilities are offset when they relate to income taxes levied by the same taxation authority and the Group has both the right and the intention to settle its current tax assets and liabilities on a net or simultaneous basis.

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	
	2017	2016
	USD million	USD million
Current tax expense		
Current tax for the year	(319)	(252)
Deferred tax expense		
Origination and reversal of temporary differences	104	(52)
	(215)	(304)

In 2017 the Parent Company changed tax residency from Jersey to Cyprus. The Parent Company's applicable tax rate is 12.5%. Subsidiaries pay income taxes in accordance with the legislative requirements of their respective tax jurisdictions. For subsidiaries domiciled in Russia the applicable tax rate is 20%; in Ukraine of 18%; Cyprus of 12.5%; Guinea of 0%; China of 25%; Kazakhstan of 20%; Australia of 30%; Jamaica of 25%; Ireland of 12.5% and Sweden of 22%. 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 for 2017 are 9.27% and 14.60% for different subsidiaries. For the Group's significant trading

companies the applicable tax rate is 0%. The applicable tax rates for the year ended 31 December 2017 were the same as for the year ended 31 December.

Reconciliation of effective tax rate

	Year ended 31 December			
	2017		2016	
	USD million	%	USD million	%
Profit before taxation	1,618	(100)	1,665	(100)
Income tax at tax rate applicable for the Parent Company	(202)	13	(208)	13
Non-deductible expenses	(23)	1	(47)	3
Effect of impairment of non-current assets	-	-	(12)	1
Effect of changes in investment in Norilsk Nickel	35	(2)	64	(4)
Change in unrecognised deferred tax assets	(32)	2	(48)	3
Tax provision reversal	22	(1)	-	-
Effect of different income tax rate	(15)	1	(53)	(4)
Income tax	(215)	13	(304)	18

(b) **Recognised deferred tax assets and liabilities**

Deferred tax assets and liabilities are attributable to the following items:

USD million	Assets		Liabilities		Net	
	2017	31 December 2016	2017	31 December 2016	2017	31 December 2016
Property, plant and equipment		62	(1,433)	(1,408)	(1,384)	(1,346)
Inventories	49	51	(13)	(7)	36	44
Trade and other receivables	18	22	(8)	(6)	10	16
Financial instruments	16	-	(7)	(11)	9	(11)
Tax loss carry-forwards	62	43	-	-	62	43
Others	189	89	(141)	(121)	48	(32)
Tax assets/(liabilities)	383	267	(1,602)	(1,553)	(1,219)	(1,286)
Set off of tax	(296)	(159)	296	159	-	-
Net deferred tax assets/(liabilities)	87	108	(1,306)	(1,394)	(1,219)	(1,286)

(c) Movement in temporary differences during the year

USD million	1 January 2017	Recognised in profit or loss	Currency translation	31 December 2017
Property, plant and equipment	(1,346)	3	(41)	(1,384)
Inventories	44	(8)	-	36
Trade and other receivables	16	(6)	-	10
Financial instruments	(11)	20	-	9
Tax loss carry-forwards	43	17	2	62
Others	(32)	78	2	48
	(1,286)	104	(37)	(1,219)

USD million	1 January 2016	Recognised in profit or loss	Recognised directly in equity*	Currency translation	31 December 2016
Property, plant and equipment	(599)	(14)	(635)	(98)	(1,346)
Inventories	32	11	-	1	44
Trade and other receivables	19	(5)	-	2	16
Financial instruments	(22)	11	-	-	(11)
Tax loss carry-forwards	62	(18)	-	(1)	43
Others	12	(37)	(6)	(1)	(32)
	(496)	(52)	(641)	(97)	(1,286)

* Temporary differences on property, plant and equipment relate to revaluation of hydro assets and were recognised in other comprehensive income. Others in amount of USD 6 million were recognised in the transactions with owners part of the Consolidated Statement of Changes in Equity.

(d) Unrecognised deferred tax assets

Deferred tax assets have not been recognised in respect of the following items:

	31 December 2017	31 December 2016
	USD million	USD million
Deductible temporary differences	719	591
Tax loss carry-forwards	436	513
	1,155	1,104

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 2017	31 December 2016
	USD million	USD million
Year of expiry		
Without expiry	430	505
From 2 to 5 years	4	3
Up to 1 year	2	5
	436	513

(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:

	<u>31 December</u>	<u>31 December</u>
	<u>2017</u>	<u>2016</u>
	<u>USD million</u>	<u>USD million</u>
Net income tax receivable at the beginning of the year	(18)	(75)
Income tax for the year	319	252
Income tax paid	(289)	(155)
Dividend withholding tax	(26)	(23)
Translation difference	(19)	(17)
	<u>(33)</u>	<u>(18)</u>
Represented by:		
Income tax payable (note 16(b))	18	26
Prepaid income tax	(51)	(44)
Net income tax receivable	<u>(33)</u>	<u>(18)</u>

12. Property, plant and equipment

(a) Accounting policy

(i) Recognition and measurement

Until 1 January 2016 all items of property, plant and equipment were measured at cost less accumulated depreciation and impairment losses. The cost of property, plant and equipment at 1 January 2004, the date of transition to IFRSs, was determined by reference to its fair value at that date.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the asset to a working condition for its intended use, the costs of dismantling and removing the items and restoring the site on which they are located and capitalised borrowing costs. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

The cost of periodic relining of electrolyzers is capitalised and depreciated over the expected production period.

Gains or losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment, and are recognised net within gain/(loss) on disposal of property, plant and equipment in profit or loss.

Most of the hydro assets have long useful lives (up to 100 years) and their performance does not deteriorate significantly. Considering recent changes in the regulation of Russian power sector (100% liberalisation) and the fact that hydropower is one of the most efficient sectors of the electric power industry, the 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 production of hydropower plants. Since 1 January 2016 hydro assets are measured at a revalued amount, being its 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 external independent valuer.

Determined class of assets may be revalued on a rolling basis provided revaluation 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. |

(vii) Leased assets

Leases under the terms of which the Group assumes substantially all the risks and rewards of ownership are classified as finance leases. Upon initial recognition the leased asset is measured at an amount equal to the lower of its fair value and the present value of the minimum lease payments. Subsequent to initial recognition, the asset is accounted for in accordance with the accounting policy applicable to that asset.

The corresponding finance lease obligation is included within interest bearing liabilities. The interest element is allocated to accounting periods during the lease term to reflect a constant rate of interest on the remaining balance of the obligation for each accounting period.

Assets held under other leases (operating leases) are not recognised in the statement of financial position. Payments made under the lease are charged to profit or loss in equal instalments over the accounting periods covered by the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the leased assets. Lease incentives received are recognised in profit or loss as an integral part of the aggregate net lease payments made. Contingent rentals are charged to profit or loss in the accounting period in which they are incurred.

Long-term land leases may be recognised as finance leases even without the transfer of ownership of the land at the end of the lease if in the Group's judgment, the lease transfers significantly all the risks and rewards of ownership of the land such that the Group is in a position economically similar to that of a purchaser.

(b) Disclosure

USD million	Land and buildings	Machinery and equipment	Electrolysers	Hydro-assets	Mining assets	Construction in progress	Other	Total
Cost/Deemed cost	4,129	6,737	2,148	294	669	1,660	366	16,003
At 1 January 2016	-	-	-	1,941	-	-	-	1,941
Revaluation of hydro assets as at 1 January 2016	-	22	89	-	33	738	8	890
Additions	(102)	(441)	(15)	-	(128)	(15)	(5)	(706)
Disposals	153	353	14	157	15	(628)	(64)	-
Transfers and reclassifications (note 12(f))	-	-	-	1,068	-	-	-	1,068
Revaluation of hydro assets as at 31 December 2016	-	-	-	-	-	-	-	-
Change in estimate of site restoration provision	-	-	-	-	(1)	-	-	(1)
Translation difference	196	194	(19)	459	97	68	22	1,017
At 31 December 2016	4,376	6,865	2,217	3,919	685	1,823	327	20,212
Additions	-	157	109	-	17	868	7	1,158
Acquired through business combinations	-	-	-	-	-	-	10	10
Disposals	(20)	(50)	(13)	-	(75)	(30)	(5)	(193)
Transfers	127	437	24	24	13	(638)	13	-
Change in estimate of site restoration provision	-	-	-	-	7	-	-	7
Translation difference	99	117	3	208	37	25	9	498
At 31 December 2017	4,582	7,526	2,340	4,151	684	2,048	361	21,692

USD million	Land and buildings	Machinery and equipment	Electrolysers	Hydroassets	Mining assets	Construction in progress	Other	Total
Depreciation and impairment losses								
At 1 January 2016	(2,148)	(4,898)	(1,763)	(93)	(597)	(1,073)	(245)	(10,817)
Revaluation of hydro assets as at 1 January 2016	-	-	-	92	-	-	-	92
Depreciation charge	(120)	(290)	(152)	(67)	(6)	-	(16)	(651)
Reversal of impairment/(impairment losses)	66	85	4	(6)	(22)	(20)	-	107
Disposals	94	432	12	-	114	-	3	655
Transfers and reclassifications (note 12(f))	(6)	(9)	-	-	-	2	11	(2)
Revaluation of hydro assets as at 31 December 2016	-	-	-	74	-	-	-	74
Translation difference	(101)	(116)	20	-	(82)	(30)	(6)	(315)
At 31 December 2016	(2,215)	(4,796)	(1,879)	-	(593)	(1,121)	(253)	(10,857)
Depreciation charge	(135)	(345)	(149)	(101)	(7)	-	(18)	(755)
(Impairment losses)/reversal of impairment	(3)	33	(5)	-	27	(80)	3	(25)
Disposals	5	36	11	-	23	-	3	78
Translation difference	(67)	(76)	(3)	(1)	(28)	(13)	(5)	(193)
At 31 December 2017	(2,415)	(5,148)	(2,025)	(102)	(578)	(1,214)	(270)	(11,752)
Net book value								
At 1 January 2016	1,981	1,839	385	201	72	587	121	5,186
At 31 December 2016	2,161	2,069	338	3,919	92	702	74	9,355
At 31 December 2017	2,167	2,378	315	4,049	106	834	91	9,940

Depreciation expense of USD 703 million (2016: USD 604 million) has been charged to cost of goods sold, USD 7 million (2016: USD 4 million) to distribution expenses and USD 18 million (2016: USD 21 million) to administrative expenses.

Interest capitalised for the years ended 31 December 2017 and 31 December 2016 was USD 19 million and USD 5 million, respectively.

Included in construction in progress at 31 December 2017 and 31 December 2016 are advances to suppliers of property, plant and equipment of USD 136 million and USD 99 million, respectively.

(c) Leases

At 31 December 2017 and 31 December 2016 the carrying value of plant and equipment held under finance leases was USD 170 million and USD 32 million, respectively.

(d) 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.

Based on the analysis performed, management identified several factors that indicated that previously recognised impairment loss in respect of a number of the Group's cash generating units may require reversal. These include significant increase of aluminium and alumina prices during the year as a result of continued LME recovery. In aluminium production, the Group faced increase in cash cost due to increase in alumina costs partially counterbalanced by application of cash cost control measures. For alumina cash generating units, major influence was on the part of recovery in alumina prices and increase in prices of energy resources being a significant part of cash cost. Bauxite cash generating units incurred more or less stable sale price of bauxite. For Irkutsk GridCo cash generating unit the regulated tariffs are set up for additional volumes of electricity transmission from 2021. Coal segment extended its sales to foreign markets.

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 2017 and 31 December 2016 management identified several indicators that a number of the Group's cash-generating units may be impaired or see reversal of previously recognised impairment loss.

Based on results of impairment testing as at 31 December 2017, management has concluded that a reversal of previously recognised impairment loss relating to property, plant and equipment should be recognised in these consolidated financial statements in respect of the Windalco cash generating unit in the amount of USD 63 million.

Based on results of impairment testing as at 31 December 2016, management has concluded that an impairment loss relating to property, plant and equipment should be recognised in these financial statements in respect of the Bauxite Company of Guyana Inc., Armenal and Ural Foil cash generating units in the amounts of USD 58 million, USD 48 million and USD 13 million, respectively, as the determined recoverable amount was negative. Management has also concluded that a reversal of previously recognised impairment loss relating to property, plant and equipment should be recognised in these financial statements in respect of the Kubikenborg Aluminium, Kremniy, Windalco, Aughinish Alumina, Kandalaksha smelter and Irkutsk smelter cash generating units in the amounts of USD 124 million, USD 52 million, USD 48 million, USD 38 million, USD 30 million and USD 7 million, respectively.

For the purposes of impairment testing the recoverable amount of each cash generating unit was determined by discounting expected future net cash flows of the cash generating unit. 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	
	2017	2016
Bauxite Company of Guyana Inc.	16.7%	16.7%
Armenal	20.0%	20.0%
Ural Foil	15.3%	15.3%
Kubikenborg Aluminium	14.4%	13.2%
Kremniy	15.9%	19.0%
Windalco	22.7%	31.5%
Aughinish Alumina	14.3%	13.5%
Kandalaksha smelter	18.6%	18.5%
Irkutsk smelter	16.3%	16.4%

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 83 million at 31 December 2017 (2016: USD 67 million). These assets have been impaired in full. No further impairment of property, plant and equipment or reversal of previously recorded impairment was identified by management.

ENERGY

At 31 December 2017 and 2016 management identified several indicators that property, plant and equipment of Coal and Irkutsk GridCo cash-generating units may be impaired or see reversal of previously recognised impairment loss. As a result of impairment testing performed no impairment or reversal of impairment was recognised.

The following key assumptions were used to determine the recoverable amount of the Coal cash-generating unit at 31 December 2017:

- The sales volumes in 2018 were projected based on the approved budget for 2018. The sales volumes of coal in 2018 were planned at the level of 13,394 thousand tons. The expected growth till 2027 was estimated as 5% as compared to 2018;
- Average price for coal in 2018 was estimated at the level of USD 15 (RUB 873) per ton of coal and changed from decrease of 1% to increase of 4% per annum till 2027. The anticipated price growth included in the cash flow projections for the years from 2019 to 2027 has been based on the publicly available forecasts of Ministry of Economic Development of the Russian Federation;
- The post-tax discount rate was estimated in nominal terms based on the weighted average cost of capital and was 13%;

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 Coal cash-generating unit at 31 December 2016:

- The sales volumes in 2017 were projected based on the approved budget for 2017. The sales volumes of coal in 2017 were planned at the level of 12,451 thousand tons. The expected growth till 2026 was estimated as 26.4% as compared to 2017;
- Average price for coal in 2017 was estimated at the level of USD 12 (RUB 789) per ton of coal and increased by 4%-8% per annum till 2026. The anticipated price growth included in the cash flow projections for the years from 2018 to 2026 has been based on the publicly available forecasts of Ministry of Economic Development of the Russian Federation;
- The post-tax discount rate was estimated in nominal terms based on the weighted average cost of capital and was 14%;
- A terminal value was derived following the forecast period assuming a 4% annual growth rate.

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 at 31 December 2017:

- The sales volume of electricity transmission in 2018 were planned at the level of 43 million MWh. The expected growth till 2027 was estimated as 14.2% as compared to 2018;
- Tariffs for electricity transmission were estimated at the levels of USD 7-11 (RUB 431-663) per MWh depending on market segment in 2018 and increased by 40% till 2027 as compared to 2018. The anticipated growth of tariffs included in the cash flows projections for the years from 2019 to 2027 has been based on the publicly available forecasts of Ministry of Economic Development of the Russian Federation in relation to inflation;
- The post-tax discount rate was estimated in nominal terms based on the weighted average cost of capital and amounted to 12.2%;
- 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 Irkutsk GridCo cash-generating unit at 31 December 2016:

- The sales volume of electricity transmission in 2017 were planned at the level of 45 million MWh. The expected growth till 2026 was estimated as 17.3% as compared to 2017;
- Tariffs for electricity transmission were estimated at the levels of USD 6-8 (RUB 385-525) per MWh depending on market segment in 2017 and increased by 44% till 2026 as compared to 2017. The anticipated growth of tariffs included in the cash flows projections for the years from 2018 to 2026 has been based on the publicly available forecasts of Ministry of Economic Development of the Russian Federation in relation to inflation;
- The post-tax discount rate was estimated in nominal terms based on the weighted average cost of capital and amounted to 15.2%;
- A terminal value was derived following the forecast period assuming a 4% annual growth rate.

The recoverable amount estimated at 31 December 2017 and 31 December 2016 includes cash flows from sales of electricity transmission to Taishet aluminium smelter starting from 2021. In case Taishet aluminium smelter is not launched 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 of 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 5 million (2016: USD 6 million). These assets have been impaired in full. No further impairment of property, plant and equipment or reversal of previously recorded impairment was identified by management.

(e) Security

The carrying value of property, plant and equipment which subject to lien under loan agreements was USD 1,150 million at 31 December 2017 (31 December 2016: USD 274 million) (note 18).

(f) Reclassification

During 2016 the management and technical specialists of the Group reviewed the classification of property, plant and equipment to categories. As a result, the Group reclassified some assets between the categories to reflect technical and economic basis respective to production cycle.

(g) Hydro assets

An independent valuation analysis of hydro assets has been carried out following the decision to change accounting policy to the revaluation model for this class of property, plant and equipment beginning from 1 January 2016 (note 12(a)(i)). The fair value of hydro assets is estimated to be USD 2,230 million with an equity effect of USD 2,033 million and revaluation loss of USD 4 million recognised in profit or loss.

In October 2016 the Group acquired previously leased dams from the lessor (note 22(d)) for a cash consideration of USD 138 million (RUB 9,280 million at average annual exchange rate), excluding VAT. As at 31 December 2016 the consideration was paid.

As at 31 December 2016 as a result of the independent valuation analysis the fair value of hydro assets was estimated in the amount of USD 3,919 million with an additional equity effect of USD 1,142 million and an additional revaluation loss of USD 2 million recognised in profit or loss.

As at 31 December 2016 the increase in fair value mostly refers to the dams acquired in 2016 which are classified as hydro assets and were previously leased. These dams complement existing hydro assets of the Group. As a result, the ability to integrate these dams into the Group's existing generation and distribution facilities has led the management to perform a new revaluation at the end of 2016.

As at 31 December 2017 valuation by external independent valuer was not performed because based on the management analysis fair value of hydro assets approximates their carrying amount at that date.

Net book value as at 31 December 2017 according to the cost model amounted to USD 433 million (31 December 2016: USD 402 million, 1 January 2016: USD 201 million).

The valuation analysis primarily was based on the cost approach to determine depreciated replacement cost as it is the most reliable method to estimate value for the assets that have not 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 economical 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 an 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 is no economic obsolescence as at 1 January 2016 and 31 December 2016.

The fair value measurement for hydro assets have been categorised as Level 3 fair values based on the inputs to the valuation techniques used.

13. 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 12(d)).

(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 12(d)).

(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
<i>Cost</i>			
Balance at 1 January 2016	2,400	573	2,973
Additions	-	20	20
Disposals	-	(14)	(14)
Foreign currency translation	248	6	254
Balance at 31 December 2016	2,648	585	3,233
Additions	17	23	40
Disposals	-	(20)	(20)
Foreign currency translation	80	2	82
Balance at 31 December 2017	2,745	590	3,335
<i>Amortisation and impairment losses</i>			
Balance at 1 January 2016	(450)	(470)	(920)
Amortisation charge	-	(12)	(12)
Foreign currency translation	-	(1)	(1)
Balance at 31 December 2016	(450)	(483)	(933)
Amortisation charge	-	(8)	(8)
Foreign currency translation	-	(2)	(2)
Balance at 31 December 2017	(450)	(493)	(943)
<i>Net book value</i>			
At 1 January 2016	1,950	103	2,053
At 31 December 2016	2,198	102	2,300
At 31 December 2017	2,295	97	2,392

(c) Amortisation charge

The amortisation charge is included in cost of sales in 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 2017	Accumulated impairment loss 2017	Allocated goodwill 2016	Accumulated impairment loss 2016
UC RUSAL	2,468	(449)	2,388	(449)
Irkutskenergo	276	-	259	-
Strikeforce Mining and Resources PLC ("SMR")	1	(1)	1	(1)
	2,745	(450)	2,648	(450)

UC RUSAL

For the purposes of impairment testing, the entire amount of goodwill is allocated to the aluminium segment of the UC RUSAL's operations. The aluminium segment represents the lowest level within the UC RUSAL at which the 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 the UC RUSAL's aluminium segment.

At 31 December 2017, management analysed changes in the economic environment and developments in the aluminium industry and the Group's operations since 31 December 2016 and performed an impairment test for goodwill at 31 December 2017 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 8.0 million metric tonnes of alumina and of 12.3 million metric tonnes of bauxite. Bauxite and alumina will be used primarily 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 2,058 per tonne for primary aluminium in 2018, USD 2,043 in 2019, USD 2,035 in 2020, USD 2,037 in 2021, USD 2,053 in 2022. 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 62.3 for one USD in 2018, RUB 61.4 in 2019, RUB 62.2 in 2020, RUB 60.5 in 2021, RUB 59.5 in 2022. Inflation of 3.9% – 4.9% in RUB and 1.3% - 2.3% 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 13.1%;
- 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 unit's 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 price level would have resulted in a decrease in the recoverable amount by 26% 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 17% decrease in the recoverable amount but would not lead to an impairment;
- A 1% increase in the discount rate would have resulted in a 7% decrease in the recoverable amount but would not lead to an impairment.

Based on results of impairment testing of goodwill, management concluded that no impairment should be recorded in the consolidated financial statements as at 31 December 2017.

At 31 December 2016, management analysed changes in the economic environment and developments in the aluminium industry and the Group's operations since 31 December 2015 and performed an impairment test for goodwill at 31 December 2016 using the following assumptions to determine the recoverable amount of the segment:

- Total production was estimated based on average sustainable production levels of 3.7 million metric tonnes of primary aluminium, of 7.8 million metric tonnes of alumina and of 12.0 million

metric tonnes of bauxite. Bauxite and alumina will be used primarily 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 1,673 per tonne for primary aluminium in 2017, USD 1,703 in 2018, USD 1,726 in 2019, USD 1,789 in 2020, USD 1,911 in 2021. 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 62.4 for one USD in 2017, RUB 67.7 in 2018, RUB 69.7 in 2019, RUB 71.0 in 2020, RUB 69.0 in 2021. Inflation of 4.4% – 5.4% in RUB and 1.3% - 2.2% 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 13.7%;
- A terminal value was derived following the forecast period assuming a 1.8% annual growth rate.

Values assigned to key assumptions and estimates used to measure the unit's 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 price level would have resulted in a decrease in the recoverable amount by 23% 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 15% decrease in the recoverable amount but would not lead to an impairment;
- A 1% increase in the discount rate would have resulted in a 8% decrease in the recoverable amount but would not lead to an impairment.

Based on results of impairment testing of goodwill, management concluded that no impairment should be recorded in the consolidated financial statements as at 31 December 2016.

ENERGY

Goodwill primarily resulted from the acquisition of Irkutskenergo. For the purposes of impairment testing, goodwill is allocated to 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 2017 and 2016 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 2017:

- The sales volumes in 2018 were projected based on the approved budgets for 2018. In particular, the sales volumes of electricity in 2018 were planned at the level of 64 million MWh and 64 million MWh in 2019. The expected growth till 2027 was estimated as 8.5% as compared to 2018. The sales volumes of heat in 2018 were planned at the level of 20 million Gcal and no growth till 2027 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 2.3 – 31.1

(RUB 137-1,817) per MWh depending on market segment in 2018 and increased by 42-45% respectively till 2027. The tariffs for heat were estimated as USD 16.9 (RUB 988) per Gcal in 2018 and grew by 38% till 2027. 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 14.0% ;

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 cash generating unit at 31 December 2016:

- The sales volumes in 2017 were projected based on the approved budgets for 2017. In particular, the sales volumes of electricity in 2017 were planned at the level of 64 million MWh and 66 million MWh in 2018. The expected growth till 2026 was estimated as 12.1% as compared to 2017. The sales volumes of heat in 2017 were planned at the level of 20 million Gcal and no growth till 2026 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 1.1 – 26.7 (RUB 64-1,617) per MWh depending on market segment in 2017 and increased by 28-53% respectively till 2026. The tariffs for heat were estimated as USD 15.7 (RUB 954) per Gcal in 2017 and grew by 45% till 2026. 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 14.8% ;
- A terminal value was derived following the forecast period assuming a 4% annual growth rate.

Based on results of impairment testing, management concluded that no impairment for Irkutskenergo cash generating unit should be recorded in the consolidated financial statements at 31 December 2017 and 31 December 2016.

Reasonable possible change in key assumptions will not lead to an impairment.

14. 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 loss 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 venture 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	
	2017	2016
	USD million	USD million
Balance at the beginning of the year	4,156	3,222
Group's share of profits and other gains attributable to associates	621	847
Dividends	(535)	(490)
Group's share of other comprehensive income	(28)	-
Reversal of provision for a guarantee included in the share of profits	-	(100)
Foreign currency translation	245	677
Balance at the end of the year	4,459	4,156

	31 December	
	2017	2016
	USD million	USD million
	2,609	2,477

Goodwill included in interests in associates

The following list contains only the particulars of associates, all of which are corporate entities, which principally affected the results or assets of the Group.

Name of associate/ joint venture	Place of incorporation and operation	Particulars of issued and paid up capital	Proportion of ownership interest		Principal activity
			Group's effective interest	Group's nominal interest	
PJSC MMC Norilsk Nickel	Russian Federation	158,245,476 shares, RUB 1 par value	13.39%	27.82%	Nickel and other metals production
Queensland Alumina Limited	Australia	2,212,000 shares, AUD 2 par value	9.63%	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	24.07%	50%	Energy / Aluminium production

The summary of the consolidated financial statements of associates and joint ventures for the year ended 31 December 2017 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%
Non-current assets	5,889	12,109	119	552	1,422	2,970	177	356
Current assets	1,259	4,526	29	153	100	200	115	391
Non-current liabilities	(2,698)	(9,625)	(76)	(207)	(960)	(1,920)	(41)	(85)
Current liabilities	(654)	(2,352)	(72)	(358)	(39)	(78)	(111)	(407)
Net assets	3,796	4,658	-	140	523	1,172	140	255

	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%
Revenue	2,545	9,146	134	670	273	546	868	2,990
Profit/(loss) from continuing operations	528	2,129	-	14	58	(17)	35	71
Other comprehensive income	188	223	-	9	25	51	-	8
Total comprehensive income	716	2,352	-	23	83	34	35	79

The summary of the consolidated financial statements of associates and joint ventures for the year ended 31 December 2016 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%
Non-current assets	4,994	8,881	136	587	1,275	2,818	165	339
Current assets	1,577	5,668	22	115	77	153	153	498
Non-current liabilities	(2,281)	(8,115)	(89)	(242)	(880)	(1,817)	(35)	(73)
Current liabilities	(698)	(2,508)	(69)	(345)	(36)	(73)	(155)	(541)
Net assets	3,592	3,926	-	115	436	1,081	128	223

	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%
Revenue	2,289	8,165	125	625	282	563	899	3,063
Profit/(loss) from continuing operations	688	2,198	-	(24)	40	16	21	(3)
Other comprehensive income	602	381	-	(1)	67	139	6	4
Total comprehensive income	1,290	2,579	-	(25)	107	155	27	1

(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 2017 and 31 December 2016 amounted USD 3,796 million and USD 3,592 million, respectively. The market value amounted USD 8,294 million and USD 7,348 million as at 31 December 2017 and 31 December 2016, respectively, and is determined by multiplying the quoted bid price per share on the Moscow Exchange on the year-end date by the number of shares held by the Group.

(b) Queensland Alumina Limited

The carrying value of the Group's investment in Queensland Alumina Limited as at both 31 December 2017 and 31 December 2016 amounted to USD nil million. At 31 December 2017 management has not identified any impairment reversal indicators relating to the Group's investment in QAL and as a result no detailed impairment testing was performed in relation to this investment.

(c) BEMO project

The carrying value of the Group's investment in BEMO project as at 31 December 2017 and 31 December 2016 amounted USD 523 million and USD 436 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 2016 and 31 December 2017 management has not identified any impairment indicators relating to the Group's investment in BoGES and as a result no detailed impairment testing was performed in relation to this investment. Results of impairment testing of BoAZ investment for the year ended 31 December 2017 showed that investment in BoAZ is fully impaired and no reversal of previously recorded impairment was identified by management.

At 31 December 2017 accumulated losses of USD 573 million (2016: USD 550 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.

The recoverable amounts of the two cash generating units are particularly sensitive to changes in forecast aluminium and electricity prices, foreign exchange rates, applicable discount rates and, in respect to BoAZ, the forecast period to reach full production capacity.

Summary of the additional financial information of the Group's effective interest in BEMO project for the year ended 31 December 2017 and 31 December 2016 is presented below (all in USD million):

	31 December 2017	31 December 2016
	USD million	USD million
Cash and cash equivalents	21	18
Current financial liabilities	(11)	(7)
Non-current financial liabilities	(920)	(844)
Depreciation and amortisation	(18)	(16)
Interest income	1	1
Interest expense	(25)	(28)
Income tax expense	(4)	(11)

15. 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.

The production costs include mining and concentrating costs, smelting, treatment and refining costs, other cash costs and depreciation and amortisation of operating assets.

	31 December	
	2017	2016
	USD million	USD million
Raw materials and consumables	1,103	910
Work in progress	684	586
Finished goods and goods for resale	895	741
	2,682	2,237
Provision for inventory obsolescence	(187)	(203)
	2,495	2,034

Inventories at 31 December 2017 and 31 December 2016 are stated at cost.

Inventories with a carrying value of USD 373 million and USD 402 million were pledged as collateral for secured bank loans at 31 December 2017 and 31 December 2016, respectively (note 18).

Inventory with a carrying value of USD 314 million is pledged under existing trading contracts at 31 December 2017 (31 December 2016: USD 78 million).

16. 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 are recognised initially at fair value plus any directly attributable transaction costs.

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.

Financial assets and liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group has a legal right to offset the amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

Cash and cash equivalents comprise cash balances and call deposits with maturities at initial recognition of three months or less that are subject to insignificant risk of changes in their fair values, and are used by the Group in the management of its short-term commitments.

Subsequent to initial recognition non-derivative financial instruments are measured as described below:

- Trade and other receivables and other non-derivative financial assets are measured at amortised cost using the effective interest method, less any impairment losses.
- Trade and other payables and other non-derivative financial liabilities subsequent to initial recognition, are measured at amortised cost using the effective interest method. Investments in equity securities that are not quoted on a stock exchange and where fair value cannot be estimated on a reasonable basis by other means are measured at cost less impairment losses.

A financial asset not carried at fair value through profit or loss is assessed at each reporting date to determine whether there is any objective evidence that it is impaired. A financial asset is considered

to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that asset occurred after the initial recognition of that asset and the impact can be estimated reliably.

Objective evidence that financial assets (including equity securities) are impaired can include default or delinquency by a debtor, restructuring of an amount due to the Group on terms that the Group would not consider otherwise, indications that a debtor or issuer will enter bankruptcy and the disappearance of an active market for a security. In addition, for an investment in an equity security, a significant or prolonged decline in its fair value below its cost is objective evidence of impairment.

An impairment loss in respect of a financial asset measured at amortised cost is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the original effective interest rate.

Individually significant financial assets are tested for impairment on an individual basis. The remaining financial assets are assessed collectively in groups that share similar credit risk characteristics.

All impairment losses are recognised in profit or loss.

An impairment loss is reversed if the reversal can be related objectively to an event occurring after the impairment loss was recognised. For financial assets measured at amortised cost, the reversal is recognised in profit or loss.

Impairment losses for trade receivables included within trade and other receivables whose recovery is considered doubtful but not remote are recorded using an allowance account. When the Group is satisfied that recovery is remote, the amount considered irrecoverable is written off against trade receivables directly and any amounts held in the allowance account relating to that receivable are reversed. Subsequent recoveries of amounts previously charged to the allowance account are reversed against the allowance account. Other changes in the allowance account and subsequent recoveries of amounts previously written off directly are recognised in profit or loss.

For disclosure of loans and borrowings refer to note 18.

(a) Trade and other receivables

	31 December	
	2017	2016
	USD million	USD million
Trade receivables from third parties	588	467
Trade receivables from related parties, including	50	82
<i>Related parties – companies capable of exerting significant influence</i>	31	56
<i>Related parties – companies under common control</i>	5	15
<i>Related parties – associates and joint ventures</i>	14	11
VAT recoverable	336	293
Advances paid to third parties	105	96
Advances paid to related parties, including	41	54
<i>Related parties – companies under common control</i>	1	10
<i>Related parties – associates and joint ventures</i>	40	44
Other receivables from third parties	214	173
Other receivables from related parties, including	4	7
<i>Related parties – companies capable of exerting significant influence</i>	3	-
<i>Related parties – companies under common control</i>	-	5
<i>Related parties – associates and joint ventures</i>	1	2
Dividends receivables from related parties	3	311
<i>Related parties – associates and joint ventures</i>	3	311
	1,341	1,483
Provision for doubtful debt	(62)	(82)
Total short-term receivables	1,279	1,401

(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:

	31 December	
	2017	2016
	USD million	USD million
Current	460	402
Past due 0-90 days	111	83
Past due 91-365 days	28	13
Past due over 365 days	5	14
Amounts past due	144	110
	604	512

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.

Receivables that were past due but not impaired relate to a number of customers that have a good track record with the Group. Based on past experience, management believes that no impairment allowance is necessary in respect of these balances as there has not been a significant change in credit quality and the balances are still considered fully recoverable. The Group does not hold any collateral over these balances. Further details of the Group's credit policy are set out in note 21(e).

(b) Trade and other payables

	31 December	
	2017	2016
	USD million	USD million
Accounts payable to third parties	751	578
Accounts payable to related parties, including	52	47
<i>Related parties – companies capable of exerting significant influence</i>	<i>14</i>	<i>18</i>
<i>Related parties – companies under common control</i>	<i>9</i>	<i>4</i>
<i>Related parties – associates and joint ventures</i>	<i>29</i>	<i>25</i>
Advances received from third parties	440	180
Advances received from related parties, including	308	165
<i>Related parties – companies capable of exerting significant influence</i>	<i>288</i>	<i>165</i>
<i>Related parties – associates and joint ventures</i>	<i>20</i>	<i>-</i>
Other payables and accrued liabilities	495	615
Other payable and accrued liabilities to related parties, including	-	8
<i>Related parties – associates and joint ventures</i>	<i>-</i>	<i>8</i>
Dividends payable	-	23
Current tax payable	18	26
Other current liabilities	79	10
	2,143	1,652

All of the trade and other payables are expected to be settled or recognised as income within one year or are repayable on demand.

As at 31 December 2017 USD nil million and USD 109 million for the acquisition of Irkutskenergo were included in other non-current liabilities and short-term other payables and accrued liabilities, respectively (31 December 2016 USD 89 million and USD 206 million) (note 17(a)).

(c) Cash and cash equivalents

	31 December	
	2017	2016
	USD million	USD million
Bank balances, USD	560	389
Bank balances, RUB	118	130
Bank balances, other currencies	145	97
Cash in transit	30	7
Short-term bank deposits	104	28
Other cash equivalents	-	5
Cash and cash equivalents in the statement of cash flows	957	656
Restricted cash	17	13
Cash and cash equivalents in the statement of financial position	974	669

As at 31 December 2017 and 31 December 2016 included in cash and cash equivalents was restricted cash of USD 17 million and USD 13 million, respectively, pledged under a Swiss Law Pledged Agreement with BNP Paribas (Suisse) SA and Allied Irish Bank.

17. Equity

(a) Share capital, additional paid-in capital and transactions with shareholders

(i) Parent Company's share capital and initial public offering of GDRs

As at 31 December 2016 the Parent Company's authorised share capital comprised 50,000 ordinary shares, out of which 2,000 shares were issued with a par value of USD 1 each.

In June 2017 the number of shares of the Parent Company was changed such that each share in the capital of the Parent Company was subdivided into 250,000 shares. As a result of the transaction Parent Company's authorised share capital increased to 12,500,000,000 shares and issued share capital increased to 500,000,000 shares.

In October 2017 the Parent Company allotted 8,250,000,000 ordinary shares of USD 0.000004 each in favour of the Parent Company's shareholders. Immediately following the increase, the authorised share capital of the Parent Company was consolidated such that every 17.5 ordinary shares with a par value of USD 0.000004 were consolidated into 1 ordinary share with a par value of USD 0.00007 each. As a result of the transaction the Parent Company's authorised share capital comprises 714,285,714,286 shares, out of which 500,000,000 were issued with a par value of USD 0.00007 each.

On 8 November 2017 the Parent Company successfully completed the Offering on the London Stock Exchange and the Moscow Exchange (note 1(a)). The offer price has been set at USD 14 per GDR for London Stock Exchange and RUB 840 per GDR for the Moscow Exchange, with each GDR representing one ordinary share in the Parent Company. The total size of the offering amounted to 107,142,858 GDRs, representing USD 1.5 billion at the offer price, of which USD 1.0 billion (71,428,572 GDRs) is primary proceeds and USD 0.5 billion (35,714,286 GDRs) is a secondary component (placement of existing shares). The Parent Company raised from the Offering approximately USD 973 million, net of related expenses of USD 27 million, of which USD 942 million has been used to repay the Parent Company's Loan. In addition to USD 27 million directly related to the primary proceeds, another part of the listing expenses related to the secondary component of USD 14 million was recognised in the statement of profit or loss and other comprehensive income.

As at 31 December 2017 and 31 December 2016 all issued ordinary shares were fully paid.

(ii) Change in effective interest in subsidiaries

Irkutskenergo

In 2017 the Group increased its shareholding in Irkutskenergo up to 92.5%. As a result of the transactions the Group recognised a total distribution of USD 27 million.

Particularly, in June 2017 ESE-Hydrogeneration (former LLC Telmamskaya GES) submitted the mandatory offer to non-controlling shareholders of Irkutskenergo for purchase of non-controlling interest. The offer price was based on weighted six-months trading average price prior to the offer and amounted to RUB 17.42 per share (USD 0.3). The Group has accepted for purchase 0.7458% of Irkutskenergo shares for the aggregate amount of RUB 619 million (USD 11 million).

In 2016 the Group increased its shareholding in Irkutskenergo up to 90.8%. As a result of the transactions the Group recognised a total distribution of USD 976 million.

Particularly, in June 2016 the Group acquired 40.3% shares in Irkutskenergo from InterRAO Group for cash consideration of USD 1,047 million (RUB 70 billion) with the following payment terms:

- first instalment on the date of transaction in the amount of USD 676 million (RUB 45 billion)

- following 8 equal quarterly instalments of USD 46.75 million (RUB 3,125 million) per quarter within 2 years.

The fair value of consideration was determined by discounting the long-term part of payable at 11.9% and amounted to USD 1,020 million.

The acquisition is financed by syndicate loan from PJSC VTB BANK (VTB) and PJSC Sberbank (Sberbank) (see note 18(a)(iii)).

Krasnoyarsk HPP

In 2016 the Group completed the consolidation of 100% shares in Krasnoyarsk HPP. As a result of the transactions the Group recognised a total distribution of USD 37 million.

Particularly, in June 2016 JSC Eurosibenergo submitted the mandatory offer to non-controlling shareholders of Krasnoyarsk HPP for purchase of non-controlling interest. The offer price was based on weighted six-months trading average price prior to the offer and amounted to RUB 81.1 per share (USD 1.2). The mandatory offer resulted in buy out of 10.0% of shares for USD 50 million.

In October 2016 subsequent to the mandatory offer and following consolidation of more than 95% of shares Krasnoyarsk HPP the Group submitted a buyout notice, under the price of RUB 97 per share (USD 1.5). As at 31 December 2016 due to the buyout notice procedures 1.4% of shares were bought out from non-controlling interest for USD 8 million.

(iii) Other distributions

In June and December 2016 the Group companies entered into loan agreements to settle indebtedness of companies under common control in the amount of USD 312 million. These loans were considered non-recoverable and were recorded as other distribution in these consolidated financial statements.

(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 available-for-sale investments which have been recognised directly in other comprehensive income.

(d) Dividends

In accordance with the Companies (Jersey) Law 1991 (the "Law"), the Parent Company may make distributions at any time in such amounts as are determined by the Parent Company out of the assets of the Parent Company other than the capital redemption reserves and nominal capital accounts, provided that the directors of the Parent Company make a solvency statement in accordance with that Law of Jersey at the time the distributions are proposed.

During 2017, the Parent Company declared interim dividends for 2016 in the amount of USD 24 million and interim dividends for 2017 in the amount of USD 326 million.

During 2017 dividends in the total amount of USD 373 million were distributed in cash including USD 47 million for 2016 (USD 23 million were accrued as a liability as at 31 December 2016) and USD 326 million for 2017.

During 2016, the Parent Company declared interim dividends for 2016 in the amount of USD 280 million.

Dividends in the total amount of USD 318 were distributed in cash including USD 61 million for 2015 and USD 257 million for 2016.

During 2017 and 2016 Group's subsidiaries paid dividends in the amount of USD 155 million and USD 130 million to the non-controlling shareholders of subsidiaries, respectively.

(e) Accrual and reversal of provision for guarantees

During 2016 the Group paid USD 6 million to the bank under guarantee agreement in respect of loan obligations of entity under common control. The remaining amount of issued guarantees as at 31 December 2016 was USD 108 million (note 22(f)). Management of the Group assessed the probability to make a payment under these guarantees and recognised a provision for the whole amount directly in equity. During 2017, the Group paid additional USD 15 million under this agreement and recorded this transaction as other distribution. In September 2017, the guarantee agreement was terminated, which resulted in the recognition of other contribution of USD 114 million.

(f) Revaluation reserve

The revaluation reserve comprises the cumulative net change in the fair value of hydro assets at the reporting date and is dealt with in accordance with the accounting policies set out in note 12(a)(i).

An independent valuation analysis of hydro assets has been carried out as at 1 January 2016 and 31 December 2016, the fair value of hydro assets was estimated at USD 2,230 million and USD 3,919 million, respectively (note 12(g)).

As a result of fair value valuation as at 1 January 2016 the Group recognised a revaluation reserve in the amount of USD 1,626 million net of tax (including USD 1,183 million attributable to shareholders of the Parent Company). During 2016, as a result of changes in effective interest in subsidiaries (note 12(g)), revaluation reserve attributable to the Parent company increased by USD 368 million, net of tax.

As at 31 December 2016 the Group revalued hydro assets (note 12(g)), as a result the additional revaluation reserve in the amount of USD 914 million (including USD 905 million attributable to shareholders of the Parent company), was recognised.

During 2017 as a result of changes in effective interest in Irkutskenergo, revaluation reserve attributable to the Parent Company increased by USD 15 million, net of tax.

As at 31 December 2017 the revaluation reserve amounted to USD 2,540 million, including USD 2,471 million attributable to shareholders of the Parent company (31 December 2016: USD 2,540 million and USD 2,456 million, respectively).

(g) Non-controlling interest

The following table summarises the information relating to each of the Group's subsidiaries that has material non-controlling interest:

31 December 2017

	UC RUSAL	Irkutskenergo Group*	LLC Baikal Yacht Club	OJSC Irkutsk Electric Grid Company	Total
NCI percentage	51.9%	7.5%	49.0%	47.7%	
Assets	15,290	4,297	1	558	
Liabilities	(11,330)	(2,227)	(34)	(143)	
Net assets	3,960	2,070	(33)	415	
Carrying amount of NCI	2,054	158	(16)	198	2,394
Revenue	9,969	2,345	-	362	
Profit/(loss)	1,222	364	(4)	23	
Other comprehensive income	222	1	-	-	
Total comprehensive income	1,444	365	(4)	23	
Profit/(loss) attributable to NCI	634	34	(2)	10	676
Other comprehensive income attributable to NCI	115	7	(1)	10	131
					807
Cash flows generated from operating activities	1,702	482	-	93	
Cash flows generated from/(used in) investing activities	2	(401)	(1)	(50)	
Cash flows (used in)/generated from financing activities	(1,421)	(100)	2	(43)	
Net increase/(decrease) in cash and cash equivalents	283	(19)	1	-	-
Dividends paid to NCI	155	-	-	-	155

*Net assets of Irkutskenergo Group were adjusted for the effect of Irkutsk GridCo, Krasnoyarsk HPP and LLC KRAMZ.

31 December 2016

	UC RUSAL	Irkutskenergo Group*	LLC Baikal Yacht Club	Krasnoyarsk HPP**	OJSC Irkutsk Electric Grid Company	Total
NCI percentage	51.9%	9.2%	49.0%	0.0%***	48.1%	
Assets	13,968	3,829	1	1,995	533	
Liabilities	(11,153)	(2,123)	(29)	(324)	(159)	
Net assets	2,815	1,706	(28)	1,671	374	
Carrying amount of NCI	1,460	158	(14)	-	181	1,785
Revenue	7,983	2,006	-	72	280	
Profit/(loss)	1,179	199	(3)	48	20	
Other comprehensive income	979	898	-	907	-	
Total comprehensive income	2,158	1,097	(3)	955	20	
Profit/(loss) attributable to NCI	612	50	(3)	4	9	672
Other comprehensive income attributable to NCI	508	471	(5)	72	35	1,081
						1,753
Cash flows generated from operating activities	1,244	381	-	12	77	
Cash flows generated from/(used in) investing activities	104	(376)	(1)	45	(49)	
Cash flows (used in)/generated from financing activities	(1,305)	(21)	1	(33)	(28)	
Net increase/(decrease) in cash and cash equivalents	43	(16)	-	-	-	-
Dividends paid to NCI	130	-	-	-	-	130

* Net assets of Irkutskenergo Group were adjusted for the effect of Irkutsk GridCo, Krasnoyarsk HPP and LLC KRAMZ.

** Net assets of Krasnoyarsk HPP segment were adjusted for investment in LLC KRAMZ.

*** Buyout notice resulted in the derecognition of the non-controlling interest of Krasnoyarsk HPP (note 17(a)).

18. 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 21(c)(ii) and 21(c)(iii), respectively.

	31 December	
	2017	2016
	USD million	USD million
<i>Non-current liabilities</i>		
Secured bank loans	8,913	9,812
Secured company loans	-	1,000
Unsecured bank loans	650	1,088
Bonds	1,399	195
	10,962	12,095

	31 December	
	2017	2016
	USD million	USD million
<i>Current liabilities</i>		
Current portion of secured bank loans	567	853
Current portion of secured company loans	-	50
Current portion of unsecured bank loans	3	-
	570	903
Secured bank loans	577	578
Unsecured bank loans	765	492
Accrued interest	133	136
Bonds	22	1
	1,497	1,207
	2,067	2,110

(a) Loans and borrowings

	31 December	
	2017	2016
	USD million	USD million
Non-current liabilities		
<i>Secured bank loans</i>		
Variable		
USD – 3M Libor + 2.5%	1,678	-
USD – 3M Libor + 3.6% - 3.75%	4,464	1,196
USD – 3M Libor + 4.15% - 4.50%	-	312
USD – 3M Libor + 5.65% - 5.75%	-	4,923
USD – 3M Libor + 5.05%	-	95
USD – 1M Libor + 5.50%	44	37
EUR – 3M Euribor + 3.60%	-	55
EUR – 3M Libor + 3.50% - 4.50%	53	43
EUR – 6M Euribor + 0.75% - 1.95%	9	6
RUB – CBR + 1.50% - 2.00%	2,089	2,211
Fixed		
USD – fixed at 6.00%	486	486
RUB - fixed at 10.50% - 11.50%	86	-
EUR – fixed at 3.55%	-	38
RUB - fixed at 5.00% - 15.08%	4	410
	8,913	9,812
<i>Secured company loans</i>		
Variable		
RUB - CBR + 2.31%	-	108
Fixed		
USD – fixed at 6.15%	-	892
	-	1,000
<i>Unsecured bank loans</i>		
Variable		
RUB – CBR + 2.00%	254	241
USD – 3M Libor + 3.00% - 4.80%	100	300
Fixed		
RUB – fixed at 5.00%	5	5
RUB – fixed at 8.35%-12.50%	291	542
	650	1,088
Bonds	1,399	195
	10,962	12,095
Current liabilities		
<i>Current portion of secured bank loans</i>		
Variable		
USD – 3M Libor + 3.50% - 3.60%	82	395
USD – 3M Libor + 4.50%	-	163
USD – 3M Libor + 5.05% - 5.65%	-	155
EUR – 3M Libor + 3.50%	13	-
EUR – 3M Euribor + 3.60%	-	28
EUR – 3M Euribor + 4.50%	-	28
EUR – 6M Euribor + 0.75%-2.50%	2	1
USD – 1M Libor + 5.50%	9	22

	31 December	
	2017	2016
	USD million	USD million
RUB – CBR + 1.5% - 2.00%	456	21
Fixed		
USD – fixed at 5.00%	5	-
EUR – fixed at 3.55%	-	26
RUB – fixed at 10.50%	-	14
	567	853
Current portion of secured company loans		
Fixed		
USD – fixed at 6.15%	-	50
	-	50
Current portion of unsecured bank loans		
Fixed		
RUB – fixed at 8.75%	3	-
	3	-
Secured bank loans		
Variable		
USD – 1M Libor + 2.00% - 2.50%	145	123
USD - 2.15%+ cost of funds	100	-
USD – 3M Libor + 2.50% - 4.80%	95	64
USD - 2.05% - 2.50%+ cost of funds	34	95
EUR - 2.05% - 2.50%+ cost of funds	38	15
Fixed		
USD - fixed at 2.50% - 5.00%	31	273
EUR - fixed at 2.60%	120	-
RUB - fixed at 9.75% - 16.70%	14	8
	577	578
Unsecured bank loans		
Fixed		
RUB - fixed at 8.30%-13.50%	765	492
	765	492
Accrued interest	133	136
Bonds	22	1
	1,497	1,207
	2,067	2,110

The secured bank and company loans (including guarantee agreement) are secured by pledges of shares of the following Group companies and associate:

	31 December	
	2017	2016
	% of shares	% of shares
United Company RUSAL Plc	-	29.99
PJSC Norilsk Nickel	25+1 share	27.8
JSC RUSAL URAL	11	36+1 share
JSC RUSAL Sayanogorsk	25+1 share	50-1 share
JSC RUSAL Bratsk	25+1 share	50-1 share
JSC RUSAL Krasnoyarsk	-	50-1 share
JSC RUSAL Novokuznetsk	-	40+1 share
JSC RUSAL Taishet	50	-

	31 December	
	2017	2016
	% of shares	% of shares
Gershvin Investments Corp. Limited	100	100
Seledar Holding Corp Limited	-	100
Aktivium B.V.	100	100
JSC Eurosibenergo	-	50+2 shares
LLC ESE - Hydrogeneration	100	100
PJCS Krasnoyarsk Hydro-Power Plant	50+1 share	72.52
OJSC Irkutsk Electric Grid Company	33.27	33.27
PJCS Irkutskenergo	90.47	90.47
Skydrop	100	100
Thornstreet	100	100
LLC Sorsk Mining and Metallurgical Complex	100	100
LLC Sorsk Ferromolybdenum Plant	100	100
LLC Zhireken Ferromolybdenum Plant	100	100
OJSC Zhireken Mining and Metallurgical Complex	100	100
Strikeforce Mining and Resources (Geneva)	100	100
Strikeforce Mining and Resources Ltd	100	-
LLC Tyvinskaya Gornorudnaya Company	-	100

Pledge of 47.84% shares of JSIC Ingosstrakh under the Group's bank loans was released in March 2017.

The bank loans are also secured as at 31 December 2017 and 31 December 2016 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 new syndicated Pre-Export Finance Term Facility Agreement (PXF) dated 24 May 2017 and the Combined PXF Facility dated 18 August 2014, respectively;
- export revenues of ferromolybdenum;
- properties, plant and equipment – refer to note 12(e);
- inventories – refer to note 15.

UC RUSAL

On 17 March 2017 UC RUSAL executed amendments to the existing credit facilities with Sberbank. Under USD credit agreements the interest rate decreased from 3M Libor + 5.75% p.a. (incl. 1.05% PIK) to 3M Libor + 4.75% p.a. (subject to min 3M Libor at the level of 1%), effective from 29 December 2016. Under RUB credit facility outstanding exposure was converted into USD (at the rate of Central Bank of Russia as of the date of conversion). The interest rate of 3M Libor + 4.75% p.a. (subject to min 3M Libor at the level of 1%), is effective from 18 March 2017. On 31 August 2017 UC RUSAL has agreed with Sberbank to extend final maturity under loans secured by Norilsk Nickel shares to 2024, decrease interest margin from 4.75% to 3.75% and adjust covenants mostly in line with PXF.

On 28 March 2017 UC RUSAL through its subsidiaries entered into the REPO transaction backed by bonds issued by RUSAL Bratsk – in number of 7,527,646 series 08 bonds. As a result of the transactions UC RUSAL raised funding in the amount of EUR100 million (USD 107 million) with fifteen months maturity at an effective rate of 2.6% p.a.

On 24 May 2017 UC RUSAL entered into a new syndicated Pre-Export Finance Term Facility Agreement (PXF) in the amount of USD1.7 billion, interest rate 3M LIBOR+3% per annum, maturity 5 years (repayment starting in 2 years). The proceeds of the facility were used for the purpose of refinancing the Group's current debt. In December 2017, the margin was reduced to 2.5 per cent per annum.

On 22 August 2017 UC RUSAL executed amendments to Gazprombank facilities, reducing interest margin from 4.5% to 3.5%, extending final maturity and adjusting covenants in line with PXF. As at the date of these financial statements Gazprombank facilities were repaid in full out of proceeds of the third Eurobond placement in February 2018.

During 2017 UC RUSAL made principal repayments in the total amounts of USD 3,211 million and EUR 79 million (USD 104 million) under the Combined PXF Facility, credit facilities with Sberbank, Gazprombank, VTB Capital, Sovcombank and Credit Bank of Moscow.

The nominal value of the UC RUSAL's loans and borrowings was USD 7,072 million at 31 December 2017 (31 December 2016: USD 8,852 million).

ENERGY

(i) Parent Company

In August 2015 the Parent Company entered into the USD 1,043 million loan agreement ("Loan") with GrandStroy LLC (Lender) bearing fixed interest of 9.33% which replaced a former loan. Simultaneously, the Parent Company provided corporate guarantee ("Guarantee") in favour of PJSC VTB BANK (VTB) securing the obligations of the Lender under USD 1,043 million facility agreement ("VTB Facility"). The Loan and the VTB Facility were to be repaid in December 2019. The maturity date can be extended to December 2021 by mutual agreement of the parties.

During 2015 and 2016 the Parent Company entered into several amendments implementing new interest rate of 7.66% p.a. from March 2016, 6.65% p.a. from September 2016 and 6.15% p.a. from December 2016.

During 2016 the Parent Company entered into the amendment to the Loan converting part of the USD-denominated loan to RUB.

As at 31 December 2016 USD-denominated part of Loan was USD 942 million bearing 6.15% interest rate and RUB-denominated part of Loan was USD 108 million (RUB 6,540 million) bearing Bank of Russia Key Rate ("CBR") plus 2.31% p.a.

As at 31 December 2016 the outstanding amount under the Guarantee was USD 942 million bearing interest 6% p.a.

In January 2017, the Group acquired 100% of the shares in GrandStroy LLC, the Lender of the Parent Company under the loan agreement, for a cash consideration of USD 3 million.

In November 2017 the outstanding amount under the VTB facility of USD 942 million was fully repaid from the Offering proceeds (note 17(a)).

(ii) Sberbank facilities of Eurosibenergo

As at 31 December 2017 and 31 December 2016 Eurosibenergo had RUB-denominated loan in the amount of USD 1,126 million (RUB 64,878 million) and USD 1,077 million (RUB 65,303 million) bearing 10.5% and 12.5% effective interest, respectively, and USD-denominated loan in the amount of USD 486 million and USD 488 million bearing 7.4% and 7.4% effective interest, respectively.

The terms of the above loans require Eurosibenergo to maintain a certain Net Debt/EBITDA ratio, calculated quarterly based on the Russian statutory accounting records of the certain Group's subsidiaries.

(iii) Syndicate facilities

In June 2016 Telmamskaya HPP LLC entered into the syndicate loan agreement with Sberbank and VTB to finance the acquisition of non-controlling interest in Irkutskenergo (note 17(a)). Total amount of opened credit line is USD 1,257 million (RUB 84,000 million). The loan is payable until June 2023 and bears CBR+2%. As at 31 December 2016 the outstanding amount of this loan was USD 1,065 million (RUB 64,618 million).

In November 2016 this credit line was extended by USD 171 million (RUB 10,950 million at exchange rate on drawdown date) to finance an acquisition of dams from a third party (note 12). The extended credit line is payable by two tranches until November 2021, bearing CBR+2% and 10.5%, respectively.

In 2017 four tranches of USD 54 million (RUB 3,125 million) each were received according to the payment schedule for acquisition of non-controlling interest in Irkutskenergo (note 17(a)).

As at 31 December 2017 the outstanding amount of this loan was USD 1,500 million (RUB 86,395 million) bearing 10.3% effective interest.

The nominal value of ENERGY loans and borrowings was USD 4,500 million at 31 December 2017 (31 December 2016: USD 5,204 million).

(b) Bonds

As at 31 December 2017 1,289,314 series 07 bonds, 51,509 series 08 bonds and 4,221,951 series BO-01 bonds were outstanding (traded in the market).

The closing market price at 31 December 2017 was RUB 1,008, RUB 1,016, RUB 1,062 per bond for the first, second and the third tranches, respectively.

In February 2017 UC RUSAL completed the debut offering of Eurobonds with the following key terms: principal amount of USD 600 million, tenor of 5 years, coupon rate of 5.125% per annum. The bonds proceeds, excluding related expenses, in the amount of USD 597 million were applied for partial prepayment of RUSAL's existing pre-export finance facility. The closing market price at 31 December 2017 was USD 1,024 per bond.

In February 2017 UC RUSAL registered Panda Bond Offering Circular for the total amount of RMB 10 billion (c.USD1.5 billion) with the Shanghai Stock Exchange with the right to make placement in tranches with different maturities but not higher than 7 years. In March 2017 the first tranche of RMB 1 billion was placed for 3 years and 5.5% per annum. In September 2017 the second tranche of RMB 500 million was placed for 3 years and 5.5% per annum. The tranches are subject to put option after 2 years. The funds were used for working capital needs and refinancing of existing debt.

On 3 April 2017 RUSAL Bratsk announced a coupon rate in respect to the series 08 bonds at the level of 9% per annum for the 13-16 semi-annual coupon periods after which the series 08 bonds will be subject to a put option and coupon rate revision. On 12 April 2017 UC RUSAL exercised an option to repurchase the outstanding RUB-denominated bonds series 08.

In May 2017 the Group completed the offering of Eurobonds with the following key terms: principal amount of USD 500 million, tenor of 6 years, coupon rate of 5.3% per annum. The bonds proceeds were applied for partial prepayment of RUSAL's debt. The closing market price at 31 December 2017 was USD 1,030 per bond.

19. 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) Restructuring

A provision for restructuring is recognised when the Group has approved a detailed and formal restructuring plan, and the restructuring either has commenced or has been announced publicly. Future operating costs are not provided for.

(iii) 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.

(iv) Guarantee

Where the Group enters into financial guarantee contracts to guarantee the indebtedness of other companies, controlled by the beneficial shareholder of the Group, 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.

(b) Disclosure

USD million	Pension liabilities	Site restoration	Provisions for legal claims	Tax provisions	Provision for guarantee	Total
Balance at 1 January 2016	84	419	13	42	189	747
<i>Non-current</i>	77	400	-	35	138	650
<i>Current</i>	7	19	13	7	51	97
Provisions made during the year	11	30	5	-	-	46
Provisions reversed during the year	-	-	(1)	-	(100)	(101)
Actuarial gains and losses	2	-	-	-	-	2
Provisions used during the year	(7)	(2)	(12)	(17)	-	(38)
Disposal of subsidiary	-	(22)	-	-	-	(22)
Change in estimates	-	(1)	-	-	-	(1)
Translation difference	10	19	1	-	19	49
Balance at 31 December 2016	100	443	6	25	108	682
<i>Non-current</i>	92	422	-	6	98	618

USD million	Pension liabilities	Site restoration	Provisions for legal claims	Tax provisions	Provision for guarantee	Total
Current	8	21	6	19	10	64
Provisions made during the year	12	10	5	-	-	27
Provisions reversed during the year	-	(42)	(1)	(10)	(114)	(167)
Actuarial gains and losses	8	-	-	-	-	8
Provisions used during the year	(8)	-	(3)	(13)	-	(24)
Change in estimates	-	7	-	-	-	7
Translation difference	4	41	-	(2)	6	49
Balance at 31 December 2017	116	459	7	-	-	582
Non-current	107	435	-	-	-	542
Current	9	24	7	-	-	40
	116	459	7	-	-	582

(c) Pension liabilities

As at 31 December 2017 the pension liability is represented by UC RUSAL USD 69 million (31 December 2016: USD 57 million) and ENERGY USD 47 million (31 December 2016: USD 43 million).

The provision for pensions mainly comprises lump sum payments at retirement by aluminium plants located in Russia and Ukraine, and by electricity generating company 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 2017 and 2016 was 57,423 and 56,611, respectively. The number of pensioners in all jurisdictions as at 31 December 2017 and 2016 was 45,044 and 45,915, respectively.

The Group expects to pay under the defined benefit retirement plans an amount of USD 5 million during the 12 month period beginning on 1 January 2018.

Actuarial valuation of pension liabilities

The actuarial valuation of the Group and the portion of the Group funds specifically designated for the Group's employees were completed by a qualified actuary, Robert van Leeuwen AAG, as at 31 December 2017, 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 2017	31 December 2016
	% per annum	% per annum
Discount rate	7.2	8.0
Expected return on plan assets	N/A	N/A
Future salary increases	8.3	7.7
Future pension increases	4.6	4.3
Staff turnover	4.0	4.0
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 2017 and 31 December 2016 the Group's obligations were fully uncovered as the Group has only wholly unfunded plans.

ENERGY

The principal assumptions used in determining pension obligations for the pension plans are shown below:

	31 December 2017	31 December 2016
	USD million	USD million
Discount rate	7.5%	8.3%
Future salary increase	5.5%	6.5%
Pension and inflation rate increase	4%	5%

(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 recorded in these consolidated financial statements 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 2017	31 December 2016
Timing of cash outflows	2018: USD 25 million 2019-2023: USD 239 million 2024-2034: USD 129 million after 2034: USD 262 million	2017: USD 20 million 2018-2022: USD 263 million 2023-2033: USD 113 million after 2033: USD 158 million
Years required to fill the ash dumps	17.8	17.4
Discount rate for Irkutskenergo	3.9%	4.9%
Discount rate for Coal segment assets	3.9%	4.9%
Risk free discount rate for UC RUSAL after adjusting for inflation	2.29%	2.01%

The risk free rate for the year 2017-2016 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 2017, 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 7 million (31 December 2016: USD 6 million). The amount of claims, where management assesses outflow as possible approximates USD 36 million (31 December 2016: USD 60 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

At each reporting date the Directors have assessed the provisions for taxation and concluded that the provisions and disclosures are adequate.

(g) Provision for guarantees

In September 2013 the Group entered into an agreement with OJSC 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 2017 and 2016 USD 292 and USD 277 million, respectively) and is split between the Group and OJSC RusHydro in equal proportion.

During 2016 USD 100 million of provision previously recognised was reversed due to fact that maturity of the initial loan agreement between BoAZ and VEB was extended from 2027 to 2030 accordingly shifting the date principal repayments commence and the fact that BoGES will continue to support BoAZ in settling its liabilities under the credit facility including principal and interest repayments.

In 2015 the Group recognised a provision in the amount of RUB 6.5 billion (31 December 2016 USD 108 million) for a guarantee issued in favour of the bank in respect of certain loan obligations of several borrowers directly in equity. In September 2017, the guarantee agreement was terminated, which resulted in the recognition of other contribution of USD 114 million (notes 22(f), 17(e)).

20. 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 2017		31 December 2016	
	USD million		USD million	
	Derivative assets	Derivative liabilities	Derivative assets	Derivative liabilities
Petroleum coke supply contracts and other raw materials	36	82	62	5
Forward contracts for aluminium and other instruments	27	31	5	30
Total	63	113	67	35

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:

	2018	2019	2020	2021	2022	2023	2024	2025
LME Al Cash, USD per tonne	2,284	2,328	2,359	2,385	2,413	2,450	2,497	2,545
Platt's FOB Brent, USD per barrel	66	62	59	58	58	-	-	-

The movement in the balance of Level 3 fair value measurements of derivatives is as follows:

	31 December	
	2017	2016
	USD million	USD million
Balance at the beginning of the year	32	(300)
Unrealised changes in fair value recognised in other comprehensive income (cash flow hedge) during the year	-	36
Unrealised changes in fair value recognised in profit or loss (finance expense) during the period	(287)	(157)
Realised portion during the year	205	453
Balance at the end of the year	(50)	32

During the year 2017 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, the Group 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, the Group entered into long-term petroleum coke supply contract 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, the Group entered into long-term pitch supply contract 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.

21. 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, 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 2017

Note	Carrying amount				Fair value				
	Designated at fair value USD million	Fair value - hedging instrument USD million	Loans and receivables 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									
20	Petroleum coke supply contracts and other raw materials	36	-	-	36	-	-	36	36
20	Forward contracts for aluminium and other instruments	27	-	-	27	-	-	27	27
		63	-	-	63	-	-	63	63
Financial assets not measured at fair value*									
16(a)	Trade and other receivables	-	-	-	1,134	-	1,134	-	1,134
16(c)	Cash and cash equivalents	-	-	-	974	-	974	-	974
		-	-	-	2,108	-	2,108	-	2,108
Financial liabilities measured at fair value									
20	Petroleum coke supply contracts and other raw materials	(82)	-	-	(82)	-	-	(82)	(82)
20	Forward contracts for aluminium and other instruments	(31)	-	-	(31)	-	-	(31)	(31)
		(113)	-	-	(113)	-	-	(113)	(113)
Financial liabilities not measured at fair value*									
18(a)	Loans and borrowings	-	-	-	(11,608)	-	(11,736)	-	(11,736)
18(b)	Unsecured bond issue	-	-	-	(1,421)	(1,231)	(233)	-	(1,464)
16(b)	Trade and other payables	-	-	-	(1,395)	-	(1,395)	-	(1,395)
		-	-	-	(14,424)	(1,231)	(13,364)	-	(14,595)

* The Group has not disclosed the fair values for financial instruments such as short-term trade receivables and payables, because their carrying amounts are a reasonable approximation of fair values.

As at 31 December 2016

Note	Carrying amount				Fair value				
	Designated at fair value USD million	Fair value - hedging instrument USD million	Loans and receivables 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	62	-	-	-	62	-	-	62	62
Forward contracts for aluminium and other instruments	5	-	-	-	5	-	-	5	5
	67	-	-	-	67	-	-	67	67
Financial assets not measured at fair value*									
Trade and other receivables	-	-	1,254	-	1,254	-	1,254	-	1,254
Cash and cash equivalents	-	-	669	-	669	-	669	-	669
	-	-	1,923	-	1,923	-	1,923	-	1,923
Financial liabilities measured at fair value									
Petroleum coke supply contracts and other raw materials	(5)	-	-	-	(5)	-	-	(5)	(5)
Forward contracts for aluminium and other instruments	(30)	-	-	-	(30)	-	-	(30)	(30)
	(35)	-	-	-	(35)	-	-	(35)	(35)
Financial liabilities not measured at fair value*									
Loans and borrowings	-	-	-	(14,009)	(14,009)	-	(14,311)	-	(14,311)
Unsecured bond issue	-	-	-	(196)	(196)	(208)	-	-	(208)
Trade and other payables	-	-	-	(1,307)	(1,307)	-	(1,307)	-	(1,307)
	-	-	-	(15,512)	(15,512)	(208)	(15,618)	-	(15,826)

* The Group has not disclosed the fair values for financial instruments such as short-term trade receivables and payables, because their carrying amounts 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 2017 and 31 December 2016, 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 restraint by the 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 increased its internal coal production through acquisition of coal mines and licences in the Eastern Siberia region. The Group aims at self-sufficiency in coal in the next several years.

(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 18). 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 2017		31 December 2016	
	Effective interest rate %	USD million	Effective interest rate %	USD million
Fixed rate loans and borrowings				
Loans and borrowings	2.6%-12.85%	1,810	2.5%-15.1%	3,236
		1,810		3,236
Variable rate loans and borrowings				
Loans and borrowings	1.55%-9.75%	9,665	0.53% - 12.31%	10,639
		9,665		10,639
		11,475		13,873

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 2017			
Basis percentage points	+100	(97)	(77)
Basis percentage points	-100	97	77
As at 31 December 2016			
Basis percentage points	+100	(106)	(85)
Basis percentage points	-100	106	85

(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.

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	
	2017	2016	2017	2016	2017	2016	2017	2016
Non-current assets	-	-	3	3	1	3	-	1
Derivative financial assets	-	-	36	59	-	-	-	-
Trade and other receivables	1	-	429	324	91	44	26	18
Cash and cash equivalents	1	1	68	49	106	86	19	18
Loans and borrowings	(539)	(682)	(57)	(329)	(251)	(232)	-	-
Provisions	-	-	(100)	(71)	(41)	(33)	(11)	(15)
Derivative financial liabilities	-	-	(33)	(5)	-	-	-	-
Income taxation	-	-	(2)	(60)	-	-	(7)	-
Non-current liabilities	-	-	(9)	(9)	(8)	(8)	-	-
Trade and other payables	(3)	(2)	(403)	(440)	(63)	(41)	(50)	(57)
Net exposure arising from recognised assets and liabilities	(540)	(683)	(68)	(479)	(165)	(181)	(23)	(35)

Foreign currency sensitivity analysis

The following tables indicate the instantaneous 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 2017		
	Change in exchange rates	USD million Effect on profit before taxation for the year	USD million Effect on equity for the year
Depreciation of USD vs. RUB	5%	24	19
Depreciation of USD vs. EUR	5%	(8)	(8)
Depreciation of USD vs. other currencies	5%	(1)	(1)

	Year ended 31 December 2016		
	Change in exchange rates	USD million Effect on profit before taxation for the year	USD million Effect on equity for the year
Depreciation of USD vs. RUB	5%	10	5
Depreciation of USD vs. EUR	5%	(9)	(9)
Depreciation of USD vs. other currencies	5%	(2)	(2)

Results of the analysis as presented in the above tables represent an aggregation of the instantaneous 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 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 2017						
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	1,325	-	-	-	1,325	1,325
Trade and other payables to related parties	52	-	-	-	52	52
Bonds, including interest payable	101	379	757	513	1,750	1,421
Loans and borrowings, including interest payable	2,679	2,361	5,833	3,442	14,315	11,608
	4,157	2,740	6,590	3,955	17,442	14,406
Financial guarantees issued: Maximum amount guaranteed	75	71	-	-	146	-

31 December 2016						
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	1,226	-	-	-	1,226	1,226
Trade and other payables to related parties	55	-	-	-	55	55
Bonds, including interest payable	26	225	-	-	251	196
Loans and borrowings, including interest payable	2,936	3,215	10,885	842	17,877	14,009
	4,243	3,440	10,885	842	19,409	15,486
Financial guarantees issued: Maximum amount guaranteed	106	113	77	-	296	108

(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 16. 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 2017 and 31 December 2016, the Group has certain concentrations of credit risk as 1.1% and 3.4 % of the total trade receivables were due from the Group's largest customer and 5.6% and 8.8% of the total trade receivables were due from the Group's five largest customers.

With respect to credit risk arising from guarantees, management have recognised a provision of USD nil million against the Group's exposure to guarantees as at 31 December 2017 (31 December 2016: USD 108 million) (note 19(g)).

(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 2017	
	USD million	USD million
	Trade receivables	Trade payables
Gross amounts	45	(34)
Net amounts presented in the statement of financial position	45	(34)
Amounts related to recognised financial instruments that do not meet some or all of the offsetting criteria	(22)	22
Net amount	23	(12)

	Year ended 31 December 2016	
	USD million	USD million
	Trade receivables	Trade payables
Gross amounts	52	(45)
Net amounts presented in the statement of financial position	52	(45)
Amounts related to recognised financial instruments that do not meet some or all of the offsetting criteria	(32)	32
Net amount	20	(13)

22. 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 2017 and 31 December 2016 approximated USD 213 million and USD 157 million, respectively. These commitments are due over a number of years.

ENERGY

The ENERGY segment had outstanding capital commitments which had been contracted for at 31 December 2017 and 31 December 2016 in the amount of USD 24 million and USD 55 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 2018-2034 under supply agreements are estimated from USD 3,593 million to USD 4,381 million at 31 December 2017 (31 December 2016: USD 3,156 million to USD 4,089 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 2018-2030 under supply agreements are estimated from USD 6,837 million to USD 9,351 million at 31 December 2017 (31 December 2016: USD 5,748 million to USD 7,127 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 2018-2034 are estimated from USD 815 million to USD 1,041 million at 31 December 2017 (31 December 2016: from USD 806 million to USD 1,445 million) and will be settled at market prices at the date of delivery. Commitments with related parties for sales of alumina in 2018-2019 approximated from USD 414 million to USD 516 million at 31 December 2017 (31 December 2016: from USD 546 million to USD 680 million).

Commitments with related parties for sales of primary aluminium and alloys in 2018-2021 are estimated to range from USD 3,634 million to USD 3,928 million at 31 December 2017 (31 December 2016: USD 4,295 million to USD 4,463 million). Commitments with third parties for sales of primary aluminium and alloys in 2018-2021 are estimated to range from USD 1,266 million

to USD 1,654 million at 31 December 2017 (31 December 2016: from USD 941 million to USD 1,252 million).

(d) Operating lease commitments

Non-cancellable operating lease rentals are payable as follows:

	<u>31 December</u>	<u>31 December</u>
	<u>2017</u>	<u>2016</u>
	<u>USD million</u>	<u>USD million</u>
Less than one year	31	30
Between one and five years	107	88
More than five years	126	126
	<u>264</u>	<u>244</u>

A number of lease contracts for land, heat network, property and equipment are for one year with the possibility of contract renewal in the future. Management of the Group believes that such contracts will be effective in 2018-2023 therefore expected lease expenses for the respective period were included in the table above.

(e) 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.

(f) Guarantees

In September 2015 the Parent Company issued a guarantee in respect of certain loan obligations of several borrowers which are not Group companies in favour of Sberbank. In 2015 the Group recognised a provision in the amount of RUB 6.5 billion (31 December 2016: USD 108 million) for a guarantee issued in favour of the bank in respect of loan obligations described above directly in equity (notes 19(g), 17(e)). In 2017 the guarantee agreement was terminated.

23. 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 to the authorities' previous interpretations or practices. Different and selective interpretations of tax regulations by various government authorities and inconsistent enforcement create further uncertainties in the taxation environment in the Russian Federation.

Transfer pricing legislation enacted in the Russian Federation starting from 1 January 2012 provides for major modifications making local transfer pricing rules closer to OECD guidelines, but creating additional uncertainty in practical application of tax legislation in certain circumstances. These

transfer pricing rules provide for an obligation for the taxpayers to prepare transfer pricing documentation with respect to controlled transactions and prescribe the basis and mechanisms for accruing additional taxes and interest in case prices in the controlled transactions differ from the market level. The transfer pricing rules apply to cross-border transactions between related parties, as well as to certain cross-border transactions between independent parties, as determined under the Russian Tax Code (no threshold is set for the purposes of prices control in such transactions). In addition, the rules apply to in-country transactions between related parties if the accumulated annual volume of the transactions between the same parties exceeds a particular threshold (RUB 1 billion in 2014 and thereon). The compliance of prices with the arm's length level could be as well subject to scrutiny on the basis of unjustified tax benefit concept.

Effective 1 January 2015 the concept of "beneficial ownership" which is broadly in line with the concept developed by the OECD were introduced into Russian tax legislation. In particular, based on this concept the double tax treaty relief should be available to foreign legal entities provided they have the actual right to receive income (i.e., they qualify as a "beneficial owner of income"). When determining the beneficial owner, the functions of a foreign person that is claiming the application of reduced tax rates under a double tax treaty and the risks that such person takes should be analyzed. Effective 1 January 2017, a non-resident income recipient should be obliged to provide a tax agent with confirmation that it is the beneficial owner of the income. However, at the moment there is no clear guidance in the tax legislation in what form such confirmation should be obtained.

No assurance can currently be given as to how the above concepts will be applied in practice, their potential interpretation by the Russian tax authorities and the possible impact on the Group.

UC RUSAL

In addition to the amounts of income tax UC RUSAL already has provided, there are certain tax positions 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. UC RUSAL'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 2017 is USD 30 million (31 December 2016: USD 225 million).

ENERGY

During the past several years the Russian tax authorities have shown a tendency to take more assertive positions in their interpretation of tax legislation which has led to an increased number of material tax assessments issued by them as a result of tax audits. In practice, the Russian tax authorities generally interpret the tax laws in ways that do not favour taxpayers.

Tax declarations, together with related documentation, are subject to review and investigation by a number of authorities, each of which may impose fines, penalties and interest charges. Fiscal periods remain open to review by the authorities for three calendar years of review (one year in the case of customs). Under certain circumstances reviews may cover longer periods. In addition, in some instances, new tax regulations effectively have been given retroactive effect. Moreover, in October 2006, the Plenum of the Supreme Arbitration Court of the Russian Federation issued Ruling No. 53, formulating a concept of "unjustified tax benefit", which is defined in the Ruling by reference to specific examples of such tax benefits (e.g., tax benefits obtained as a result of a transaction that has no reasonable business purpose). There is a growing practice on the interpretation of this concept by the Russian tax authorities and the Russian courts and it is apparent that the Russian tax authorities actively seek to apply this concept when challenging tax positions taken by taxpayers. The tax authorities have actively sought to apply this concept when challenging tax positions taken by taxpayers in court, and this trend is anticipated to continue in the future. It is possible that additional taxes may be payable in respect of some operations of the Group upon examination by the tax

authorities or in connection with ongoing disputes with tax authorities. It could potentially have a significant impact on the consolidated financial statements of the Group.

Russian tax legislation includes “thin capitalisation” rules which limit the amount of interest that could be deducted by the Russian subsidiaries of the Company for corporate income tax purposes on “controlled” debts. The deductibility of interest is restricted to the extent that the controlled debt of a Russian company exceeds its net assets by more than three times. Interest on excess debt is non-deductible and treated as a dividend subject to Russian withholding tax. Prior to 2017 loans provided between Russian affiliated companies were subject to thin capitalisation rules in case they have direct or indirect foreign shareholder owning more than 20%. There is contemplated tax practice with respect to such kind of transactions and tax authorities interpreted these rules differently. It is currently unclear how the Russian tax authorities will interpret and apply the amended thin capitalisation rules.

The Russian subsidiaries of the Company may be affected by the Russian Federation’s thin capitalisation rules which may result in assessment of additional taxes. 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 2017 is USD 7 million (31 December 2016: USD 18 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 and to bring it into full compliance with current legislation.

(c) Legal contingencies

The Group’s business activities expose it to a variety of lawsuits and claims which are monitored, assessed and contested on the 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 19(e)). As at 31 December 2017 the amount of claims, where management assesses outflow as possible approximates USD 36 million (31 December 2016: USD 60 million).

In January 2013, the Company received a writ of summons and statement of claim filed in the High Court of Justice of the Federal Capital Territory of Nigeria (Abuja) by plaintiff BFIG Group Divino Corporation (“BFIG”) against certain subsidiaries of the Company. It is a claim for damages arising out of the defendants’ alleged tortious interference in the bid process for the sale of the Nigerian government’s majority stake in the Aluminium Smelter Company of Nigeria (“ALSCON”) and alleged loss of BFIG’s earnings resulting from its failed bid for the said stake in ALSCON. BFIG seeks compensatory damages in the amount of USD 2.8 billion plus interest. In January 2014 the court granted the Company’s motion to join the Federal Republic of Nigeria and Attorney General of Nigeria to the case as co-defendants. On the latest hearing held on 8 November 2017 the Court has not upheld the claim and the claim was struck out. In January 2018 one of the Company’s

subsidiaries, ALSCON and the Bureau of Public Enterprises of Nigeria entered into an addendum to the original sale and purchase contract regarding ALSCON.

(d) Risks and concentrations

A description of the Group's major products and its principal markets, as well as exposure to foreign currency risks are provided in note 1 "Background" and note 21(c)(iii) "Foreign currency risk". The price at which the Group can sell its products is one of the primary drivers of the Group's revenue. The UC RUSAL's prices are largely determined by prices set in the international market. The Group's future profitability and overall performance is strongly affected by the price of primary aluminium that is set in the international market.

24. Related party transactions

(a) Accounting policy

(a) A person, or a close member of that person's family, is related to the Group if that person:

- (i) has control or joint control over the Group;
- (ii) has significant influence over the Group; or
- (iii) is a member of the key management personnel of the Group or the Group's parent.

(b) An entity is related to the Group if any of the following conditions applies:

- (i) The entity and the Group are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others).
- (ii) One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member).
- (iii) Both entities are joint ventures of the same third party.
- (iv) One entity is a joint venture of a third entity and the other entity is an associate of the third entity.
- (v) The entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group.
- (vi) The entity is controlled or jointly controlled by a person identified in (a).
- (vii) A person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity).
- (viii) The entity, or any member of a group of which it is a part, provides key management personnel services to the group or to the group's parent.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by, that person in their dealings with the entity.

(b) Transactions with related parties

The Group transacts with related parties, the majority of which are entities under common control with the Group or under the control of minority shareholders of main subsidiaries or entities under its control.

Sales to related parties for the year are disclosed in note 6, trade receivables from related parties are disclosed in note 16(a), cash and cash equivalents are disclosed in note 16(c), accounts payable to related parties are disclosed in note 16(b) and other transactions with shareholders are disclosed in note 17. Related parties are mostly presented as parties under common control.

Purchases of raw materials and services from related parties for the period were as follows:

	Year ended 31 December	
	2017	2016
	USD million	USD million
Purchase of raw materials	(448)	(373)
<i>Related parties – companies capable of exerting significant influence</i>	<i>(123)</i>	<i>(143)</i>
<i>Related parties – companies under common control</i>	<i>(46)</i>	<i>(1)</i>
<i>Related parties – associates and joint ventures</i>	<i>(279)</i>	<i>(229)</i>
Energy costs	(60)	(127)
<i>Related parties – companies capable of exerting significant influence</i>	<i>(10)</i>	<i>(5)</i>
<i>Related parties – companies under common control</i>	<i>(21)</i>	<i>(11)</i>
<i>Related parties – associates and joint ventures</i>	<i>(29)</i>	<i>(111)</i>
Other services	(138)	(129)
<i>Related parties – companies under common control</i>	<i>(2)</i>	<i>(3)</i>
<i>Related parties – associates and joint ventures</i>	<i>(136)</i>	<i>(126)</i>
	(646)	(629)

On 11 April 2016 the Group pledged 15% shares of Eurosibenergo with the bank for the corporate guarantee provided by the related party under common control till 20 December 2019. In October 2017 the pledge was released.

(c) Remuneration to key management

For the year ended 31 December 2017 remuneration to key management personnel during the year was represented by short-term employee benefits and amounted to USD 18 million (31 December 2016: USD 14 million).

(d) Pricing policies

Prices for transactions with related parties are determined on a case by case basis but are not necessarily at arm's length.

25. Events subsequent to the reporting date

(a) Dividends distribution

Subsequently to the reporting date, the Parent Company declared interim dividends for 2017 in the amount of USD 68 million.

(b) Agreement with Nordea Bank AB

In January 2018 UC RUSAL entered into a bilateral facility agreement with Nordea Bank AB (publ) 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 Group's existing debt.

(c) UC RUSAL bonds

In February 2018 the Group completed its third offering of Eurobonds with the following key terms: principal amount of USD 500 million, tenor of 5 years, coupon rate of 4.85% per annum. The bonds proceeds were applied for partial prepayment of Group's existing debt.

In February 2018 the Group has fully redeemed 1,289,314 series 07 bonds for USD 23 million.

26. 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 its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations shall be 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 economical 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 economical

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, fair value of hydro assets may be lower with respective 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 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.

27. 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	
			2017	2016
UC RUSAL				
United Company RUSAL Plc	Jersey	Holding company	48.1%	48.1%
Compagnie Des Bauxites De Kindia S.A.	Guinea	Bauxite mining	100.0%	100.0%
Friguia	Guinea	Alumina	100.0%	100.0%
JSC RUSAL Achinsk	Russian Federation	Alumina	100.0%	100.0%
RUSAL Mykolaev 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%
OJSC 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 Ltd	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%
SUAL-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%
Aktivium B.V.	Netherlands	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%
ENERGY				
Eurosibenergo Plc	Cyprus	Holding company	100.0%	100.0%
JSC Eurosibenergo	Russian Federation	Management company	100.0%	100.0%

Name	Place of incorporation and operation	Principal activities	Ownership and equity interest 31 December	
			2017	2016
JSC Krasnoyarsk Hydro-Power Plant (a)	Russian Federation	Energy generation	100.0%	100.0%
CJSC MAREM +	Russian Federation	Energy trading	99.9%	99.9%
PJSC Irkutskenergo	Russian Federation	Energy generation	92.5%	90.8%
OJSC Irkutsk Electric Grid Company	Russian Federation	Power transmission and distribution	52.2%	51.9%
LLC Eurosibenergo - Hydrogeneration	Russian Federation	Energy generation	100.0%	100.0%
LLC Avtozavodskaya TEC	Russian Federation	Energy generation	96.2%	95.3%
LLC Eurosibenergo-engineering	Russian Federation	Engineering services	100.0%	100.0%
LLC Kompaniya VostSibUgol	Russian Federation	Coal production	92.5%	90.8%
LLC KRAMZ	Russian Federation	Manufacturing of semi-finished products from primary aluminium	93.4%	91.7%
LLC Tyvinskaya Gornorudnaya Company	Russian Federation	Coal production	94.3%	93.0%
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%

(a) As at 31 December 2016, excluding squeeze out procedures Krasnoyarsk HPP nominal ownership is 98.6%.

The nominal ownerships indicated in the table above are the effective holdings, except for UC RUSAL shareholdings where 48.1% is held by the Parent Company.

Trading entities are engaged in the sale of products to and from the production entities.