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CHALCO HONG KONG INVESTMENT COMPANY LIMITED

(於英屬維爾京群島註冊成立的有限責任公司)

(「發行人」)

二零二四年到期的500,000,000美元1.55厘有擔保債券(「二零二四年債券」)
二零二六年到期的500,000,000美元2.10厘有擔保債券(「二零二六年債券」，
與二零二四年債券統稱「債券」)
(二零二四年債券的股份代號：40783)
(二零二六年債券的股份代號：40784)
由

Aluminum Corporation of China Limited
(中國鋁業股份有限公司)

(在中國註冊成立的股份有限公司)

(股份代號：2600)
(「擔保人」)
提供無條件及不可撤銷擔保

聯席全球協調人、聯席賬簿管理人及聯席牽頭經辦人

中信銀行(國際)	**星展銀行有限公司**	**中國銀行**	**中國建設銀行(亞洲)**

聯席賬簿管理人及聯席牽頭經辦人

巴克萊	**東方匯理銀行**	**法國興業銀行**	**上海浦東發展銀行香港分行**

刊發發售通函

本公告乃根據香港聯合交易所有限公司(「**香港聯交所**」)證券上市規則(「**上市規則**」)第37.39A條而刊發。

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香港，二零二一年七月二十九日

於本公告刊發日期，中鋁香港投資有限公司的董事為杜小明先生及楊薇女士。

於本公告刊發日期，中國鋁業股份有限公司董事會成員包括執行董事劉建平先生、朱潤洲先生、歐小武先生及蔣濤先生，非執行董事張吉龍先生及王軍先生，獨立非執行董事邱冠周先生、余勁松先生及 陳遠秀女士。

IMPORTANT NOTICE

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The attached Offering Circular has been made available to you in electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of transmission and consequently none of the Managers, the Trustee or the Agents (each as defined in the attached Offering Circular) nor any of their respective affiliates, directors, officers, employees, representatives, agents and each person who controls any of them nor any of their respective affiliates accepts any liability or responsibility whatsoever in respect of any discrepancies between the document distributed to you in electronic format and the hard copy version. Any one of the Managers will provide a hard copy version to you upon request.

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THE SECURITIES AND THE GUARANTEE DESCRIBED HEREIN HAVE NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE SECURITIES ACT, OR THE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR OTHER JURISDICTION AND THE SECURITIES DESCRIBED HEREIN MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT), EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE OR LOCAL SECURITIES LAWS. THIS OFFERING IS MADE SOLELY IN OFFSHORE TRANSACTIONS PURSUANT TO REGULATION S UNDER THE SECURITIES ACT.

Nothing in this electronic transmission constitutes an offer or an invitation by or on behalf of the issuer or guarantor or the Managers, the Trustee or the Agents to subscribe for or purchase any of the securities described herein, and access has been limited so that it shall not constitute in the United States or elsewhere a general solicitation or general advertising (as those terms are used in Regulation D under the Securities Act) or directed selling efforts (within the meaning of Regulation S under the Securities Act). If a jurisdiction requires that the offering be made by a licensed broker or dealer and any Manager or any affiliate of a Manager is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by such Manager or such affiliate on behalf of the issuer or guarantor in such jurisdiction.

PRIIPs REGULATION – PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); or (ii) a customer within the meaning of Directive (EU) 2016/97 (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPS Regulation.

UK PRIIPs REGULATION – PROHIBITION OF SALES TO UK RETAIL INVESTORS – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the "UK"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (the "EUWA"); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (the "FSMA") and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA. Consequently no key information document required by the PRIIPs Regulation as it forms part of domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Bonds or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

MiFID II product governance / Professional investors and ECPs only target market – Solely for the purposes of the manufacturer's product approval process, the target market assessment in respect of the Bonds has led to the conclusion that: (i) the target market for the Bonds is eligible counterparties and professional clients only, each as defined in MiFID II; and (ii) all channels for distribution of the Bonds to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Bonds (a "distributor") should take into consideration the manufacturer's target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Bonds (by either adopting or refining the manufacturer's target market assessment) and determining appropriate distribution channels.

You are reminded that you have accessed the attached Offering Circular on the basis that you are a person into whose possession the Offering Circular may be lawfully delivered in accordance with the laws of the jurisdiction in which you are located and you may not nor are you authorised to deliver the attached Offering Circular, electronically or otherwise, to any other person. If you have gained access to this transmission contrary to the foregoing restrictions, you are not allowed to purchase any of the securities described in the attached Offering Circular.

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CHALCO HONG KONG INVESTMENT COMPANY LIMITED

(incorporated with limited liability in the British Virgin Islands)

US$500,000,000 1.55 per cent. Guaranteed Bonds due 2024
US$500,000,000 2.10 per cent. Guaranteed Bonds due 2026

unconditionally and irrevocably guaranteed by

中国铝业股份有限公司
ALUMINUM CORPORATION OF CHINA LIMITED

(a joint stock limited company incorporated in the PRC with limited liability)

(Stock Code: 2600 (HKSE); ACH (NYSE); 601600 (SSE))

2024 Bonds Issue Price: 99.796 per cent.
2026 Bonds Issue Price: 99.736 per cent.

The 1.55 per cent. guaranteed bonds due 2024 in the aggregate principal amount of US$500,000,000 (the "2024 Bonds") and the 2.10 per cent. guaranteed bonds due 2026 in the aggregate principal amount of US$500,000,000 (the "2026 Bonds", and together with the 2024 Bonds, the "Bonds") will be issued by Chalco Hong Kong Investment Company Limited (the "Issuer") and will be unconditionally and irrevocably guaranteed (the "Guarantee") by Aluminum Corporation of China Limited (中國鋁業股份有限公司)(the "Guarantor"). The Issuer is the subsidiary of the Guarantor, shares of which are listed on The Stock Exchange of Hong Kong Limited (the "HKSE") and the Shanghai Stock Exchange and whose American Depositary Receipts are listed on the New York Stock Exchange.

In this Offering Circular, references to the "Bonds" are to the 2024 Bonds and the 2026 Bonds and references to a "series of the Bonds" or a "series" are to the 2024 Bonds or the 2026 Bonds. References to the "Terms and Conditions" are to the "*Terms and Conditions of the 2024 Bonds*" and/or the "*Terms and Conditions of the 2026 Bonds*", as the case may be.

The 2024 Bonds will bear interest on their outstanding principal amount from and including 28 July 2021 (the "Issue Date") at the rate of 1.55 per cent. per annum. The 2026 Bonds will bear interest on their outstanding principal amount from and including the Issue Date at the rate of 2.10 per cent. per annum. Interest on the Bonds will be payable semi-annually in arrear on 28 January and 28 July in each year, commencing with the first Interest Payment Date (as defined in the Terms and Conditions of the relevant series of the Bonds) falling on 28 January 2022.

Each series of the Bonds will constitute direct, unconditional, unsubordinated and (subject to, and to the extent provided under, Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under each series of the Bonds shall (save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds) at all times rank at least equally with all the Issuer's other present and future unsecured, unconditional and unsubordinated obligations. The Issuer and the Guarantor will enter into a trust deed (together the "Trust Deeds" and each a "Trust Deed"), and the Guarantor will enter into a deed of guarantee (together, the "Deeds of Guarantee" and each a "Deed of Guarantee"), with China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司)(the "Trustee") on or around the Issue Date in relation to each series of the Bonds. The Guarantor will unconditionally and irrevocably guarantee the due payment in full of all sums expressed to be payable by the Issuer under the relevant Trust Deed and the relevant series of the Bonds (the "Guarantee") under the respective Deeds of Guarantee. The obligations of the Guarantor under the Guarantee shall (save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds) at all times rank at least equally with all the other present and future unsecured and unsubordinated obligations of the Guarantor.

Payments of principal, premium (if applicable) and interest by or on behalf of the Issuer or the Guarantor in respect of each series of the Bonds or under the Guarantee will be made free and clear of, and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within any Relevant Jurisdiction (as defined in the Terms and Conditions of the relevant series of the Bonds) to the extent described in "*Terms and Conditions of the 2024 Bonds – Taxation*" and "*Terms and Conditions of the 2026 Bonds – Taxation*".

The 2024 Bonds will mature on 28 July 2024 at their principal amount. The 2026 Bonds will mature on 28 July 2026 at their principal amount. Each series of the Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not more than 60 nor less than 30 days' irrevocable notice to the Trustee, the Principal Paying Agent (as defined in the Terms and Conditions of the relevant series of the Bonds) and the Bondholders of the Bonds of the relevant series at their principal amount (together with interest accrued to but excluding the date fixed for redemption) in the event of certain changes affecting taxes of any Relevant Jurisdiction, as further described in "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption for taxation reasons*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption for taxation reasons*". At any time following the occurrence of a Relevant Event (as defined in the Terms and Conditions of the relevant series of the Bonds), the holder of any Bond of the relevant series will have the right, at such holder's option, to require the Issuer to redeem all, but not some only, of that holder's Bonds on the Put Settlement Date (as defined in the Terms and Conditions of the relevant series of the Bonds) at a redemption price equal to 101 per cent. (in the case of a redemption for a Change of Control (as defined in the Terms and Conditions of the relevant series of the Bonds)) or 100 per cent. (in the case of a redemption for a No Registration Event (as defined in the Terms and Conditions of the relevant series of the Bonds)) of their principal amount (together with interest accrued to but excluding the Put Settlement Date). See "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption for Relevant Events*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption for Relevant Events*". On giving not less than 30 nor more than 60 days' notice to the Trustee, the Principal Paying Agent and the Bondholders of the relevant series, the Issuer may at any time and from time to time but in any event before (and not including) 28 June 2024 (in case of the 2024 Bonds) or 28 June 2026 (in case of the 2026 Bonds) redeem the Bonds of the relevant series, in whole but not in part, at a Make Whole Price (as defined in the Terms and Conditions of the relevant series of the Bonds) as of, and accrued and unpaid interest, if any, to (but excluding), the redemption date specified in the Make Whole Redemption Notice (as defined in the Terms and Conditions of the relevant series of the Bonds). See "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption at the Make Whole Price at the option of the Issuer*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption at the Make Whole Price at the option of the Issuer*". The Issuer may, on giving not less than 30 nor more than 60 days' notice to the Bondholders of the relevant series of the Bonds and in writing to the Trustee and the Principal Paying Agent, redeem the Bonds of the relevant series in whole, but not in part, at any time on or after 28 June 2024 (in case of the 2024 Bonds) or 28 June 2026 (in case of the 2026 Bonds), at 100 per cent. of their principal amount together with any interest accrued to but excluding the date fixed for redemption. See "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase– Redemption at par at the Option of the Issuer*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase– Redemption at par at the Option of the Issuer*".

Pursuant to the Notice on Promoting the Reform of the Filing and Registration System for Issuance of Foreign Debt by Enterprises (國家發展改革委關於推進企業發行外債備案登記制管理改革的通知(發改外資[2015] 2044號)) promulgated by the National Development and Reform Commission of the PRC (the "NDRC") on 14 September 2015 which came into effect immediately (the "Circular 2044"), the Guarantor has registered the issuance of the Bonds with the NDRC and has obtained a certificate from the NDRC on 6 July 2021 evidencing such registration and will undertake to file or cause to be filed the relevant information in connection with the Bonds with the NDRC within the prescribed timeframe after the issue date of the Bonds and in accordance with the Circular 2044 and any implementation rules, regulations, certificates, circulars or notices in connection therewith issued by the NDRC from time to time.

The Guarantor will undertake to file or cause to be filed with the State Administration of Foreign Exchange of the PRC or its local branch ("SAFE") the Deeds of Guarantee and other required documents within the prescribed timeframe after execution of the Deeds of Guarantee in accordance with the Provisions on the Foreign Exchange Administration of Cross-Border Guarantees (跨境擔保外匯管理規定(匯發[2014]29號)) promulgated by the SAFE on 12 May 2014 which came into effect on 1 June 2014 (the "Cross-Border Security Registration"). The Guarantor shall use all reasonable endeavours to complete the Cross-Border Security Registration and obtain a registration certificate from SAFE (or any other document evidencing the completion of registration issued by SAFE) on or before the Registration Deadline (as defined in the Terms and Conditions of each relevant series of the Bonds) and comply with all applicable PRC laws and regulations in relation to the Cross-Border Security Registration.

Investing in the Bonds involves certain risks. See "*Risk Factors*" beginning on page 15 for a discussion of certain factors to be considered in connection with an investment in the Bonds.

The Bonds and the Guarantee have not been and will not be registered under the United States Securities Act of 1933, as amended (the "Securities Act") and, subject to certain exceptions, may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons (as defined in Regulation S under the Securities Act ("Regulation S")). The Bonds are being offered only outside the United States in reliance on Regulation S.

PRIIPs REGULATION – PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); or (ii) a customer within the meaning of Directive (EU) 2016/97 (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

UK PRIIPs REGULATION – PROHIBITION OF SALES TO UK RETAIL INVESTORS – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the "UK"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (the "EUWA"); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (the "FSMA") and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA. Consequently no key information document required by the PRIIPs Regulation as it forms part of domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Bonds or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation. For a description of these and certain further restrictions on offers and sales of the Bonds and the distribution of this Offering Circular, see "*Subscription and Sale*".

The denomination of the Bonds shall be US$200,000 and integral multiples of US$1,000 in excess thereof.

Application will be made to the HKSE for the listing of the Bonds by way of debt issues to professional investors (as defined in Chapter 37 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited) ("Professional Investors") only. This document is for distribution to Professional Investors only.

Notice to Hong Kong investors: The Issuer and the Guarantor confirm that the Bonds are intended for purchase by Professional Investors only and will be listed on the HKSE on that basis. Accordingly, the Issuer and the Guarantor confirm that the Bonds are not appropriate as an investment for retail investors in Hong Kong. Investors should carefully consider the risks involved.

The HKSE has not reviewed the contents of this document, other than to ensure that the prescribed form disclaimer and responsibility statements, and a statement limiting distribution of this document to Professional Investors only have been reproduced in this document. Listing of the Bonds on the HKSE is not to be taken as an indication of the commercial merits or credit quality of the Bonds or the Issuer, the Guarantor and the Group or quality of disclosure in this document. Hong Kong Exchanges and Clearing Limited and the HKSE take no responsibility for the contents of this Offering Circular, make no representation as to its accuracy or completeness and expressly disclaim any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this Offering Circular.

The Guarantor has been assigned a corporate credit rating of "A-" with a stable outlook by Fitch Ratings Ltd. ("**Fitch**") and "BBB-" with a stable outlook by S&P Global Ratings ("**S&P**"). **These ratings are only correct as at the date of this Offering Circular.** Each series of the Bonds are expected to be rated "A-" by Fitch. A rating is not a recommendation of buy, sell or hold securities and may be subject to suspension, change or withdrawal at any time by the assigning rating agency. Prospective investors should evaluate each rating independently of any other rating of the Bonds or other securities of the Guarantor.

Each series of the Bonds will initially be represented by beneficial interests in a global certificate (each a "Global Certificate" and together, the "Global Certificates") in registered form which will be registered in the name of a nominee of, and shall be deposited on or about the Issue Date with, a common depositary for Euroclear Bank SA/NV ("Euroclear") and Clearstream Banking S.A. ("Clearstream"). Beneficial interests in the Global Certificates will be shown on, and transfers thereof will be effected only through, records maintained by Euroclear and Clearstream. Except as provided in the relevant Global Certificate, certificates for the Bonds will not be issued in exchange for interests in the Global Certificate of that series.

Joint Global Coordinators, Joint Bookrunners and Joint Lead Managers

China CITIC Bank International | **DBS Bank Ltd.** | **Bank of China** | **China Construction Bank (Asia)**

Joint Bookrunners and Joint Lead Managers

Barclays | **Crédit Agricole CIB** | **Société Générale Corporate & Investment Banking** | **Shanghai Pudong Development Bank Hong Kong Branch**

Offering Circular dated 21 July 2021

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IMPORTANT NOTICE

Each of the Issuer and the Guarantor confirms that (i) this Offering Circular contains all information with respect to the Issuer, the Guarantor and its subsidiaries taken as a whole (the "Group"), and to the Bonds and the Guarantee which is material in the context of the issue and offering of the Bonds (including all information required by applicable laws and the relevant rules and regulations imposed by the HKSE and the information which, according to the particular nature of the Issuer, the Guarantor, the Group, the Bonds and the Guarantee, is necessary to enable investors to make an informed assessment of the assets and liabilities, financial position, profits and losses, and prospects of the Issuer, the Guarantor and the Group and of the rights attaching to the Bonds and the Guarantee); (ii) the statements contained herein relating to the Issuer, the Guarantor and the Group are in every material respect true and accurate and not misleading in any material respect; (iii) the opinions and intentions expressed in this Offering Circular with regards to the Issuer, the Guarantor, and the Group are honestly held, have been reached after considering all relevant circumstances and are based on reasonable assumptions; (iv) there are no other facts in relation to the Issuer, the Guarantor, the Group, the Bonds and the Guarantee, the omission of which would, in the context of the issue and offering of the Bonds or giving the Guarantee, make any statement in this Offering Circular misleading in any material respect; and (v) all reasonable enquiries have been made by the Issuer and the Guarantor to ascertain such facts and to verify the accuracy of all such information and statements in this Offering Circular.

This Offering Circular has been prepared by the Issuer and the Guarantor solely for use in connection with the proposed offering of the Bonds described in this Offering Circular. The distribution of this Offering Circular and the offering of the Bonds in certain jurisdictions may be restricted by law. Persons into whose possession this Offering Circular comes are required by the Issuer, the Guarantor, and China CITIC Bank International Limited, DBS Bank Ltd., Bank of China Limited, BOCI Asia Limited, China Construction Bank (Asia) Corporation Limited, Barclays Bank PLC, Crédit Agricole Corporate and Investment Bank, Société Générale and Shanghai Pudong Development Bank Co., Ltd., Hong Kong Branch (the "Managers") to inform themselves about and to observe any such restrictions. This Offering Circular does not constitute an offer of, or an invitation by or on behalf of the Managers, the Issuer, or the Guarantor to subscribe for or purchase any of the Bonds. None of the Issuer, the Guarantor and the Managers represents that this Offering Circular may be lawfully distributed, or that the Bonds may be lawfully offered, in compliance with any applicable registration or other requirements in any such jurisdiction, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. No action is being taken to permit a public offering of the Bonds or the distribution of this Offering Circular in any jurisdiction where action would be required for such purposes. There are restrictions on the offer and sale of the Bonds and the circulation of documents relating thereto, in certain jurisdictions including the United States, the EEA (as defined below), the United Kingdom, the PRC, Hong Kong, Singapore and the BVI, and to persons connected therewith. For a description of certain further restrictions on offers, sales and resales of the Bonds and distribution of this Offering Circular, see "*Subscription and Sale*" below. By purchasing the Bonds, investors are deemed to have represented and agreed to all of those provisions contained in that section of this Offering Circular. This Offering Circular is personal to each offeree and does not constitute an offer to any other person or to the public generally to subscribe for, or otherwise acquire, the Bonds. Distribution of this Offering Circular to any person other than the prospective investor and any person retained to advise such prospective investor with respect to its purchase is unauthorised. Each prospective investor, by accepting delivery of this Offering Circular, is deemed to have agreed to the foregoing and to make no photocopies of this Offering Circular or any documents referred to in this Offering Circular.

PRIIPs REGULATION – PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("**EEA**"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "**MiFID II**"); or (ii) a customer within the meaning of Directive (EU) 2016/97 (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "**PRIIPs Regulation**") for offering or selling the Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

UK PRIIPs REGULATION – PROHIBITION OF SALES TO UK RETAIL INVESTORS – The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the "**UK**"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (the "**EUWA**"); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (the "FSMA") and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA. Consequently no key information document required by the PRIIPs Regulation as it forms part of domestic law by virtue of the EUWA (the "**UK PRIIPs Regulation**") for offering or selling the Bonds or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

Singapore SFA Product Classification – In connection with Section 309B of the Securities and Futures Act (Chapter 289) of Singapore (the "SFA") and the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore (the "CMP Regulations 2018"), the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Bonds are prescribed capital markets products (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA–N16: Notice on Recommendations on Investment Products).

MiFID II product governance / Professional investors and ECPs only target market – Solely for the purposes of the manufacturer's product approval process, the target market assessment in respect of the Bonds has led to the conclusion that: (i) the target market for the Bonds is eligible counterparties and professional clients only, each as defined in MiFID II; and (ii) all channels for distribution of the Bonds to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Bonds (a "**distributor**") should take into consideration the manufacturer's target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Bonds (by either adopting or refining the manufacturer's target market assessment) and determining appropriate distribution channels.

No person has been or is authorised to give any information or to make any representation concerning the Issuer, the Guarantor, the Group, the Bonds and the Guarantee other than as contained herein and, if given or made, any such other information or representation should not be relied upon as having been authorised by the Issuer, the Guarantor, the Managers, the Trustee or the Agents (as defined in the Terms and Conditions of the relevant series of the Bonds) (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them). Neither the delivery of this Offering Circular nor any offering, sale or delivery made in connection with the issue of the Bonds shall, under any circumstances, constitute a representation that there has been no change or development reasonably likely to involve a change in the affairs of the Issuer, the Guarantor, the Group or any of them since the date hereof or create any implication that the information contained herein is correct as at any date subsequent to the date hereof. This Offering Circular does not constitute an offer of, or an invitation by or on behalf of the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them) to subscribe for or purchase any of the Bonds and may not be used for the purpose of an offer to, or a solicitation by, anyone in any jurisdiction or in any circumstances in which such offer or solicitation is not authorised or is unlawful.

The Issuer has submitted this Offering Circular confidentially to a limited number of institutional investors so that they can consider a purchase of the Bonds. None of the Issuer or the Guarantor has authorised its use for any other purpose. This Offering Circular may not be copied or reproduced in whole or in part. It may be distributed only to and its contents may be disclosed only to the prospective investors to whom it is provided. This Offering Circular is being furnished by the Issuer and the Guarantor in connection with the offering of the Bonds and is exempt from registration under the Securities Act solely for the purpose of enabling a prospective investor to consider purchasing the Bonds. Investors must not use this Offering Circular for any other purpose, make copies of any part of this Offering Circular or give a copy of it to any other person, or disclose any information in this Offering Circular to any other person. The information contained in this Offering Circular has been provided by the Issuer, the Guarantor and other sources identified in this Offering Circular. Any reproduction or distribution of this Offering Circular, in whole or in part, and any disclosure of its contents or use of any information herein for any purpose other than the consideration of an investment in the Bonds offered by this Offering Circular is prohibited. By accepting delivery of this Offering Circular each investor agrees to these restrictions.

No representation or warranty, express or implied, is made or given by the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them) as to the accuracy, completeness or sufficiency of the information contained in this Offering Circular, and nothing contained in this Offering Circular is, or shall be relied upon as, a promise, representation or warranty by the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them). None of the Managers, the Trustee and the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them) has independently verified any of the information contained in this Offering Circular and can give assurance that this information is accurate, truthful or complete.

This Offering Circular is not intended to provide the basis of any credit or other evaluation nor should it be considered as a recommendation by any of the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them) that any recipient of this Offering Circular should purchase the Bonds. Prospective investors should not construe anything in this Offering Circular as legal, business or tax advice. Each potential purchaser of the Bonds should determine for itself the relevance of the information contained in this Offering Circular and its purchase of the Bonds should be based upon such investigations with its own tax, legal and business advisers as it deems necessary.

The Bonds are expected to be assigned a rating of "A-" by Fitch. A rating is not a recommendation to buy, sell or hold securities, does not address the likelihood or timing of prepayment and may be subject to revision, qualification, suspension or withdrawal at any time by the assigning rating organisation. A revision, qualification, suspension or withdrawal of any rating assigned to the Bonds may adversely affect the market price of the Bonds.

This Offering Circular includes particulars given in compliance with the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited for the purpose of giving information with regard to the Issuer, the Guarantor and the Group. The Issuer and the Guarantor accept full responsibility for the accuracy of the information contained in this Offering Circular and confirm, having made all reasonable enquiries, that to the best of their knowledge and belief there are no other facts the omission of which would make any statement herein misleading.

Hong Kong Exchanges and Clearing Limited and the HKSE take no responsibility for the contents of this Offering Circular, make no representation as to its accuracy or completeness and expressly disclaim any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this Offering Circular.

To the fullest extent permitted by law, none of the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them) accepts any responsibility for the contents of this Offering Circular or for any other statement, made or purported to be made by any of the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them) or on its behalf in connection with the Issuer, the Guarantor or the issue and offering of the Bonds. The Managers, the Trustee and the Agents (and their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them) accordingly disclaim all and any liability whether arising in tort or contract or otherwise (save as referred to above) which it might otherwise have in respect of this Offering Circular or any such statement. None of the Managers, the Trustee or the Agents (or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any who controls any of them) undertakes to review the results of operations, financial condition or affairs of the Issuer, the Guarantor or the Group during the life of the arrangements contemplated by this Offering Circular or to advise any investor or prospective investor in the Bonds of any information coming to the attention of the Managers, the Trustee or the Agents (or any of their respective affiliates, officers, employees, agents, representatives, directors or advisers or any who controls any of them).

IN CONNECTION WITH THE ISSUE OF THE BONDS, ANY OF THE MANAGERS APPOINTED AND ACTING IN ITS CAPACITY AS STABILISATION MANAGER (THE "STABILISATION MANAGER"), PROVIDED THAT CHINA CITIC BANK INTERNATIONAL LIMITED SHALL NOT BE APPOINTED AND ACTING AS THE STABILISATION MANAGER, MAY OVER-ALLOT BONDS OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE BONDS AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL. HOWEVER, THERE IS NO ASSURANCE THAT THE STABILISATION MANAGER (ANY PERSON ACTING ON BEHALF OF THE STABILISATION MANAGER) WILL UNDERTAKE STABILISATION ACTION. ANY STABILISATION ACTION MAY BEGIN ON OR AFTER THE DATE ON WHICH ADEQUATE PUBLIC DISCLOSURE OF THE TERMS OF THE OFFER OF THE BONDS IS MADE AND, IF BEGAN, MAY BE ENDED AT ANY TIME, BUT IT MUST END NO LATER THAN THE EARLIER OF 30 DAYS AFTER THE ISSUE DATE OF THE BONDS AND 60 DAYS AFTER THE DATE OF THE ALLOTMENT OF THE BONDS. ANY STABILISATION ACTION OR OVER-ALLOTMENT MUST BE CONDUCTED BY THE RELEVANT STABILISATION MANAGER (ANY PERSON ACTING ON BEHALF OF THE STABILISATION MANAGER) IN ACCORDANCE WITH ALL APPLICABLE LAWS AND RULES.

In connection with the offering of the Bonds, the Managers and/or their respective affiliates, or affiliates of the Issuer, the Guarantor, may act as investors and place orders, receive allocations and trade the Bonds for their own account and such orders, allocations or trading of the Bonds may be material. These entities may hold or sell such Bonds or purchase further Bonds for their own account in the secondary market or deal in any other securities of the Issuer, the Guarantor, and therefore, they may offer or sell the Bonds or other securities otherwise than in connection with the offering of the Bonds. Accordingly, references herein to the offering of the Bonds should be read as including any offering of the Bonds to the Managers and/or their respective affiliates, or affiliates of the Issuer, the Guarantor, as investors for their own account. Such entities are not expected to disclose such transactions or the extent of any such investment, otherwise than in accordance with any applicable legal or regulatory requirements. If such transactions occur, the trading price and liquidity of the Bonds may be impacted.

In making an investment decision, investors must rely on their own examination of the Issuer, the Guarantor, the Group and the terms of the offering, including the merits and risks involved. See "*Risk Factors*" for a discussion of certain factors to be considered in connection with an investment in the Bonds.

Each person receiving this Offering Circular acknowledges that such person has not relied on the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them) in connection with its investigation of the accuracy of such information or its investment decision.

PRESENTATION OF FINANCIAL INFORMATION

The audited consolidated financial statements of the Guarantor as at and for each of the years ended 31 December 2019 and 2020 are included in this Offering Circular. These financial statements have been prepared in accordance with International Financial Reporting Standards ("**IFRS**") promulgated by the International Accounting Standards Board. Certain financial data of the Guarantor's consolidated financial information as at and for the year ended 31 December 2018 and 2019 have been restated to reflect the business combination under common control incurred during the year ended 31 December 2019 and 2020, respectively. See "*Summary Financial Information of the Guarantor*" and note 38 (Business Combinations) to the audited consolidated financial statements of the Guarantor as at and for the year ended 31 December 2019 (the "**2019 Financial Statements**") and note 39 (Business Combinations Under Common Control) to the audited consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 (the "**2020 Financial Statements**") for details. The restated and audited consolidated financial information of the Guarantor as at and for the year ended 31 December 2018 (the "**2018 Financial Information**") and the audited consolidated financial information of the Guarantor as at and for the year ended 31 December 2019 included in this Offering Circular were audited by Ernst & Young and have been extracted from the Guarantor's 2019 annual report published by the Guarantor on 26 March 2020. The audited consolidated financial information of the Guarantor as at and for the year ended 31 December 2020 included in this Offering Circular was audited by PricewaterhouseCoopers and the restated and unaudited consolidated financial information of the Guarantor as at and for the year ended 31 December 2019 included in this Offering Circular (the "**2019 Restated Financial Information**") was extracted from the Guarantor's 2020 annual report published by the Guarantor on 23 March 2021. None of the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them)makes any representation or warranty, express or implied, regarding the sufficiency of such financial information for an assessment of, and potential investors must exercise caution when using such data to evaluate the Group's financial condition, results of operations and results.

For clarity and ease of comparison, the 2020 Financial Statements (which included the 2019 Restated Financial Information) and the 2019 Financial Statements (which included the 2018 Financial Information) are set out separately in "*Summary Financial Information of the Guarantor*". Investors must therefore exercise caution when making comparisons of the 2020 Financial Statements against the 2019 Financial Statements and when evaluating the Group's financial condition and results of operations. The consolidated financial information of the Group as at and for the years ended 31 December 2019 and 2020 disclosed in "Summary", "Risk Factors" and "Description of the Group" have been extracted from the 2020 Financial Statements, and the consolidated financial information of the Group at and for the year ended 31 December 2018 disclosed in "Summary", "Risk Factors" and "Description of the Group" have been extracted from the 2019 Financial Statements. Please also see "*Risk Factors – Risks relating to the Group – The restated consolidated financial statements as at and for the year ended 31 December 2019 in the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 may not be comparable with the consolidated financial statements of the Guarantor for the year ended 31 December 2019*" for details.

CERTAIN DEFINITIONS, CONVENTIONS AND CURRENCY PRESENTATION

Unless otherwise indicated, all references in this Offering Circular to "China" or the "PRC" are to the People's Republic of China and, for the purpose of this Offering Circular only, excluding Hong Kong, the Macau Special Administrative Region of the PRC and Taiwan, all references to "Hong Kong" are to the Hong Kong Special Administrative Region of China and all references to "BVI" are to the British Virgin Islands.

Unless otherwise indicated, all references in this Offering Circular to "Renminbi", "RMB" or "CNY" are to the lawful currency of the PRC, all references to "Hong Kong dollars", "HK dollars", "HK$" or "HKD" are to the lawful currency of Hong Kong and all references to "US dollars", "US$" or "USD" are to the lawful currency of the United States of America.

Solely for the sake of convenience, this Offering Circular contains translations of certain Renminbi amounts into US dollar amounts at specified rates. Unless otherwise indicated, the translation of Renminbi amounts into US dollar amounts has been made at the exchange rate of RMB6.5250 to US$1.00, being the noon buying exchange rates as set forth in the H.10 statistical release of the Federal Reserve Bank of New York on 31 December 2020. Further information on exchange rates is set forth in "*Exchange Rate Information*". These translations should not be construed as representations that the Renminbi amounts could actually be converted into any US dollar amounts or *vice versa* at the rates indicated or at all.

Market data and certain industry forecasts and statistics in this Offering Circular have been obtained from both public and private sources, including market research, publicly available information and industry publications. Although this information is believed to be reliable, it has not been independently verified by the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them), and none of the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents and each person who controls any of them) makes any representation as to the accuracy or completeness of that information. Such information may not be consistent with other information compiled within or outside the PRC. In addition, third party information providers may have obtained information from market participants and such information may not have been independently verified.

In this Offering Circular, where information has been presented in thousands or millions of units, amounts may have been rounded. Accordingly, totals of columns or rows of numbers in tables may not be equal to the apparent total of the individual items and the actual numbers may differ from those contained herein due to rounding. References to information in billions of units are to the equivalent of a thousand million units.

The English names of the PRC nationals, entities, departments, facilities, laws, regulations, certificates, titles and the like are translations of their Chinese names and are included for identification purposes only.

FORWARD-LOOKING STATEMENTS

The Issuer and the Guarantor have made forward-looking statements in this Offering Circular regarding, among other things, the Group's financial condition, future expansion plans and business strategies. These forward-looking statements are based on the Group's current expectations about future events. Although the Issuer and the Guarantor believe that these expectations and projections are reasonable, such forward-looking statements are inherently subject to risks, uncertainties and assumptions, including, among other things:

- the Group's business and operating strategies;
- the Group's capital expenditure and development plans;
- the amount and nature of, and potential for, future development of the Group's business;
- various business opportunities that the Group may pursue;
- the regulatory environment of the aluminum industry in general;
- the performance and future developments of the aluminum market in China or any region in China in which the Group may engage;
- changes in political, economic, legal and social conditions in China, including the specific policies of the PRC central and local governments affecting the region where the Group operates, which affect availability and cost of financing, and pre-sale, pricing and volume of the Group's aluminum and other products;
- the prospective financial condition and performance regarding the Group's businesses;
- availability and costs of bank loans and other forms of financing;
- changes in competitive conditions and the Group's ability to compete under these conditions;
- changes in currency exchange rates; and
- other risks identified in the "*Risk Factors*" section of this Offering Circular.

The words "anticipate", "believe", "estimate", "expect", "intend", "plan" and similar expressions are intended to identify a number of these forward-looking statements. The Issuer and the Guarantor undertake no obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise. In light of these risks, uncertainties and assumptions, the forward-looking events discussed in this Offering Circular might not occur and the actual results of the Issuer, the Guarantor or the Group could differ materially from those anticipated in these forward-looking statements.

These forward-looking statements speak only as at the date of this Offering Circular. The Issuer and the Guarantor expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Group's expectations with regard thereto or any change of events, conditions or circumstances, on which any such statement was based.

DEFINITIONS AND GLOSSARY

In this Offering Circular, unless the context otherwise requires, the following expressions shall have the following meanings.

14th Five-Year Plan	the Fourteenth Five-Year Plan Guidelines for National Economic and Social Development of the PRC 《(中華人民共和國國民經濟和社會發展第十四個五年規劃綱要》).
2013 October Securities	US$350 million 6.625 per cent. senior perpetual capital securities on 29 October 2013, which has been redeemed on 30 October 2018.
2014 April Securities	US$400 million 8.25 per cent. senior perpetual capital securities on 17 April 2014.
2016 November Securities	US$500 million 4.25 per cent. senior perpetual capital securities on 7 November 2016.
2018 September Securities	US$400 million 4.875 per cent. senior bonds due 2021 issued by the Issuer on 7 September 2018, unconditionally and irrevocably guaranteed by Chalco HongKong Limited and with the benefit of a Keepwell Deed and an Equity Interest Purchase Undertaking provided by the Guarantor.
A Shares or domestic shares	domestic ordinary shares of the Guarantor, with a par value of RMB1.00 each, which are listed on the Shanghai Stock Exchange.
ADS(s)	the American Depository Share(s) issued by the Bank of New York as the depository bank and listed on the New York Stock Exchange, with each ADS representing 25 H Shares.
alumina-to-silica ratio	the ratio of alumina to silica in bauxite by weight.
aluminum fabrication	the process of converting primary aluminum or recycled aluminum materials into plates, strips, bars, tubes and other fabricated products.
Baiyin Ibis	Baiyin Ibis Aluminum Co., Ltd.(白銀紅鷺鋁業有限責任公司).
Baiyin Nonferrous	Baiyin Nonferrous Metal (Group) Co., Ltd.(白銀有色集團股份有限公司).
Baotou Aluminum	Baotou Aluminum Company Limited(包頭鋁業有限公司), a wholly-owned subsidiary of the Group established under PRC law.
bauxite	a mineral ore that is principally composed of aluminum.
Bayer process	a refining process that employs a strong solution of caustic soda at an elevated temperature to extract alumina from ground bauxite.
Bayer-sintering combined process and Bayer sintering series process	the two methods of refining process developed in China which involve the combined application of the Bayer process and the sintering process to extract alumina from bauxite.
Board	the board of directors of the Guarantor.

Chalco Energy	Chalco Energy Co., Ltd.(中鋁能源有限公司), a wholly-owned subsidiary of the Group established under PRC law.
Chalco Iron Ore	Chalco Iron Ore Holdings Limited(中鋁鐵礦控股有限公司), 65% of the equity interest of which used to be owned by the Guarantor through the Guarantor. It was disposed of by the Guarantor on 26 December 2013.
Chalco Mining	Chalco Mining Co., Ltd.(中鋁礦業有限公司), a wholly-owned subsidiary of the Group established under PRC law.
Chalco Nanhai	Chalco Nanhai Alloy Co., Ltd.(中鋁南海合金有限公司), a previously wholly-owned subsidiary of the Guarantor and of Chalco Trading. Since 22 December 2015 it is owned by Chinalco through its subsidiary, Chinalco Investment Development Co., Ltd.
Chalco Shandong	Chalco Shandong Co., Ltd.(中鋁山東有限公司), a wholly-owned subsidiary of the Guarantor.
Chalco Trading	China Aluminum International Trading Co., Ltd.(中鋁國際貿易有限公司), a wholly-owned subsidiary of the Group established under PRC Law.
Chalco Zhongzhou	Chalco Zhongzhou Aluminum Co., Ltd.(中鋁中州鋁業有限公司), a wholly-owned subsidiary of the Guarantor.
chemical grade alumina	alumina hydrate and alumina-based industrial chemical products which are further processed to be used in different industrial applications such as the production of chemicals, pharmaceuticals, ceramic and construction materials.
China or **the PRC**	the People's Republic of China, excluding for the purposes of this Offering Circular, Hong Kong Special Administrative Region, Macao Special Administrative Region and Taiwan.
China Beijing Equity Exchange	China Beijing Equity Exchange(北京產權交易所).
Chinalco	the controlling shareholder of the Guarantor, Aluminum Corporation of China(中國鋁業集團有限公司)and its subsidiaries (other than Chalco and its subsidiaries) and, where appropriate, its predecessors.
Chinalco Overseas Holdings . .	Aluminum Corporation of China Overseas Holdings Limited, a wholly-owned subsidiary of Chinalco.
Chinalco Shanghai	Chinalco (Shanghai) Co., Ltd.(中鋁(上海)有限公司), a limited liability company incorporated in the PRC and a 100% owned subsidiary of the Guarantor.
Chinese National Standard . . .	the PRC National Standard for the Classification of Resources/ Reserves for Solid Fuels and Mineral Commodities (GB/T 17766-1999)(中國固體礦產資源／儲量分類 (GB/T 17766-1999)).

CIF	"Cost, Insurance and Freight", a trade term meaning that (a) the seller must pay the costs, insurance and freight to bring the goods to the port of destination; and (b) the risk is transferred to the buyer once the goods are loaded on the vessel.
CSRC	China Securities Regulatory Commission (中國證券監督管理委員會).
deposit(s).	as defined in the Chinese National Standard, a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction; the location, quantity, grade (or quality), continuity and other geological characteristics of which are known, estimated or interpreted from specific geological evidence and knowledge; sub-divided, in order of decreasing geological confidence, measured, indicated, inferred and reconnaissance categories, or categories 111 to 334 as categorised in the Chinese National Standard.
EIT Law	the Enterprise Income Tax Law of the PRC (中華人民共和國企業所得稅法) promulgated by National People's Congress, which became effective from 1 January 2008.
Energy-Saving and Emission Reduction Goals	the energy-saving and emission reduction goals set out in the 14th Five-Year Plan, by which China expects to cut its per unit GDP energy consumption by 13.5% compared with the 2020 level by the end of 2025.
Euros or **EUR**	the lawful currency of the Eurozone.
Exchange Act	the U.S. Securities Exchange Act of 1934, as amended.
FOB	"Free On Board", a trade term meaning that (a) the seller must load the goods on board a vessel designated by the buyer and clear the goods for export; and (b) the buyer must bear costs and risks after the goods are actually on board of the vessel.
Fushun Aluminum	Fushun Aluminum Company Limited (撫順鋁業有限公司), a wholly-owned subsidiary of the Group established under PRC law.
Gansu Hualu	Gansu Hualu Aluminum Company Limited (甘肅華鷺鋁業有限公司), 51% of the equity interest of which is owned by the Guarantor.
Gansu Huayang	Gansu Huayang Mining Development Company Limited (甘肅華陽礦業開發有限責任公司), 70% of the equity interest of which is owned by the Guarantor.
GDP	gross domestic product.
Group	the Guarantor and its subsidiaries.
Guangxi Investment	Guangxi Investment (Group) Co., Ltd. (廣西投資集團有限公司), formerly known as Guangxi Development and Investment Co., Ltd. (廣西建設投資開發公司), a PRC state-owned enterprise and one of the promoters and shareholders of the Guarantor.

Guarantor or **Chalco**	Aluminum Corporation of China Limited (中國鋁業股份有限公司), a joint stock limited company established in the PRC, the A Shares, H Shares and ADS(s) of which are listed on the Shanghai Stock Exchange, the Hong Kong Stock Exchange and the New York Stock Exchange, respectively.
Guizhou Development	Guizhou Provincial Materials Development and Investment Corporation (貴州省物業開發投資公司), a PRC state-owned enterprise and one of the promoters and shareholders of the Guarantor.
Guizhou Huajin	Guizhou Huajin Aluminum Co., Ltd (貴州華錦鋁業有限公司), 60% of the equity interest of which is owned by the Guarantor.
Guizhou Yuneng	Guizhou Yuneng Mining Co., Ltd. (貴州渝能礦業有限責任公司), 25% of the equity interest of which is owned by the Guarantor.
H Shares	overseas listed foreign shares with a par value RMB1.00 each, which are listed on the Hong Kong Stock Exchange.
HK$ or **HK dollars**	Hong Kong dollars, the lawful currency of the Hong Kong Special Administrative Region of the PRC.
Hong Kong Stock Exchange or **HKSE**	The Stock Exchange of Hong Kong Limited.
IFRS	the International Financial Reporting Standards, which include standards and interpretations promulgated by the International Accounting Standards Board (IASB), and the International Accounting Standards (IAS) and interpretations issued by the International Accounting Standards Committee (IASC).
JORC Code	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, effective from December 2004.
Ka	kiloamperes, a unit for measuring the strength of an electric current, with one kiloampere equaling to 1,000 amperes.
kWh	kilowatt hours, a unit of electrical power, meaning one kilowatt of power for one hour.
Lanzhou Aluminum	Lanzhou Aluminum Co., Ltd. (蘭州鋁業股份有限公司), a wholly-owned subsidiary of the Guarantor since April 2007 until July 2007, when it was divided into two wholly-owned entities: Lanzhou branch and Northwest Aluminum Fabrication Branch.
Liancheng branch	a wholly-owned branch of the Guarantor, which was formerly known as Lanzhou Liancheng Longxing Aluminum Company Limited (蘭州連城隴興鋁業有限責任公司), before the Guarantor acquired 100% of its equity interest.
LME	the London Metal Exchange Limited.
MOF	Ministry of Finance of the People's Republic of China (中華人民共和國財政部)

MOFCOM	Ministry of Commerce of the People's Republic of China(中華人民共和國商務部).
Nanchu	the spot price of Guangdong Nonferrous Metal (Nanchu)(廣東有色現貨報價(南儲)).
National Mining Safety Law . .	Mine Safety Law of the PRC(中華人民共和國礦山安全法) promulgated by the Standing Committee of National People's Congress, which became effective from 1 May 1993.
NDRC	China National Development and Reform Commission(中華人民共和國國家發展和改革委員會).
NI 43-101	National Instrument 43-101, a mineral resource classification scheme used for the public disclosure of information relating to mineral properties in Canada.
Ningxia Energy	Chalco Ningxia Energy Group Co., Ltd.(中鋁寧夏能源集團有限公司)(formerly Ningxia Electric Power Group Co., Ltd.(寧夏發電集團有限責任公司)), 70.82% of the equity interest has been owned by the Guarantor since 23 January 2013.
NYSE or **New York Stock**	the New York Stock Exchange Inc.
ore-dressing Bayer process . . .	a refining process the Guarantor developed to increase the alumina-to-silica ratio of bauxite.
PBOC	the People's Bank of China(中國人民銀行)
PRC Government	the government of the PRC, including all governmental subdivisions (including provincial, municipal and other regional or local government entities).
primary aluminum	a widely used metal and a key raw material in aluminum fabrication.
refining	the chemical process used to produce alumina from bauxite.
Rio Tinto	Rio Tinto plc, a company incorporated in England and Wales, the shares of which are listed on the London Stock Exchange and the New York Stock Exchange.
RMB, **Renminbi** or **CNY**	the lawful currency of the PRC.
SAFE	State Administration of Foreign Exchange of the PRC(國家外匯管理局).
SASAC	State-owned Assets Supervision and Administration Commission of the State Council(國務院國有資產監督管理委員會).
SEC	the U.S. Securities and Exchange Commission.
Securities Act	the U.S. Securities Act of 1933, as amended.
SFO	the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong).

Shandong Huayu	Shandong Huayu Aluminum and Power Company Limited (山東華宇鋁電有限公司), 55% of the equity interest of which is owned by the Guarantor.
Shanghai Stock Exchange or **SSE**	the Shanghai Stock Exchange (上海證券交易所).
Shanxi Huasheng	Shanxi Huasheng Aluminum Company Limited (山西華聖鋁業有限公司), 51% of the equity interest of which is owned by the Guarantor.
Shanxi Huaxing	Shanxi Huaxing Alumina Co., Ltd. (山西華興鋁業有限公司), a 50%-owned joint venture of the Group.
Shanxi Huaze	Shanxi Huaze Aluminum and Power Co., Limited (山西華澤鋁電有限公司), 60% of the equity interest of which is owned by the Guarantor.
Shanxi Other Mines	seven of the Group's jointly-operated mines, including Shangtan mine, Jindui mine, Shicao mine, Nanpo mine, Xishan mine, Niucaogou mine and Sunjiata mine in Shanxi Province that became the mining areas of the new own mine of the Group in 2010.
SHFE	the Shanghai Futures Exchange (上海期貨交易所).
Simandou Project.	the project to develop and operate the Simandou iron ore mine located in Guinea in West Africa as further described in the Simandou joint development agreement dated 29 July 2010 entered into amongst Rio Tinto, Rio Tinto Iron Ore Atlantic Limited and the Guarantor for the purpose of development of the Simandou Project.
sintering process	a refining process employed to extract alumina from bauxite by mixing ground bauxite with supplemental materials and burning the mixture in a coal-fired kiln.
smelting	the electrolytic process used to produce molten aluminum from alumina.
STA	State Taxation Administration of the People's Republic of China (國家稅務局)
Standard Conditions	Standard Conditions for Aluminum Industry (鋁行業規範條件).
State Council.	State Council of the PRC (中華人民共和國國務院).
tonne.	the metric tonne, a unit of weight, that is equivalent to 1,000 kilogrammes or 2,204.6 pounds.
US$ or **US dollars**	the legal currency of the United States.
the United States	the United States of America.
Zhangze Electric Power	Shanxi Zhangze Electric Power Co., Ltd. (山西漳澤電力股份有限公司).

Zhengzhou Institute . . . . Chalco Zhengzhou Research Institute of Non-ferrous Metal (中國鋁業鄭州有色金屬研究院有限公司), the Guarantor's wholly-owned subsidiary mainly providing research and development services.

Zunyi Alumina . . . . Chalco Zunyi Alumina Co., Ltd. (中國鋁業遵義氧化鋁有限公司), 73.28% of the equity interest of which was owned by the Guarantor as at 31 December 2017.

Zunyi Aluminum . . . . Zunyi Aluminum Co., Ltd. (遵義鋁業股份有限公司), 62.1% of the equity interest of which was owned by the Guarantor as at 31 December 2017.

SUMMARY

The summary below is only intended to provide a limited overview of detailed information described elsewhere in this Offering Circular. As it is a summary, it does not contain all of the information that may be important to investors and terms defined elsewhere in this Offering Circular shall have the same meanings when used in this summary. Prospective investors should therefore read this Offering Circular in its entirety.

OVERVIEW

The Group is a leading enterprise in the non-ferrous metal industry in China. In terms of comprehensive scale, the Group ranks among the top enterprises in the global aluminum industry. The Group principally engages in alumina refining, primary aluminum smelting, chemical alumina products production and sales and trading and logistics of alumina, primary aluminum, other non-ferrous metal products, coal products and raw and ancillary materials in bulk. Since 2013, the Group has expanded its operations into coal mining and power generation. The remainder of the Group's revenue was derived from research and development activities and other products and services.

As at the date of this Offering Circular, the Group operates in the following five business segments:

- Alumina Segment — The Group mines and purchases bauxite and other raw materials, refines bauxite into alumina, and sells alumina to customers. The Group also engages in the production and sale of multi-form alumina bauxite.

- Primary Aluminum Segment — The Group procures alumina and other raw materials, supplemental materials and electricity power, smelts alumina to produce primary aluminum which will be sold to customers. The Group also produces and sells carbon products and aluminum alloy and other aluminum products.

- Trading Segment — The Group trades alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products, coal products and raw materials and supplemental materials, and provides logistics and transport services to customers.

- Energy Segment — The Group engages in coal mining, electricity generation by thermal power, wind power and solar power, new energy related equipment manufacturing businesses. The Group also sells coals to customers and sells electricity to regional power grid corporations.

- Corporate and Other Operating Segment — This business segment mainly includes management of corporation, research and development activities and others.

The Group used to be engaged in aluminum fabrication operations, where it processed primary aluminum for the production and sales of various aluminum fabrication products. As approved at the Guarantor's 2012 annual general meeting held on 27 June 2013, the Group disposed of substantially all of its aluminum fabrication operations to Chinalco in line with the Group's development strategy to focus on the upstream sectors of the aluminum industry chain and the production of high value added products. As a result, the Group ceased to have its aluminum fabrication business as a separate segment in June 2013.

For the year ended 31 December 2019 and 2020, the Group's revenue amounted to RMB190,215.4 million and RMB185,994.3 million and the Group recorded a net profit of RMB1,490.6 million and RMB1,573.0 million, respectively for the same periods.

Competitive Strengths

The Group believes that it has the following competitive strengths:

- A leading company in aluminum industry.
- Business development strategically aligned with the industry policies promulgated by the PRC Government.
- Strong support from the government and controlling shareholder.
- Growing core competitiveness to enhance resilience towards industry cycles.
- A robust developer and executor of aluminum industry strategy.
- Strong liquidity position with access to various sources of capital.
- Experienced management team.
- Committed to promoting green carbon reduction and social responsibility.

Strategies

The Group intends to strengthen its market leadership position by relying on its strategic transformation, which the Group believes will continually improve its profitability and sustainability to play an active role in China's industrial reform. The Group intends to continue secure its abundant supply of bauxite resources, optimise and adjust its industry layout of the alumina and primary aluminum businesses, expanding along the value chain of aluminum industry into downstream sectors and develop an integrated marketing, procurement and logistics platforms to support the Group's core business. Leveraging on reforms in responsibility management by setting performance goals and operational improvements, as well as application of technological innovations and achievements, the Group strives to further improve its comprehensive competitiveness.

- Further secure the abundant supply of bauxite resources to scientifically and effectively control the upstream and continually support the development of the Group's business.
- Optimise the Group's industry layout of the alumina and primary aluminum businesses and expand to the downstream sectors of the aluminum industry value chain for higher margins and more competitiveness.
- Integrate the centralized marketing, procurement and logistics platform to enhance synergy effects on the Company's core business.
- Continually invest into technological innovations and optimize production procedures.

HISTORY AND DEVELOPMENT OF THE GROUP

The Guarantor was incorporated as a joint stock limited company under the PRC Company Law on 10 September 2001 under the name of Aluminum Corporation of China Limited. Pursuant to a reorganisation agreement entered into between Chinalco, Guangxi Investment and Guizhou Development in 2001, substantially all of Chinalco's alumina and primary aluminum production operations as well as a research institute and other related assets and liabilities were transferred to the Guarantor upon its formation. The Group acquired its bauxite mining operations and the associated mining rights from Chinalco pursuant to a separate mining rights agreement.

The Guarantor's H shares have been listed on the Main Board of the HKSE since 12 December 2001 (stock code: 2600) and became one of the Hang Seng index component stocks, and the Guarantor's A shares have been listed on the Main Board of the Shanghai Stock Exchange since 30 April 2007 (stock code: 601600). The Guarantor's ADSs have been listed on NYSE since 11 December 2001 (ticker symbol: ACH). The Guarantor was the only enterprise in the PRC named in the list of "Top 30 Global Non-ferrous companies" by *Metal Bulletin* from 2001 to 2002.

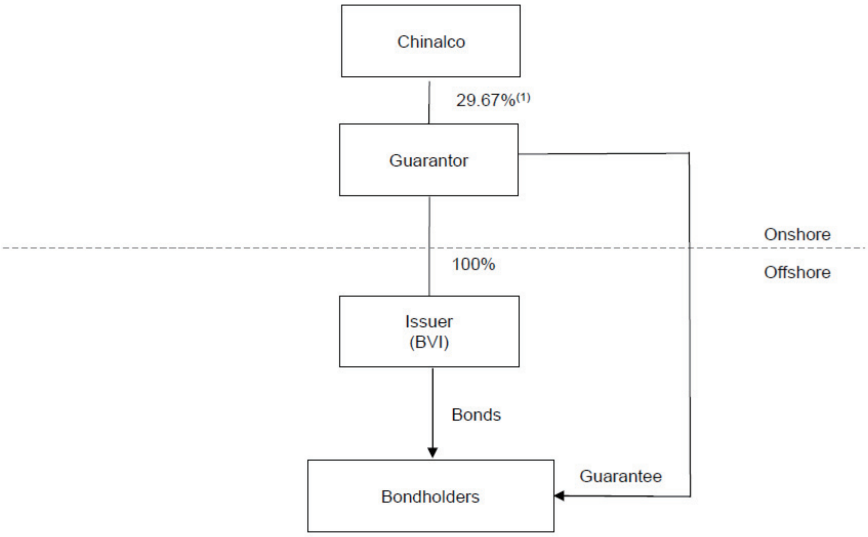
The Controlling Shareholder

As at 31 December 2020, the Guarantor's parent company, Chinalco, a state-owned enterprise, beneficially owns 32.16% of the Guarantor's outstanding ordinary shares directly and indirectly through its controlled entities. Established on 23 February 2001, Chinalco is a key state-owned enterprise directly supervised by the central government. It principally engages in mineral resources development, non-ferrous metals smelting and processing, related trading activities as well as providing engineering and technical services. It also has the strongest copper capacity in China. According to Fortune Magazine, Chinalco, a Fortune Global 500 company since 2008, was ranked 217th among the Fortune Global 500 in 2020. As at 20 May 2021, Chinalco controlled six listed subsidiaries in the PRC, including Chalco.

Chinalco holds a significant portion of the Guarantor's domestic shares in the form of state legal person shares, which do not have voting rights different from the Guarantor's other shares. Chinalco has substantial influence over the Guarantor's management, policies and corporate actions and can exercise all rights as the Guarantor's controlling shareholder subject to the relevant laws, rules and regulations.

OFFER STRUCTURE

The following is a description of the structure of the offering, which should be read in conjunction with the sections entitled "Risk Factors", "Terms and Conditions of the 2024 Bonds" and Terms and Conditions of the 2026 Bonds". The following chart illustrates the structure of the offering as at the date of this Offering Circular.



Note:

(1) As of 31 December 2020, Chinalco directly owned 29.67% of the Guarantor's issued share capital and indirectly owned an additional 2.49% of the Guarantor's issued share capital through Chinalco's controlled entities.

THE BONDS AND THE GUARANTEE

The Bonds will be issued by the Issuer. Pursuant to the Terms and Conditions of the relevant series of the Bonds, the Bonds will constitute direct, unconditional, unsubordinated and (subject to, and to the extent provided under Conditions 4(a) of the Terms and Conditions of the relevant series of the Bonds) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under the Bonds will, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds, at all times rank at least equally with all the Issuer's other present and future unsecured, unconditional and unsubordinated obligations.

On the Issue Date, the Bonds will have the benefit of the Guarantee provided by the Guarantor. Pursuant to the Deeds of Guarantee, the Guarantor will unconditionally and irrevocably guarantee the due payment in full of all sums expressed to be payable by the Issuer under the relevant Trust Deed and the relevant series of the Bonds.

THE ISSUE

The following contains some summary information about the Bonds. Some of the terms described below are subject to important limitations and exceptions. Words and expressions defined in "Terms and Conditions of the 2024 Bonds", "Terms and Conditions of the 2026 Bonds" and "Summary of Provisions Relating to the Bonds in Global Form" shall have the same meanings in this summary. For a comprehensive description of the Terms and Conditions of the relevant series of the Bonds, see the section entitled "Terms and Conditions of the 2024 Bonds" and "Terms and Conditions of the 2026 Bonds" of this Offering Circular.

Issuer	Chalco Hong Kong Investment Company Limited.
Guarantor	Aluminum Corporation of China Limited（中國鋁業股份有限公司）.
The 2024 Bonds	US$500,000,000 1.55 per cent. guaranteed bonds due 2024.
The 2026 Bonds	US$500,000,000 2.10 per cent. guaranteed bonds due 2026.
Guarantee	The Guarantor's obligations in respect of the Guarantee will be contained in the Deed of Guarantee for the relevant series of the Bonds. With respect to each Deed of Guarantee, the Guarantor will unconditionally and irrevocably guarantee the due payment in full of all sums expressed to be payable by the Issuer under the relevant Trust Deed and the relevant series of the Bonds, as further described in Condition 2(b) of the Terms and Conditions of the relevant series of the Bonds.
Issue Price.	2024 Bonds: 99.796 per cent of the principal amount of the 2024 Bonds. 2026 Bonds: 99.736 per cent. of the principal amount of the 2026 Bonds.
Status of the Bonds	Each series of the Bonds will constitute direct, unconditional, unsubordinated and (subject to, and to the extent provided under, Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under each series of the Bonds shall, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a) of the Terms and Conditions of the relevant series of Bonds, at all times rank at least equally with all the Issuer's other present and future unsecured, unconditional and unsubordinated obligations.
Status of the Guarantee .	The obligations of the Guarantor under the Guarantee for each series of the Bonds shall, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds, at all times rank at least equally with all the other present and future unsecured and unsubordinated obligations of the Guarantor.
Form and Denomination.	Each series of the Bonds will be issued in registered form in the denomination of US$200,000 and integral multiples of US$1,000 in excess thereof.
Issue Date	28 July 2021.
Maturity Date	2024 Bonds: 28 July 2024. 2026 Bonds: 28 July 2026.

Interest	The 2024 Bonds will bear interest on their outstanding principal amount from and including the Issue Date at the rate of 1.55 per cent. per annum, payable semi-annually in arrear on 28 January and 28 July in each year, commencing on 28 January 2022. The 2026 Bonds will bear interest on their outstanding principal amount from and including the Issue Date at the rate of 2.10 per cent. per annum, payable semi-annually in arrear on 28 January and 28 July in each year, commencing on 28 January 2022.
Negative Pledge and Relevant Indebtedness.	Each series of the Bonds will contain a negative pledge provision, as further described in Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds.
Events of Default	Each series of the Bonds will contain certain events of default provisions as further described in "*Terms and Conditions of the 2024 Bonds – Events of Default*" and "*Terms and Conditions of the 2026 Bonds – Events of Default*".
Taxation	All payments of principal, premium (if applicable) and interest by or on behalf of the Issuer or the Guarantor in respect of each series of the Bonds or under the Guarantee shall be made free and clear of, and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within any Relevant Jurisdiction, unless such withholding or deduction is required by law, as further described in Condition 8 of the Terms and Conditions of the relevant series of the Bonds. In such event, the Issuer or, as the case may be, the Guarantor shall, subject to the exceptions specified in Condition 8 of the Terms and Conditions of the relevant series of the Bonds, increase the amounts paid by it to the extent required, so that the net amount received by Bondholders of the Bonds of the relevant series equals the amounts which would otherwise have been received by them had no such withholding or deduction been required. See "*Terms and Conditions of the 2024 Bonds – Taxation*" and "*Terms and Conditions of the 2026 Bonds – Taxation*".
Final Redemption.	Unless previously redeemed, or purchased and cancelled, the 2024 Bonds will be redeemed at their principal amount on 28 July 2024 and the 2026 Bonds will be redeemed at their principal amount on 28 July 2026.
Redemption for taxation reasons	Each series of the Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not more than 60 nor less than 30 days' irrevocable notice to the Trustee, the Principal Paying Agent in writing and to the Bondholders of the relevant series of the Bonds at their principal amount (together with interest accrued to but excluding the date fixed for redemption) in the event of certain changes affecting taxes of any Relevant Jurisdiction, as further described in "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption for taxation reasons*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption for taxation reasons*".

Redemption for Relevant Events	At any time following the occurrence of a Relevant Event, a holder of the relevant series of the Bonds will have the right, at such holder's option, to require the Issuer to redeem all, but not some only, of that holder's Bonds on the Put Settlement Date at a redemption price equal to 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount (together with interest accrued to but excluding the Put Settlement Date). Please see "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption for Relevant Events*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption for Relevant Events*".
Redemption at the Make Whole Price at the option of the Issuer . . .	On giving not less than 30 nor more than 60 days' notice (a "Make Whole Redemption Notice") to the Trustee, the Principal Paying Agent in writing and to the Bondholders of the relevant series of the Bonds, the Issuer may at any time and from time to time but in any event before (and not including) 28 June 2024 (in the case of the 2024 Bonds) or 28 June 2026 (in the case of the 2026 Bonds) redeem the relevant series of the Bonds, in whole but not in part, at a Make Whole Price (as defined in the Terms and Conditions of the relevant series of the Bonds) as of, and accrued and unpaid interest, if any, to (but excluding), the redemption date specified in the Make Whole Redemption Notice (as defined in the Terms and Conditions of the relevant series of the Bonds). Please see "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption at the Make Whole Price at the option of the Issuer*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption at the Make Whole Price at the option of the Issuer*".
Redemption at par at the Option of the Issuer . .	The Issuer may, on giving not less than 30 nor more than 60 days' notice to the Bondholders of the relevant series of the Bonds (which notice shall be irrevocable) and in writing to the Trustee and the Principal Paying Agent, redeem the relevant series of the Bonds in whole, but not in part, at any time on or after 28 June 2024 (in the case of the 2024 Bonds) or 28 June 2026 (in the case of the 2026 Bonds), at 100 per cent. of their principal amount together with any interest accrued to but excluding the date fixed for redemption. Please see "*Terms and Conditions of the 2024 Bonds – Redemption and Purchase – Redemption at par at the Option of the Issuer*" and "*Terms and Conditions of the 2026 Bonds – Redemption and Purchase – Redemption at par at the Option of the Issuer*".
Clearing Systems	Each series of the Bonds will initially be represented by beneficial interests in a Global Certificate, which will be registered in the name of a nominee of, and deposited on or about the Issue Date with, a common depositary for Euroclear and Clearstream. Beneficial interests in the relevant Global Certificate will be shown on, and transfers thereof will be effected only through, records maintained by Euroclear and Clearstream. Except as provided in the relevant Global Certificate, certificates for a series of the Bonds will not be issued in exchange for interests in the Global Certificate of that series.

Clearance and Settlement	The Bonds have been accepted for clearance by Euroclear and Clearstream under the following codes: 2024 Bonds: ISIN: XS2366272339 2024 Bonds: Common Code: 236627233 2026 Bonds: ISIN: XS2366272412 2026 Bonds: Common Code:236627241.
LEI Number	549300F6W7ZYN8BF2K08.
Governing Law and Jurisdiction	English law with submission to the exclusive jurisdiction of the courts of Hong Kong.
Trustee	China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司).
Principal Paying Agent. .	China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司).
Registrar and Transfer Agent.	China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司).
Listing	Application will be made to the HKSE for the listing of, and permission to deal in, the Bonds issued to Professional Investors only and such permission is expected to become effective on 29 July 2021. The Hong Kong Stock Exchange assumes no responsibility for the correctness of any of the statements made or opinions expressed or reports contained in this Offering Circular.
Rating.	Each series of the Bonds are expected to be rated "A-" by Fitch. A rating is not a recommendation of buy, sell or hold securities and may be subject to suspension, change or withdrawal at any time by the assigning rating agency.
Further Issues	The Issuer may from time to time, without the consent of the Bondholders of the relevant series of the Bonds, create and issue further bonds having the same terms and conditions as the relevant series of the Bonds in all respects (or in all respects except for the issue date, the issue price, the first payment of interest on them, the timing for the Post-Issuance Filing and the timing for completion of the Cross-Border Security Registration) and so that such further issue shall be consolidated and form a single series with the relevant series of the Bonds, as further described in Condition 13 of the Terms and Conditions of the relevant series of the Bonds.
Use of Proceeds	See the section entitled "*Use of Proceeds*".
Filing with the NDRC . .	The Guarantor will undertake to file or cause to be filed the relevant information in connection with the Bonds with the NDRC within the prescribed timeframe after the issue date of the Bonds.

Selling Restrictions	The Bonds and the Guarantee will not be registered under the Securities Act and are being offered only outside the United States in reliance on Regulation S of the Securities Act, Category 2. The Bonds and the Guarantee may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in certain transactions exempt from the registration requirements of the Securities Act. There are restrictions on the offer and sale of the Bonds and the Guarantee in certain jurisdictions including the United States, the United Kingdom, the EEA, the PRC, Hong Kong, Singapore and the British Virgin Islands, and to persons connected therewith. See "*Subscription and Sale*".

SUMMARY FINANCIAL INFORMATION OF THE GUARANTOR

The 2018 Financial Information and the audited consolidated financial information of the Guarantor as at and for the year ended 31 December 2019 included in this Offering Circular were audited by Ernst & Young and have been extracted from the Guarantor's 2019 annual report published by the Guarantor on 26 March 2020. The audited consolidated financial information of the Guarantor as at and for the year ended 31 December 2020 included in this Offering Circular was audited by PricewaterhouseCoopers and the 2019 Restated Financial Information was not audited by PricewaterhouseCoopers, which have been extracted from the Guarantor's 2020 annual report published by the Guarantor on 23 March 2021. Certain financial data of the Guarantor's consolidated financial information as at and for the year ended 31 December 2018 and 2019 have been restated to reflect the business combination under common control incurred during the year ended 31 December 2019 and 2020, respectively. See note 38 (Business Combinations) to the 2019 Financial Statements and note 39 (Business Combinations Under Common Control) to the 2020 Financial Statements for details, respectively. The audited consolidated financial statements of the Guarantor as at and for each of the years ended 31 December 2019 and 2020 are included in this Offering Circular. These financial statements have been prepared in accordance with IFRS.

None of the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them) makes any representation or warranty, express or implied, regarding the sufficiency of such financial information for an assessment of, and potential investors must exercise caution when using such data to evaluate the Group's financial condition, results of operations and results.

The information set out below should be read in conjunction with, and is qualified in its entirety by reference to, such consolidated financial statements of the Guarantor and, including the notes thereto, included in this Offering Circular.

SUMMARY CONSOLIDATED STATEMENT OF FINANCIAL POSITION DATA OF THE GUARANTOR

(presented and prepared in accordance with IFRS)

	As at year ended 31 December	
	2018	**2019**
	(Restated and audited)	**(Audited)**
	RMB in thousands	
ASSETS		
Non-current assets		
Intangible assets	12,879,365	13,764,460
Property, plant and equipment	106,249,116	103,331,456
Investment properties	1,156,006	1,503,266
Land use rights	4,306,865	–
Rights-of-use assets	–	15,890,437
Investments in joint ventures	3,393,349	3,385,582
Investments in associates	6,363,462	9,512,401
Equity investments designated at fair value through other comprehensive income	1,729,825	2,239,251
Deferred tax assets	1,542,655	1,522,216
Other non-current assets	4,442,645	3,207,843
Total non-current assets	142,063,288	154,356,912
Current assets		
Inventories	20,459,668	19,515,420
Trade and notes receivables	8,104,017	7,393,123
Other current assets	9,025,514	9,237,063
Financial assets at fair value through profit or loss	16,141	3,503,175
Restricted cash and time deposits	2,165,288	1,305,781
Cash and cash equivalents	19,130,835	7,759,190
Total current assets	58,901,463	48,713,752
Total assets	**200,964,751**	**203,070,664**

	As at year ended 31 December	
	2018	2019
	(Restated and audited)	(Audited)
	RMB in thousands	
EQUITY AND LIABILITIES		
EQUITY		
Equity attributable to owners of the parent		
Share capital	14,903,798	17,022,673
Other reserves	40,367,573	39,853,906
Accumulated losses	(2,856,064)	(2,216,946)
	52,415,307	54,659,633
Non-controlling interests	**15,254,312**	**16,065,427**
Total equity	**67,669,619**	**70,725,060**
LIABILITIES		
Non-current liabilities		
Interest-bearing loans and borrowings	54,207,386	59,243,563
Other non-current liabilities	2,438,164	2,219,574
Deferred tax liabilities	1,812,805	1,712,739
Total non-current liabilities	58,458,355	63,175,876
Current liabilities		
Trade and notes payables	14,009,264	12,584,755
Other payables and accrued liabilities	11,567,152	12,442,184
Contract liabilities	1,579,322	1,638,826
Financial liabilities at fair value through profit or loss	1,766	805
Income tax payable	113,783	216,554
Interest-bearing loans and borrowings	47,565,490	42,286,604
Total current liabilities	74,836,777	69,169,728
Total liabilities	**133,295,132**	**132,345,604**
Total equity and liabilities	**200,964,751**	**203,070,664**
Net current liabilities	**15,935,314**	**20,455,976**
Total assets less current liabilities	**126,127,974**	**133,900,936**

	As at 31 December	
	2019	2020
	(Restated and unaudited)	(Audited)
	RMB in thousands	
ASSETS		
Non-current assets		
Intangible assets	13,764,460	13,448,304
Property, plant and equipment	103,408,976	100,638,153
Investment properties	1,503,266	1,601,876
Right-of-use assets	15,890,437	14,287,838
Investments in joint ventures	3,385,582	3,374,553
Investments in associates	9,512,401	9,173,410
Other financial assets measured at fair value	2,239,251	1,526,703
Deferred tax assets	1,522,729	1,481,235
Other non-current assets	3,208,922	3,165,920
Total non-current assets	154,436,024	148,697,992
Current assets		
Inventories	19,515,641	19,856,754
Trade and notes receivables	7,419,218	9,293,218
Other current assets	9,178,799	6,349,220
Other financial assets measured at fair value	3,503,175	17,311
Restricted cash and term deposits	1,305,781	1,056,037
Cash and cash equivalents (excluding bank overdrafts)	7,778,853	9,631,152
Total current assets	48,701,467	46,203,692
Total assets	**203,137,491**	**194,901,684**

	As at 31 December	
	2019	2020
	(Restated and unaudited)	(Audited)
	RMB in thousands	
EQUITY AND LIABILITIES		
EQUITY		
Share capital	17,022,673	17,022,673
Other equity instruments	5,487,104	4,486,429
Other reserves	34,369,802	34,564,504
Accumulated losses	(2,207,600)	(1,741,596)
Total equity attributable to owners of the Company	**54,671,979**	**54,332,010**
Non-controlling interests	**16,085,487**	**16,839,706**
Total equity	**70,757,466**	**71,171,716**
LIABILITIES		
Non-current liabilities		
Interest-bearing loans and borrowings	59,243,563	57,518,097
Other non-current liabilities	2,220,620	2,147,558
Deferred tax liabilities	1,712,739	1,437,087
Total non-current liabilities	63,176,922	61,102,742
Current liabilities		
Trade and notes payables	12,608,806	15,440,859
Other payables and accrued liabilities	12,415,608	10,754,008
Contract liabilities	1,638,826	1,399,339
Financial liabilities at fair value through profit or loss	805	26,684
Income tax payable	252,454	299,053
Interest-bearing loans and borrowings	42,286,604	34,707,283
Total current liabilities	**69,203,103**	**62,627,226**
Total liabilities	**132,380,025**	**123,729,968**
Total equity and liabilities	**203,137,491**	**194,901,684**
Net current liabilities	**(20,501,636)**	**(16,423,534)**
Total assets less current liabilities	**133,934,388**	**132,274,458**

SUMMARY CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME DATA OF THE GUARANTOR

(presented and prepared in accordance with IFRS)

	For the year ended 31 December	
	2018	2019
	(Restated and audited)	(Audited)
	RMB in thousands	
Revenue	180,241,414	190,074,161
Cost of sales	(167,029,416)	(177,946,276)
Gross profit	**13,211,998**	**12,127,885**
Selling and distribution expenses	(2,496,933)	(1,673,139)
General and administrative expenses	(3,959,177)	(3,956,604)
Research and development expenses	(626,873)	(940,828)
Impairment losses on property, plant and equipment	(46,484)	(259,354)
Impairment losses on financial assets	(107,956)	(169,751)
Impairment losses on investments in joint ventures	(216,953)	–
Other income	135,367	79,469
Other gains, net	921,904	1,247,269
Finance income	492,234	261,151
Finance costs	(4,882,496)	(4,921,179)
Share of profits and losses of:		
Joint ventures	(199,452)	270,115
Associates	39,335	48,767
Profit before income tax	**2,264,514**	**2,113,801**
Income tax expense	(822,519)	(625,720)
Profit for the year	**1,441,995**	**1,488,081**
Profit attributable to:		
Owners of the parent	707,460	850,999
Non-controlling interests	734,535	637,082
	1,441,995	1,488,081
Profit for the year	**1,441,995**	**1,488,081**
Other comprehensive income that will not be reclassified to profit or loss in subsequent periods, net of tax:		
Equity investments designated at fair value through other comprehensive income:		
Changes in fair value	(15,491)	57,815
Income tax effect	3,769	(14,642)
	(11,722)	43,173
Other comprehensive income that may be reclassified to profit or loss in subsequent periods, net of tax:		
Exchange differences on translation of foreign operations	(120,756)	(32,323)
Other comprehensive income/(loss) for the period, net of tax	**(132,478)**	**10,850**
Total comprehensive income for the year	**1,309,517**	**1,498,931**
Attributable to:		
Owners of the parent	575,621	861,599
Non-controlling interests	733,896	637,332
	1,309,517	1,498,931
Basic and diluted earnings per share attributable to ordinary equity holders of the parent (expressed in RMB per share)	0.034	0.037

	For the year ended 31 December	
	2019	2020
	(Restated and unaudited)	(Audited)
	RMB in thousands	
Revenue	190,215,398	185,994,253
Cost of sales	(178,068,129)	(172,571,364)
Gross profit	**12,147,269**	**13,442,889**
Selling and distribution expenses	(1,675,869)	(1,457,056)
General and administrative expenses	(3,971,895)	(4,156,940)
Research and development expenses	(940,828)	(1,434,056)
Impairment losses on property, plant and equipment	(259,354)	(416,841)
Net impairment losses on financial assets	(171,016)	(978,834)
Other income	84,611	139,551
Other gains, net	1,247,509	903,872
Operating profit	6,460,427	6,022,585
Finance income	261,193	226,921
Finance costs	(4,921,541)	(4,420,528)
Finance costs, net	(4,660,348)	(4,193,607)
Share of net profits of investment accounted for using the equity method		
Joint ventures	270,115	180,502
Associates	48,767	145,737
	318,882	326,239
Profit before income tax	**2,118,961**	**2,155,217**
Income tax expense	(628,376)	(582,188)
Profit for the year	**1,490,585**	**1,573,029**
Profit attributable to:		
Owners of the Company	853,102	741,004
Non-controlling interests	637,483	832,025
	1,490,585	1,573,029
Basic and diluted earnings per share for profit attributable to ordinary shareholders of the Company (expressed in RMB per share)	0.037	0.028
Profit for the year	1,490,585	1,573,029
Other comprehensive income		
Items that will be reclassified to profit or loss		
Exchange differences on translation of foreign operations	(32,323)	163,008
Items that will not be reclassified to profit or loss		
Changes in fair value of financial assets measured at fair value through other comprehensive income	57,815	(43,920)
Income tax effect	(14,642)	3,066
Share of other comprehensive income of associates and joint ventures accounted for using the equity method	–	(2,522)
Other comprehensive income for the year, net of tax	**10,850**	**119,632**
Total comprehensive income for the year	**1,501,435**	**1,692,661**
Total comprehensive loss/income for the year attributable to:		
Owners of the company	863,702	862,119
Non-controlling interests	637,733	830,542
	1,501,435	1,692,661

RISK FACTORS

In addition to other information in this Offering Circular, investors should carefully consider the following risk factors, together with all other information contained in this Offering Circular (including the financial statements and the notes thereto), before purchasing the Bonds. The risks and uncertainties described below may not be the only ones that the Group faces. Additional risks and uncertainties that the Group is not aware of or that the Guarantor currently believes are immaterial may also adversely affect its business, financial condition or results of operations. If any of the possible events described below occur, the Group's business, financial condition or results of operations could be materially and adversely affected, the trading price of the Bonds could decline and investors may lose all or part of their investment.

This Offering Circular also contains forward-looking statements that involve risks and uncertainties. The Group's actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the considerations described below and elsewhere in this Offering Circular.

RISKS RELATING TO THE GROUP

The Group's business may be materially and adversely affected by the COVID-19 pandemic.

Since the end of 2019, COVID-19, a disease caused by a novel strain of coronavirus, has spread in China and globally, and the World Health Organization declared the COVID-19 outbreak a pandemic in March 2020. The COVID-19 pandemic has led the governments and other authorities around the world, including China, to impose measures intended to control its spread, including quarantines, restrictions on travel and public gatherings, temporary closure of certain businesses and facilities. While still continuing, the COVID-19 pandemic, as well as efforts to contain it, has caused significant economic and financial disruptions around the world, including disruption on manufacturing operations, logistics and global supply chains and significant volatility and disruption of financial markets. While the government continues to take stringent measures to prevent any potential resurgence of new COVID-19 cases, since the second quarter of 2020, many restrictions in China have been lifted and the level of business activities have been restoring in response to the significant decrease of new reported cases. As a result, China's economy has been recovering rapidly. In addition, vaccinations are gradually expected to become more widely available worldwide. However, the above mentioned prevention and control measures may continue globally in the near or longer term. The COVID-19 pandemic could materially and adversely affect the Group's business, financial condition and results of operations.

Due to the outbreak and governmental control measures imposed to contain virus spread, the Group experienced temporary restrains on its operations, such as temporary interruptions on transportation in certain areas in February 2020 and some employees' temporary delay in their returning to work after the Chinese New Year holiday in 2020. The Group has been proactively taking measures to respond to these restrains, including measures to protect the health and safety of its employees, and by far such measures have helped in maintaining its steady production. However, if the virus further spreads worldwide, including China or other jurisdictions in which the Group's suppliers or customers operate or have property or projects, or further control measures are adopted and continue to stay in place in these or other regions, it may face further disruptions on its normal operation, sales, project construction, supply chain and transportation channel, labor shortage and other limitations on its business activities due to restrictions on its employees' ability to travel, infection of management and employees, suspension or closure of facilities, additional costs arising from precautionary infection control and hygienic measures, and other impacts, which could be material and adverse to the Group's business, financial condition and results of operations.

In addition, the market prices of primary aluminum and alumina have been volatile since the COVID-19 outbreak. Due to weak demand for aluminum and reduction of aluminum production globally resulting from the COVID-19 pandemic, in April 2020, the Australian FOB spot price for alumina and the international cash price for primary aluminum on the LME reached a low of US$225 per tonne and a low of US$1,437 per tonne, respectively. See "– *Volatility in the prices of alumina, primary aluminum, other non-ferrous metal and other commodities may adversely affect the Group's business, financial condition and results of operations*". Although because of the recovery of the downstream business activities in China and globally, the market prices of primary aluminum and alumina have increased in the second half of 2020, there is no assurance that the demand for primary aluminum and alumina will not be weakened by the COVID-19 pandemic any more, and any volatility or decreases of the market prices of primary aluminum and alumina may result in reduction of the Group's revenue and profit, increase of the Group's inventory amount and other material and adverse impacts on its financial condition and results of operations. The Group has been closely monitoring the development of the COVID-19 pandemic and evaluating market changes and impact of the COVID-19 pandemic on its businesses, operations and financial performances, as well as actively responding to the possible impact on it. For example, in response to the price volatility of primary aluminum and alumina, the Group adjusted, and may further adjust, the structure of its product portfolio, the amount of inventories and its marketing strategies, and the Group utilises, and may further utilise futures transactions to hedge against price fluctuations. However, there is no assurance that the Group's efforts would continue to be successful, and given that the COVID-19 pandemic is still ongoing around the world and despite people in some regions have been vaccinated, its full impact on it may still be difficult to predict.

If the global public health crisis caused by COVID-19 pandemic continues, it may have an adverse impact on the global and China's economies, which may, among other things, exacerbate turbulence in commodity market, discourage or disrupt investment and production, increase total inventories of primary aluminum or other products in the industry, bring more uncertainty to the consumption of aluminum-made products and the prices of primary aluminum and alumina, and cause other adverse impacts on the industry the Group is in. An economic downturn including financial market disruption, or a market perception that this situation may occur or develop, may also cause increase of financing costs, or reduce or even diminish available sources of financing for operation or expansion. In addition, significant financial market volatility and uncertainty may adversely affect the market prices of the Group's ordinary share. Credit risks of customers and suppliers and other counterparty risks may also increase. These factors may materially and adversely affect the Group's business, financial condition and results of operations. Furthermore, there is uncertainty relating to future developments of the COVID-19 pandemic and its impact on us. The Group's business, financial condition and results of operations could be materially and adversely affected by it. The Group may also experience negative effects from other future health epidemics or outbreaks beyond its control. These events are impossible to forecast and difficult to prevent. Any of these events could have a material adverse effect on the Group's results of operations and financial condition.

The Group's businesses are vulnerable to downturns in the general economy and industries in which the Group operates or which the Group serves. A significant reduction in demand or supply could materially and adversely affect its business, financial condition and results of operations.

Demand for the Group's products depends on the general economy and level of activity and growth in the industries where the Group operates or serves. Adverse development in economic and market conditions, such as a significant economic downturn or a downturn in the commodity sector or the financial markets, could have a material adverse effect on the Group's business and financial condition and results of operations. Development of the relevant industries is subject to various factors, including but not limited to market fluctuations of prices of commodities, general political or economic conditions, technology development, government regulations and investment plans and fluctuation in domestic and global production capacity, many of which are beyond the Group's control.

The Group is unable to predict cycles of the global and domestic economies. Concerns over inflation, energy costs, geopolitical issues, the availability and cost of credit, unemployment, consumer confidence, declining asset values, capital market volatility and liquidity issues have created difficult operating conditions for the Group in the past and may continue to do so in the future. For example, since 2018, there were continuing trade tensions between the U.S. and China, resulting in increased tariffs and escalating tensions between the two countries. On 15 January 2020, the two parties signed the China-U.S. phase-one economic and trade agreement. Since then, the PRC government and the U.S. government have granted tariff exemptions on certain goods. However, it is still unclear when future phase negotiations between the two countries will begin and whether there will be further trade agreements following such negotiations. It is also unclear if future disputes will occur or the two countries will be able to negotiate the issues to restore a mutually beneficial economic and trade cooperation. Future actions or escalations by either the U.S. government or the PRC government could have a material adverse effect on the business environment in general, global, Chinese and/or U.S. economic conditions and the stability of global, Chinese and/or U.S. financial markets, which in turn, may adversely affect the Group's business, financial condition and results of operations. In addition, on 12 November 2020, the President of the United States signed Executive Order 13959 (as subsequently amended on 13 January 2021, the "**Executive Order**"), which prohibits certain transactions in securities of certain entities listed in the annex to the Executive Order (each, a "**Restricted Entity**"). Currently, neither the Guarantor nor Chinalco are on the list of Restricted Entities. However, if the Executive Order is further amended to include the Guarantor or Chinalco as a Restricted Entity in the future, U.S. persons as defined under the Executive Order may be prohibited from purchasing Group's securities. As a result, the value and liquidity of Group's ADSs may be materially and adversely affected, which may lead to significant volatility in the Group's share trading price. In addition, in the wake of the United Kingdom's exit from the European Union ("**Brexit**"), there remains uncertainty about the future relationship between the United Kingdom and the European Union. It is unclear how Brexit would affect the political, regulatory, social and macroeconomic condition within the United Kingdom, the European Union and globally. The outlook for the world economy and financial markets remains uncertain. Such volatility and negative economic developments could, in turn, materially adversely affect the Group's business, prospects, financial condition or results of operations.

Furthermore, the PRC government has, from time to time, adjusted its monetary, fiscal and other policies and measures to manage the rate of growth of the economy or the overheating and overcapacity in certain industries or markets. As a result, the global and domestic economic conditions or any particular industry in which the Group operates or which the Group serves may grow at a lower-than-expected rate or even experience a downturn. In addition, the global outbreak of COVID-19 and the efforts to contain it have negatively impacted the global economy and financial markets, causing a global recession in 2020. For further details of the impact of outbreak of COVID-19 on the general economy, please refer to "– *the Group's business may be materially and adversely affected by the COVID-19 pandemic*. "As a result, the global and domestic economic conditions or any particular industry in which the Group operates or which the Group serves may grow at a lower-than-expected rate or even experience a downturn. Uncertainty about future economic conditions makes it challenging for the Group to forecast its results of operations, make business decisions and identify risks that may affect its business. If the Group is not able to timely and appropriately adapt to changes resulting from the difficult macroeconomic environment, its business, financial condition and results of operations may be materially and adversely affected.

Volatility in the prices of alumina, primary aluminum, other non-ferrous metals and other commodities may adversely affect the Group's business, financial condition and results of operations.

The prices of the products the Group produces and trades, including alumina, primary aluminum, other non-ferrous metals and coal products, have historically fluctuated and are expected to continue fluctuating in response to general economic conditions, supply and demand and the level of global inventories, interruption caused by unforeseen international or domestic events such as global outbreak of COVID-19, uncertainty of or changes in domestic or foreign laws or politics and many other factors, which are beyond the Group's control.

The Group prices its alumina and primary aluminum products by reference to international and domestic market prices, and domestic supply and demand, each of which may fluctuate beyond its control. The Group may not be able to effectively respond to a sudden fluctuation in alumina or primary aluminum prices. For example, due to weak demand for aluminum globally resulting from the COVID-19 pandemic, in 2020, the average spot price of alumina on the Australian FOB decreased by 18.6% to US$271 per tonne and the average international cash price for primary aluminum on the LME decreased by 5.0% to US$1,701 per tonne. During the same period, the average spot price of alumina in the domestic market decreased to RMB2,335 per tonne, representing a decrease of 13.4% compared to 2019, and the average spot prices of primary aluminum at SHFE slightly increased by 1.4% to RMB14,112 per tonne. In 2020, the average external selling prices for the Group's self-produced alumina and primary aluminum were RMB2,456 per tonne and RMB14,169 per tonne respectively, representing a decrease by 10.2% and an increase by 2.2%, respectively, as compared to the prices in 2019. Please refer to "*– the Group's business may be materially and adversely affected by the COVID-19 pandemic*" for the impact of COVID-19 pandemic on the prices of alumina and primary aluminum. Furthermore, the prices of alumina and primary aluminum may also decline due to, among other things, decrease in market demand of those products and any slowdown of economic growth in China. Because the Group's prices are affected by a variety of factors, most of which are beyond its control, the Group may not be able to respond promptly to the fluctuation in alumina or primary aluminum prices in international market or domestic market. There is no assurance that there will not be any further and significant fluctuations in prices of the Group's key products, including alumina and primary aluminum, which may materially and adversely affect its business, financial condition and results of operations. In addition, since the Group's profit margin for trading non-ferrous metal products and coal products is based on price fluctuations in the short term, the Group needs to make the correct prediction of the price fluctuations of these commodities on the markets to maintain its profit margin. If market price fluctuations on the market do not match Group's prediction, the Group may incur substantial losses. In addition, since the Group's profit margin for trading non-ferrous metal products and coal products is based on price fluctuations in the short term, the Group needs to make the correct prediction of the price fluctuations of these commodities on the markets to maintain its profit margin. If market price fluctuations do not match its prediction, the Group may incur substantial losses.

In addition, as the Group generates profit from the differences between the purchase and sales prices of the non-ferrous metal products and the coal products it deals in, significant fluctuations in these prices may cause the value of the outsourced products in transit or in inventory to decline, and if the carrying value of its existing inventories exceeds the market price in the future periods, it may need to make additional provisions for its inventories' value. As a result, any significant fluctuation in international market prices for these commodities could materially and adversely affect its business, financial condition and results of operations.

The Group's business requires substantial capital expenditures that it may not always be able to obtain at reasonable costs and on acceptable terms.

The Group's plans to upgrade and expand its production capacity will require substantial capital expenditures. The Group may also need additional funding for debt servicing, working capital, other investments, potential acquisitions and joint ventures and other corporate requirements. As a result, the Group incurred total capital expenditures of approximately RMB4.7 billion in 2020. The Group expects to incur total capital expenditure of approximately RMB4.1 billion in 2021.

The Group may seek external financing, such as bank and other loans as well as bond offerings, to satisfy its capital needs if cash generated from its operations is insufficient to fund its capital expenditures or if its actual capital expenditures and investments exceed its plans. The Group's ability to obtain external financing at reasonable costs and on acceptable terms is subject to a variety of factors, including its credit ratings. Rating agencies may downgrade or withdraw its ratings or place it on "credit watch" based on their assessment of a wide range of factors. For example, records of net losses may result in a deterioration of its credit ratings. Although the Group was profitable in the recent period from 2015 through 2020, the Group recorded a net loss of approximately RMB17.1 billion in 2014 and have been recording accumulated losses since 2014. The Group's accumulated losses were approximately RMB1,741.6 million at 31 December 2020. The Group could incur losses in the future, which may adversely affect Group's corporate ratings and increase its borrowing costs and limit its access to capital markets. Other factors that may be viewed as negative by the rating agencies may also adversely affect its corporate ratings, such as any significant decrease of market price of Group's products, any significant increase in its level of debt, any negative development in its ongoing or planned projects and so on. In addition, if financial markets experience significant volatility and disruption, it may result in a decrease in the availability of liquidity and credit for borrowers and increase in interest rate or other financing cost. Failure to obtain sufficient funding at reasonable costs and on acceptable terms for the Group's development plans could delay, reduce the scope of, or eliminate future activities or growth initiatives and adversely affect its business and prospects.

The Group's historical results may not be indicative of its future prospects and results of operations.

In the past few years, the Group has entered into a new business segment and streamlined its existing business to focus on the productions of alumina and primary aluminum. For instance, in 2013, it acquired an aggregate of 70.82% of the equity interest in Ningxia Energy, an integrated power generation company with coal mines located in Ningxia Autonomous Region. Its principal business includes conventional coal-fire power generation and renewable energy generation. After the acquisition of Ningxia Energy, the Group established an energy segment in January 2013 to include (i) operations of Ningxia Energy and (ii) its other energy related operations that were formerly included in its corporate and other operating segments. In November 2015, it acquired relevant assets and liabilities of High-Purity Aluminum Plant and Light Metal Material Plant of Baotou Aluminum Group. Baotou Aluminum Group is a subsidiary of Chinalco. In addition, in line with its development strategy to focus on the development of its core business in alumina and primary aluminum production, where it has an established leading market position, and to reduce future capital expenditures on iron ore development, improve asset-to-debt ratio and generate expected cash flows, the Group disposed of its 65% equity interest in Chalco Iron Ore to a wholly-owned subsidiary of Chinalco on 26 December 2013. In December 2015, it transferred 50% equity interests in Shanxi Huaxing, a wholly owned subsidiary of the Guarantor, through the Shanghai United Assets and Equity Exchange at a price of RMB2,351 million. Pursuant to a resolution passed at the 2015 second general meeting of the Guarantor held on 29 December 2015, the proceeds raised from the disposal of the equity interests in Shanxi Huaxing would be used for permanent replenishment of liquidity required for the operation of the Guarantor. In May 2017, the Group and Chinalco entered into an equity transfer agreement pursuant to which it has agreed to acquire Chinalco's 40% equity interests in Chinalco Shanghai, which primarily engages in trading and management of engineering projects, to implement its strategic layout and business development plan. Chinalco Shanghai became the Guarantor's wholly-owned subsidiary upon completion of the transfer. In December 2018, the Group acquired 50% equity interests in Shanxi Huaxing through the Shanghai United Assets and Equity Exchange at a price of approximately RMB2,665.2 million from Baotou Transportation Investment Group Co., Ltd. Upon completion of the acquisition, Shanxi Huaxing became a wholly-owned subsidiary of the Guarantor. In August 2019, the Group made a capital contribution of RMB352.85 million to China Rare Metals and Rare Earths Company Ltd., a subsidiary of Chinalco, with its gallium assets.

There is no assurance that the Group will enter into a new business segment or continue to streamline its existing business as it has done so in the past. In addition, the Group cannot assure that the benefit of entering into a new business segment or streamlining its existing business will be fully realized as expected or at all. As a result, its historical results may not be indicative of the Group's future prospects and results of operations.

While the Group had experienced growth in recent years, its revenue decreased by 2.2% from RMB190,215.4 million in 2019 to RMB185,994.3 million in 2020, primarily due to the decrease in its trading business. The financial performance was driven by a wide range of factors, many of which are out of its control or may not be sustainable or indicative of future growth or performance, such as the prices of coal, electricity and other raw materials. No assurance can be given that Group's financial conditions or results of operations will be maintained at any level, especially due to impact of the outbreak of COVID-19. For further details, please refer to "– *The Group's business may be materially and adversely affected by the recent outbreak of COVID-19*." As a result, Group's historical results may not be indicative of the Group's future prospects and results of operations.

The Group's failure to successfully manage its business expansion, particularly its expansion in new business lines, would have a material adverse effect on the Group's results of operations and prospects.

The Group has invested in business expansion in line with its development strategy through organic growth, acquisitions and joint ventures. In addition, the Group may, from time to time and when it deems appropriate, expand into new industries which it believes have synergies with its existing operations. For example, the Group has successfully enhanced its energy-related operations through the acquisition of Ningxia Energy in 2013 and participation in joint ventures and strategic investments in coal mining since 2010. Furthermore, the Group acquired the entire equity interest in Henan Zhongzhou Logistics Co., Ltd. in April 2020 and 51.0% equity interest in Chongqing Southwest Aluminum Transportation Co., Ltd. in June 2020, and disposed 75% equity interest of Shandong Shanlv Electronic Ltd. in July 2020.

The Group's expansion has created, and will continue to place, substantial demand on its resources. Managing the Group's growth and integrating the acquired businesses will require the Group to, among other things:

- comply with the laws, regulations and policies applicable to the acquired businesses, including obtaining timely approval for the construction or expansion of production and mining facilities as required under relevant PRC laws;

- maintain adequate control on its business expansion to prevent, among other things, project delays or cost overruns;

- gain market acceptance for new products and services and establish relationships with new customers and suppliers;

- achieve sufficient utilisation of new production facilities to recover costs;

- manage relationships with employees, customers and business partners during the course of its business expansion and integration of new businesses;

- attract, train and motivate members of its management and qualified workforce to support successful business expansion;

- access debt, equity or other capital resources to fund its business expansion, which may divert financial resources otherwise available for other purposes;

- divert significant management attention and resources from its other businesses; and

- strengthen its operational, financial and management controls, particularly those of its newly acquired subsidiaries, to maintain the reliability of its reporting processes.

Any significant difficulty meeting the foregoing or similar requirements could significantly delay or otherwise constrain the Group's ability to implement the Group's expansion plans, or result in failure to achieve the expected benefits of the combination or acquisition or write-offs of acquired assets or investments, which in turn would limit the Group's ability to increase operational efficiency, reduce marginal manufacturing costs or otherwise strengthen the Group's market position. Failure to obtain the intended economic benefits from the business expansion could adversely affect the Group's business, financial condition, results of operations and prospects. In addition, the Group may also experience mixed results from its expansion plans in the short term.

Furthermore, there is no assurance that the Group will be able to identify attractive acquisition targets, negotiate acquisitions on favourable terms, obtain necessary governmental approvals on investments, accurately estimate the mineral resources and reserves of these acquisition targets or obtain the necessary funding to complete such acquisitions on commercially acceptable terms or at all. Acquisitions may result in the incurrence and inheritance of debts and other liabilities, assumption of potential legal liabilities in respect of the acquired businesses, and incurrence of impairment charges related to goodwill and other intangible assets, any of which could harm the Group's business, financial condition and results of operations. In particular, if any of the acquired businesses fails to perform as the Group expects, the Group may be required to recognise a significant impairment charge, which may materially and adversely affect its business, financial condition and results of operations. As a result, there can be no assurance that the Group will be able to achieve the strategic purpose of any acquisition, the desired level of operational integration or its investment return target.

The Group's joint ventures and strategic investments may not be successful.

The Group may from time to time enter into joint ventures or make strategic investment to grow its business and operations. For example, since 2010, it has participated in joint ventures and strategic investment in coal mining, in line with its development strategy to diversify its product offering and partially offset its future energy costs, as well as supply a portion of the coal it consumes in its operations. In addition, it has acted as joint venture partner or strategic investor in certain projects which engage in primary aluminum, aluminum alloy and light alloy manufacturing to diversify its product offering, strategically position along the industrial chain and facilitate its enterprise transformation and upgrade.

The Group has non-controlling interests in a number of joint ventures. Although the Group has not been materially constrained by the nature of its ownership interests, no assurance can be given that its joint venture partners will not exercise their power of veto or their controlling influence in any of the Group's joint ventures in a way that will hinder its corporate objectives and reduce any anticipated cost savings or revenue enhancement resulting from these joint ventures. In addition, whether or not the Group holds majority interests or maintain operational control in such joint ventures, such arrangements necessarily involve special risks and the Group's joint venture partners may:

- have economic or business interests or goals that are inconsistent with or opposed to those of the Group's;
- exercise veto rights so as to block actions that the Group believes to be in its or the joint venture's best interests;
- take action contrary to the Group's policies or objectives with respect to the investments; or
- as a result of financial or other difficulties, be unable or unwilling to fulfill their obligations under the joint venture, other agreements, such as contributing capital to expansion or maintenance projects.

In addition, the Group's joint ventures and subsidiaries which operate coal mines were facing increasing risks in recent years. Due to the COVID-19 pandemic and affected by domestic and global economies, the coal prices in the domestic market first declined and then rose during 2020 and the fluctuation was relatively large. From January 2020 to April 2020, as the demand was weakened by the COVID-19 pandemic, the coal prices declined rapidly; due to the resumption of work and production, the coal prices became stable and increased gradually from May 2020 to September 2020; the coal prices rose rapidly from October 2020 to December 2020 due to the accelerated economic recovery and the increase of coal consumption caused by cold winter. If coal prices decrease in the future, the business, financial condition and results of operations of these joint ventures which operate coal mines may be adversely affected. Please refer to "*– the Group's business may be materially and adversely affected by the COVID-19 pandemic*." and "*– The Group's businesses are vulnerable to downturns in the general economy and industries in which the Group operates or which the Group serves. A significant reduction in demand or supply could materially and adversely affect its business, financial condition and results of operations.*"

Failure to maintain optimal utilisation of the Group's production facilities will adversely affect the Group's gross and operating margins.

During the past few years, the Group expanded its production capacity by completing the construction, upgrading or remoulding of some of its alumina and primary aluminum production facilities. If the Group is able to maintain satisfactory facility utilization rates and increase its production output, this increase in its production capacity would enable it to reduce its unit costs through economies of scale, as fixed costs will be spread over a higher volume of output units. Conversely, underutilization of its existing and newly acquired or constructed production facilities may increase its marginal production costs and prevent the Group from realizing the intended economic benefits of its expansion.

Since 2013, the Group has implemented flexible production arrangements from time to time for certain alumina and primary aluminum production facilities in response to prevailing market conditions. For example, as affected by the market environment, Shanxi New Material and Shanxi Huaxing started to implement flexible production arrangements for alumina production in July 2020, which involves production capacity of approximately 0.8 million tonnes of alumina in Shanxi New Materials and approximately 1.0 million tonnes of alumina in Shanxi Huaxing. Since November 2020, part of the capacity on which flexible production was implemented has gradually resumed production. The Group may also increase Group's external purchases of alumina and primary aluminum for trading purposes to capitalise on fluctuating market prices and to enhance resource planning to achieve cost savings in its production. The increase in Group's external purchases will reduce its utilisation of certain production facilities, but may not result in a proportionate decrease in fixed costs such as leases and depreciation of plant, property and equipment.

If the Group fails to maintain optimal utilization rates and spread fixed costs over a high volume of output units, its gross and operating margins may be adversely affected.

The Group may be required to record impairment charges in the future.

If business conditions deteriorate, long lived assets need to be reviewed for possible impairment. An impairment loss needs to be recognised to the extent that the carrying amount exceeds the recoverable amount. In 2018, 2019 and 2020, the Group recorded impairment loss of property, plant and equipment of RMB46.5 million, RMB259.4 million and RMB416.8 million, respectively. In addition, the Group made (net) impairment losses on financial assets of RMB 979 million in 2020. As affected by the asset impairment, the net profit attributable to the shareholders of the Guarantor in the consolidated financial statement of the Guarantor for 2020 decreased by RMB1,225 million. The Group cannot guarantee that it will not incur any impairment loss or the Group's impairment loss will not increase in the future due to various reasons including, but not limited to, strategic decisions made in response to changes in economic and competitive conditions, the impact of the economic environment on its customer base and material adverse changes in its relationship with significant customers. If the Group records significant impairment charges, its results of operations may be materially and adversely affected.

The Group's operations consume substantial amounts of electricity, and its profitability may decline if electricity costs rise or if its electricity supplies are interrupted.

The Group's operations consume substantial amounts of electricity. Although the Group generally expects to meet the electricity consumption requirements for its alumina refineries and primary aluminum smelters from a combination of internal and external sources, its results of operations may be materially and adversely affected by any significant increase in electricity costs or interruptions in electricity supply.

Cost of electricity is the principal production cost in the Group's primary aluminum operations. The Group's average electricity cost per kWh (including tax) of its primary aluminum smelters remained relatively stable from 2019 to 2020. However, there is no assurance that the electricity costs will not increase in the future. If the Group is unable to pass on increases in energy costs to Group's customers, its operating margin, financial condition and results of operations could be materially and adversely affected.

In addition, interruptions in the supply of electricity can result in costly production shutdowns, increased costs associated with restarting production and the waste of production in progress. A sudden loss of power, if prolonged, can cause damage to or the destruction of production equipment and facilities. In such an event, the Group may need to expend significant capital and resources to repair or replace the affected production equipment to restore its production capacity. In the past, various regions across China experienced shortages and disruptions in electrical power, especially during peak demand summer season or under severe weather conditions. The Group cannot assure investors that its operations will not suffer from shortages or disruptions in electrical power, any occurrence of which could have a material and adverse impact on its business, financial condition and results of operations.

The Group's operations consume substantial amounts of coal, and the Group's operations may be adversely affected if the Group is not able to procure sufficient coal or if coal prices rise significantly.

The Group relies heavily on coal as its energy and fuel source in its operations. As the Group increases its alumina refining capacity, its consumption of coal will increase accordingly. If the Group is not able to obtain the amount of coal needed for its production due to a shortage of coal, constraints on coal transportation or any other reason, the Group may be forced to reduce its production output or suspend its alumina refining operations, which could materially and adversely affect its financial condition and results of operations. Although the Group has acquired equity interest in a number of coal mines, the Group expects to continue to rely substantially on third-party coal suppliers for the supply of coal. In addition, the Group's average purchase price per unit tonne of thermal coal used in its alumina production increased by approximately 7.3% in 2020 from the level in 2019. However, there is no assurance that the coal prices will not increase or further fluctuate. If the Group is unable to pass on increases in coal prices to its customers or offset price increases through productivity improvements, its operating margin, financial condition and results of operations could be adversely affected.

The Group's business and industry may be affected by the development of alternative energy sources and climate change.

The Group's operations consume substantial amounts of coal. Coal combustion generates significant greenhouse gas and other pollutants, and the effects of climate change resulting from global warming and increased pollution levels may provide incentives for governments to promote or invest in "green" energy technologies such as wind, solar, nuclear and biomass power plants, or to reduce their consumption of conventional energy sources such as coal. A number of governments or governmental bodies have introduced or are contemplating legislative and regulatory changes in response to the potential impacts of climate change. These regulatory mechanisms may impact the Group's operations directly or indirectly through customers or the Group's supply chain. The Group may have to increase its capital expenditures in order to comply with such revised or new legislation or regulations, and may realise changes to profit or loss arising from increased or decreased demand for its products and indirectly, from changes in costs of goods sold, which may adversely affect its results of operations and financial condition.

In addition, the Group has invested in coal mining operations. Although revenues attributable to its energy segment accounted for a small portion of its total revenues in 2020 (after elimination of inter-segment sales), the Group might still be affected by the growth of the PRC thermal power industry, which relies on coal as main source of fuel. The PRC thermal power industry may be affected by the development of alternative energy sources, climate change and global environmental factors. In particular, pursuant to China's 14th Five-Year Plan for Environmental Protection, the PRC government plans to continue to encourage the development of alternative energy sources, such as wind power, solar power, biomass and geothermal energy, from 2021 to 2025. As such, alternative energy industries may rapidly develop and gradually gain mainstream acceptance in the PRC and the rest of the world. If alternative energy technologies continue to develop and prove suitable for wide commercial application in the PRC and overseas, demand for conventional energy sources, such as coal, could be reduced. Such reduction in demand for coal could have a material adverse effect on the coal mining industry and, consequently, negatively affect the Group's business, results of operations and financial condition.

The Group may be unable to continue competing successfully in the markets in which it operates.

In 2020, the Group supplied approximately 46.7% of its total production of alumina to its own smelters and sold substantially all of the remaining self-produced alumina and all of its self-produced primary aluminum to its domestic customers. The Group's alumina (with chemical alumina products included) and primary aluminum production represented approximately 23.1% and 9.9%, respectively, of total domestic production in China in 2020. The Group faces competition from both domestic and international alumina and primary aluminum producers. The Group's principal competitors are major domestic refineries and smelters. These producers compete with the Group's alumina and primary aluminum operations on the basis of product cost, quality and pricing. In addition, the Group faces increasing competition from international alumina and primary aluminum suppliers as a result of the elimination of tariffs on imports of primary aluminum and alumina into China.

Increasing competition in the Group's product markets may reduce its selling prices or sales volumes, which will have a material adverse effect on its financial condition and results of operations. If the Group is unable to price its products competitively, maintain or increase its current share of China's alumina and primary aluminum markets or otherwise maintain its competitiveness, its financial condition, results of operations and profitability could be materially and adversely affected.

The Group's overseas expansion exposes it to political and economic risks, commercial instability and events beyond the Group's control in the countries in which it plans to operate.

The Group has overseas projects from time to time. For example, in 2020, the Group completed the construction of the Boffa Project, a project for the construction and development of a bauxite mine located in Boffa, Guinea. Although the Boffa Project has been completed and put into production, due to uncertainties involved in the overseas projects, the Group cannot assure the investors that all of its overseas expansion or investments will be successful or that it will not suffer foreign exchange losses in connection with its overseas investment.

In addition, operations in the overseas markets also expose the Group to a number of risks including expropriation and nationalisation of its assets in foreign countries, civil unrest, acts of terrorism, war, or other armed conflict; natural disasters; inflation; currency fluctuations, devaluations and conversion restrictions; confiscatory taxation or other adverse tax policies, governmental activities that limit or disrupt markets, restrict payments or limit the movement of funds, governmental activities that may result in the deprivation of contractual rights; lack of a well-developed legal system that makes it difficult to enforce the Group's contractual rights; and governmental activities that may result in the inability to obtain or retain licenses required for operations.

The Group's profitability and operations could be adversely affected if the Group is unable to obtain a steady supply of raw materials at competitive prices.

Historically, the price for bauxite, the Group's most important raw material for alumina production, has been volatile. The Group obtains bauxite for its operations from its own mines and external suppliers. The extent to which the Group procures bauxite from each of these sources affect the security of the Group's supply or cost of bauxite. The supply of bauxite could be affected by various factors, including geographic conditions of bauxite mines, government policies, market prices and competition, many of which are beyond the Group's control. The Group relies on overseas suppliers to obtain a portion of bauxite it uses for production. Indonesia used to be a major source of the Group's imported bauxite. As a result of the ban imposed by the Government of Indonesia on the exportation of unprocessed bauxite and nickel, since January 2014, the Group was not able to export the bauxite produced by its bauxite mines in Indonesia for the use of its alumina refineries in China, and its operation of bauxite mining in

Indonesia has been suspended since September 2014. If the Group exhausts its stockpiles or its procurement of bauxite from Australia are interrupted for any reason, and the Group cannot find an alternative source of imported bauxite at competitive prices, its financial condition, results of operations and profitability could be adversely affected.

In addition, the Group's results of operations can be affected by increases in the cost of other raw materials and other key inputs such as energy. If the Group cannot obtain a steady supply of key raw materials at competitive prices, its financial condition and results of operations could be materially and adversely affected.

The Group is subject to the uncertainties surrounding its resources and reserves estimates of minerals and metals, and the volume and grade of ore it produces may not conform to current estimates.

The Group owns and develops bauxite mines for its operations and has recently commenced development of coal mines and iron ore mines in line with its business development strategy. As at 31 December 2020, the Group operated 14 bauxite mines in China. The Group also owns one bauxite mine in Guinea and three bauxite mines in Indonesia. The Group's resources and reserves estimates of minerals and metals are based on a number of assumptions in accordance with relevant industry standards. There can be no assurance that the Group's resources and reserves of minerals and metals will be recovered in the quantities, qualities or yields presented in this Offering Circular. Resources and reserves estimates of minerals and metals are inherently prone to variability. They involve expressions of judgment with regard to the presence and grade of ore bodies and the ability to extract and process the ores economically. These judgments are based on a variety of factors, such as knowledge, experience and industry practice. The accuracy of these estimates may be affected by many factors, including the quality of the drilling, sampling results of the ore bodies, analysis of the drilling samples, the procedures adopted, and experience of the persons making the estimates.

Ore mined may differ from the resources or reserves estimates of minerals and metals in various aspects, such as quality, volume, overburden skip ratio, mining costs or processing costs. In addition, ores may not ultimately be extracted at a profit. The Group records its mineral resources located in the PRC according to the Chinese National Standard. The Group may record its mineral resources located overseas according to other international resource reporting standards, such as the JORC Code and NI 43-101, in compliance with local laws and regulations. The amount of mineral resources located overseas has been converted to conform with the Chinese National Standard when calculating the consolidated amount of mineral resources at the Group level as discussed in this Offering Circular. However, there is no assurance that such conversion is accurate because different resource reporting standards may not be directly comparable.

If the Group encounters mineralisation or geological or mining conditions different from those estimated based on historical drillings, samplings and similar examinations, the Group may have to adjust its mining plans in a way that could materially and adversely affect its businesses, financial condition and results of operations and reduce the estimated amount of resources and reserves available for production and expansion plans. In addition, the development period estimated by the Group may differ from the actual development cycle due to various reasons such as unexpected difficulty in mineral resources development and development procrastination. The aforesaid differences in the resources development projects invested in by the Group will affect the operational results and future development of the Group's relevant operations.

Any transportation interruption or any material increase in the Group's transportation costs could have a material adverse effect on its business, financial condition and results of operations.

The Group's operations require the reliable transportation of raw materials and supplies to its refining and smelting sites and finished products to its customers. The Group's alumina products are mainly transported by rail or trucks and its primary aluminum products are delivered to its customers primarily by rail. There is no assurance that the Group can always enjoy sufficient transportation capacity or the Group will not experience transportation interruption in the future. Furthermore, natural disasters may cause interruption to the transportation system, which could in turn affect the transportation of its products. Please refer to "*– The Group's business may be materially and adversely affected by the COVID-19 pandemic*" for further details of the impact of outbreak of COVID-19 on the transportation system In addition, any changes in fuel prices or fuel supply may be unpredictable and beyond the Group's control. There is no assurance that shortage of fuel will not occur in the future. Any surge in fuel prices or shortage of fuel supply may lead to increases in its operation and transportation costs. If the Group is unable to make timely deliveries due to logistical and transportation disruptions, or transfer the increased costs to its customers, its production, reputation and results of operations may be adversely affected.

The bauxite reserve data in this Offering Circular are only estimates, which may prove to be inaccurate.

The bauxite reserve data based on which the Group prepares its production and expenditure plans are only estimates that it has developed internally and may prove to be inaccurate. There are numerous uncertainties inherent in estimating quantities and qualities of reserves, including many factors beyond the Group's control. If these estimates are inaccurate or the indicated tonnages are not recovered, its business, financial condition, and results of operations may be materially and adversely affected.

The Group's mining operations have limited mine lives and eventual closure of these operations will entail costs and risks regarding ongoing monitoring, rehabilitation and compliance with environmental standards.

The Group's existing mining operations in the PRC and overseas have limited mine lives and will eventually be depleted. The Group needs to perform certain procedures to remedy and rehabilitate the environmental and social impact its mining operations have had on local communities and the environment. Remediation, rehabilitation, closure and removal of the Group's facilities will incur various costs and are subject to various risks. The key costs and risks for mine closures include, among others, (i) long-term management of permanent engineered structures and acid rock drainage; (ii) closure in accordance with local or international environmental standards; (iii) orderly retrenchment of employees and third-party contractors; and (iv) orderly transfer of the site, its associated permanent structures and community development infrastructure and programmes to new owners. There is no assurance that such closure of mines will be successful and without delays or additional costs, in which case the Group may be subject to increased costs, penalties or other legal or administrative actions, damages to reputation, or even suspension and cancellation of mining permits, the occurrence of which would cause a material adverse effect on the Group's business, financial condition and results of operations.

Failure to discover new reserves or resources, maintain or enhance existing reserves or resources, develop new mining operations or expand the Group's current mining operations could negatively affect the Group's businesses, financial condition and results of operations.

Mining exploration is unpredictable in nature. The success of any mining exploration programme depends on various factors, many of which are beyond the Group's control. Due to the unpredictable and speculative nature of the mining industry, there is no assurance that any exploration programme that the Group is currently undertaking or may undertake in the future will result in the discovery of valuable reserves or resources. There is no assurance that reported resources can be converted into reserves. Furthermore, actual results upon production may differ from those anticipated at the time of discovery. To access additional reserves in explored areas, the Group will need to successfully complete development projects, including but not limited to extending existing mines and developing new mines. There are a number of uncertainties inherent in the development and construction of any new mine or an extension of an existing mine, including but not limited to (i) the availability and timing of necessary governmental approvals; (ii) the timing and cost necessary to construct mining and processing facilities; (iii) the availability and cost of labour, utilities, auxiliary materials and other supplies and the accessibility of transportation and other infrastructure; and (iv) the availability of funds to finance construction and production activities. There is no assurance that any future exploration activities or development projects will extend the life of the Group's existing mining operations or result in any new economic mining operations and such failure may have a material adverse effect on the Group's businesses, financial condition and results of operations.

Newly adopted rules regarding mining property disclosure may result in increased compliance costs for the Guarantor and failure to fully comply with such rules may expose us to potential enforcement actions by the SEC.

On 31 October 2018, the SEC adopted amendments to its disclosure rules to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC (the "**New Mining Disclosure Rules**"). These amendments became effective on 25 February 2019 and, following a two-year transition period, will replace the historical property disclosure requirements for mining registrants that are included in SEC Industry Guide 7. The Group is not required to provide disclosure on its mineral properties under the New Mining Disclosure Rules until the fiscal year beginning on 1 January 2021.

Compliance with the New Mining Disclosure Rules may create uncertainties for companies such as the Group. The new disclosure rules may be subject to varying interpretations in some cases due to their lack of specificity, which could result in continuing uncertainty regarding compliance matters and substantial costs associated with compliance. The Group cannot predict the nature of any future enforcement, interpretation, or application of the New Mining Disclosure Rules. Any further revisions to, or interpretations of, the New Mining Disclosure Rules could result in unforeseen costs associated with compliance incurred by the Group. If the Group fails to comply with the New Mining Disclosure Rules, its reputation may be harmed, and it might be subject to investigation or penalties by the SEC. Any such enforcement action could adversely affect its financial results and the market price of its shares.

The Group's indebtedness could adversely affect the Group's business, financial condition and results of operations.

The Group has relied, and expects to continue to rely, on both short-term and long-term loans and borrowings to fund a significant portion of its capital requirements. As at 31 December 2020, the Group had approximately RMB34,707.3 million in outstanding short-term loans and borrowings (including the current portion of long-term loans and borrowings) and RMB57,518.1 million in outstanding long-term loans and borrowings (excluding the current portion of these loans and borrowings). On 23 March 2021, the board of directors of the Guarantor approved to authorise (i) the issuance of debt financing instruments and bonds in the PRC with an aggregate outstanding balance of all bonds not exceeding RMB50 billion (including various issued domestic bonds), and (ii) the issuance of overseas bonds with an aggregate amount of not more than USD1 billion (or in other currencies with the equivalent amount), the term of which authorizations commenced on the date of approval at its 2020 annual general meeting held at 29 June 2021, and will close upon the conclusion of its 2021 annual general meeting. Although the Group has been managing its debt and assets with the goal of maintaining its debt at an appropriate level, there is no assurance that such efforts would be successful or the level of its debt will be further decreased. Please see Note 19 and Note 44 to the 2020 Financial Statements for more detailed information about its loans and borrowings and subsequent issuance of bonds and notes up to the date of approval of the 2020 Financial Statements. This level of debt could have significant consequences on the Group's operations, including:

- making it more difficult for the Group to fulfill payment and other obligations under the its outstanding debt, including repayment of its debt and credit facilities should the Group be unable to obtain extensions for any such debt or credit facilities before they mature.

- reducing the availability of cash flows to fund working capital, capital expenditures, acquisitions and other general corporate purposes;

- exposing the Group to interest rates fluctuations on its borrowings and the risk of being unable to rollover, extend or refinance its borrowings as necessary;

- potentially increasing the cost of additional financing and making it more difficult for the Group to conduct equity financings in the capital markets or obtain government approvals to seek additional financing; and

- putting pressure on the Group's share price due to concerns of the Group's ability to repay its debt.

The Group's ability to meet its payment and other obligations under its outstanding debt depends on its ability to generate cash flows in the future or to refinance such debt. In 2020, the Group carried out capital preservation and appreciation businesses by using daily reserve fund for investments such as structural deposits. However, the Group cannot assure investors that its business will generate sufficient cash flows from operations to satisfy its obligations under its outstanding debt and to fund other liquidity needs. If the Group is not able to generate sufficient cash flows to meet such obligations, the Group may need to refinance or restructure its debt, reduce or delay capital investments, or seek additional equity or debt financing. The sale of additional equity securities could result in dilution to its shareholders. A shortage of financing could in turn impose limitations on its ability to plan for, or react effectively to, changing market conditions or to expand through organic and acquisitive growth, thereby reducing its competitiveness. The Group cannot assure investors that future financing will be available in amounts or on terms acceptable to the Group, if at all.

The instruments governing the Group's senior debt contain certain financial and other covenants that restrict its ability to raise further debt and take certain corporate actions and pay dividends.

The Group issued US$500 million senior perpetual securities at a rate of 4.25% (the "**Securities**") in October 2016, through Chalco Hong Kong Investment Company Limited (the "**Bond Issuer**") with guarantees to the repayment obligations of the Securities provided by Chalco Hong Kong (the "**Subsidiary Guarantor**").

The indentures governing the Securities contain a number of significant financial and other covenants. Such covenants restrict, subject to certain exceptions, among other things, the Group and its subsidiaries' ability to create, or have outstanding, any security interest upon it or its subsidiaries' present or future undertaking, assets or revenues to secure any indebtedness which is in the form of bonds, notes, debentures, loanstock or other securities which for the time being are, or are intended to be or capable of being, quoted, listed or dealt in or traded on any stock exchange or over-the-counter or other securities market ("**Relevant Indebtedness**") which is issued outside the PRC, the Group's ability to create or have any Relevant Indebtedness which is issued outside the PRC, its ability to create or have outstanding any guarantee or indemnity in respect of any Relevant Indebtedness which is issued outside the PRC and the Bond Issuer's, Subsidiary Guarantor's and their respective subsidiaries' ability to create, or have outstanding, any security interest upon their present or future undertaking, assets or revenues to secure any Relevant Indebtedness or any guarantee or indemnity in respect of any Relevant Indebtedness or to sell or otherwise dispose of capital stock held or controlled by it in any direct or indirect subsidiary of Chalco Hong Kong which is not a Subsidiary Guarantor. These covenants restrict the Group's ability to raise additional funds in the future through issuing Relevant Indebtedness which is issued outside the PRC or creating or having any guarantee or indemnity in respect of any Relevant Indebtedness which is issued outside the PRC and may restrict its ability to engage in some transactions that may be expected to of benefit to the Group.

The Securities are guaranteed by Chalco Hong Kong. A breach of any of the covenants in the indenture governing the Securities could result in redemption of the Securities at the Group's discretion or an increase of coupon rate if it does not redeem the Securities upon a breach of such covenants. If the Group defaults under the Securities in the future, the holders may enforce their claims against the guarantors to satisfy the Group's obligations to them. In addition, such default may result in a default and acceleration of the Group's senior debt and the holders of its senior debt could gain ownership of the capital stock of certain of the Group's wholly-owned subsidiaries (if such capital stock is pledged for such senior debt) and/or enforce their claims against the assets of the guarantors (if guarantee is provided for such senior debt). Consequently, the Group could lose control or ownership of certain of its assets and operations of the Subsidiary Guarantor or pledgers.

In addition to the Securities, in October 2018, November 2019 and December 2020, the Guarantor issued RMB2,000 million perpetual medium-term notes with an initial distribution rate at 5.10% (the "**2018 Perpetual Medium-term Notes**"), RMB1,500 million perpetual medium-term notes with an initial distribution rate at 4.20% (the "**2019 Perpetual Medium-term Notes**") and RMB1,000 million perpetual medium-term notes with an initial distribution rate at 4.45% (the "**2020 Perpetual Medium-term Notes**"), respectively, in China. Pursuant to the terms of the 2018 Perpetual Medium-term Notes, the 2019 Perpetual Medium-term Notes and the 2020 Perpetual Medium-term Notes, while any coupon distribution payments are unpaid or deferred, the Guarantor cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments of the Group's headquarters. Therefore, the Group's ability to pay dividends in respect of its ordinary shares and the ADSs may be limited under certain circumstances.

In addition, if these perpetual securities are categorised as debt due to changes of accounting standard or other reasons, or if the Group chooses to redeem these perpetual securities, its total equity may be reduced, which may be adverse to its financial condition or the price of its ordinary shares.

The interests of the Group's controlling shareholder who exerts significant influence over the Group may conflict with the interests of the Group.

As at 31 December 2020, the Group's largest shareholder, Chinalco, directly owned 29.67% of its issued share capital and indirectly owned an additional 2.49% of its issued share capital through its controlled entities. The interests of Chinalco may conflict or even compete with the Group's interests and those of the Group's public shareholders. Chinalco may take actions that are in the interest of its subsidiaries, associates and other related entities to the Group's detriment. For example, Chinalco may seek to influence the Group's decision as to the amount of dividends the Group declares and distributes. Any increase in the Group's dividend payout would reduce funds otherwise available for reinvestment in the Group's businesses and thus may adversely affect the Group's future prospects and financial condition.

In addition, Chinalco and a number of its subsidiaries and associates provide a range of services to the Group, including engineering and construction services, social services, land and property leasing as well as the supply of raw and supplemental materials. It would be difficult to find an alternative source for some services that the Group receives from Chinalco. The Group's cost of operations may increase if Chinalco, its subsidiaries and associates are unable to continue providing such services to the Group.

In January 2019, Yunnan SASAC transferred its 51% equity interest in Yunnan Metallurgical Group Co., Ltd. to China Copper, a wholly-owned subsidiary of Chinalco, with no consideration. As Yunnan Aluminum, an affiliated company of Yunnan Metallurgical Group Co., Ltd., competes with the Group in the business segments of alumina and primary aluminum, Chinalco, as the indirect controlling shareholder of Yunnan Aluminum and the Group's direct controlling shareholder, issued a letter of undertakings on non-competition to it, according to which Chinalco undertook to start in 2019 planning the integration of the businesses in which Yunnan Aluminum and the Group compete with each other, and address such business competition within five years. While the Group intends to closely monitor Chinalco's planning and implementation of such business integration and make timely public disclosure about significant progress made, due to the uncertainties involved in such business integration, however, the Group cannot assure the investors that business competition between Yunnan Aluminum and the Group would be addressed without undue delays or at all, or the plan of such business integration or the implementation thereof would be viewed by the investors as most favorable to the Group or its shareholders.

The Group is subject to, and incurs costs to comply with, environmental laws and regulations.

As the Group produces air emissions, discharges waste water, and handles hazardous substances at its bauxite mines, alumina refineries and primary aluminum smelters, the Group is subject to, and incurs costs to comply with, environmental laws and regulations.

Given the magnitude, complexity and continuous amendments to these laws and regulations, compliance therewith may be onerous or may involve substantial financial and other resources to establish efficient compliance and monitoring systems. The liabilities, costs, obligations and requirements associated with these laws and regulations may therefore be substantial and may delay the commencement of, or cause interruptions to, the Group's operations. Non-compliance with the relevant laws and regulations applicable to the Group's operations may even result in substantial penalties or fines, suspension or revocation of its relevant licenses or permits, termination of government contracts or suspension of the Group's operations. For example, relevant supervision authorities released a public notification of the dust, noise, relocation and other issues of Baotou Aluminum in 2020. In response to this notification, the Guarantor and Baotou Aluminum attached great importance to the issues involved, analysed the issues, and communicated with local governments and local residents proactively. As at the end of 2020, a majority of the issues involved have been rectified, dust and noise pollution have been effectively controlled, and the relocation of residents has been progressing smoothly under the organization of the local government. However, as the environmental protection standards and requirements maybe further enhanced, the Group cannot assure the investors that the similar events would not occur in the future, if such incidents were to occur, it could impact the Group's operating results, financial condition and reputation, all of which could adversely affect its profitability and ability to retain existing customers and to attract new customers. The Group cannot assure investors that the similar events would not occur in the future. If such incidents were to occur, it could impact the Group's operating results, financial condition and reputation, all of which could adversely affect its profitability and ability to retain existing customers and to attract new customers.

In addition, the environmental laws and regulations in the PRC and other jurisdictions in which the Group operates continue to evolve. As a result, the Group may incur significant additional costs if relevant laws and regulations change or enforcement of existing laws and regulations becomes more rigorous. For instance, in April 2020, the Law on Prevention and Control of Environmental Pollution Caused by Solid Waste was amended to impose stricter liabilities on enterprises that produce solid waste. As the Group generates solid waste during its production process, the Group may incur higher costs to comply with the requirements under the amended law. In addition, in February 2017, the PRC government issued the 2017 Working Plan of Air Pollution Prevention and Control for Beijing-Tianjin-Hebei and Surrounding Areas to improve regional air quality and strengthen air pollution control in the winter heating season. Accordingly, the Group has reduced the output of Chalco Shandong, Chalco Mining and Chalco Zhongzhou in the winter heating season. Further, the Group's overseas expansion projects are subject to foreign environmental laws and regulations. Failure to comply with environmental laws and regulations may trigger a variety of administrative, civil and criminal enforcement measures, including the assessment of monetary penalties, the imposition of remedial requirements and the issuance of orders enjoining future operations, all of which may materially and adversely affect the Group's business operations.

The Group is subject to administrative policies and orders relating to China's Energy-Saving and Emission Reduction Goals that could adversely affect the Group's production.

The Group is subject to administrative energy-saving and emission reduction policies and orders carried out by the central and provincial governments in accordance with China's Energy-Saving and Emission Reduction Goals. On 18 July 2013 and updated it on 28 February 2020, the Ministry of Industry and Information Technology of the PRC ("**MIIT**") issued the Standard Conditions for Aluminum Industry (鋁行業規範條件), which set forth various standards for existing and new projects, including standards for environment protection, energy consumption, and utilisation of resources. Although the Group has been in compliance with the Standard Conditions for Aluminum Industry since its issuance, the Group cannot assure investors that the relevant government authorities will not issue more stringent standards or rules, which may require the Group to incur additional costs or expenses to comply with these standards or rules, and its existing production may be delayed for facility upgrading or suspended before full compliance with these standards or rules. The occurrence of any of the foregoing could have an adverse effect on the Group's business, results of operations and financial condition.

The Group is subject to accidents and natural disasters that may adversely affect its performance.

The Group may experience accidents and natural disasters in the course of its operations, which may cause significant property damage and personal injuries. Significant accidents and natural disasters may cause interruptions to its operations or result in property or environmental damage, increase in operating expenses or loss of revenues.

The occurrence of accidents, natural disasters and the resulting consequences may not be covered adequately, or at all, by the insurance policies the Group carries. Losses or payments incurred by the Group as a result of major accidents or natural disasters may have a material adverse effect on its results of operations.

The Group has not obtained valid titles or land use rights to certain properties or land parcels that it occupies.

The Group has not obtained valid ownership certificates to certain properties that it occupies. These properties are used primarily for production plants and daily operations management. As at 31 December 2020, the book value of the Group's properties with defective titles is RMB7,616 million, which represents approximately 3.65% of its total asset value. In addition, the Group had not obtained land use rights to certain land parcels, which the Group uses primarily for its production plants. As at 31 December 2020, the book value of these land parcels is RMB 1,109 million, representing approximately 0.57% of its total asset value. The Group has applied to the appropriate authorities to obtain the relevant ownership certificates. It cannot give any assurance that ownership dispute will not occur or that third parties will not assert any claims against the Group for compensation in respect of any use of these properties or land parcels.

The Group is exposed to foreign exchange fluctuations.

A substantial portion of the Group's revenues and cost of sales is denominated in Renminbi. However, the Group conducts part of the Group's mining business overseas, and the Group has made and expects to continue to make significant equity and other investments in overseas mining and other projects. The Group's foreign exchange-denominated assets and liabilities are expected to significantly increase as the Group further expands its overseas businesses. The Group is therefore subject to significant risks associated with foreign currency fluctuations.

Changes in the value of foreign currencies could increase the Group's Renminbi costs for, or reduce the Group's Renminbi revenues from, its foreign operations, or affect the prices of its exported products and the prices of its imported equipment and materials. Any increased costs or reduced revenues as a result of foreign currency fluctuations could adversely affect the Group's profits and margins. The fluctuation of foreign exchange rates also affects the value of the Group's monetary and other assets and liabilities denominated in foreign currencies, primarily US dollars.

The value of the Renminbi is subject to changes in the PRC governmental policies and to international economic and political developments. Pursuant to reforms of the exchange rate system announced by the PBOC on 21 July 2005, Renminbi-to-foreign currency exchange rates are allowed to fluctuate within a narrow and managed band against a basket of foreign currencies, rather than being effectively linked to the US dollar. The PBOC announced on 15 March 2014 that Renminbi was allowed to fluctuate daily against the US dollar by up to 1% above or below the central parity rate published by PBOC since 17 March 2014.

In August 2015, the PBOC lowered the daily mid-point trading price of the Renminbi significantly against the US dollar on three occasions. The currency devaluation of the Renminbi was intended to bring it more in line with the market by taking market signals into account. The Renminbi depreciated significantly against the US dollar following the August 2015 announcement by the PBOC. In January and February 2016, the Renminbi experienced further fluctuation in value against the US dollar. With an increased floating range of the Renminbi's value against foreign currencies and a more market-oriented mechanism for determining the midpoint exchange rates, the Renminbi may further appreciate or depreciate significantly in value against the US dollar or other foreign currencies in the long-term. Any significant appreciation of the Renminbi against the US dollar or other foreign currencies may result in the decrease in the value of the Group's foreign currency denominated assets. Conversely, any significant depreciation of the Renminbi may adversely affect the value of the Group's businesses. In addition, there are limited instruments available for the Group to reduce the Group's foreign currency risk exposure. All of these factors could materially and adversely affect the Group's business, financial condition and results of operations. The PRC government may adopt further reforms of its exchange rate system, including making the Renminbi freely convertible in the future. There can be no assurance that the Renminbi will not experience significant appreciation or depreciation against the US dollar or any foreign currencies in the future.

The Group is exposed to significant uncertainty with regard to its cash flows and earnings due to the volatile and unpredictable exchange rates movement. Fluctuations in exchange rates may adversely affect the value, translated or converted into US dollars or Euros, of the Group's net assets, earnings and any declared dividends.

The Group is subject to risks normally associated with cross-border transactions, and the Group's export products have been and may become subject to anti-dumping or countervailing duty proceedings.

The Group generates its revenues from exports of certain alumina chemical products and certain non-ferrous metals and minerals products to foreign jurisdictions. Such foreign jurisdictions may take restrictive measures, including, among others, anti-dumping duties and other non-tariff barriers, to protect their own markets. The Group's sales in major overseas markets may be adversely affected by increases in or new impositions of anti-dumping duties, countervailing duties, quotas or tariffs imposed on the Group's exports. Further increases in or new imposition of anti-dumping duties, countervailing duties, quotas or tariffs on the Group's sales in these markets could adversely affect the exports to these regions in the future. By virtue of its transactions with parties outside the PRC, the Group will be subject to the risks normally associated with cross-border business transactions and activities. The Group will also be exposed to the risk of changes in social, legal, political and economic conditions in the foreign jurisdictions to which it exports. In particular, unexpected changes in regulatory requirements, tariffs and other trade barriers and price or exchange controls could limit the Group's operations and make the repatriation of profits difficult. Please refer to "– *The Group is subject to risks normally associated with cross-border transactions, and its export products have been and may become subject to anti-dumping or countervailing duty proceedings.*"

Chinalco's investment and operations in certain countries that are subject to international economic sanctions may harm the Group's reputation.

Chinalco and its affiliates have in the past and may choose to undertake in the future, without the Group's involvement, investments and operations outside of China, including in countries that are on the sanction list published and administrated by the Office of Foreign Assets Control (the "**OFAC**") within the United States Department of Treasury or subject to other international economic or other sanctions. There can be no assurance that Chinalco and its affiliates will not be subject to any sanction due to their past and future investments and operations in these countries. If Chinalco or its affiliates were sanctioned, the Group may suffer reputational harm due to its relationship with Chinalco.

The Group's business involves inherent risks and occupational hazards, which could damage its reputation, subject the Group to liability claims and cause substantial costs to it.

The Group's business involves inherent risks and occupational hazards. Under its mining operations, it engages or may engage in certain inherently risky and hazardous activities, including, among others, operations at height or on dangerous terrains, underground excavation and construction, use of heavy machinery, mining and handling of flammable and explosive materials, and The Group is therefore subject to risks associated with these activities, including, among others, geological catastrophes, toxic gas and liquid leakages, equipment failures, industrial accidents, fire, explosions and underground water leakages. Although it conducts geological assessments on mining conditions and adapts the Group's mining plans to the mining conditions at each mine, it cannot assure investors that adverse mining conditions will not endanger its workforce, increase its production costs, reduce its bauxite or coal output or temporarily suspend its operations. The occurrence of any of the foregoing events or conditions could have a material adverse impact on the Group's business and results of operations. Additionally, the Group exposed to operational risks associated with industrial or engineering activities, such as maintenance problems or equipment failures. These risks and hazards may result in personal injury and fatal casualties, damage to or destruction of properties or production facilities, and pollution and other environmental damage. Any of these consequences, to the extent they are significant, could result in business interruption, possible legal liability and damage to the Group's business reputation and corporate image.

The Group's mines and operating facilities may be damaged by water, gas, fire or cave-ins due to unstable geological structures. Any significant accident, business disruption or safety incident could result in substantial uninsured costs and the diversion of its resources, which could materially and adversely affect its business operations and financial condition.

The Group may be subject to product liability claims.

Some of the products the Group sells or manufactures may expose it to product liability claims relating to property damage or personal injury. The successful assertion of product liability claims against the Group could result in significant damage payments and harm to its reputation, which in turn could have a material adverse effect on its business, financial condition and results of operations.

The Group is subject to risks normally associated with cross-border transactions, and its export products have been and may become subject to anti-dumping or countervailing duty proceedings.

During the past few years, the Group generated marginal revenue from exports of certain chemical alumina products and aluminum fabrication products and also from time to time from exports of certain non-ferrous metals and minerals products to foreign jurisdictions. In 2020, the Group only engaged in the export of certain chemical alumina products and aluminum fabrication products to foreign countries including, among others, South Korea, Japan, countries in Southeast Asia, Mexico and Germany and revenue generated from such export accounted for less than 1% of its total revenues in 2020. Such foreign jurisdictions and other countries may take restrictive measures, including, among others, imposition of tariffs, anti-dumping duties and other non-tariff barriers, to protect their own markets. The sales of the Group's product in overseas markets may be adversely affected by increases in or new impositions of anti-dumping duties, countervailing duties, quotas or tariffs imposed on its exports. Further increases in or new imposition of anti-dumping duties, countervailing duties, quotas or tariffs on the Group's sales in these markets could adversely affect the exports to these regions in the future. For example, since 2018, the U.S. government has imposed tariffs and other trade barriers on products imported from China, which elicited retaliatory tariff increases by the PRC government on the U.S. products. Since 1 October 2018, the U.S. government had imposed a 10% tariff on various aluminum products imported from China, including chemical alumina products. Starting from May 2019, this tariff rate was increased to 25%. In 2020, the Group exported approximately 10,000 tonnes of chemical alumina products to the United States, the revenue generated from which represented less than 0.1% of Group's total revenues in 2020. Other than exports of chemical alumina products, the Group did not have any other exports to the United States in 2020. There is no assurance that such export volume of chemical alumina products will not further decrease in the future. In addition, such trade frictions and tariffs involved, as well as the sluggish global economy in 2020 and early 2021 in general, may decrease China's aluminum export to the United States and other countries and reduce global aluminum consumption, which could in turn has a material adverse effect on the demand of the Group's products as well as its business, financial condition and results of operations. On 15 January 2020, the PRC government and the U.S. government entered into the U.S.-China Phase One trade deal agreement. Since then, the PRC government and the U.S. government have granted tariff exemptions on certain goods. However, it is not yet clear what further actions the U.S. government and the PRC government may take. There is no assurance that a broader trade agreement would be successfully negotiated between the U.S. and China, or no additional tariffs or other trade barriers would be imposed. If there is any escalation in trade frictions, the Group cannot assure the investors whether such development would not have a material adverse effect on the business environment in general, global economic conditions and the stability of global financial markets. Any of these factors affected by the developments in trade barriers could in turn have a material adverse effect on the Group's business, financial condition and results of operations. Please refer to "*The Group's businesses are vulnerable to downturns in the general economy and industries in which the Group operates or which the Group serves. A significant reduction in demand or supply could materially and adversely affect its business, financial condition and results of operations.*"

By virtue of its transactions with parties outside the PRC, the Group will be subject to the risks normally associated with cross-border business transactions and activities. The Group will also be exposed to the risk of changes in social, legal, political and economic conditions in the foreign jurisdictions. In particular, unexpected changes in regulatory requirements, tariffs and other trade barriers and price or exchange controls could limit the Group's operations and make the repatriation of profits difficult.

The Group is subject to litigation risks.

In the ordinary course of business, claims involving project owners, customers, suppliers and subcontractors may be brought against the Group and by the Group in connection with its operations. If the Group was found to be liable on any of the claims, it would have to incur a charge against earnings to the extent a reserve had not been established for the matter in its accounts, or to the extent the claims were not sufficiently covered by its insurance coverage. Both claims brought against the Group and by the Group, if not resolved through negotiations, are often subject to lengthy and expensive litigation or arbitration proceedings. Charges associated with claims brought against the Group and write-downs associated with claims brought by the Group could have a material adverse impact on its business, financial condition, results of operations and cash flow. Moreover, legal proceedings resulting in judgments or findings against the Group may harm its reputation and damage its prospects for future contract or business awards.

The Group faces counterparty risks.

While the Group generally sells goods and provides services to reputable customers and evaluates the customers' credit in accordance with its internal risk management criteria, such as their credit history and likelihood of default, it has limited access to information about its customers and it may encounter difficulties in the collection of receivables in certain countries that it has less experience in its dealings. Therefore, the Group cannot guarantee that all of its customers will fully perform their obligations under their respective contracts with the Group, and the deterioration of any customers' credit or payment conditions may result in those customers defaulting on their contractual obligations, which could materially and adversely affect its business, financial condition and results of operations. In addition, disputes with governmental entities and other public organizations could potentially lead to contract termination if these remain unresolved or may take a considerably longer period of time to resolve than disputes with counterparties in the private sector, and payments from these entities and organizations may be delayed as a result.

The Group faces risks related to its derivative instruments.

From time to time, the Group may utilise derivative instruments to minimize its exposure to fluctuations in the price of primary aluminum and other products. The Group primarily uses futures contracts and option contracts traded on the SHFE and LME to hedge against fluctuations in the price of primary aluminum. All of its future contracts and option contracts are held for hedging purpose. As at 31 December 2020, the fair value of the outstanding futures contracts recognized in financial assets and financial liabilities amounted to RMB17 million and RMB27 million, respectively. The Group did not have any option contracts as at the same date. In the process of hedging with futures and options, the Group cannot assure the investors that it will not incur any loss, which may have an adverse effect on Group's financial condition and results of operations.

The Group may face challenges to its intellectual property rights which could adversely affect its reputation, business and financial position.

The Group owns important intellectual property, including patents and trademarks. Its intellectual property plays an important role in maintaining its competitive position in a number of the markets that it serves. Its competitors may develop technologies that are similar or superior to its proprietary technologies or design around the patents it owns or licenses. Developments or assertions by or against the Group relating to intellectual property rights, and any inability to protect or enforce these rights, could adversely affect its business and competitive position.

The Group may be exposed to claims in relation to the unsatisfactory performance of third-party service providers, and disputes with business partners may also adversely affect its business.

The Group relies on third-party service providers for certain services, including but not limited to mining infrastructure construction, logistics services or warehouse management. Therefore, the Group is exposed to the risk that the Group's third-party service providers may fail to perform their obligations, which may adversely affect its business operations. In addition, from time to time, the Group co-operates with business partners to develop its business, including acquiring strategic mining resources or businesses that complement its own business line. Furthermore, the Group operates certain projects through joint venture arrangements and may enter into further joint ventures in the future along with the expansion of its operations. The Group may have disputes with these business partners or joint venture partners over various aspects, such as performance of each party's obligations, scope of each party's responsibilities, product quality and logistics services. If such disputes cannot be settled in a timely manner, the Group's financial condition and business may be adversely affected.

Failure to hire and retain management executives and other qualified personnel could adversely affect the Group's business and prospects.

The growth of the Group's business operations depends on the continued services of its senior management team. The industry experience, expertise and contributions of its executives and other members of the Group's senior management are essential to its continued success. It will require an increasing number of experienced and competent executives in the future to implement the Group's growth plans. If the Group was to lose the services of any of its key management members and was unable to recruit and retain personnel with equivalent qualifications at any time, the management and growth of its business could be adversely affected.

Competition for qualified personnel in general is intense in the PRC and other markets where the Group operates. The Group cannot guarantee that it will be able to maintain an adequately skilled labour force necessary for it to execute its projects or to perform other corporate activities, nor can the Group guarantee that staff costs will not increase as a result of a shortage in the supply of skilled personnel. If the Group fails to attract and retain personnel with suitable managerial, technical or marketing expertise or maintain an adequate labour force on a continuous basis, its business operations could be adversely affected and its future growth and expansions may be inhibited.

The Group may not be able to detect and prevent fraud or other misconduct committed by its employees, representatives, agents, customers, affiliates or other third parties.

The Group may be exposed to fraud or other misconduct committed by its employees, representatives, agents, customers, affiliates or other third parties that could subject the Group to litigation, financial losses and sanctions imposed by governmental authorities, as well as adversely affect its reputation, business, financial condition, results of operations and share trading prices. Such misconduct may include, among others:

- hiding unauthorised or unsuccessful activities, resulting in unknown and unmanaged risks or losses;
- intentionally concealing material facts, or failing to adequately perform necessary due diligence or risk analysis procedures designed to identify potential risks;
- improperly using or disclosing confidential information;
- engaging in improper activities or activities that might be subject to penalties, fines or sanctions;
- misappropriation of funds;
- conducting transactions that exceed authorised limits;
- engaging in misrepresentation or fraudulent, deceptive or otherwise improper or illegal activities;
- engaging in unauthorised or excessive transactions to the detriment of the Group's customers; or
- otherwise not complying with applicable laws or the Group's internal policies and procedures.

The Group's internal control procedures are designed to monitor its operations and ensure overall compliance. However, such internal control procedures may be unable to identify, detect or prevent all incidents of non-compliance or suspicious transactions in a timely manner, if at all. In addition, the Group does not have control over the activities conducted by those of its customers, affiliates or other third parties on their own.

There is no assurance that fraud or other misconduct by the Group's employees, representatives, agents, customers, affiliates or other third parties will not occur in the future. If such fraud or other misconduct does occur and to the extent that its employees, representatives, agents, customers, affiliates or other third parties are penalized for any of their non-compliance activities or are otherwise subject to any sanctions laws of foreign jurisdictions, it may cause negative publicity of the Group as a result, and could have a material adverse effect on its business, financial condition, results of operations and the trading prices of the Group's shares.

Cyber-attacks and security breaches may threaten the integrity of the Group's intellectual property and other sensitive information and disrupt its business operations, which could adversely affect its reputation, business and financial position.

The Group faces global cybersecurity threats, which may range from uncoordinated individual attempts to sophisticated and targeted measures directed at the Group. Cyber-attacks and security breaches may include, but are not limited to, attempts to access information, computer viruses, denial of service and other electronic security breaches.

Although the Group has not experienced any material cybersecurity incidents in the past, it cannot assure investors that it will not experience them in the future. Due to the evolving nature of cybersecurity threats, the scope and impact of any future incident cannot be predicted. While the Group continually works to safeguard its systems and mitigate potential risks, there is no assurance that such actions will be sufficient to prevent cyber-attacks or security breaches that manipulate or improperly use its systems or networks, compromise confidential or otherwise protected information, destroy or corrupt data, or otherwise disrupt its operations. The occurrence of such events could negatively impact the Group's reputation and its competitive position and could result in litigation with third parties, regulatory action, loss of business, potential liability and increased remediation costs, any of which could have an adverse effect on its financial condition and results of operations.

Failure to comply with the restrictions and covenants in the Group's debt agreements could adversely affect the Group's businesses, financial condition and results of operations.

If the Guarantor or any of its subsidiaries is unable to comply with the restrictions (including restrictions on the Guarantor's future investments) and covenants in its current or future debt obligations and other financing agreements, including certain bank loans agreements, there could be a default under the terms of such obligations or agreements. In the event of a default under these agreements, the holders of the debt or creditors could terminate their commitments to lend to the Guarantor or its subsidiaries, accelerate repayment of the debt and declare all outstanding amounts due and payable or terminate the agreements, as the case may be. Furthermore, some of the debt and other agreements which the Guarantor or its subsidiaries have entered into may contain cross-acceleration or cross-default provisions. As a result, default by the Guarantor or its subsidiaries under any of such agreements may cause the acceleration of repayment of not only such debt but also other debt, including the Bonds, or result in a default under other debt or loan agreements. If any of these events occurs, there is no assurance that the assets and cash flows of the Group would be sufficient to repay in full all of the debts as they become due, or that the Group would be able to find alternative financing on terms that are favourable or acceptable to the Group.

The Group is exposed to inclement weather and climatic conditions, acts of God, severe contagious disease, acts of terrorism or war, and adverse work environments in the PRC and overseas.

A significant amount of the Group's business activities is conducted outdoors and could be materially and adversely affected by weather and climatic conditions. The Group also operates in areas that are under the threat of ice storms, floods, earthquakes, landslides, mudslides, sandstorms or drought. Acts of war and terrorist attacks, including those in foreign jurisdictions in which the Group has operations, may cause damage or disruption to the Group and its employees, subcontractors, operations, equipment, facilities and markets, any of which could impact the Group's public image, revenues and cost of sales. The outbreak of any severe contagious disease such as SARS in 2003, the H1N1 Influenza in 2009 or Ebola in 2014 or the COVID-19 in 2020 could also result in interruption of the Group's business. During periods of curtailed activity, the Group may continue to incur operating expenses, but the Group's revenue from operations may be delayed or reduced. Such events could also have severe effects on the overall business sentiments and environment in the PRC and the world, and may in turn lead to a slower economic growth in the PRC or global economy, which may have a material and adverse effect on the Group's businesses, operating results and financial condition.

In addition, the Group conducts some of the Group's operations under a variety of geographical and other conditions, including on difficult terrain, under harsh site conditions, in busy urban centres where delivery of materials and availability of labour may be affected, and on sites which may previously have been exposed to environmental hazards. Such conditions may result in personal injuries or fatalities or have a negative effect on the Group's work performance and efficiency.

The audit reports included in the Group's annual reports filed with the SEC are prepared by auditors who are not inspected by the Public Company Accounting Oversight Board and, as such, investors are deprived of the benefits of such inspection.

Auditors of companies that are registered with the SEC and traded publicly in the United States, including the Group's independent registered public accounting firms, must be registered with the US Public Company Accounting Oversight Board (United States) (the "**PCAOB**") and are required by the laws of the United States to undergo regular inspections by the PCAOB to assess their compliance with the laws of the United States and professional standards.

Although the Group's ADSs are listed on the NYSE, because the Group has substantial operations within the PRC and the PCAOB is currently unable to conduct inspections of the work of the Group's auditors as they relate to those operations without the approval of the Chinese authorities, the work of the Group's auditors related to its operations in China is not currently inspected by the PCAOB.

This lack of PCAOB inspections of audit work performed in China prevents the PCAOB from regularly evaluating audit work of any auditor that was performed in China including that performed by the Group's auditors. As a result, investors may be deprived of the full benefits of PCAOB inspections.

On 7 December 2018, the SEC and the PCAOB issued a joint statement highlighting continued challenges faced by the U.S. regulators in their oversight of financial statement audits of U.S.-listed companies with significant operations in China. On 4 November 2019, the SEC announced that SEC and PCAOB had dialogue with the "Big Four" accounting firms, which emphasised the need for effective and consistent global firm oversight of member firms, including those operating in China. On 19 February 2020, the SEC and the PCAOB further issued a joint statement on continued dialogue with "Big Four" accounting firms on audit quality in China, highlighting that PCAOB continues to be prevented from inspecting the audit work and practices of PCAOB-registered audit firms in China on a comparable basis to other non-U.S. jurisdictions. On 21 April 2020, the SEC and the PCAOB issued another joint statement reiterating the greater risks of insufficient disclosures from companies in many emerging markets, including China, compared to those from U.S. domestic companies. In discussing the specific issues related to these risks, the statement again highlighted the PCAOB's inability to inspect audit work and practices of accounting firms in China with respect to U.S. reporting companies. The inability of the PCAOB to conduct inspections of audit work performed in China makes it more difficult to evaluate the effectiveness of the Group's auditors' audit procedures as compared to auditors in other jurisdictions that are subject to PCAOB inspections on all of their work. As a result, investors may be deprived of the benefits of PCAOB's inspections.

As part of a continued regulatory focus in the United States on access to audit and other information currently protected by national laws, in particular PRC laws, on 4 June 2020, the President of the United States issued a memorandum ordering the President's Working Group on Financial Markets, or the President's Working Group, to submit a report to the President within 60 days of the memorandum that includes recommendations for actions that can be taken by the executive branch, the SEC, the PCAOB or other federal agencies and departments with respect to Chinese companies listed on U.S. stock exchanges and their audit firms, in an effort to protect investors in the United States. On 6 August 2020, the President's Working Group released a report recommending that the SEC take steps to implement the five recommendations outlined in the report. In particular, with respect to companies from jurisdictions that do not provide the PCAOB with sufficient access to fulfill its statutory mandate, the President's Working Group recommended enhanced listing standards on U.S. stock exchanges. This would require, as a condition to initial and continued exchange listing, giving the PCAOB access to work papers of the principal audit firm for the audit of the listed company. Companies unable to satisfy this standard as a result of governmental restrictions on access to audit work papers and practices in their jurisdiction may satisfy this standard by providing a co-audit from an audit firm with comparable resources and experience where the PCAOB determines it has sufficient access to audit work papers and practices to conduct an appropriate inspection of the co-audit firm. The report permits the new listing standards to provide for a transition period until 1 January 2022 for listed companies. On 10 August 2020, the SEC announced that the SEC chairman had directed the SEC staff to prepare proposals in response to the report of the President's Working Group, and that the SEC was soliciting public comment and information with respect to the development of these proposals. Any resulting actions, proceedings or new rules from these recommendations could adversely affect the listing and compliance status of China-based issuers listed in the United States, such as the Group, and may have a material and adverse impact on the trading of the securities of such issuers, including the Guarantor's ADSs.

Furthermore, on 18 December 2020, the United States enacted the Holding Foreign Companies Accountable Act, or the HFCA Act. The HFCA Act includes requirements for the SEC to identify issuers whose audit reports are prepared by auditors that the PCAOB is unable to inspect or investigate completely because of a restriction imposed by a non-U.S. authority in the auditor's local jurisdiction. The HFCA Act also requires public companies on this SEC list to certify that they are not owned or controlled by a foreign government and make certain additional disclosure in their SEC filings that cover a "non-inspection" year after the HFCA Act becomes effective. In addition, if the auditor of a U.S.-listed company is not subject to PCAOB inspections for three consecutive "non-inspection" years after the law becomes effective, the SEC is required to prohibit the securities of these issuers from being traded on a U.S. national securities exchange, such as the New York Stock Exchange, on OTC markets in the United States or through any other method within the SEC's jurisdiction to regulate. While the Group understands that there has been dialogue among the China Securities Regulatory Commission, or the CSRC, the SEC and the PCAOB regarding the inspection of PCAOB-registered accounting firms in China, there can be no assurance that the Group's auditor or the Group will be able to comply with requirements imposed by U.S. regulators. The HFCA Act requires the SEC to issue implementation rules with regard to these requirements within 90 days after the enactment of the HFCA Act. On 24 March 2021, the SEC issued the Interim Final Rule on HFCA Act Disclosure dated 18 March 2021 and requested for comments until 5 May 2021. The Interim Final Rule would add Item 16I (Disclosure Regarding Foreign Jurisdictions that Prevent Inspections) in Form 20-F, which requires disclosure in a foreign issuer's annual report regarding the audit arrangements of, and governmental influence on, such foreign issuer. A foreign issuer will not be required to comply with Item 16I in Form 20-F until the SEC has identified it as having a non-inspection year under a process to be subsequently established by the SEC with appropriate notice. Once identified, a foreign issuer will be required to comply with Item 16I in Form 20-F in its annual report for each fiscal year in which it is identified. The SEC plans to separately address implementation of the trading prohibitions in the HFCA Act in a future notice and comment process. As at the date of this Offering Circular, the Group has not been identified by the SEC as having a non-inspection year. However, the Group cannot assure the investors that it will not be identified as such in the future.

As a result of the enactment of the HFCA Act, the Group's ADSs may be prohibited from being traded on the NYSE, other U.S. national securities exchanges or U.S. OTC markets or through any other method within the SEC's jurisdiction to regulate if its auditor is not inspected by the PCAOB for any three consecutive years from 2021, which would effectively terminate the trading of the Group's ADSs in the United States. This could result in the Group's ADSs being delisted from the NYSE. Holders of its ADSs may convert the ADSs into the Group's ordinary shares listed on the Hong Kong Stock Exchange but will incur costs in order to do so. Therefore, the value and liquidity of the Group's shares may therefore be materially and adversely affected.

Proceedings instituted recently by the SEC against five PRC-based accounting firms could result in the Group's financial statements being determined to not be in compliance with the requirements of the Exchange Act.

In December 2012, the SEC brought administrative proceedings against five accounting firms in China, alleging that they had refused to produce audit work papers and other documents related to certain other China-based companies under investigation by the SEC for potential accounting fraud. On 22 January 2014, an initial administrative law decision was issued, censuring these accounting firms and suspending four of the five firms from practicing before the SEC for a period of six months.

The decision is neither final nor legally effective unless and until reviewed and approved by the SEC. The four firms which are subject to the six month suspension from practicing before the SEC have recently appealed the initial administrative law decision to the SEC. The sanction will not become effective until after a full appeal process is concluded and a final decision is issued by the SEC. The accounting firms can also further appeal the final decision of the SEC through the federal appellate courts. The Group was not and is not subject to any SEC investigations, nor is the Group involved in the proceedings brought by the SEC against these accounting firms. However, the independent registered public accounting firms that issue the audit reports included in the Group's annual reports filed with the SEC is affiliated to one of the four accounting firms above.

On 24 May 2013, the PCAOB announced that it had entered into a Memorandum of Understanding on Enforcement Cooperation with the CSRC and the Ministry of Finance of the PRC, which establishes a cooperative framework between the parties for the production and exchange of audit documents relevant to investigations in the United States and China. In February 2015, each of the four accounting firms agreed to a censure and to pay a fine to the SEC to settle the dispute and avoid suspension of their ability to practice before the SEC. The firms' ability to continue to serve all their respective clients is not affected by the settlement. The settlement requires the firms to follow detailed procedures to seek to provide the SEC with access to Chinese firms' audit documents via the CSRC. If the firms do not follow these procedures, the SEC could impose penalties such as suspensions, or it could restart the administrative proceedings. The settlement did not require the firms to admit to any violation of law and preserves the firms' legal defenses in the event the administrative proceeding is restarted.

In the event that the SEC restarts the administrative proceedings, depending upon the final outcome, listed companies in the United States with major PRC operations may find it difficult or impossible to retain auditors in respect of their operations in the PRC, which could result in financial statements being determined to not be in compliance with the requirements of the Exchange Act, including possible delisting. Moreover, any negative news about the proceedings against these audit firms may cause investor uncertainty regarding China-based, United States-listed companies and the market price of the Group's ADSs may be adversely affected.

If the Group's independent registered public accounting firm were denied, temporarily, the ability to practice before the SEC and the Group is unable to timely find another registered public accounting firm to audit and issue an opinion on its financial statements, the Group's financial statements could be determined to not be in compliance with the requirements of the Exchange Act. Such a determination could ultimately lead to the delisting from the NYSE or deregistration from the SEC, or both, which would substantially reduce or effectively terminate the trading of the Group's ADSs in the United States.

The Guarantor publishes quarterly reports as part of its ongoing reporting obligations, and information provided in such reports is subject to change due to normal interim and annual period-end closing processes and excludes information necessary to be indicative of actual financial results.

The Guarantor releases unaudited quarterly results as part of its ongoing reporting obligations in accordance with the requirements of the CSRC and the Shanghai Stock Exchange. Such financial information is preliminary and subject to change, for example, due to adjustments upon the completion of its normal interim and annual period-end closing processes. Actual figures could differ materially from such preliminary financial information. Consequently, investors should not place undue reliance on such information.

The restated consolidated financial statements as at and for the year ended 31 December 2019 in the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 may not be comparable with the consolidated financial statements of the Guarantor for the year ended 31 December 2019.

Certain comparative amounts as at and for the year ended 31 December 2019 have been restated in the audited consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 to reflect the retrospective adjustments to the consolidated financial statements due to the business combination under common control incurred during the year ended 31 December 2020. As a result, the restated consolidated financial statements as at and for the year ended 31 December 2019 in the consolidated financial statements of the Guarantor for the year ended 31 December 2020 may not be comparable with financial statements for previous years. Please refer to Note 39 to the audited consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 for more details. The historical results are not necessarily indicative of results to be expected in any future period. Investors should exercise caution when comparing the restated consolidated financial statements as at and for the year ended 31 December 2019 in the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 with the consolidated financial statements of the Guarantor for the year ended 31 December 2019.

RISKS RELATING TO THE PRC

Changes in the PRC's economic, political and social conditions as well as governmental policies could affect the Group's businesses, financial condition and results of operations.

China's economy differs from the economies of most developed countries in many respects, including the structure of the economy, level of government involvement, level of development, growth rate, control of capital investment, control of foreign exchange and allocation of resources. China's economy has been transitioning from a planned economy to a more market-oriented economy. For the past three decades, the PRC Government has implemented economic reform measures to emphasise the utilisation of market forces in economic development. Economic reform measures, however, may be adjusted, modified or applied inconsistently from industry to industry or across different regions of the country. As a result, the Group may not continue to benefit from all, or any, of these measures. In addition, the Group cannot predict whether changes in the PRC's political, economic and social conditions, laws, regulations and policies will have any adverse effect on the Group's current or future businesses, financial condition and results of operations.

China has been one of the world's fastest growing economies as measured by GDP in recent years. However, China may not be able to sustain such a growth rate. In order to maintain the sustainable growth of the economy, the PRC Government from time to time implements various macroeconomic and other policies and measures, including but not limited to contractionary or expansionary policies and measures at times of or in anticipation of changes in the PRC's economic conditions. In an effort to stimulate the growth of the Chinese economy, the PRC Government has implemented and may continue to implement various monetary, fiscal or other economic measures to expand investments in infrastructural projects, increase liquidity in the credit markets and encourage employment. However, there is no assurance that such monetary, fiscal or other economic measures will prove to be effective. If the Chinese economy experiences a slowdown or even a downturn, the Group may experience a delay or reduction in, or cancellation of, projects available to the Group and demand for the services and products the Group provides in the Group's various business segments may grow at a lower-than-expected rate or otherwise decrease. Furthermore, the Group cannot guarantee that the Group is able to make timely adjustments to the Group's business and operational strategies so as to capture and benefit from the potential business opportunities presented to the Group as a result of the changes in the economic and other policies of the PRC Government. Also, the PRC Government will continue to make adjustments to its economic policy objectives and measures in the future, which may include or result in a significant reduction in its budget for investments in infrastructure and other projects. This could have an adverse effect on the Group's businesses, financial condition and results of operations. Moreover, unfavourable financing and other economic conditions for the industries that the Group serves could negatively impact the Group's customers and their ability or willingness to fund capital expenditures in the future or pay for past services.

The PRC Government's control of foreign currency conversion may limit the Group's foreign exchange transactions.

Currently, the Renminbi still cannot be freely exchanged into any foreign currencies, and exchange and remittance of foreign currencies are subject to PRC foreign exchange regulations. It cannot be guaranteed that, under a certain exchange rate, the Group will have sufficient foreign currencies to meet the Group's demand for foreign currencies. Under the current PRC foreign exchange control system, foreign exchange transactions under the current account conducted by the Group do not require advance approval from SAFE, but the Group is required to present documentary evidence of such transactions and conduct such transactions at designated foreign exchange banks within the PRC that have the licences to carry out foreign exchange business. Foreign exchange transactions under the capital account conducted by the Group, however, must be approved in advance by SAFE. If the Group fails to obtain approval from SAFE to exchange Renminbi into any foreign currencies for any purposes, the Group's capital expenditure plans, and even the Group's businesses, operating results and financial condition, may be materially and adversely affected.

Any occurrence of force majeure events, natural disasters, contagious disease outbreaks or other adverse incidents in the PRC may materially and adversely affect the Group's businesses, financial condition and results of operations.

Any future occurrence of force majeure events, natural disasters or outbreaks of epidemics and contagious diseases, may materially and adversely affect the Group's businesses and results of operations. An outbreak of an epidemic or contagious disease could result in a widespread health crisis and restrict the level of business activities in affected areas, which may in turn adversely affect the Group's businesses. Moreover, the PRC has experienced natural disasters such as earthquakes, floods and droughts in the past few years. As the Group's businesses are dependent on economic conditions in the PRC as a whole, any future occurrence of severe natural disasters in the PRC may adversely affect its economy and, in turn, the Group's businesses and results of operations. There is no assurance that any future occurrence of natural disasters or outbreak of avian influenza, severe acute respiratory syndrome, swine influenza or other epidemics or the measures taken by the PRC government or other countries in response to such events will not seriously disrupt the Group's operations or those of the Group's business partners or prospective investors in the Group's, which may have a material adverse effect on the Group's results of operations.

The Group's labour costs may increase for reasons such as the implementation of the PRC Labour Contract Law or inflation in the PRC.

The PRC Labour Contract Law (中華人民共和國勞動合同法) became effective on 1 January 2008 in the PRC and was amended on 28 December 2012. It imposes more stringent requirements on employers in relation to entry into fixed-term employment contracts and dismissal of employees. Pursuant to the PRC Labour Contract Law, the employer is required to make compensation payment to a fixed-term contract employee when the term of their employment contract expires, unless the employee does not agree to renew the contract even though the conditions offered by the employer for renewal are the same as or are better than those stipulated in the current employment contract. In general, the amount of compensation payment is equal to the monthly wage of the employee multiplied by the number of full years that the employee has worked for the employer. A minimum wage requirement has also been incorporated into the PRC Labour Contract Law. In addition, unless otherwise prohibited by the PRC Labour Contract Law or objected to by the employees themselves, the employer is also required to enter into non-fixed-term employment contracts with employees who have previously entered into fixed-term employment contracts for two consecutive terms.

In addition, under the Regulations on Paid Annual Leave for Employees (職工帶薪年休假條例), which became effective on 1 January 2008, employees who have worked continuously for more than one year are entitled to paid annual leave ranging from 5 to 15 days, depending on the length of the employees' work time. Employees who consent to waive such vacation at the request of employers shall be compensated an amount equal to three times their normal daily salaries for each vacation day being waived. Under the National Leisure and Tourism Outline 2013-2020(國民旅遊休閒綱要2013-2020) which became effective on 2 February 2013, all workers must receive paid annual leave by 2020. As a result of the PRC Labour Contract Law, the Regulations on Paid Annual Leave for Employees and the National Leisure and Tourism Outline 2013-2020, the Group's labour costs (inclusive of those incurred by contractors) may increase. Further, under the PRC Labour Contract Law, when an employer terminates its PRC employees' employment, the employer may be required to compensate them for such amount which is determined based on their length of service with the employer, and the employer may not be able to efficiently terminate non-fixed-term employment contracts under the PRC Labour Contract Law without cause. In the event the Group decides to significantly change or decrease its workforce, the PRC Labour Contract Law could adversely affect its ability to effect these changes in a cost-effective manner or in the manner that the Group desires, which could result in an adverse impact on the Group's businesses, financial condition and results of operations.

Further, if there is a shortage of labour or for any reason the labour cost in the PRC rises significantly, the costs of production of the Group's products is likely to increase. This may in turn affect the selling prices of the products, which may then affect the demand of such products and thereby adversely affect the Group's sales and financial condition. Increase in costs of other components required for production of the products may cause similar adverse effects, particularly if the Group is unable to identify and employ other appropriate means to reduce the costs of production. In such circumstances, the profit margin may decrease and the financial results may be adversely affected.

According to the National Bureau of Statistics of the PRC, consumer price inflation in the PRC were 2.9% and 2.5% in 2019 and 2020 respectively. Inflation in the PRC increases the costs of labour and the costs of raw materials the Group must purchase for production. Rising labour costs may increase the Group's operating costs and partially erode the cost advantage of the Group's PRC-based operations and therefore negatively impact the Group's profitability.

The PRC legal system is continuously evolving and has uncertainties, and the legal protections available to the Bondholders may be limited.

Although the Issuer is not incorporated under PRC law, most of the Group's businesses are conducted in the PRC and the Group's operations are principally governed by PRC laws and regulations. The PRC legal system is based on written statutes, and prior court decisions can only be cited as reference. Since 1979, the PRC Government has promulgated laws and regulations in relation to economic matters such as foreign investment, corporate organisation and governance, commerce, taxation and trade with a view to developing a comprehensive system of commercial laws. However, due to the fact that these laws and regulations have not been fully developed, and because of the limited volume of published cases and their non-binding nature, the interpretation of PRC laws and regulations still involves a significant degree of uncertainty.

Substantial amendments to the PRC Company Law(中華人民共和國公司法)came into effect on 26 October 2018 and substantial amendments to the PRC Securities Law(中華人民共和國證券法)came into effect on 1 March 2020. As a result, the State Council and CSRC may further revise relevant laws and regulations and adopt new rules and regulations, to implement and to reflect the amendments to the PRC Company Law and the PRC Securities Law. The Group cannot guarantee that any revision of the current rules and regulations or the adoption of new rules and regulations by the State Council and the CSRC will not have an adverse effect on the rights of Bondholders.

It may be difficult to effect service of process or enforce any judgments obtained from non-PRC courts against the Group or its management residing in the PRC.

Although the Issuer is not incorporated in the PRC, a substantial amount, if not all, of the Group's assets is located in the PRC. Further, all of the Issuer's management reside in the PRC, together with their personal assets. Therefore, investors may encounter difficulties in effecting service of process from outside PRC upon the Group or the management.

Moreover, it is understood that the enforcement of foreign judgments in the PRC is still subject to uncertainties. In addition, the mechanisms for enforcement of rights under the corporate governance framework to which the Group is subject are also relatively undeveloped and untested. China is not a party to any treaties providing for the reciprocal recognition and enforcement of judgments of courts with the United States, the United Kingdom, most other Western countries or Japan, and therefore enforcement in the PRC of judgments of a court in any of these jurisdictions may be difficult or impossible.

On 14 July 2006, the Supreme People's Court of the PRC and the Hong Kong government signed the Arrangement on Reciprocal Recognition and Enforcement of Judgments in Civil and Commercial Matters by the Courts of the Mainland and the Hong Kong Special Administrative Region Pursuant to Choice of Court Agreements between Parties Concerned (關於內地與香港特別行政區法院相互認可和執行當事人協議管轄的民商事案件判決的安排) (the "**Arrangement**"), which is still in full force and effect as of the date of this Offering Circular and will be replaced by and become invalid when the Arrangement on Reciprocal Recognition and Enforcement of Judgments in Civil and Commercial Matters by the Courts of the Mainland and Hong Kong (關於內地與香港特別行政區法院相互認可和執行民商事案件判決的安排) (the "**New Arrangement**"), which was signed on 18 January 2019, comes into effect. Pursuant to the New Arrangement, if the parties have already signed the choice of court agreement in writing under the Arrangement before the New Arrangement enter into force, the Arrangement shall still apply. Under the Arrangement, where any designated People's Court of the Mainland or any designated Hong Kong court has made an enforceable final judgment requiring payment of money in a civil and commercial case pursuant to a choice of court agreement in writing by the parties, any party concerned may apply to the relevant People's Court of the Mainland or Hong Kong court for recognition and enforcement of the judgment. However, the rights under the Arrangement are limited and the outcome and effectiveness of any action brought under the arrangement may still be uncertain.

Unlike other bonds issued in the international capital markets where holders of such bonds would typically not be required to submit to an exclusive jurisdiction, the Bondholders will be deemed to have submitted to the exclusive jurisdiction of the Hong Kong courts. Thus, the Bondholders' ability to initiate a claim outside Hong Kong will be limited.

In addition, recognition and enforcement of a Hong Kong court judgment could be refused if the PRC courts consider that the enforcement of such judgment is contrary to the social and public interest of the PRC. While it is expected that the PRC courts will recognise and enforce a judgment given by a Hong Kong court and governed by English law, there can be no assurance that the PRC courts will do so for all such judgments as there is no established practice in this area.

The PRC government has no payment or other obligations under the Bonds.

The PRC government is not an obligor and shall under no circumstances have any obligation arising out of or in connection with the Bonds, the Deeds of Guarantee, the Trust Deeds or the Agency Agreements in lieu of the Issuer or the Guarantor. This position has been reinforced by the Notice of the Ministry of Finance on Issues concerning Regulating the Investment and Financing Behaviours of Financial Enterprises for Local Governments and State-owned Enterprises (財政部關於規範金融企業對地方政府和國有企業投融資行為有關問題的通知) ("**Circular 23**") promulgated on 28 March 2018 and took effect on the same day, and the Circular 706 promulgated on 11 May 2018 and took effect on the same day and the Notice on the Requirements relating to the Foreign Debt Issuance Filings and Registrations Application of local State- Owned Enterprises (關於對地方國有企業發行外債申請備案登記有關要求的通知(發改辦外資[2019]666號)) issued by the NDRC on 6 June 2019 which emphasised that local state-owned enterprises shall bear the responsibility for the repayment of foreign debt as independent legal persons, and local governments and their departments shall not pay the foreign debt of local state-owned enterprises directly or by committing to the payment of the foreign debt with financial funds, nor shall they provide guarantees for the issuance of foreign debt by local state-owned enterprises.

The PRC government as the ultimate equity holder of the Guarantor only has limited liability in the form of its equity contribution in the Guarantor. As such, the PRC government does not have any payment or other obligations under the Bonds, the Deeds of Guarantee, the Trust Deeds or the Agency Agreements. The Bonds are solely to be repaid by the Issuer and the Guarantor as an obligor under the relevant transaction documents and as an independent legal person. Any ownership or control by the PRC government does not necessarily correlate to, or provide any assurance as to, the Issuer or the Guarantor's financial condition.

Therefore, investors should base their investment decision only on the financial condition of the Issuer, the Guarantor and the Group and base any perceived credit risk associated with an investment in the Bonds only on the Group's own financial information reflected in its financial statements.

RISKS RELATING TO THE BONDS AND THE GUARANTEE

A substantial portion of the Group's business is carried out by the Guarantor and its PRC subsidiaries and neither the Guarantor nor its PRC Subsidiaries will guarantee the Bonds.

A substantial portion of the Group's business is carried out by the Guarantor and its subsidiaries that are organised under the laws of the PRC (each a "**PRC Subsidiary**" and together, the "**PRC Subsidiaries**"). The Bonds will not be guaranteed by the Guarantor or its PRC Subsidiaries. No future subsidiary, whether organised under the laws of the PRC or otherwise, will provide a guarantee in relation to the Bonds at any time in the future.

The Issuer has limited material assets and revenue and will need to rely on cash flows from other Group members (particularly the Guarantor and other operating subsidiaries of the Group) to service their respective obligations under the Bonds and the Guarantee.

The Issuer is an offshore subsidiary of the Guarantor. The revenues generated by these subsidiaries, joint ventures and associates and joint ventures and cash flows, together with any cash secured by the Issuer as a result of the utilisation of any credit facility or funding channel that is available to them, constitute the sources of funds for the Issuer to satisfy their obligations under the Bonds. The ability of such subsidiaries, jointly controlled entities, associated companies and joint ventures to pay dividends may be subject to applicable laws and regulations. The outstanding indebtedness of such subsidiaries may contain covenants restricting the ability of such subsidiaries to pay dividends in certain circumstances for so long as such indebtedness remains outstanding. Moreover, the percentage interests in such subsidiaries, jointly controlled entities and associated companies held by the Issuer could be reduced in the future.

The Issuer is a wholly-owned subsidiary of the Guarantor. As at the date of this Offering Circular, the Issuer has not engaged, since its incorporation, in any material activities other than (i) issuing the 2013 October Securities and on-lending the proceeds of the 2013 October Securities to the Guarantor and some of its subsidiaries for general corporate use, (ii) issuing the 2014 April Securities, which have been redeemed, and onlending the proceeds of the 2014 April Securities to the Guarantor and some of its subsidiaries for general corporate use, (iii) issuing the 2016 November Securities and on-lending the proceeds of the 2016 November Securities to the Guarantor and some of its subsidiaries for general corporate use, (iv) issuing the 2018 September Securities and on-lending the proceeds to the Guarantor or any of its subsidiaries for general corporate purpose use and (v) entering into arrangements for the proposed issue of the Bonds and the proposed use of the proceeds of the Bonds for refinancing of existing offshore indebtedness. Accordingly, the Issuer has limited assets to meet their respective obligations under the Bonds and its ability to make payments in respect thereof also depends largely upon the receipt of funding, such as equity injections, from the Guarantor's onshore operating subsidiaries. The ability of the Guarantor's onshore subsidiaries to provide funding to the Issuer s subject to their operating performance and profitability, and to applicable laws.

The obligations of the Issuer and the Guarantor under the Bonds and the Guarantee, respectively, are structurally subordinated to the liabilities and obligations of their subsidiaries.

The obligations of each of the Issuer and the Guarantor under the Bonds and the Guarantee will be effectively subordinated to all existing and future obligations of its respective existing or future subsidiaries, and all claims of creditors of its existing or future subsidiaries and rights of holders of preferred shares of such subsidiaries (if any) who will have priority as to the assets of such subsidiaries over the claims of the Issuer or the Guarantor and those of the Issuer or the Guarantor's creditors, including the Bondholders. As a result, all of the existing and future liabilities of the Guarantor's subsidiaries, including any claims of trade creditors, will be effectively senior to the Bonds and the Guarantee. In addition, even if the Issuer or the Guarantor were a creditor of any subsidiary, its rights as a creditor would be subordinated to any security interest in the assets of such subsidiary and any indebtedness of the subsidiary senior to that held by the Issuer or the Guarantor.

The Bonds and the Guarantee are unsecured obligations.

The Bonds and the Guarantee are unsecured obligations of the Issuer and the Guarantor, respectively. The repayment of the Bonds and the payment under the Guarantee may be adversely affected if:

- the Issuer or the Guarantor enters into bankruptcy, liquidation, reorganisation or other winding-up proceedings;

- there is a default in payment under the Issuer's or the Guarantor's future secured indebtedness or other unsecured indebtedness; or

- there is an acceleration of the Issuer's or the Guarantor's indebtedness.

If any of these events were to occur, the Issuer's or the Guarantor's assets may not be sufficient to pay amounts due under the Bonds or the Guarantee.

The Issuer may not be able to redeem the Bonds upon the due date for redemption thereof.

The Issuer may, at its option, and at maturity or at any time following the occurrence of a Relevant Event (as defined in the Terms and Conditions of the relevant series of the Bonds) will, be required to redeem all of the Bonds of the relevant series. If such an event were to occur, the Issuer may not have sufficient cash in hand and may not be able to arrange financing to redeem the Bonds in time, or on acceptable terms, or at all. The ability to redeem the Bonds in such event may also be limited by the terms of other debt instruments. The Issuer's failure to repay, repurchase or redeem tendered Bonds could constitute an event of default under the Bonds of the relevant series, which may also constitute a default under the terms of the Issuer's or the Group's other indebtedness.

The Bonds are subject to optional redemption by the Issuer and may have a lower market value than bonds that cannot be redeemed

In the event that the Issuer or the Guarantor would be obliged to increase the amounts payable in respect of any Bonds of the relevant series due to any withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or on behalf of any Relevant Jurisdiction (as defined in the Terms and Conditions of the relevant series of the Bonds), the Issuer may redeem all outstanding Bonds in accordance with the Terms and Conditions of the relevant series of the Bonds.

The Issuer also has the option to redeem all of the Bonds of the relevant series at the Make Whole Price (as defined in the Terms and Conditions of the relevant series of the Bonds) at any time and redeem the Bonds in whole at any time before 28 June 2024 (in the case of the 2024 Bonds) or 28 June 2026 (in the case of the 2026 Bonds), at 100 per cent. of their principal amount together with any interest accrued to but excluding the date fixed for redemption specified in the Make Whole Redemption Notice (as defined in the Terms and Conditions of the relevant series of the Bonds). Such an optional redemption feature is likely to limit the market value of the Bonds. During any period when the Issuer may elect to redeem the Bonds of the relevant series, the market value of those Bonds generally will not rise substantially above the price at which they can be redeemed. This also may be true prior to any redemption period.

The Issuer may be expected to redeem the Bonds when its cost of borrowing is lower than the coupon rate on the Bonds of the relevant series. At those times, an investor generally may not be able to reinvest the redemption proceeds at an effective interest rate as high as the interest rate on the Bonds of the relevant series being redeemed and may only be able to do so at a significantly lower rate. Potential investors should consider reinvestment risk in light of other investments available at that time.

The Bonds may not be a suitable investment for all investors.

Each potential investor in the Bonds must determine the suitability of that investment in light of its own circumstances. In particular, each potential investor should:

- have sufficient knowledge and experience to make a meaningful evaluation of the Bonds, the merits and risks of investing in the Bonds and the information contained or incorporated by reference in this Offering Circular or any applicable supplement;

- have access to, and knowledge of, appropriate analytical tools to evaluate, in the context of its particular financial situation, an investment in the Bonds and the impact such investment will have on its overall investment portfolio;

- have sufficient financial resources and liquidity to bear all of the risks of an investment in the Bonds;

- understand thoroughly the terms of the Bonds and be familiar with the behaviour of any relevant indices and financials markets; and

- be able to evaluate (either alone or with the help of a financial adviser) possible scenarios for economic and other factors that may affect its investment and its ability to bear the applicable risks.

The Bonds are complex financial instruments. Sophisticated institutional investors generally do not purchase complex financial instruments as stand-alone investments. They purchase complex financial instruments as a way to reduce risk or enhance yield with an understood, measured, appropriate addition of risk to their overall portfolios. A potential investor should not invest in the Bonds which are complex financial instruments unless it has the expertise (either alone or with the help of a financial adviser) to evaluate how the Bonds will perform under changing conditions, the resulting effects on the value of such Bonds and the impact this investment will have on the potential investor's overall investment portfolio.

The Issuer may raise other capital which affects the price of the Bonds of the relevant series.

The Issuer may raise additional capital through the issue of other securities or other means. Other than certain restrictions on issuing certain secured indebtedness as set out in Condition 4(a) of the Terms and Conditions of the relevant series of the Bonds, there is no restriction, contractual or otherwise, on the amount or type of securities or other liabilities which the Issuer may issue or incur and which rank senior to, or *pari passu* with, the Bonds. The issue of any such securities or the incurrence of any such other liabilities may reduce the amount (if any) recoverable by Bondholders on a winding-up of the Issuer. The issue of any such securities or the incurrence of any such other liabilities might also have an adverse impact on the trading price of the Bonds of the relevant series and/or the ability of Bondholders of the relevant series of the Bonds to sell their Bonds.

Legal investment considerations may restrict certain investments.

The investment activities of certain investors are subject to legal investment laws and regulations, or review or regulation by certain authorities. Each potential investor should consult its legal advisers to determine whether and to what extent (i) the Bonds are legal investments for it, (ii) the Bonds can be used as collateral for various types of borrowing and (iii) other restrictions apply to its purchase or pledge of any Bonds. Financial institutions should consult their legal advisers or the appropriate regulators to determine the appropriate treatment of the Bonds under any applicable risk-based capital or similar rules.

The liquidity and price of the Bonds of the relevant series following this offering may be volatile.

The price and trading volume of the Bonds of the relevant series may be highly volatile. Factors such as variations in the revenues, earnings and cash flows of the Group and proposals of new investments, strategic alliances and/or acquisitions, interest rates and fluctuations in prices for comparable companies could cause the price of the Bonds to change. Any such developments may result in large and sudden changes in the volume and price at which the Bonds of the relevant series will trade. There can be no assurance that these developments will not occur in the future.

The Trustee may request the Bondholders of the relevant series of the Bonds to provide an indemnity and/or security and/or prefunding to its satisfaction.

In certain circumstances (including without limitation giving of notice to the Issuer and the Guarantor pursuant to Condition 9 of the Terms and Conditions of the relevant series of the Bonds and the taking of any steps and/or actions and/or the instituting of any proceedings pursuant to Condition 15 of the Terms and Conditions of the relevant series of the Bonds), the Trustee may (at its sole discretion) request Bondholders of the relevant series of the Bonds to provide an indemnity and/or security and/or prefunding to its satisfaction before it takes any steps and/or actions and/or institutes any proceedings on behalf of Bondholders of that series of the Bonds. The Trustee will not be obliged to take any such steps and/or actions and/or institute any such proceedings if not first indemnified and/or secured and/or prefunded to its satisfaction. Negotiating and agreeing to an indemnity and/or security and/or prefunding can be a lengthy process and may impact on when such steps and/or actions can be taken and/or when such proceedings can be instituted. The Trustee may not be able to take such steps and/or actions and/or institute such proceedings, notwithstanding the provision of an indemnity and/or security and/or prefunding to it, in breach of the terms of the Trust Deed or the Terms and Conditions of the relevant series of the Bonds or any other transaction documents and in such circumstances, or where there is uncertainty or dispute as to the applicable laws or regulations, to the extent permitted by the agreements and the applicable laws and regulations, it will be for the Bondholders of the relevant series of the Bonds to take such steps and/or actions and/or institute such proceedings directly.

Modifications and waivers may be made in respect of the Terms and Conditions of the relevant series of the Bonds, the Trust Deeds and the Deeds of Guarantee by the Trustee or less than all of the Bondholders, and decisions may be made on behalf of all Bondholders of the relevant series of the Bonds that may be adverse to the interests of the individual Bondholder of the relevant series of the Bonds.

The Terms and Conditions of the relevant series of the Bonds will contain provisions for calling meetings of the Bondholders of the relevant series of the Bonds to consider matters affecting their interests generally. These provisions will permit defined majorities to bind all Bondholders of the relevant series of the Bonds including those Bondholders of the relevant series of the Bonds who did not attend and vote at the relevant meeting and those Bondholders of the relevant series of the Bonds who voted in a manner contrary to the majority. There is a risk that the decision of the majority of Bondholders of the relevant series of the Bonds may be adverse to the interests of the individual Bondholder of that series of the Bonds.

The Terms and Conditions of the relevant series of the Bonds will also provide that the Trustee may (but shall not be obliged to), without the consent of the Bondholders of the relevant series of the Bonds, agree to any modification of the Trust Deed, the Deed of Guarantee, the Terms and Conditions, and/or the Agency Agreement of that series of the Bonds (other than in respect of certain reserved matters) which in the opinion of the Trustee will not be materially prejudicial to the interests of the Bondholders of that series of the Bonds and to any modification of the Bonds, the Trust Deeds, the Deeds of Guarantee or the Agency Agreement which, in the opinion of the Trustee, is of a formal, minor or technical nature or is made to correct a manifest error or is to comply with any mandatory provision of applicable law.

In addition, the Trustee may (but shall not be obliged to), without the consent of the Bondholders of the relevant series of the Bonds, authorise or waive any proposed breach or breach of the Terms and Conditions, the Trust Deed, the Deeds of Guarantee or the Agency Agreement of that series of the Bonds if, in the opinion of the Trustee, the interests of the Bondholders of that series of the Bonds will not be materially prejudiced thereby.

An active trading market for the Bonds of the relevant series may not develop.

There can be no assurance as to the liquidity of the Bonds of the relevant series or that an active trading market will develop. If such a market were to develop, the Bonds of the relevant series could trade at prices that may be higher or lower than the initial issue price depending on many factors, including prevailing interest rates, the Group's operations and the market for similar securities. The Managers are not obligated to make a market in the Bonds of the relevant series and any such market making, if commenced, may be discontinued at any time at the sole discretion of such Manager. In addition, the Bonds of the relevant series are being offered pursuant to exemptions from registration under the Securities Act and, as a result, investors will only be able to resell their Bonds of the relevant series in transactions that have been registered under the Securities Act or in transactions not subject to or exempt from registration under the Securities Act.

The Issuer may be treated as a PRC resident enterprise for PRC tax purposes and certain withholding taxes and value-added tax may be applicable.

Under the EIT Law and the implementation rules, enterprises established outside the PRC whose "de facto management bodies"are located in China are considered "resident enterprises"for PRC tax purposes. The implementation rules of the EIT Law define the term "de facto management body"as a management body that exercises full and substantial control and management over the business, personnel, accounts and properties of an enterprise. In April 2009, the State Administration of Taxation of the PRC ("**SAT**") specified certain criteria for the determination of the "de facto management bodies"for foreign enterprises that are controlled by PRC enterprises, which may be relevant for the tax authorities to determine whether the Issuer is a PRC resident enterprise for tax purposes. In July 2011, the SAT issued Provisional Administrative Regulations of Enterprise Income Taxation of a Foreign Enterprise Controlled by a PRC Enterprise or a PRC Enterprise Group, to further prescribe the rules concerning the recognition, administration and taxation of a foreign enterprise "controlled by a PRC enterprise or PRC enterprise group".

As confirmed by the Issuer, as at the date of this Offering Circular, the Issuer has not been given notice or informed by the PRC tax authorities that it is considered a PRC resident enterprise for the purpose of the EIT Law. There is no assurance that the tax authorities will not consider the Issuer a PRC resident enterprise in the future. If the Issuer is deemed to be a PRC resident enterprise for EIT purposes, the Issuer would be subject to the PRC enterprise income tax at the rate of 25 per cent. on its worldwide taxable income. In addition, as the Guarantor is a PRC resident enterprise, in the event that the Guarantor is required to fulfil its obligations under the Guarantee by making interest payments on behalf of the Issuer, the Guarantor will be obliged to withhold the aforementioned tax. Similarly, any gain realised by nonresident enterprise Bondholders from the transfer of the Bonds may be regarded as being derived from sources within the PRC and may accordingly be subject to a PRC withholding tax of up to

10 per cent., and any gain realised by the non-resident individual Bondholders from the transfer of the Bonds may be regarded as being derived from sources within the PRC and may accordingly be subject to an up to 20 per cent. PRC withholding tax, unless there are tax treaties or arrangements between the PRC and those countries or areas which exempt or reduce such withholding tax.

On 23 March 2016, the MOF and the SAT issued the Circular of Full Implementation of Replacing Business Tax with Value-Added Tax Reform (Caishui [2016] No. 36) ("**Circular 36**"), which introduced a new value-added tax ("**VAT**") from 1 May 2016. VAT is applicable where entities or individuals provide services within the PRC. The Guarantor and, if treated as a PRC resident enterprise, the Issuer, will be obligated to withhold VAT of 6 per cent. and certain local levies (as described below) on VAT for payments of interest and certain other amounts on the Bonds paid by the Issuer to Bondholders that are non-resident enterprises or individuals. VAT is unlikely to be applicable to any transfer of Bonds between entities or individuals located outside of the PRC and therefore unlikely to be applicable to gains realised upon such transfers of Bonds, but there is uncertainty as to the applicability of VAT if either the seller or buyer of Bonds is located inside the PRC. Circular 36 together with other laws and regulations pertaining to VAT are relatively new, the interpretation and enforcement of such laws and regulations involve uncertainties. Pursuant to relevant local rules regarding the Urban Maintenance & Construction Tax, the Educational Fund Surcharge and the Local Educational Fund Surcharge respectively as levies on the VAT, such local levies will be applicable when entities and individuals are obliged to pay VAT.

The Issuer and the Guarantor has agreed to pay additional amounts to holders of the Bonds so that holders of the Bonds would receive the full amount of the scheduled payment, as further set out in "Terms and Conditions of the 2024 Bonds" and "Terms and Conditions of the 2026 Bonds". The requirement to pay additional amounts will increase the cost of servicing interest payments on the Bonds, and could have a material adverse effect on its ability to pay interest on, and repay the principal amount of, the Bonds, as well as its profitability and cash flow. It is unclear whether, if the Issuer is considered a PRC "resident enterprise", the Bondholders might be able to claim the benefit of income tax treaties or agreements entered into between the PRC and other countries or areas.

If a Bondholder, being a non-resident enterprise or non-resident individual, is required to pay any PRC income tax on interest or gains on the transfer of the Bonds, the value of the relevant Bondholder's investment in the Bonds may be materially and adversely affected.

No PRC stamp duty will be imposed on non-PRC Bondholders either upon issuance of the Bonds or upon a subsequent transfer of the Bonds to the extent that the register of holders of the Bondholders is maintained outside the PRC and the issuance and the sale of the Bondholders is made outside the PRC.

The preferential withholding tax rate on dividends received by the Guarantor's subsidiaries in Hong Kong from the Guarantor's PRC subsidiaries is subject to tax authorities' scrutiny and may not be available.

Under the EIT Law, the profits of a foreign invested enterprise generated in 2008 and onwards which are distributed to its immediate holding company outside the PRC will be subject to a withholding tax rate of 10% or a lower treaty rate as contained in any income tax treaty or agreement to which China is a party. Pursuant to a special arrangement between Hong Kong and the PRC, such rate is lowered to 5% if a Hong Kong resident enterprise owns 25% or more equity interest in a PRC company. However, according to the Measures for the Administration of Non-Resident Taxpayers' Enjoyment of the Treatment under Taxation Treaties(非居民納稅人享受稅收協定待遇管理辦法), which was promulgated on 27 August 2015 and became effective on 1 November 2015, the 5% withholding tax rate is still subject to the follow-up administrative management by the tax authorities. Moreover, according to a tax circular issued by the SAT in February 2009, if the main purpose of an offshore arrangement is to obtain a preferential tax treatment, the PRC tax authorities have the discretion to adjust the preferential tax rate for which an offshore entity would otherwise be eligible. Accordingly, the 5% preferential rate may not be available with respect to dividends paid by our PRC subsidiaries to our Hong Kong subsidiaries.

The insolvency laws of the BVI, the PRC, and other local insolvency laws may differ from those of another jurisdiction with which the holders of the Bonds are familiar.

As the Issuer and the Guarantor are incorporated under the laws of the BVI and the PRC, respectively, any insolvency proceeding relating to the Issuer or the Guarantor would likely involve insolvency laws of the BVI or the PRC, the procedural and substantive provisions of which may differ from comparable provisions of the local insolvency laws of jurisdictions with which the holders of the Bonds are familiar.

Exchange rate risks and exchange controls may result in a Bondholder receiving less interest or principal than expected.

The Issuer will pay principal and interest on the Bonds in US dollars. This presents certain risks relating to currency conversions if a Bondholder's financial activities are denominated principally in a currency or currency unit (the "**Investor's Currency**") other than US dollars. These include the risk that exchange rates may significantly change (including changes due to devaluation of the US dollars or revaluation of the Investor's Currency) and the risk that authorities with jurisdiction over the Investor's Currency may impose or modify exchange controls. An appreciation in the value of the Investor's Currency relative to the US dollar would decrease (i) the Investor's Currency equivalent yield on the Bonds; (ii) the Investor's Currency equivalent value of the principal payable on the Bonds; and (iii) the Investor's Currency equivalent market value of the Bonds.

Governments and monetary authorities may impose (as some have done in the past) exchange controls that could adversely affect an applicable exchange rate. As a result, a Bondholder may receive less interest or principal than expected, or no interest or principal.

Developments in the international financial markets may adversely affect the market price of the Bonds.

The market price of the Bonds may be adversely affected by declines in the international financial markets and world economic conditions. The market for securities of entities with PRC operations is, to varying degrees, influenced by economic and market conditions in other markets, especially those in Asia. Although economic conditions are different in each country, investors' reactions to developments in one country can affect the securities markets and the securities of issuers in other countries, including the PRC. Since the global financial crisis of 2008 and 2009, the international financial markets have experienced significant volatility. If similar developments occur in the international financial markets in the future, the market price of the Bonds could be adversely affected.

Decisions that may be made on behalf of all Bondholders of the relevant series of the Bonds may be adverse to the interests of individual Bondholders of the relevant series of the Bonds.

The Terms and Conditions of the relevant series of the Bonds contain provisions for calling meetings of Bondholders of the relevant series of the Bonds to consider matters affecting their interests generally. These provisions permit defined majorities to bind all Bondholders of the relevant series of the Bonds including Bondholders of the relevant series of the Bonds who did not attend and vote at the relevant meeting and holders who voted in a manner contrary to the majority. Furthermore, there is a risk that the decision of the majority of Bondholders of the relevant series of the Bonds may be adverse to the interests of individual Bondholders of the relevant series of the Bonds.

If the Guarantor fails to complete the Post-Issuance Filing, the NDRC may impose penalties or other administrative procedures on the Guarantor.

On 14 September 2015, the NDRC promulgated the Circular 2044 pursuant to which if a PRC enterprise or an offshore enterprise controlled by a PRC enterprise wishes to issue notes outside of the PRC with a maturity of more than one year, such PRC enterprise must in advance of issuing such notes, file certain prescribed documents with the NDRC and procure a registration certificate from the NDRC in respect of such issue. According to the Circular 2044, the NDRC is expected to issue a decision on the submission within seven working days after it accepts the submission. The enterprise must also report certain details of the notes to the NDRC within 10 business days after the completion of the Bonds issue.

The Circular 2044 is silent on the legal consequences of noncompliance with the post-issue notification requirement under the Circular 2044. Additional guidance has been issued by the NDRC (《企業境外發行債券指引》), the "**Circular 2044 Guidelines**") on 18 December 2015, which states that companies, investment banks, law firms and other intermediaries involved in debt securities issues which do not comply with the registration requirement under the Circular 2044 will be subject to a blacklist and sanctions. The Circular 2044 Guidelines are silent as to how such blacklist will be implemented or the exact sanctions that will be enacted by the NDRC, or any impact on the Bondholders, in the event of a noncompliance by the Guarantor with the Circular 2044.

Since the Circular 2044 is without any detailed implementation procedures, there is no assurance that the NDRC will not issue further implementation rules or notices which may require additional steps in terms of the registration or provide sanctions or other administrative procedures the NDRC may impose in case of failure of such registration with, or post issuance report to, the NDRC. The Guarantor has completed the registration with the NDRC and obtained the registration certificate on 6 July 2021. The Guarantor has undertaken to notify the NDRC of the particulars of the issue of the Bonds within the prescribed period under the Circular 2044. If the Guarantor does not report the post issuance information with respect to the Bonds within the timeframe as provided under the Circular 2044, the NDRC may impose sanctions or other administrative procedures on the Guarantor which may have a material adverse impact on its business, financial condition or results of operations.

If the Guarantor fails to submit the Deeds of Guarantee for registration with SAFE or complete such registration with SAFE within the time period prescribed by SAFE, there may be logistical hurdles for cross-border payment under the Guarantee.

Pursuant to the Deeds of Guarantee, the Guarantor will unconditionally and irrevocably guarantee the due payment of all sums expressed to be payable by the Issuer under the Bonds of the relevant series and the Trust Deeds. The Guarantor is required to submit the Deeds of Guarantee to SAFE for registration in accordance with, and within the time period prescribed by, the Provisions on the Foreign Exchange Administration of Cross-Border Guarantees promulgated by SAFE on 12 May 2014 which came into effect on 1 June 2014. Although the non-registration does not render the Deeds of Guarantee ineffective or invalid under PRC law, the Guarantor may not be able to go through the procedures for the purchase of foreign exchange and remittance to perform its obligations under the Deeds of Guarantee, and SAFE may impose penalties on the Guarantor if registration of the Deeds of Guarantee is not carried out within the stipulated timeframe. The Guarantor intends to complete the relevant Cross-Border Security Registration with SAFE as soon as practicable and in any event before the relevant Registration Deadline (being the day falling 150 calendar days after the Issue Date). If the relevant Cross-Border Security Registration is not completed before the relevant Registration Deadline, the holder of a Bond will have the option to require the Issuer to redeem such Bond pursuant to Condition 6(c) of the Terms and Conditions of the relevant series of the Bonds. In addition, if the Guarantor fails to complete the relevant Cross-Border Security Registration, there may be logistical hurdles at the time of remittance of funds (if any cross-border payment is to be made by the Guarantor under the Guarantee) as domestic banks may require evidence of the registration of the Deeds of Guarantee with SAFE in order to effect such remittance, although this does not affect the validity of the Deeds of Guarantee themselves.

The Provisions on the Foreign Exchange Administration of Cross-Border Guarantees is a recent regulation and its interpretation may involve significant uncertainty, which may adversely affect the enforceability and/or effective performance of the Deeds of Guarantee of the Bonds in the PRC. In addition, the administration of the Provisions on the Foreign Exchange Administration of Cross-Border Guarantees may be subject to a certain degree of executive and policy discretion by SAFE. There is no assurance that the registration of the Deeds of Guarantee with SAFE can be completed by the Guarantor or that such registration will not be revoked or amended in the future or that future changes in PRC laws and regulations will not have a negative impact on the validity and enforceability of the Deeds of Guarantee in the PRC.

Ratings of the Bonds may not reflect all risks and may be changed at any time, which may adversely affect the value of the Bonds.

Each series of the Bonds are expected to be assigned a rating of "A-" by Fitch. One or more independent credit rating agencies may assign credit ratings to an issue of the Bonds of the relevant series. The ratings represent the opinions of the rating agencies and their assessment of the ability of the Issuer to perform their respective obligations under the Bonds of the relevant series and the credit risks in determining the likelihood that payments will be made when due under the Bonds of the relevant series. Such ratings may not reflect the potential impact of all risks related to structure, market, additional factors discussed above and other factors that may affect the value of the Bonds of the relevant series. Additionally, the Guarantor has been assigned a corporate rating of "A-" with a stable outlook by Fitch and "BBB-" with a stable outlook by S&P. A credit rating is not a recommendation to buy, sell or hold securities and may be revised or withdrawn by the rating agency at any time. There can be no assurance that the ratings assigned to any Bonds of the relevant series will remain in effect for any given period or that the ratings will not be lowered, suspended or withdrawn by the rating agencies in the future if, in their judgment, the circumstances so warrant. Neither the Issuer nor the Guarantor is obligated to inform holders of the Bonds of the relevant series of any such suspension, revision, downgrade or withdrawal. A suspension, downgrade or withdrawal of the ratings of any Bonds of the relevant series at any time may materially and adversely affect the market price of the Bonds of the relevant series and the Issuer's ability to access the debt capital markets.

Each series of the Bonds initially will be represented by a Global Certificate and holders of a beneficial interest in the relevant Global Certificate must rely on the procedures of the relevant Clearing System.

Each series of the Bonds will initially be represented by a Global Certificate. Such Global Certificate will be deposited with a common depositary for Euroclear and Clearstream (each of Euroclear and Clearstream, a "**Clearing System**"). Except in the circumstances described in the relevant Global Certificate, investors will not be entitled to receive definitive Bonds of the relevant series. The relevant Clearing System will maintain records of the beneficial interests in the relevant Global Certificate. While the Bonds of the relevant series are represented by the Global Certificates, investors will be able to trade their beneficial interests only through the Clearing Systems.

While the Bonds are represented by the Global Certificates, the Issuer will discharge its payment obligations under the Bonds of the relevant series by making payments to the common depositary for Euroclear and Clearstream, for distribution to their account holders. A holder of a beneficial interest in the relevant Global Certificate must rely on the procedures of the relevant Clearing System to receive payments under the Bonds of the relevant series. The Issuer has no responsibility or liability for the records relating to, or payments made in respect of, beneficial interests in the Global Certificates.

Holders of beneficial interests in the relevant Global Certificate will not have a direct right to vote in respect of the Bonds of the relevant series. Instead, such holders will be permitted to act only to the extent that they are enabled by the relevant Clearing System to appoint appropriate proxies.

The Bonds of the relevant series which have a denomination that is not an integral multiple of the minimum specified denomination may be illiquid and difficult to trade.

The specified denominations of the Bonds of the relevant series are US$200,000 and integral multiples of US$1,000 in excess thereof. Therefore, it is possible that the Bonds of the relevant series may be traded in amounts in excess of US$200,000 that are not integral multiples of US$1,000. In such a case, a Bondholder of the relevant series of the Bonds who, as a result of trading such amounts, holds a principal amount of less than US$200,000 will not receive a definitive certificate in respect of such holding of Bonds of the relevant series (should definitive certificates be printed) and would need to purchase a principal amount of Bonds of the relevant series such that it holds an amount equal to a specified denomination.

USE OF PROCEEDS

The Issuer estimates that the gross proceeds from the offering of the Bonds (the "Offering") will be US$997,660,000. The Issuer intends to use the proceeds from the Offering for refinancing of existing offshore indebtedness.

CAPITALISATION AND INDEBTEDNESS

The following table sets out the consolidated capitalisation and indebtedness of the Group as derived from its consolidated financial statements as at 31 December 2020 and as adjusted to give effect to the issue of the Bonds. The table should be read in conjunction with the audited consolidated financial statements of the Guarantor as at 31 December 2020 and the notes thereto.

	As at 31 December 2020			
	Actual		As adjusted	
	(RMB in thousands)	(US$ in thousands)[1]	(RMB in thousands)	(US$ in thousands)[1]
Interest-bearing loans and borrowings[4]				
Long-term loans and borrowings				
Lease liabilities	7,086,151	1,086,000	7,086,151	1,086,000
Medium-term notes and bonds	18,975,379	2,908,104	18,975,379	2,908,104
Long-term bank and other loans	43,014,564	6,592,270	43,014,564	6,592,270
Bonds to be issued[2]	—	—	6,525,000	1,000,000
Subtotal	69,076,094	10,586,374	75,601,094	11,586,374
Short-term loans and borrowings				
Bank and other loans	20,738,030	3,178,242	20,738,030	3,178,242
Short-term bonds, unsecured	2,411,256	369,541	2,411,256	369,541
Subtotal	23,149,286	3,547,783	23,149,286	3,547,783
Equity				
Equity attributable to the owners of the parent				
Share capital	17,022,673	2,608,839	17,022,673	2,608,839
Other equity instruments	4,486,429	687,575	4,486,429	687,575
Other reserves	34,564,504	5,297,242	34,564,504	5,297,242
Accumulated losses	(1,741,596)	(266,911)	(1,741,596)	(266,911)
Non-controlling interests	16,839,706	2,580,798	16,839,706	2,580,798
Total equity	71,171,716	10,907,543	71,171,716	10,907,543
Total Capitalisation[3]	163,397,096	25,041,700	169,922,096	26,041,700

Notes:

(1) Based on the exchange rate of RMB6.5250 to US$1.00.

(2) Calculated based on the aggregate principal amount of the Bonds (before deducting the commissions and estimated offering expenses).

(3) Total capitalisation represents sum of interest-bearing loans and borrowings and total equity.

(4) The long-term loans and borrowings and short-term loans and borrowings are without reclassification of current portions.

There has been no material change in the consolidated capitalisation and indebtedness of the Group since 31 December 2020.

TERMS AND CONDITIONS OF THE 2024 BONDS

The following are the terms and conditions substantially in the form in which they (other than the texts in italics) will be endorsed on the definitive Certificate and referred to in the Global Certificate in relation to the 2024 Bonds.

The issue of the US$500,000,000 1.55 per cent. guaranteed bonds due 2024 (the "**Bonds**", which expression, unless the context requires otherwise, includes any further bonds issued pursuant to Condition 13 of these terms and conditions (the "**Conditions**" and each a "**Condition**") and consolidated and forming a single series therewith) was authorised by a resolution of the board of Directors (as defined below) of Chalco Hong Kong Investment Company Limited (the "**Issuer**") passed on 16 July 2021. The Bonds are guaranteed by Aluminum Corporation of China Limited (中國鋁業股份有限公司) (the "**Guarantor**"). The Issuer is a Subsidiary of the Guarantor and the Guarantor, in turn, is controlled by Aluminum Corporation of China (中國鋁業集團有限公司) ("**Chinalco**") which is the Guarantor's largest shareholder. Chinalco is directly supervised by the State-owned Assets Supervision and Administration Commission of the State Council ("**SASAC**"), with 90 per cent. of its equity interest held by SASAC and the rest of equity interest held by the National Social Security Fund. The Bonds are constituted by a Trust Deed (as amended and/or supplemented from time to time, the "**Trust Deed**") dated on or about 28 July 2021 (the "**Issue Date**") between the Issuer, the Guarantor and China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) (the "**Trustee**", which expression shall include its successor(s) and all persons for the time being the trustee or trustees under the Trust Deed) as trustee for itself and the Bondholders (as defined below). These Conditions include summaries of, and are subject to, the detailed provisions of the Trust Deed, which includes the form of the Bonds. An agency agreement dated on or about 28 July 2021 (as amended and/or supplemented from time to time, the "**Agency Agreement**") has been entered into in relation to the Bonds between the Issuer, the Guarantor, the Trustee, China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) as registrar (the "**Registrar**"), as the transfer agent (the "**Transfer Agent**") and as principal paying agent (the "**Principal Paying Agent**") and the other agents named in it. References herein to "**Paying Agents**" include the Principal Paying Agent, references herein to "**Transfer Agents**" include the Transfer Agent, and "**Agents**" means the Principal Paying Agent, the Registrar, the Transfer Agent and any other agent or agents appointed from time to time under the Agency Agreement with respect to the Bonds. The Bonds have the benefit of a deed of guarantee (as amended and/or supplemented from time to time, the "**Deed of Guarantee**") dated on or about the Issue Date entered into by the Guarantor and the Trustee relating to the Bonds. The entering into the Deed of Guarantee was authorised by a resolution of the board of Directors of the Guarantor on 23 March 2021. For so long as any Bond remains outstanding, copies of the Trust Deed, the Deed of Guarantee and the Agency Agreement are available for inspection by the Bondholders at all reasonable times during usual business hours (being between 9:00 a.m. (Hong Kong time) and 3:00 p.m. (Hong Kong time), from Monday to Friday (excluding public holidays)) at the principal place of business of the Trustee (being at the Issue Date at 20/F CCB Tower, 3 Connaught Road Central, Central, Hong Kong) and at the specified office for the time being of the Principal Paying Agent following prior written request and provision of proof of holding and identity satisfactory to the Trustee or, as the case may be, the Principal Paying Agent. The Bondholders are entitled to the benefit of, are bound by, and are deemed to have notice of, all those provisions of the Trust Deed and the Deed of Guarantee and are deemed to have notice of all the provisions of the Agency Agreement applicable to them.

All capitalised terms that are not defined in these Conditions will have the meanings given to them in the Trust Deed.

1 FORM, DENOMINATION AND TITLE

(a) **Form and denomination**: The Bonds are issued in registered form, in the denomination of US$200,000 and integral multiples of US$1,000 in excess thereof (each, a "**Specified Denomination**"). A certificate (each, a "Certificate") will be issued to each Bondholder in respect of its registered holding of Bonds. Each Certificate shall be numbered serially and shall have an identifying number which shall be recorded on the relevant Certificate and in the register of Bondholders (the "**Register**"), which the Issuer shall procure to be kept by the Registrar.

(b) **Title**: Title to the Bonds shall pass only by transfer and registration of title in the Register. Each Bondholder shall, except as ordered by a court of competent jurisdiction or as otherwise required by law, be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest in it or any writing on (other than the endorsed form of transfer), or the theft or loss of, the Certificate issued in respect of it), and no person shall be liable for so treating the Bondholder. In these Conditions, "**Bondholder**" or "**holder**" in relation to a Bond shall mean the person in whose name a Bond is registered in the Register (or in the case of a joint holding, the first named thereof).

*Upon issue, the Bonds will initially be represented by a global certificate (the "**Global Certificate**") substantially in the form scheduled to the Trust Deed. The Global Certificate will be registered in the name of a nominee for, and deposited with, a common depositary for Euroclear Bank SA/NV and Clearstream Banking S.A., and will be exchangeable for individual definitive Certificates only in the circumstances set out therein. The Conditions are modified by certain provisions contained in the Global Certificate. See "Summary of Provisions Relating to the Bonds in Global Form". The Bonds are not issuable in bearer form.*

Except in the limited circumstances described in the Global Certificate, owners of interests in Bonds represented by the Global Certificate will not be entitled to receive definitive Certificates in respect of their individual holdings of Bonds.

2 STATUS AND GUARANTEE

(a) **Status**: The Bonds constitute direct, unconditional, unsubordinated and (subject to, and to the extent provided under, Condition 4(a)) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under the Bonds shall, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a), at all times rank at least equally with all the Issuer's other present and future unsecured, unconditional and unsubordinated obligations.

(b) **Guarantee**: The Guarantor has unconditionally and irrevocably guaranteed the due payment in full of all sums expressed to be payable by the Issuer under the Trust Deed and the Bonds (the "**Guarantee**"). The Guarantor's obligations in respect of the Guarantee are contained in the Deed of Guarantee. The obligations of the Guarantor under the Guarantee shall, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a), at all times rank at least equally with all the other present and future unsecured and unsubordinated obligations of the Guarantor.

3 TRANSFERS OF BONDS AND ISSUE OF CERTIFICATES

(a) **Register**: The Issuer will cause the Register to be kept outside of the United Kingdom and in accordance with the terms of the Agency Agreement, on which shall be entered the names, addresses and registered accounts of the Bondholders and the particulars of the Bonds held by them and of all transfers of the Bonds. Each Bondholder shall be entitled to receive only one Certificate in respect of its entire holding of Bonds.

(b) **Transfers**: Subject to the Agency Agreement and Conditions 3(d), 3(e) and 3(f) herein, a Bond may be transferred in whole or in part but in any case in a Specified Denomination by delivery of the Certificate issued in respect of that Bond, with the form of transfer endorsed on such Certificate duly completed and signed by the Bondholder or his attorney duly authorised in writing, to the specified office of the Registrar or the Transfer Agent, provided, however, that a Bond may not be transferred unless the principal amount of Bonds transferred and (where not all of the Bonds held by a holder are being transferred) the principal amount of the balance of Bonds not transferred are Specified Denominations. In the case of a transfer of part only of a holding of Bonds represented by one Certificate (which shall be in a Specified Denomination), a new Certificate shall be issued to the transferee in respect of the part transferred and a further new Certificate in respect of the balance of the holding not transferred shall be issued to the transferor. In the case of a transfer of Bonds to a person who is already a holder of Bonds, a new Certificate representing the enlarged holding shall only be issued against surrender of the Certificate representing the existing holding. No transfer of title to a Bond will be valid unless and until entered on the Register.

Transfers of interests in the Bonds evidenced by the Global Certificate will be effected in accordance with the rules of the relevant clearing systems.

(c) **Delivery of new Certificates**: Each new Certificate to be issued upon a transfer of Bonds will, within seven business days (as defined in Condition 19 below) of receipt by the Registrar or, as the case may be, any Transfer Agent of the Certificate and the form of transfer duly completed and signed, be made available for collection at the specified office of the Registrar or such Transfer Agent or, if so requested in the form of transfer, be mailed by uninsured mail at the risk of the Bondholder entitled to the new Certificate (but free of charge to the Bondholder and at the Issuer's (failing whom, the Guarantor's) expense) to the address specified in the form of transfer, unless such Bondholder requests otherwise and pays in advance to the relevant Transfer Agent or the Registrar (as the case may be) the costs of such other method of delivery and/or such insurance as it may specify. The form of transfer is available at the specified offices of the Transfer Agents.

Where only part of a principal amount of the Bonds (being that of one or more Bonds) in respect of which a Certificate is issued is to be transferred or exchanged, a new Certificate in respect of the Bonds not so transferred or exchanged will, within seven business days (as defined in Condition 19 below) of delivery of the original Certificate to the Registrar or the relevant Transfer Agent, be made available for collection at the specified office of the Registrar or such Transfer Agent or, if so requested in the form of transfer, be mailed by uninsured mail at the risk of the Bondholder not so transferred or exchanged (but free of charge to the Bondholder and at the Issuer's (failing whom, the Guarantor's) expense) to the address of such Bondholder appearing on the Register, unless such Bondholder requests otherwise and pays in advance to the relevant Transfer Agent or the Registrar (as the case may be) the costs of such other method of delivery and/or such insurance as it may specify.

(d) **Formalities free of charge**: Registration of a transfer of Bonds and issuance of new Certificates will be effected without charge to the relevant Bondholder by or on behalf of the Issuer or any of the Agents, but upon (i) payment (or the giving of such indemnity and/or security and/or prefunding as the Issuer or any of the Agents may require) in respect of any tax, duty or other governmental charges which may be imposed in relation to such transfer; (ii) the Registrar or the relevant Transfer Agent (as the case may be) being satisfied in its absolute discretion with the documents of title or identity of the person making the application and (iii) the Registrar or the relevant Transfer Agent (as the case may be) being satisfied that the Regulations have been complied with.

(e) **Closed periods**: No Bondholder may require the transfer of a Bond to be registered (i) during the period of seven days ending on (but excluding) the due date for any payment of principal or premium (if any) in respect of that Bond, (ii) during the period of ten days ending on (and including) any Record Date (as defined in Condition 7(a)(ii)), (iii) after any such Bond has been called pursuant to Condition 6(b), 6(d) or 6(e) or (iv) after any such Bond has been put for redemption pursuant to Condition 6(c).

(f) **Regulations**: All transfers of Bonds and entries on the Register will be made subject to the detailed regulations concerning transfer and registration of Bonds, the initial form of which is scheduled to the Agency Agreement (the "**Regulations**"). The Regulations may be changed by the Issuer, with the prior written approval of the Registrar and the Trustee, or by the Registrar, with the prior written approval of the Trustee. A copy of the current regulations will be made available for inspection (free of charge to the Bondholders and at the Issuer's (failing whom, the Guarantor's) expense) by the Registrar to any Bondholder following written request therefor and proof of holding and identity satisfactory to the Registrar.

4 COVENANTS

(a) **Negative Pledge and Relevant Indebtedness**:

(i) Subject to Condition 4(a)(ii), so long as any Bond remains outstanding (as defined in the Trust Deed), neither the Issuer nor the Guarantor will, and each of the Issuer and the Guarantor will ensure that none of their respective Principal Subsidiaries (other than the Listed Subsidiaries and the Subsidiaries of a Listed Subsidiary) will, create, or have outstanding, any mortgage, charge, lien, pledge, other security interest or other arrangement with similar economic effect (the "**Security Interest**") upon the whole or any part of its present or future undertaking, assets or revenues (including any uncalled capital) to secure any Relevant Indebtedness which is issued outside the PRC, or any guarantee or indemnity in respect of any Relevant Indebtedness which is issued outside the PRC, without at the same time or prior thereto according to the Bonds (A) the same security as is created or subsisting to secure any such Relevant Indebtedness, guarantee or indemnity or (B) such other security as either (I) the Trustee may in its absolution discretion deem not materially less beneficial to the interest of the Bondholders or (II) as shall be approved by an Extraordinary Resolution (as defined in the Trust Deed) of the Bondholders.

(ii) The foregoing restriction in this Condition 4(a) will not apply to:

(A) any Security Interest either over any asset acquired after the date of the Trust Deed which is in existence at the time of such acquisition or in respect of the obligations of any person which becomes the Issuer's and/or the Guarantor's Subsidiary after the date of the Trust Deed which is in existence at the date on which it becomes the Issuer's and/or the Guarantor's Subsidiary and in both cases any replacement thereof created in connection with the refinancing (together with interest, fees and other charges attributable thereto) of the Relevant Indebtedness originally secured (but the principal amount secured by any such Security Interest may not be increased), provided that any such Security Interest was not incurred in anticipation of such acquisition or of such company becoming the Issuer's and/or the Guarantor's Subsidiary;

(B) any Security Interest created on any property or asset acquired, leased or developed (including improved, constructed, altered or repaired) after the date of the Trust Deed, provided, however, that (a)(i) any such Security Interest shall be confined to the property or asset acquired, leased or developed (including improved, constructed, altered or repaired) and (a)(ii) to the extent that such Security Interest shall secure any other property or asset, the principal amount of the debt encumbered by such Security Interest shall not exceed the cost of the applicable acquisition, development or improvement and (b) any such Security Interest shall be created concurrently with or within two years following the acquisition, lease or development (including construction, improvement, repair or alteration) of such property or asset; or

(C) any renewal or extension of any of the Security Interests described in the foregoing clauses which is limited to the original property or asset covered thereby.

(b) **Financial Reports**: Under the Trust Deed, the Guarantor is obliged to furnish the Trustee with a copy of the relevant Audited Financial Reports for each Relevant Period and a Compliance Certificate within 120 days of the end of such Relevant Period, and if such reports shall be in the Chinese language, together with an English translation of the same translated by (A) a nationally or internationally recognised firm of independent accountants (which may be the auditor of the Guarantor as at the Issue Date) or (B) a professional translation service provider and checked by a nationally or internationally recognised firm of independent accountants (which may be the auditor of the Guarantor as at the Issue Date), together with a certificate in English signed by an Authorised Signatory of the Guarantor certifying that such translation is complete and accurate,

provided that, if at any time the capital stock of the Guarantor is listed for trading on a recognised stock exchange, the Guarantor may provide to the Trustee, as soon as they are available but in any event not more than 30 calendar days after any financial reports of the Guarantor are filed with the exchange on which the Guarantor's capital stock is at such time listed for trading, true and correct copies of any financial report filed with such exchange in lieu of the Audited Financial Reports identified in this Condition 4(b) (and if such financial or other reports are in the Chinese language, together with an English translation of the same and translated in a manner as contemplated above).

The Trustee shall not be required to review any Audited Financial Reports delivered to it as contemplated in this Condition 4(b) and, if the same shall not be in the English language, shall not be required to request or obtain or arrange for an English translation of the same, and the Trustee shall not be liable to any Bondholder or any other person for not doing so.

(c) **Filing with the NDRC**: The Guarantor undertakes to file or cause to be filed the relevant information in connection with the Bonds with the National Development and Reform Commission of the PRC (the "**NDRC**") within the prescribed timeframe after the Issue Date of the Bonds and in accordance with the Notice on Promoting the Reform of the Filing and Registration System for Issuance of Foreign Debt by Enterprises (國家發展改革委關於推進企業發行外債備案登記制管理改革的通知) promulgated by the NDRC on 14 September 2015 which came into effect immediately and any implementation rules, regulations, certificates, circulars or notices in connection therewith issued by the NDRC from time to time (the "**Post-Issuance Filing**").

(d) **SAFE Registration**:

(i) The Guarantor undertakes to file or cause to be filed with the State Administration of Foreign Exchange of the PRC or its local branch ("**SAFE**") the Deed of Guarantee within the prescribed timeframe after execution of the Deed of Guarantee in accordance with the Provisions on the Foreign Exchange Administration of Cross-Border Guarantees(跨境擔保外匯管理規定)promulgated by SAFE on 12 May 2014 which came into effect on 1 June 2014 (the "**Cross-Border Security Registration**"). The Guarantor shall use all reasonable endeavours to complete the Cross-Border Security Registration and obtain a registration certificate from SAFE (or any other document evidencing the completion of registration issued by SAFE) on or before the Registration Deadline and comply with all applicable PRC laws and regulations in relation to the Cross-Border Security Registration.

(ii) The Guarantor shall before the Registration Deadline and within ten PRC Business Days after receipt of the registration certificate from SAFE (or any other document evidencing the completion of registration issued by SAFE), provide the Trustee with (A) a certificate of the Guarantor confirming the completion of the Post- Issuance Filing and the registration of the Deed of Guarantee with SAFE in accordance with the Cross-Border Security Registration; and (B) (x) a copy of the SAFE registration certificate or (y) any other document issued by SAFE evidencing the completion of SAFE registration, and in the case of each of (x) and (y), together with the particulars of filing or registration (as applicable), each certified in English as a true and complete copy of the original by an Authorised Signatory of the Guarantor (the items in (A) and (B) collectively the "**Registration Documents**").

(iii) The Trustee may rely conclusively on the Registration Documents and shall have no obligation or duty to monitor or ensure or assist with the Post-Issuance Filing or the Cross-Border Security Registration on or before the Registration Deadline or to verify the accuracy, validity and/or genuineness of any documents in relation to or in connection with the Post-Issuance Filing or the Cross-Border Security Registration and/or the Registration Documents or to translate or procure any translation into English of any Registration Document that is in the Chinese language or to give notice to the Bondholders confirming the completion of the Post-Issuance Filing or the Cross-Border Security Registration, and shall not be liable to the Bondholders or any other person for not doing so.

5 INTEREST

The Bonds bear interest on their outstanding principal amount from and including the Issue Date at the rate of 1.55 per cent. per annum, payable semi-annually in arrear in equal instalments of US$7.75 per Calculation Amount (as defined below) on 28 January and 28 July in each year (each, an "**Interest Payment Date**"), commencing on 28 January 2022. Each Bond will cease to bear interest from the due date for redemption unless, upon surrender of the Certificate representing such Bond, payment of principal or premium (if any) is improperly withheld or refused. In such event it shall continue to bear interest at such rate (both before and after judgment) until whichever is the earlier of (a) the day on which all sums due in respect of such Bond up to that day are received by or on behalf of the relevant holder, and (b) the day falling seven days after the Trustee or the Principal Paying Agent has notified Bondholders of receipt of all sums due in respect of all the Bonds up to that seventh day (except to the extent that there is failure in the subsequent payment to the relevant holders under these Conditions).

In these Conditions, the period beginning on and including the Issue Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date are each called an "**Interest Period**".

Interest in respect of any Bond shall be calculated per US$1,000 in principal amount of the Bonds (the "**Calculation Amount**"). The amount of interest payable per Calculation Amount for any period shall, save as provided above in relation to equal instalments, be equal to the product of the rate of interest specified above, the Calculation Amount and the day-count fraction for the relevant period and rounding the resulting figure to the nearest cent (half a cent being rounded upwards). If interest is required to be calculated for a period of less than a complete Interest Period, the relevant day-count fraction will be determined on the basis of a 360-day year consisting of 12 months of 30 days each and in the case of an incomplete month, the number of days elapsed.

6 REDEMPTION AND PURCHASE

(a) **Final redemption**:

Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 28 July 2024 (the "**Maturity Date**"). The Bonds may not be redeemed at the option of the Issuer other than in accordance with this Condition 6.

(b) **Redemption for taxation reasons**:

The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not more than 60 nor less than 30 days' irrevocable notice to the Trustee and the Principal Paying Agent in writing and to the Bondholders (in accordance with Condition 14) at their principal amount (together with interest accrued to but excluding the date fixed for redemption) if the Issuer (or, if the Guarantee was called, the Guarantor) satisfies the Trustee immediately prior to the giving of such notice that (i) the Issuer (or, if the Guarantee was called, the Guarantor) has or will become obliged to pay Additional Tax Amounts as provided or referred to in Condition 8 as a result of any change in, or amendment to, the laws or regulations of any Relevant Jurisdiction, or any change in the application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after 21 July 2021, and (ii) such obligation cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it, provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Issuer (or the Guarantor, as the case may be) would be obliged to pay such Additional Tax Amounts were a payment in respect of the Bonds (or the Guarantee, as the case may be) then payable.

Prior to the giving of any notice of redemption pursuant to this Condition 6(b), the Issuer or the Guarantor, as the case may be, shall deliver to the Trustee:

(A) a certificate in English signed by an Authorised Signatory of the Issuer (or by an Authorised Signatory of the Guarantor, as the case may be) stating that the obligation referred to in (i) above of this Condition 6(b) cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it; and

(B) an opinion, addressed to the Trustee, of independent tax or legal advisers of recognised standing to the effect that such circumstances referred to in (i) above of this Condition 6(b) have occurred and the Issuer or the Guarantor, as the case may be, has or will become obliged to pay such Additional Tax Amounts as a result of such change and/or amendment.

The Trustee shall be entitled to accept and rely conclusively upon such certificate and opinion without further investigation or inquiry and without liability to the Issuer, the Guarantor, the Bondholders or any other person, as sufficient evidence of the satisfaction of the conditions precedent set out in (i) and (ii) above of this Condition 6(b), in which event the same shall be conclusive and binding on the Bondholders.

Upon the expiry of any such notice as is referred to in this Condition 6(b), the Issuer shall be bound to redeem the Bonds in accordance with this Condition 6(b).

(c) **Redemption for Relevant Events**:

At any time following the occurrence of a Relevant Event, the holder of any Bond will have the right, at such holder's option, to require the Issuer to redeem all, but not some only, of that holder's Bonds on the Put Settlement Date at a redemption price equal to 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount (together with interest accrued to but excluding the Put Settlement Date). To exercise such right, the holder of the relevant Bond must deposit at the specified office of any Paying Agent a duly completed and signed notice of redemption, substantially in the form scheduled to the Agency Agreement, obtainable from the specified office of any Paying Agent (a "**Put Exercise Notice**"), together with the Certificate evidencing the Bonds to be redeemed, by not later than 30 days following the occurrence of a Relevant Event, or, if later, 30 days following the date upon which notice thereof is given to Bondholders by the Issuer in accordance with Condition 14. The "**Put Settlement Date**" shall be the fourteenth day after the expiry of such period of 30 days as referred to above in this Condition 6(c).

A Put Exercise Notice, once delivered, shall be irrevocable and the Issuer shall redeem the Bonds the subject of the Put Exercise Notices delivered as aforesaid on the Put Settlement Date.

The Issuer, failing whom the Guarantor, shall give notice to the Bondholders (in accordance with Condition 14) and to the Trustee and the Principal Paying Agent in writing by not later than 14 days following the first day on which it becomes aware of the occurrence of a Relevant Event, which notice shall specify the procedure for exercise by holders of their rights to require redemption of the Bonds pursuant to this Condition 6(c).

The Trustee and the Agents shall have no obligation or duty to take any steps to ascertain whether a Relevant Event or any event which could lead to a Relevant Event has occurred or may occur, and shall be entitled to assume that no such event has occurred until it have received written notice to the contrary from the Issuer and none of them shall have any obligation or duty to verify the accuracy, validity and/or genuineness of any documents in relation to or connection with the Registration Conditions and none of them shall be liable to Bondholders, the Issuer, the Guarantor or any other person for not doing so.

(d) **Redemption at the Make Whole Price at the option of the Issuer**

On giving not less than 30 nor more than 60 days' notice (a "**Make Whole Redemption Notice**") to the Trustee and the Principal Paying Agent in writing and to the Bondholders in accordance with Condition 14, the Issuer may at any time and from time to time but in any event before (and not including) 28 June 2024 (being the date that falls one month prior to the Maturity Date) redeem the Bonds, in whole but not in part, at a Make Whole Price as of, and accrued and unpaid interest, if any, to (but excluding), the redemption date (the "**Make Whole Redemption Date**") specified in the Make Whole Redemption Notice.

Neither the Trustee nor the Agents shall be responsible for calculating or verifying any calculations of any amounts payable under these Conditions, any notice of redemption (including, without limitation, the Make Whole Price and any calculation or determination for the purposes of determining the Make Whole Price) or any Put Exercise Notice, and none of them shall be liable to the Bondholders, the Issuer, the Guarantor or any other person for not doing so.

(e) **Redemption at par at the Option of the Issuer**

The Issuer may, on giving not less than 30 nor more than 60 days' notice (an "**Optional Redemption Notice**") to the Bondholders in accordance with Condition 14 (which notice shall be irrevocable) and in writing to the Trustee and the Principal Paying Agent, redeem the Bonds in whole, but not in part, at any time on or after 28 June 2024 (being the date that falls one month prior to the Maturity Date), at 100 per cent. of their principal amount together with any interest accrued to but excluding the date fixed for redemption specified in the Optional Redemption Notice.

(f) **Notice of Redemption**

All Bonds in respect of which any notice of redemption is given under this Condition 6 shall be redeemed on the date, in such place and in such manner as specified in such notice in accordance with this Condition 6. If there is more than one notice of redemption given in respect of any Bond (which shall include any notice given by the Issuer pursuant to Condition 6(b), 6(d) or 6(e) and any Put Exercise Notice given by a Bondholder pursuant to Condition 6(c)), the notice given first in time shall prevail and in the event of two notices being given on the same date, the first to be given shall prevail.

So long as the Bonds are represented by the Global Certificate, a right of a holder to redemption of the Bonds following the occurrence of a Relevant Event will be effected in accordance with the rules of the relevant clearing systems.

(g) **Purchase**

The Issuer, the Guarantor and their respective Subsidiaries may at any time purchase Bonds in the open market or otherwise at any price. The Bonds so purchased, while held by or on behalf of the Issuer, the Guarantor or any such Subsidiary, shall not entitle the holder to vote at any meetings of the Bondholders and shall not be deemed to be outstanding for certain purposes, including without limitation for the purpose of calculating quorums at meetings of the Bondholders or for the purposes of Conditions 9, 12(a) and 15.

(h) **Cancellation**

All Certificates representing Bonds redeemed or purchased by or on behalf of the Issuer, the Guarantor or any of their respective Subsidiaries shall, if so elected by the Issuer, be surrendered for cancellation to the Registrar and, upon surrender thereof, all such Bonds shall be cancelled forthwith. Any Certificates so surrendered for cancellation may not be reissued or resold and the obligations of the Issuer and the Guarantor in respect of any such Bonds shall be discharged immediately upon cancellation of the relevant Certificate.

7 PAYMENTS

(a) **Method of Payment**:

(i) Payments of principal and premium (if any) shall be made (subject to surrender of the relevant Certificates at the specified office of any Transfer Agent or of the Registrar if no further payment falls to be made in respect of the Bonds represented by such Certificates) in the manner provided in Condition 7(a)(ii).

(ii) Interest on each Bond shall be paid to the person shown as the Bondholder on the Register at the close of business on the fifth Payment Business Day before the due date for payment thereof (the "**Record Date**"). Payments of interest on each Bond shall be made in US dollars by wire transfer to the registered account of the Bondholder. For the purposes of this Condition 7(a), a Bondholder's "**registered account**" means the US dollar-denominated account maintained by or on behalf of it with a bank that processes payments in US dollars, details of which appear on the Register at the close of business on the Record Date.

(iii) If the amount of principal being paid upon surrender of the relevant Certificate is less than the outstanding principal amount of such Certificate, the Registrar will annotate the Register with the amount of principal so paid and will (if so requested in writing by the Issuer or a Bondholder) issue a new Certificate with a principal amount equal to the remaining unpaid outstanding principal amount. If the amount of premium (if any) or interest being paid is less than the amount then due, the Registrar will annotate the Register with the amount of premium (if any) or interest so paid.

*Notwithstanding the foregoing, so long as the Global Certificate is held on behalf of Euroclear Bank SA/NV, Clearstream Banking S.A. or any other clearing system, each payment in respect of the Global Certificate will be made to the person shown as the holder in the Register at the close of business of the relevant clearing system on the Clearing System Business Day before the due date for such payments, where "**Clearing System Business Day**" means a weekday (Monday to Friday, inclusive) except 25 December and 1 January.*

(b) **Payment initiation**: Where payment is to be made by wire transfer to an account in US dollars, payment instructions (for value on the due date or, if that is not a Payment Business Day, for value on the first following day which is a Payment Business Day) will be initiated on the due date for payment (or, if that date is not a Payment Business Day, on the first following day which is a Payment Business Day) or, in the case of payments of principal and premium (if any) where the relevant Certificate has not been surrendered at the specified office of any Transfer Agent or of the Registrar, on the first Payment Business Day on which the Principal Paying Agent is open for business and on or following which the relevant Certificate is surrendered.

(c) **Payments subject to fiscal laws**: All payments are subject in all cases to (i) any applicable fiscal or other laws, regulations and directives in the place of payment, but without prejudice to the provisions of Condition 8; and (ii) if applicable, any withholding or deduction required pursuant to an agreement described in Section 1471(b) of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**") or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or (without prejudice to the provisions of Condition 8) any law implementing an intergovernmental approach thereto. No commissions or expenses shall be charged to the Bondholders in respect of such payments.

(d) **Appointment of Agents**: The Principal Paying Agent, the Registrar and the Transfer Agent initially appointed by the Issuer and the Guarantor and their respective specified offices are listed below. The Principal Paying Agent, the Registrar and the Transfer Agent act solely as agents of the Issuer and the Guarantor (or, as provided in the Trust Deed, the Trustee) and do not assume any obligation or relationship of agency or trust for or with any Bondholder. The Issuer and the Guarantor reserve the right at any time with the prior written approval of the Trustee to vary or terminate the appointment of the Principal Paying Agent, the Registrar, any Transfer Agent or any of the other Agents and to appoint additional or other Agents, provided that the Issuer and the Guarantor shall at all times maintain (i) a Principal Paying Agent, (ii) a Registrar, (iii) a Transfer Agent and (iv) such other agents as may be required by any stock exchange on which the Bonds may be listed, in each case, as approved in writing by the Trustee.

Notice of any such termination or appointment or any change of any specified office of an Agent shall promptly be given by the Issuer to the Bondholders in accordance with Condition 14.

(e) **Delay in payment**: Bondholders will not be entitled to any interest or other payment for any delay after the due date in receiving the amount due on a Bond if the due date is not a Payment Business Day or if the Bondholder is late in surrendering or cannot surrender its Certificate (if required to do so).

(f) **Non-Payment Business Days**: If any date for payment in respect of any Bond is not a Payment Business Day, the Bondholder shall not be entitled to payment until the next following Payment Business Day nor to any interest or other sum in respect of such postponed payment.

8 TAXATION

All payments of principal, premium (if applicable) and interest by or on behalf of the Issuer or the Guarantor in respect of the Bonds or under the Guarantee shall be made free and clear of, and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within any Relevant Jurisdiction, unless such withholding or deduction is required by law.

Where such withholding or deduction is made by the Issuer or, as the case may be, the Guarantor by or within the PRC up to and including the rate applicable on 21 July 2021 (the "**Applicable Rate**"), the Issuer or, as the case may be, the Guarantor will increase the amounts paid by it to the extent required, so that the net amount received by Bondholders equals the amounts which would otherwise have been received by them had no such withholding or deduction been required.

In the event that any such PRC deduction or withholding in excess of the Applicable Rate or any British Virgin Islands deduction or withholding is required, the Issuer or, as the case may be, the Guarantor shall pay such additional amounts ("**Additional Tax Amounts**") as will result in receipt by the Bondholders of such amounts as would have been received by them had no such withholding or deduction been required, except that no Additional Tax Amounts shall be payable in respect of any Bond:

(a) to a Bondholder or to a third party on behalf of a Bondholder who is liable to such taxes, duties, assessments or governmental charges in respect of such Bond by reason of his or a beneficial owner having some connection with any Relevant Jurisdiction, other than the mere holding of the Bond;

(b) in respect of which the Certificate representing it is presented or surrendered (where presentation or surrender is required) for payment more than 30 days after the Relevant Date except to the extent that the holder of it would have been entitled to such Additional Tax Amounts on presenting or surrendering the Certificate representing such Bond for payment on the last day of such period of 30 days; or

(c) by a Bondholder who would not be otherwise liable for or subject to such withholding or deduction by making a declaration of identity, non-residence or other similar claim for exemption with respect to the Bondholder or beneficial owner if, after having been duly requested to make such a declaration or claim, such Bondholder fails to do so within any applicable period prescribed by such relevant tax authority.

Any reference in these Conditions to principal, premium (if any) and interest shall be deemed to include any Additional Tax Amounts in respect of such principal, premium (if any) and interest (as the case may be) which may be payable under this Condition 8 or any undertaking given in addition to or in substitution of this Condition 8 pursuant to the Trust Deed, the Deed of Guarantee and the Bonds.

Neither the Trustee nor any Agent shall be responsible for paying any tax, duty, charges, assessments, government charges, withholding or other payment referred to in this Condition 8 or otherwise in connection with the Bonds or for determining whether such amounts are payable or the amount thereof, and shall not be responsible or liable for any failure by the Issuer, the Guarantor, the Bondholders or any other person to pay such tax, duty, charges, assessments, government charges, withholding or other payment in any jurisdiction.

9 EVENTS OF DEFAULT

If an Event of Default (as defined below) occurs, the Trustee at its discretion may, and if so requested in writing by holders of at least 25 per cent. of the aggregate principal amount of the Bonds then outstanding or if so directed by an Extraordinary Resolution shall (provided in any such case that the Trustee shall have first been indemnified and/or secured and/or pre-funded to its satisfaction), give notice to the Issuer and the Guarantor that the Bonds are, and they shall immediately become, due and payable at their principal amount together (if applicable) with any accrued and unpaid interest.

An "**Event of Default**" occurs if:

(a) *Non-Payment:* there has been a failure to pay (i) the principal of or any premium on any of the Bonds when due; or (ii) any interest on any of the Bonds within 10 days after the due date for such payment; or

(b) *Breach of Other Obligations:* the Issuer or the Guarantor does not perform or comply with any one or more of its other obligations under the Bonds, the Trust Deed or the Deed of Guarantee (other than where it gives rise to a redemption pursuant to Condition 6(c)) and such default (i) is, in the opinion of the Trustee, incapable of remedy or, (ii) is, in the opinion of the Trustee, capable of remedy but remains unremedied for 30 days after the Trustee has given written notice thereof to the Issuer or the Guarantor, as the case may be; or

(c) *Cross-Acceleration:* (i) any other present or future indebtedness of the Issuer, the Guarantor or any of their respective Principal Subsidiaries for or in respect of moneys borrowed or raised becomes due and payable prior to its stated maturity by reason of any actual default, event of default or the like (howsoever described), or (ii) the Issuer, the Guarantor or any of their respective Principal Subsidiaries fails to pay when due any amount payable by it under any present or future guarantee for, or indemnity in respect of, any moneys borrowed or raised provided that the aggregate amount of the relevant indebtedness, guarantees and indemnities in respect of which one or more of the events mentioned above in this Condition 9(c) have occurred equals or exceeds US$100 million or its equivalent (on the basis of the middle spot rate for the relevant currency against the US dollar as quoted by any leading bank on the day on which the relevant provisions operate); or

(d) *Enforcement Proceedings:* a distress, attachment, execution or other legal process is levied, enforced or sued out on or against the whole or any material part of the property, assets or revenues of the Issuer, the Guarantor or any of the Principal Subsidiaries and is not discharged or stayed within 45 days; or

(e) *Security Enforced:* any mortgage, charge, pledge, lien or other encumbrance, present or future, created or assumed by the Issuer, the Guarantor or any of the Principal Subsidiaries in respect of all or a material part of its assets becomes enforceable and any step is taken to enforce it (including the taking of possession or the appointment of a receiver, manager or other similar person) and is not discharged within 45 days; or

(f) *Insolvency:* the Issuer, the Guarantor or any of the Principal Subsidiaries is (or is, or could be, deemed by law or a court to be) insolvent or bankrupt or unable to pay its debts as and when such debts fall due, stops, suspends or threatens to stop or suspend payment of all or a substantial part of its debts, proposes or makes a general assignment or an arrangement or composition with or for the benefit of the relevant creditors in respect of any of such debts or a moratorium is agreed or declared in respect of or affecting all or any substantial part of the debts of the Issuer, the Guarantor or any of the Principal Subsidiaries; or

(g) *Winding-up:* an order of any court of competent jurisdiction is made or an effective resolution passed for the winding-up or dissolution of the Issuer, the Guarantor or any of the Principal Subsidiaries, or the Issuer, the Guarantor or any of the Principal Subsidiaries ceases or threatens to cease to carry on all or substantially all of its business or operations, except for (i) the purpose of and followed by a reconstruction, amalgamation, reorganisation, merger or consolidation on terms approved by an Extraordinary Resolution of the Bondholders, (ii) in the case of a Principal Subsidiary, whereby the undertaking and assets of such Principal Subsidiary are transferred to or otherwise vested in the Issuer, the Guarantor (as the case may be) and/or any of their respective Subsidiaries, (iii) a solvent winding-up or solvent dissolution of any Principal Subsidiary (other than the Issuer) or (iv) a disposal on an arm's length basis where the assets resulting from such disposal are vested in the Guarantor and/or any of its Subsidiaries; or

(h) *Nationalisation:* any step is taken by any person with a view to the seizure, compulsory acquisition or expropriation of all or a substantial part of the assets of the Issuer, the Guarantor or any of the Principal Subsidiaries; or

(i) *Authorisation and Consents:* any action, condition or thing (including the obtaining or effecting of any necessary consent, approval, authorisation, exemption, filing, licence, order, recording or registration) at any time required to be taken, fulfilled or done in order (i) to enable each of the Issuer and the Guarantor lawfully to enter into, exercise their respective rights and perform and comply with their respective obligations under the Bonds, the Trust Deed and the Deed of Guarantee, (ii) to ensure that those obligations are legally binding and enforceable and (iii) to make the Bonds, the Trust Deed and the Deed of Guarantee admissible in evidence in the courts of Hong Kong is not taken, fulfilled or done; or

(j) *Illegality:* it is or will become unlawful for the Issuer or the Guarantor to perform or comply with any one or more of their respective obligations under any of the Bonds, the Trust Deed or the Deed of Guarantee; or

(k) *Unenforceability of Guarantee:* except as permitted under the Deed of Guarantee, any part of the Guarantee is unenforceable or invalid or shall for any reason cease to be in full force and effect or is claimed to be unenforceable, invalid or not in full force and effect by the Issuer or the Guarantor; or

(l) *Analogous Events:* any event occurs which under the laws of any relevant jurisdiction has an analogous effect to any of the events referred to in Conditions 9(d) to 9(g) (both inclusive).

10 PRESCRIPTION

Claims against the Issuer or the Guarantor for payment in respect of the Bonds shall be prescribed and become void unless made within 10 years (in the case of principal or premium, if any) or five years (in the case of interest) from the appropriate Relevant Date in respect of them.

11 REPLACEMENT OF CERTIFICATES

If any Certificate is lost, stolen, mutilated, defaced or destroyed it may be replaced at the specified office of the Registrar or any other Agent, subject to all applicable laws and stock exchange or other relevant authority requirements, upon payment by the claimant of the expenses incurred in connection with such replacement and on such terms as to evidence, security, indemnity, pre-funding and otherwise as the Issuer and/or such Agent may require (provided that the requirement is reasonable in the light of prevailing market practice). Mutilated or defaced Certificates must be surrendered before replacements will be issued.

12 MEETINGS OF BONDHOLDERS, MODIFICATION AND WAIVER

(a) **Meetings of Bondholders**: The Trust Deed contains provisions for convening meetings of Bondholders to consider matters affecting their interests, including without limitation the sanctioning by Extraordinary Resolution of a modification of any of these Conditions or any provisions of the Trust Deed, the Agency Agreement and/or the Deed of Guarantee. Such a meeting may be convened by the Issuer, the Guarantor, or the Trustee, and shall be convened by the Trustee if requested in writing by Bondholders holding not less than 10 per cent. in aggregate principal amount of the Bonds for the time being outstanding and subject to it being indemnified and/or secured and/or pre-funded to its satisfaction against all costs and expenses. The quorum for any meeting convened to consider an Extraordinary Resolution will be two or more persons holding or representing more than 50 per cent. in aggregate principal amount of the Bonds for the time being outstanding, or at any adjourned meeting two or more persons being or representing Bondholders whatever the aggregate principal amount of the Bonds held or represented, unless the business of such meeting includes consideration of proposals, *inter alia*, (i) to modify the maturity of the Bonds or the dates on which interest is payable in respect of the Bonds, (ii) to reduce or cancel the principal amount of, any premium payable on redemption of, or interest on, the Bonds, (iii) to change the currency of payment of the Bonds, (iv) to modify the provisions concerning the quorum required at any meeting of Bondholders or the majority required to pass an Extraordinary Resolution, or (v) to modify or terminate the Deed of Guarantee other than in accordance with Condition 12(b), in which case the necessary quorum will be two or more persons holding or representing not less than 66 per cent., or at any adjourned meeting not less than 33 per cent., in aggregate principal amount of the Bonds for the time being outstanding. Any Extraordinary Resolution duly passed shall be binding on Bondholders (whether or not they were present at the meeting at which such resolution was passed and whether or not they voted in favour of or participated in such resolution).

The Trust Deed provides that a resolution (A) in writing signed by or on behalf of the Bondholders of not less than 90 per cent. in aggregate principal amount of the Bonds for the time being outstanding or (B) passed by Electronic Consent (as defined in the Trust Deed) shall for all purposes be as valid and effective as an Extraordinary Resolution passed at a meeting of Bondholders duly convened and held. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Bondholders. A resolution passed in writing will be binding on all Bondholders whether or not they participated in such written resolution.

So long as the Bonds are evidenced by the Global Certificate, Extraordinary Resolution may be passed by way of electronic consents through the relevant clearing system(s) by or on behalf of the holders of not less than 90 per cent. in aggregate principal amount of the Bonds for the time being outstanding.

(b) **Modification and Waiver**: The Trustee may (but shall not be obliged to) agree, without the consent of the Bondholders, to (i) any modification of any of these Conditions or any of the provisions of the Trust Deed, the Deed of Guarantee or the Agency Agreement which, in its opinion, is of a formal, minor or technical nature or is made to correct a manifest error or is to comply with any mandatory provision of applicable law, and (ii) any other modification (except as mentioned in the Trust Deed and the Deed of Guarantee), and any waiver or authorisation of any breach or proposed breach, of any of these Conditions or any of the provisions of the Trust Deed, the Deed of Guarantee or the Agency Agreement which is in the opinion of the Trustee not materially prejudicial to the interests of the Bondholders. Any such modification, authorisation or waiver shall be binding on the Bondholders and, unless the Trustee otherwise agrees, such modification, authorisation or waiver shall be notified by the Issuer, failing whom, the Guarantor, to the Bondholders as soon as practicable thereafter in accordance with Condition 14. The Trustee may request and conclusively rely upon certificate signed by an Authorised Signatory of the Issuer or of the Guarantor and/or an opinion of counsel concerning the compliance with the above conditions in respect of any modification and/or amendment.

(c) **Entitlement of the Trustee**: In connection with the performance and exercise of its functions, rights, powers and/or discretions (including but not limited to those referred to in this Condition 12) the Trustee shall have regard to the interests of the Bondholders as a class and shall not have regard to the interests of, or be responsible for the consequences of such exercise for individual Bondholders and the Trustee shall not be entitled to require on behalf of any Bondholder, nor shall any Bondholder be entitled to claim, from the Issuer, the Guarantor or the Trustee any indemnification or payment in respect of any tax consequence of any such exercise upon individual Bondholders.

13 FURTHER ISSUES

The Issuer may from time to time without the consent of the Bondholders create and issue further bonds having the same terms and conditions as the Bonds in all respects (or in all respects except for the issue date, the issue price, the first payment of interest on them, the timing for the Post-Issuance Filing with the NDRC and the timing for completion of the Cross-Border Security Registration) and so that such further issue shall be consolidated and form a single series with the Bonds. Any further bonds to be consolidated and form a single series with the Bonds shall be constituted by a deed supplemental to the Trust Deed and be guaranteed by the Guarantor pursuant to an additional deed of guarantee or a deed supplemental to the Deed of Guarantee. References in these Conditions to the Bonds include (unless the context requires otherwise) any other bonds issued pursuant to this Condition 13 and consolidated and forming a single series with the Bonds.

14 NOTICES

Notices to Bondholders will be valid if (a) made in writing in English and mailed to them by uninsured mail at the Issuer's (failing whom, the Guarantor's) expense at their respective addresses in the Register maintained by the Registrar and shall be deemed to have been given on the fourth weekday (being a day other than a Saturday, Sunday or public holiday) after the date of mailing; or (b) published at the Issuer's (failing whom, the Guarantor's) expense in a leading English language daily newspaper having general circulation in Asia (which is expected to be *The Wall Street Journal Asia*). The Issuer shall also ensure that notices are duly published in a manner that complies with the rules and regulations of any stock exchange or other relevant authority on which the Bonds are for the time being listed. Any such notice shall be deemed to have been given on the date of such publication or, if published more than once or on different dates, on the first date on which publication is made.

Until such time as any definitive certificates are issued and so long as the Global Certificate is held in its entirety on behalf of Euroclear Bank SA/NV and Clearstream Banking S.A., any notice to the Bondholders shall be validly given by the delivery of the relevant notice to Euroclear Bank SA/NV and Clearstream Banking S.A., for communication by the relevant clearing system to entitled accountholders in substitution for notification as required by the Conditions and shall be deemed to have been given on the date of delivery to such clearing system.

15 ENFORCEMENT

At any time after the Bonds become due and payable, the Trustee may, at its discretion and without further notice, take such actions and/or steps and/or institute such proceedings against the Issuer and/or the Guarantor as it may think fit to enforce the terms of the Trust Deed, the Deed of Guarantee and the Bonds, but it need not take any such actions and/or steps and/or institute any such proceedings unless (a) it shall have been so directed by an Extraordinary Resolution or so requested in writing by Bondholders holding at least 25 per cent. in aggregate principal amount of the Bonds then outstanding, and (b) it shall have been indemnified and/or secured and/or pre-funded to its satisfaction. No Bondholder may proceed directly against the Issuer or the Guarantor unless the Trustee, having become bound so to proceed, fails to do so within a reasonable time and such failure is continuing.

16 INDEMNIFICATION OF THE TRUSTEE

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including, without limitation, provisions relieving it from taking any steps and/or actions and/or instituting any proceedings to enforce its rights under the Trust Deed, the Agency Agreement, the Deed of Guarantee and/or these Conditions and/or in respect of the Bonds and/or the Guarantee and/or from taking other steps and/or actions and/or instituting proceedings unless first indemnified and/or secured and/or pre-funded to its satisfaction and entitling the Trustee to be paid or reimbursed for its fees, costs, expenses and indemnity payments and for any liabilities incurred by it in priority to the claims of Bondholders. The Trustee is entitled to enter into business transactions with the Issuer, the Guarantor and/or any entity related (directly or indirectly) to any of the Issuer or the Guarantor without accounting for any profit.

The Trustee may rely conclusively, and may act or refrain from acting, in each case without liability to Bondholders, the Issuer, the Guarantor or any other person on any report, confirmation, information or certificate from or any opinion advice of any lawyers, accountants, financial advisers, financial institutions or any other experts, whether or not addressed to it and whether their liability in relation thereto is limited (by its terms or by any engagement letter relating thereto entered into by the Trustee or any other person or in any other manner) by reference to a monetary cap, methodology or otherwise. The Trustee may accept and shall be entitled to rely on any such report, confirmation, information, certificate, opinion or advice, in which event such report, confirmation, certificate, opinion or advice shall be binding on the Issuer, the Guarantor and the Bondholders.

Whenever the Trustee is required or entitled by the terms of the Trust Deed, the Deed of Guarantee, the Agency Agreement or these Conditions to exercise any discretion or power, take or refrain from any action, make any decision or give any direction or certification, the Trustee is entitled, prior to exercising any such discretion or power, taking or refraining from any such action, making any such decision or giving any such direction or certification, to seek directions from the Bondholders by way of Extraordinary Resolution, and the Trustee shall be entitled to rely on any such direction or clarification and shall not be responsible or liable for any loss or liability incurred by the Issuer, the Guarantor, the Bondholders or any other person as a result of any delay in it exercising such discretion or power, taking or refraining from such action, making such decision or giving such direction or certification as a result of seeking such direction or clarification of any directions from the Bondholders or in the event that no direction is given to the Trustee by the Bondholders. The Trustee shall be entitled to rely on any direction, request or resolution of Bondholders given by Bondholders holding the requisite principal amount of Bonds outstanding or passed at a meeting of Bondholders convened and held in accordance with the Trust Deed and/or the Bonds. None of the Trustee or any Agent shall be liable to any Bondholder, the Issuer, the Guarantor or any other person for any action taken by the Trustee or such Agent in accordance with the instructions or any direction or request of the Bondholders.

None of the Trustee or any of the Agents shall be responsible for the performance by the Issuer, the Guarantor and any other person appointed by the Issuer and/or the Guarantor under the Trust Deed, the Deed of Guarantee, the Agency Agreement or these Conditions or in relation to the Bonds of the duties and obligations on their part expressed in respect of the same and, unless it has written notice from the Issuer or the Guarantor to the contrary, the Trustee and each Agent shall be entitled to assume that the same are being duly performed.

The Trustee and the Agents shall have no obligation to monitor or take any steps to ascertain compliance with the provisions of the Trust Deed, the Agency Agreement, the Deed of Guarantee or these Conditions or whether an Event of Default, Potential Event of Default (as defined in the Trust Deed) or Relevant Event has occurred or may occur, and shall not be liable to the Bondholders, the Issuer, the Guarantor or any other person for not doing so.

Each Bondholder shall be solely responsible for making and continuing to make its own independent appraisal of and investigation into the financial condition, creditworthiness, condition, affairs, status and nature of the Issuer, the Guarantor and their respective Subsidiaries, and the Trustee shall not at any time have any responsibility for the same and no Bondholder shall rely on the Trustee in respect thereof.

17 CONTRACTS (RIGHTS OF THIRD PARTIES) ACT 1999

No person shall have any right to enforce any term or condition of the Bonds under the Contracts (Rights of Third Parties) Act 1999, but this shall not affect any right or remedy which exists or is available apart from this Act.

18 GOVERNING LAW

(a) **Governing Law**: The Trust Deed, the Agency Agreement, the Deed of Guarantee and the Bonds and any non-contractual obligations arising out of or in connection with them are governed by and shall be construed in accordance with English law.

(b) **Jurisdiction**: The courts of Hong Kong are to have exclusive jurisdiction to settle any disputes, which may arise out of or in connection with the Trust Deed, the Agency Agreement, the Deed of Guarantee or the Bonds and accordingly any legal action or proceedings arising out of or in connection with the Trust Deed, the Agency Agreement, the

Deed of Guarantee or the Bonds ("**Proceedings**") may be brought in such courts. Pursuant to the Trust Deed, each of the Issuer and the Guarantor irrevocably submits to the exclusive jurisdiction of such courts.

(c) **Service of Process**: Pursuant to the Trust Deed each of the Issuer and the Guarantor has irrevocably agreed to accept service of process in any Proceedings in Hong Kong at the Guarantor's principal place of business in Hong Kong at Room 4501, 45/F., Far East Finance Centre, No.16 Harcourt Road, Admiralty, Hong Kong. If for any reason the Guarantor shall cease to have an office in Hong Kong, each of the Issuer and the Guarantor shall forthwith appoint an agent for service of process in Hong Kong and deliver to the Trustee a copy of the agent's acceptance of that appointment within 30 days of such cessation.

(d) **Independence and Waiver of Immunity**: The Guarantor is a separate legal and independent entity organised under the Company Law of the PRC; it is an enterprise undertaking commercial activities independent from the PRC government with ownership of its assets and the capacity independently to assume civil liabilities.

Each of the Guarantor and the Issuer hereby waives any right to claim sovereign or other immunity from jurisdiction or execution and any similar defence, and irrevocably consents to the giving of any relief or the issue of any process, including, without limitation, the making, enforcement or execution against any property whatsoever (irrespective of its use or intended use) of any order or judgment made or given in connection with any Proceedings.

19 DEFINITIONS

In these Conditions:

"**Additional Tax Amounts**" has the meaning ascribed to it in Condition 8;

"**Adjusted Treasury Rate**" means, with respect to any Make Whole Redemption Date, the rate per annum equal to the semi-annual equivalent yield in maturity of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date;

"**Audited Financial Reports**" means the annual audited consolidated statements of profit or loss and other comprehensive income, financial position, changes in equity, and cash flows of the Guarantor prepared under International Financial Reporting Standards or other applicable accounting standards together with any statements, reports (including any directors' and auditors' reports) and notes attached to or intended to be read with any of them;

"**Authorised Signatory**" has the meaning ascribed to the term in the Trust Deed;

"**business day**" means:

(a) in respect of Condition 3, means a day other than a Saturday, Sunday or public holiday on which commercial banks are generally open for business in the city in which the specified office of the Registrar or (as the case may be) such Transfer Agent with whom a Certificate is deposited in connection with a transfer or exchange, is located;

(b) in respect of the definitions of "**Comparable Treasury Price**" and "**Reference Treasury Dealer Quotations**", a day other than a Saturday or Sunday on which banks are open for business in New York City;

"**Certificate**" has the meaning ascribed to it in Condition 1(a);

"**Change of Control**" means the occurrence of one or more of the following events: (a) SASAC or any other agency as designated by the State Council of the PRC, together ceasing to own and control, directly or indirectly, at least 75 per cent. of Chinalco's issued and outstanding share capital; or (b) Chinalco, directly or indirectly, ceasing to be the largest holder of the issued share capital of the Guarantor or ceasing to Control the Guarantor; or (c) the Guarantor, directly or indirectly, ceasing to own and control 100 per cent. of the issued and outstanding share capital of the Issuer.

For the purpose of (b) above of this definition, Chinalco shall be deemed to "**Control**" or have "**Controlled**" the Guarantor if: (i) Chinalco, directly or indirectly (through Subsidiaries or otherwise), owns, acquires or controls more than 50 per cent. of the voting rights of the issued share capital of the Guarantor or (ii) a majority of the members of the Guarantor's board of Directors or other equivalent or successor governing body are nominated by Chinalco and/or Chinalco's Subsidiaries; or (iii) Chinalco possesses, directly or indirectly, the ability or power to direct the management policies of the Guarantor;

"**Comparable Treasury Issue**" means the U.S. Treasury security selected by the Quotation Agent as having a maturity comparable to the then remaining term of the Bonds that would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to most nearly equal to the Maturity Date and notified in writing to the Issuer and the Trustee;

"**Comparable Treasury Price**" means, with respect to any Make Whole Redemption Date:

(a) the average of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) on the third business day preceding such Make Whole Redemption Date, as set forth in the daily statistical release (of any successor release) published by the Federal Reserve Bank of New York and designated "Composite 3:30 p.m. Quotations for U.S. Government Securities"; or

(b) if such release (or any successor release) is not published or does not contain such prices on such business day, (i) the average of the Reference Treasury Dealer Quotations for such Make Whole Redemption Date, after excluding the highest and lowest of such Reference Treasury Dealer Quotations, or (ii) if fewer than three such Reference Treasury Dealer Quotations are available, the average of all such quotations;

"**Compliance Certificate**" the meaning ascribed to the term in the Trust Deed;

"**Director**" has the meaning ascribed to the term in the Trust Deed;

"**Guarantee**" has the meaning ascribed to it in Condition 2(b);

"**Listed Subsidiary**" means, at any time, any Subsidiary of the Issuer, or, as the case may be, the Guarantor, the ordinary voting shares of which are at such time listed on a recognised stock exchange, and "Listed Subsidiaries" shall be construed accordingly;

"**Make Whole Price**" means, with respect to a Bond at any Make Whole Redemption Date, the amount calculated by the Quotation Agent that is the greater of (a) the present value of the principal amount of the Bonds, assuming a scheduled repayment thereof on the Maturity Date plus all required remaining scheduled interest payments due on such Bond through the Maturity Date (but excluding accrued and unpaid interest to the Make Whole Redemption Date), computed using a discount rate equal to the Adjusted Treasury Rate plus 20 basis points, and (b) the principal amount of such Bonds;

a “**No Registration Event**” occurs when the Registration Conditions have not been satisfied in full on or before the Registration Deadline;

“**Payment Business Day**” means a day (other than a Saturday, a Sunday or a public holiday) on which banks and foreign exchange markets are generally open for business in New York City and the place in which the specified office of the Principal Paying Agent is located and in Hong Kong;

“**PRC**” means the People’s Republic of China which, for the purposes of these Conditions, shall not include the Hong Kong Special Administrative Region of the People’s Republic of China, the Macau Special Administrative Region of the People’s Republic of China and Taiwan;

“**PRC Business Day**” means a day (other than a Saturday, Sunday or public holiday) on which commercial banks are generally open for business in Beijing;

“**Principal Subsidiary**” means any Subsidiary of the Issuer or the Guarantor:

(a) whose revenue or (in the case of a Subsidiary which itself has Subsidiaries) consolidated revenue, as shown by its latest audited income statement are at least 10 per cent. of the consolidated revenue of the Guarantor and its Subsidiaries as shown by the latest audited consolidated income statement of the Guarantor and its Subsidiaries; or

(b) whose gross assets or (in the case of a Subsidiary which itself has Subsidiaries) consolidated gross assets, as shown by its latest audited balance sheet are at least 10 per cent. of the amount which equals the amount included in the consolidated gross assets of the Guarantor and its Subsidiaries as shown by the latest audited consolidated balance sheet of the Guarantor and its Subsidiaries including, for the avoidance of doubt, the investment of the Guarantor in each Subsidiary whose accounts are not consolidated with the consolidated audited accounts of the Guarantor and after adjustment for minority interests; or

(c) to which is transferred the whole or substantially the whole of the assets of a Subsidiary which immediately prior to such transfer was a Principal Subsidiary, provided that the Principal Subsidiary which so transfers its assets shall forthwith upon such transfer cease to be a Principal Subsidiary and the Subsidiary to which the assets are so transferred shall cease to be a Principal Subsidiary at the date on which the first audited accounts (consolidated, if appropriate) of the Guarantor prepared as of a date later than such transfer are issued unless such Subsidiary would continue to be a Principal Subsidiary on the basis of such accounts by virtue of the provisions of paragraphs (a) or (b) above of this definition,

provided that, in relation to paragraphs (a) and (b) above of this definition:

(i) in the case of a corporation or other business entity becoming a Subsidiary after the end of the financial period to which the latest consolidated audited accounts of the Guarantor relate, the reference to the then latest consolidated audited accounts of the Guarantor for the purposes of the calculation above shall, until consolidated audited accounts of the Guarantor for the financial period in which the relevant corporation or other business entity becomes a Subsidiary are published be deemed to be a reference to the then latest consolidated audited accounts of the Guarantor adjusted to consolidate the latest audited accounts (consolidated in the case of a Subsidiary which itself has Subsidiaries) of such Subsidiary in such accounts;

(ii) if at any relevant time in relation to the Guarantor or any Subsidiary which itself has Subsidiaries no consolidated accounts are prepared and audited, revenue or gross assets of the Guarantor and/or any such Subsidiary shall be determined on the basis of pro forma consolidated accounts prepared for this purpose by the Guarantor;

(iii) if at any relevant time in relation to any Subsidiary, no accounts are audited, its revenue or gross assets (consolidated, if appropriate) shall be determined on the basis of pro forma accounts (consolidated, if appropriate) of the relevant Subsidiary prepared for this purpose by the Guarantor; and

(iv) if the accounts of any Subsidiary (not being a Subsidiary referred to in proviso (i) above) are not consolidated with those of the Guarantor, then the determination of whether or not such Subsidiary is a Principal Subsidiary shall be based on a pro forma consolidation of its accounts (consolidated, if appropriate) with the consolidated accounts (determined on the basis of the foregoing) of the Guarantor.

A certificate signed by any one Director of the Guarantor who is also an Authorised Signatory of the Guarantor stating that, in his/her opinion, a Subsidiary is or is not, or was or was not, a Principal Subsidiary or a Listed Subsidiary of the Guarantor shall, in the absence of manifest error, be conclusive and binding on all parties. A certificate signed by any one Director of the Issuer who is also an Authorised Signatory of the Issuer stating that, in his/her opinion, a Subsidiary is or is not, or was or was not, a Principal Subsidiary of the Issuer shall, in the absence of manifest error, be conclusive and binding on all parties;

"**Proceedings**" has the meaning ascribed to it in Condition 18(b);

"**Quotation Agent**" means the Reference Treasury Dealer selected and appointed by the Issuer (at the expense of the Issuer, failing whom, the Guarantor) and notified in writing to the Trustee;

"**Register**" has the meaning ascribed to it in Condition 1(a);

"**Registration Conditions**" means the receipt by the Trustee of the Registration Documents;

"**Registration Deadline**" means 5:00 p.m. (Beijing time) on the day falling 150 calendar days after the Issue Date;

"**Reference Treasury Dealer**" means each of any three investment banks of recognised standing that is a primary U.S. Government securities dealer in New York City, selected and appointed by the Issuer in good faith;

"**Reference Treasury Dealer Quotations**" means, with respect to each Reference Treasury Dealer and any Make Whole Redemption Date, the average as determined by the Quotation Agent, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to such Quotation Agent by such Reference Treasury Dealer at 5:00 p.m. (New York time) on the third business day preceding such Make Whole Redemption Date;

"**Regulation**" has the meaning ascribed to it in Condition 3(f);

"**Relevant Date**" means whichever is the later of (a) the date on which such payment first becomes due and (b) if the full amount payable has not been received by the Trustee or the Principal Paying Agent on or prior to such due date, the date on which, the full amount having been so received, notice to that effect shall have been given to the Bondholders;

a "**Relevant Event**" means a Change of Control or a No Registration Event;

"**Relevant Indebtedness**" means any indebtedness which is in the form of, or represented or evidenced by, bonds, notes, debentures, loan stock or other securities which for the time being are, or are intended to be or capable of being, quoted, listed or dealt in or traded on any stock exchange or over-the-counter or other securities market;

"**Relevant Jurisdiction**" means the British Virgin Islands, the PRC or, in any such case, any political subdivision or any authority therein or thereof having power to tax to which the Issuer or the Guarantor becomes subject in respect of payments made by it of any sums due in respect of the Bonds or the Guarantee (as applicable);

"**Relevant Period**" means, in relation to the Audited Financial Reports, each period of twelve months ending on the last day of the Guarantor's financial year (beginning the year ended 31 December 2020);

"**SASAC**" means the State-owned Assets Supervision and Administration Commission of the PRC or its successor;

"**Security Interest**" has the meaning ascribed to it in Condition 4(a)(i); and

a "**Subsidiary**" of any person means (a) any company or other business entity of which that person owns or controls (either directly or through one or more other Subsidiaries) more than 50 per cent. of the issued share capital or other ownership interest having ordinary voting power to elect directors, managers or trustees of such company or other business entity, or (b) any company or other business entity which at any time has its accounts consolidated with those of that person or which, under the law, regulations or generally accepted accounting principles of the jurisdiction of incorporation of such person from time to time, should have its accounts consolidated with those of that person.

TERMS AND CONDITIONS OF THE 2026 BONDS

The following are the terms and conditions substantially in the form in which they (other than the texts in italics) will be endorsed on the definitive Certificate and referred to in the Global Certificate in relation to the 2026 Bonds.

The issue of the US$500,000,000 2.10 per cent. guaranteed bonds due 2026 (the "**Bonds**", which expression, unless the context requires otherwise, includes any further bonds issued pursuant to Condition 13 of these terms and conditions (the "**Conditions**" and each a "**Condition**") and consolidated and forming a single series therewith) was authorised by a resolution of the board of Directors (as defined below) of Chalco Hong Kong Investment Company Limited (the "**Issuer**") passed on 16 July 2021. The Bonds are guaranteed by Aluminum Corporation of China Limited (中國鋁業股份有限公司) (the "**Guarantor**"). The Issuer is a Subsidiary of the Guarantor and the Guarantor, in turn, is controlled by Aluminum Corporation of China (中國鋁業集團有限公司) ("**Chinalco**") which is the Guarantor's largest shareholder. Chinalco is directly supervised by the State-owned Assets Supervision and Administration Commission of the State Council ("**SASAC**"), with 90 per cent. of its equity interest held by SASAC and the rest of equity interest held by the National Social Security Fund. The Bonds are constituted by a Trust Deed (as amended and/or supplemented from time to time, the "**Trust Deed**") dated on or about 28 July 2021 (the "**Issue Date**") between the Issuer, the Guarantor and China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) (the "**Trustee**", which expression shall include its successor(s) and all persons for the time being the trustee or trustees under the Trust Deed) as trustee for itself and the Bondholders (as defined below). These Conditions include summaries of, and are subject to, the detailed provisions of the Trust Deed, which includes the form of the Bonds. An agency agreement dated on or about 28 July 2021 (as amended and/or supplemented from time to time, the "**Agency Agreement**") has been entered into in relation to the Bonds between the Issuer, the Guarantor, the Trustee, China Construction Bank (Asia) Corporation Limited (中國建設銀行(亞洲)股份有限公司) as registrar (the "**Registrar**"), as the transfer agent (the "**Transfer Agent**") and as principal paying agent (the "**Principal Paying Agent**") and the other agents named in it. References herein to "**Paying Agents**" include the Principal Paying Agent, references herein to "**Transfer Agents**" include the Transfer Agent, and "**Agents**" means the Principal Paying Agent, the Registrar, the Transfer Agent and any other agent or agents appointed from time to time under the Agency Agreement with respect to the Bonds. The Bonds have the benefit of a deed of guarantee (as amended and/or supplemented from time to time, the "**Deed of Guarantee**") dated on or about the Issue Date entered into by the Guarantor and the Trustee relating to the Bonds. The entering into the Deed of Guarantee was authorised by a resolution of the board of Directors of the Guarantor on 23 March 2021. For so long as any Bond remains outstanding, copies of the Trust Deed, the Deed of Guarantee and the Agency Agreement are available for inspection by the Bondholders at all reasonable times during usual business hours (being between 9:00 a.m. (Hong Kong time) and 3:00 p.m. (Hong Kong time), from Monday to Friday (excluding public holidays)) at the principal place of business of the Trustee (being at the Issue Date at 20/F CCB Tower, 3 Connaught Road Central, Central, Hong Kong) and at the specified office for the time being of the Principal Paying Agent following prior written request and provision of proof of holding and identity satisfactory to the Trustee or, as the case may be, the Principal Paying Agent. The Bondholders are entitled to the benefit of, are bound by, and are deemed to have notice of, all those provisions of the Trust Deed and the Deed of Guarantee and are deemed to have notice of all the provisions of the Agency Agreement applicable to them.

All capitalised terms that are not defined in these Conditions will have the meanings given to them in the Trust Deed.

1 FORM, DENOMINATION AND TITLE

(a) **Form and denomination**: The Bonds are issued in registered form, in the denomination of US$200,000 and integral multiples of US$1,000 in excess thereof (each, a "**Specified Denomination**"). A certificate (each, a "Certificate") will be issued to each Bondholder in respect of its registered holding of Bonds. Each Certificate shall be numbered serially and shall have an identifying number which shall be recorded on the relevant Certificate and in the register of Bondholders (the "**Register**"), which the Issuer shall procure to be kept by the Registrar.

(b) **Title**: Title to the Bonds shall pass only by transfer and registration of title in the Register. Each Bondholder shall, except as ordered by a court of competent jurisdiction or as otherwise required by law, be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest in it or any writing on (other than the endorsed form of transfer), or the theft or loss of, the Certificate issued in respect of it), and no person shall be liable for so treating the Bondholder. In these Conditions, "**Bondholder**" or "**holder**" in relation to a Bond shall mean the person in whose name a Bond is registered in the Register (or in the case of a joint holding, the first named thereof).

*Upon issue, the Bonds will initially be represented by a global certificate (the "**Global Certificate**") substantially in the form scheduled to the Trust Deed. The Global Certificate will be registered in the name of a nominee for, and deposited with, a common depositary for Euroclear Bank SA/NV and Clearstream Banking S.A., and will be exchangeable for individual definitive Certificates only in the circumstances set out therein. The Conditions are modified by certain provisions contained in the Global Certificate. See "Summary of Provisions Relating to the Bonds in Global Form". The Bonds are not issuable in bearer form.*

Except in the limited circumstances described in the Global Certificate, owners of interests in Bonds represented by the Global Certificate will not be entitled to receive definitive Certificates in respect of their individual holdings of Bonds.

2 STATUS AND GUARANTEE

(a) **Status**: The Bonds constitute direct, unconditional, unsubordinated and (subject to, and to the extent provided under, Condition 4(a)) unsecured obligations of the Issuer and shall at all times rank *pari passu* and without any preference among themselves. The payment obligations of the Issuer under the Bonds shall, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a), at all times rank at least equally with all the Issuer's other present and future unsecured, unconditional and unsubordinated obligations.

(b) **Guarantee**: The Guarantor has unconditionally and irrevocably guaranteed the due payment in full of all sums expressed to be payable by the Issuer under the Trust Deed and the Bonds (the "**Guarantee**"). The Guarantor's obligations in respect of the Guarantee are contained in the Deed of Guarantee. The obligations of the Guarantor under the Guarantee shall, save for such exceptions as may be provided by applicable legislation and subject to Condition 4(a), at all times rank at least equally with all the other present and future unsecured and unsubordinated obligations of the Guarantor.

3 TRANSFERS OF BONDS AND ISSUE OF CERTIFICATES

(a) **Register**: The Issuer will cause the Register to be kept outside of the United Kingdom and in accordance with the terms of the Agency Agreement, on which shall be entered the names, addresses and registered accounts of the Bondholders and the particulars of the Bonds held by them and of all transfers of the Bonds. Each Bondholder shall be entitled to receive only one Certificate in respect of its entire holding of Bonds.

(b) **Transfers**: Subject to the Agency Agreement and Conditions 3(d), 3(e) and 3(f) herein, a Bond may be transferred in whole or in part but in any case in a Specified Denomination by delivery of the Certificate issued in respect of that Bond, with the form of transfer endorsed on such Certificate duly completed and signed by the Bondholder or his attorney duly authorised in writing, to the specified office of the Registrar or the Transfer Agent, provided, however, that a Bond may not be transferred unless the principal amount of Bonds transferred and (where not all of the Bonds held by a holder are being transferred) the principal amount of the balance of Bonds not transferred are Specified Denominations. In the case of a transfer of part only of a holding of Bonds represented by one Certificate (which shall be in a Specified Denomination), a new Certificate shall be issued to the transferee in respect of the part transferred and a further new Certificate in respect of the balance of the holding not transferred shall be issued to the transferor. In the case of a transfer of Bonds to a person who is already a holder of Bonds, a new Certificate representing the enlarged holding shall only be issued against surrender of the Certificate representing the existing holding. No transfer of title to a Bond will be valid unless and until entered on the Register.

Transfers of interests in the Bonds evidenced by the Global Certificate will be effected in accordance with the rules of the relevant clearing systems.

(c) **Delivery of new Certificates**: Each new Certificate to be issued upon a transfer of Bonds will, within seven business days (as defined in Condition 19 below) of receipt by the Registrar or, as the case may be, any Transfer Agent of the Certificate and the form of transfer duly completed and signed, be made available for collection at the specified office of the Registrar or such Transfer Agent or, if so requested in the form of transfer, be mailed by uninsured mail at the risk of the Bondholder entitled to the new Certificate (but free of charge to the Bondholder and at the Issuer's (failing whom, the Guarantor's) expense) to the address specified in the form of transfer, unless such Bondholder requests otherwise and pays in advance to the relevant Transfer Agent or the Registrar (as the case may be) the costs of such other method of delivery and/or such insurance as it may specify. The form of transfer is available at the specified offices of the Transfer Agents.

Where only part of a principal amount of the Bonds (being that of one or more Bonds) in respect of which a Certificate is issued is to be transferred or exchanged, a new Certificate in respect of the Bonds not so transferred or exchanged will, within seven business days (as defined in Condition 19 below) of delivery of the original Certificate to the Registrar or the relevant Transfer Agent, be made available for collection at the specified office of the Registrar or such Transfer Agent or, if so requested in the form of transfer, be mailed by uninsured mail at the risk of the Bondholder not so transferred or exchanged (but free of charge to the Bondholder and at the Issuer's (failing whom, the Guarantor's) expense) to the address of such Bondholder appearing on the Register, unless such Bondholder requests otherwise and pays in advance to the relevant Transfer Agent or the Registrar (as the case may be) the costs of such other method of delivery and/or such insurance as it may specify.

(d) **Formalities free of charge**: Registration of a transfer of Bonds and issuance of new Certificates will be effected without charge to the relevant Bondholder by or on behalf of the Issuer or any of the Agents, but upon (i) payment (or the giving of such indemnity and/or security and/or prefunding as the Issuer or any of the Agents may require) in respect of any tax, duty or other governmental charges which may be imposed in relation to such transfer; (ii) the Registrar or the relevant Transfer Agent (as the case may be) being satisfied in its absolute discretion with the documents of title or identity of the person making the application and (iii) the Registrar or the relevant Transfer Agent (as the case may be) being satisfied that the Regulations have been complied with.

(e) **Closed periods**: No Bondholder may require the transfer of a Bond to be registered (i) during the period of seven days ending on (but excluding) the due date for any payment of principal or premium (if any) in respect of that Bond, (ii) during the period of ten days ending on (and including) any Record Date (as defined in Condition 7(a)(ii)), (iii) after any such Bond has been called pursuant to Condition 6(b), 6(d) or 6(e) or (iv) after any such Bond has been put for redemption pursuant to Condition 6(c).

(f) **Regulations**: All transfers of Bonds and entries on the Register will be made subject to the detailed regulations concerning transfer and registration of Bonds, the initial form of which is scheduled to the Agency Agreement (the "**Regulations**"). The Regulations may be changed by the Issuer, with the prior written approval of the Registrar and the Trustee, or by the Registrar, with the prior written approval of the Trustee. A copy of the current regulations will be made available for inspection (free of charge to the Bondholders and at the Issuer's (failing whom, the Guarantor's) expense) by the Registrar to any Bondholder following written request therefor and proof of holding and identity satisfactory to the Registrar.

4 COVENANTS

(a) **Negative Pledge and Relevant Indebtedness**:

(i) Subject to Condition 4(a)(ii), so long as any Bond remains outstanding (as defined in the Trust Deed), neither the Issuer nor the Guarantor will, and each of the Issuer and the Guarantor will ensure that none of their respective Principal Subsidiaries (other than the Listed Subsidiaries and the Subsidiaries of a Listed Subsidiary) will, create, or have outstanding, any mortgage, charge, lien, pledge, other security interest or other arrangement with similar economic effect (the "**Security Interest**") upon the whole or any part of its present or future undertaking, assets or revenues (including any uncalled capital) to secure any Relevant Indebtedness which is issued outside the PRC, or any guarantee or indemnity in respect of any Relevant Indebtedness which is issued outside the PRC, without at the same time or prior thereto according to the Bonds (A) the same security as is created or subsisting to secure any such Relevant Indebtedness, guarantee or indemnity or (B) such other security as either (I) the Trustee may in its absolution discretion deem not materially less beneficial to the interest of the Bondholders or (II) as shall be approved by an Extraordinary Resolution (as defined in the Trust Deed) of the Bondholders.

(ii) The foregoing restriction in this Condition 4(a) will not apply to:

(A) any Security Interest either over any asset acquired after the date of the Trust Deed which is in existence at the time of such acquisition or in respect of the obligations of any person which becomes the Issuer's and/or the Guarantor's Subsidiary after the date of the Trust Deed which is in existence at the date on which it becomes the Issuer's and/or the Guarantor's Subsidiary and in both cases any replacement thereof created in connection with the refinancing (together with interest, fees and other charges attributable thereto) of the Relevant Indebtedness originally secured (but the principal amount secured by any such Security Interest may not be increased), provided that any such Security Interest was not incurred in anticipation of such acquisition or of such company becoming the Issuer's and/or the Guarantor's Subsidiary;

(B) any Security Interest created on any property or asset acquired, leased or developed (including improved, constructed, altered or repaired) after the date of the Trust Deed, provided, however, that (a)(i) any such Security Interest shall be confined to the property or asset acquired, leased or developed (including improved, constructed, altered or repaired) and (a)(ii) to the extent that such Security Interest shall secure any other property or asset, the principal amount of the debt encumbered by such Security Interest shall not exceed the cost of the applicable acquisition, development or improvement and (b) any such Security Interest shall be created concurrently with or within two years following the acquisition, lease or development (including construction, improvement, repair or alteration) of such property or asset; or

(C) any renewal or extension of any of the Security Interests described in the foregoing clauses which is limited to the original property or asset covered thereby.

(b) **Financial Reports**: Under the Trust Deed, the Guarantor is obliged to furnish the Trustee with a copy of the relevant Audited Financial Reports for each Relevant Period and a Compliance Certificate within 120 days of the end of such Relevant Period, and if such reports shall be in the Chinese language, together with an English translation of the same translated by (A) a nationally or internationally recognised firm of independent accountants (which may be the auditor of the Guarantor as at the Issue Date) or (B) a professional translation service provider and checked by a nationally or internationally recognised firm of independent accountants (which may be the auditor of the Guarantor as at the Issue Date), together with a certificate in English signed by an Authorised Signatory of the Guarantor certifying that such translation is complete and accurate,

provided that, if at any time the capital stock of the Guarantor is listed for trading on a recognised stock exchange, the Guarantor may provide to the Trustee, as soon as they are available but in any event not more than 30 calendar days after any financial reports of the Guarantor are filed with the exchange on which the Guarantor's capital stock is at such time listed for trading, true and correct copies of any financial report filed with such exchange in lieu of the Audited Financial Reports identified in this Condition 4(b) (and if such financial or other reports are in the Chinese language, together with an English translation of the same and translated in a manner as contemplated above).

The Trustee shall not be required to review any Audited Financial Reports delivered to it as contemplated in this Condition 4(b) and, if the same shall not be in the English language, shall not be required to request or obtain or arrange for an English translation of the same, and the Trustee shall not be liable to any Bondholder or any other person for not doing so.

(c) **Filing with the NDRC**: The Guarantor undertakes to file or cause to be filed the relevant information in connection with the Bonds with the National Development and Reform Commission of the PRC (the "**NDRC**") within the prescribed timeframe after the Issue Date of the Bonds and in accordance with the Notice on Promoting the Reform of the Filing and Registration System for Issuance of Foreign Debt by Enterprises(國家發展改革委關於推進企業發行外債備案登記制管理改革的通知)promulgated by the NDRC on 14 September 2015 which came into effect immediately and any implementation rules, regulations, certificates, circulars or notices in connection therewith issued by the NDRC from time to time (the "**Post-Issuance Filing**").

(d) **SAFE Registration**:

(i) The Guarantor undertakes to file or cause to be filed with the State Administration of Foreign Exchange of the PRC or its local branch ("**SAFE**") the Deed of Guarantee within the prescribed timeframe after execution of the Deed of Guarantee in accordance with the Provisions on the Foreign Exchange Administration of Cross-Border Guarantees（跨境擔保外匯管理規定）promulgated by SAFE on 12 May 2014 which came into effect on 1 June 2014 (the "**Cross-Border Security Registration**"). The Guarantor shall use all reasonable endeavours to complete the Cross-Border Security Registration and obtain a registration certificate from SAFE (or any other document evidencing the completion of registration issued by SAFE) on or before the Registration Deadline and comply with all applicable PRC laws and regulations in relation to the Cross-Border Security Registration.

(ii) The Guarantor shall before the Registration Deadline and within ten PRC Business Days after receipt of the registration certificate from SAFE (or any other document evidencing the completion of registration issued by SAFE), provide the Trustee with (A) a certificate of the Guarantor confirming the completion of the Post- Issuance Filing and the registration of the Deed of Guarantee with SAFE in accordance with the Cross-Border Security Registration; and (B) (x) a copy of the SAFE registration certificate or (y) any other document issued by SAFE evidencing the completion of SAFE registration, and in the case of each of (x) and (y), together with the particulars of filing or registration (as applicable), each certified in English as a true and complete copy of the original by an Authorised Signatory of the Guarantor (the items in (A) and (B) collectively the "**Registration Documents**").

(iii) The Trustee may rely conclusively on the Registration Documents and shall have no obligation or duty to monitor or ensure or assist with the Post-Issuance Filing or the Cross-Border Security Registration on or before the Registration Deadline or to verify the accuracy, validity and/or genuineness of any documents in relation to or in connection with the Post-Issuance Filing or the Cross-Border Security Registration and/or the Registration Documents or to translate or procure any translation into English of any Registration Document that is in the Chinese language or to give notice to the Bondholders confirming the completion of the Post-Issuance Filing or the Cross-Border Security Registration, and shall not be liable to the Bondholders or any other person for not doing so.

5 INTEREST

The Bonds bear interest on their outstanding principal amount from and including the Issue Date at the rate of 2.10 per cent. per annum, payable semi-annually in arrear in equal instalments of US$10.5 per Calculation Amount (as defined below) on 28 January and 28 July in each year (each, an "**Interest Payment Date**"), commencing on 28 January 2022. Each Bond will cease to bear interest from the due date for redemption unless, upon surrender of the Certificate representing such Bond, payment of principal or premium (if any) is improperly withheld or refused. In such event it shall continue to bear interest at such rate (both before and after judgment) until whichever is the earlier of (a) the day on which all sums due in respect of such Bond up to that day are received by or on behalf of the relevant holder, and (b) the day falling seven days after the Trustee or the Principal Paying Agent has notified Bondholders of receipt of all sums due in respect of all the Bonds up to that seventh day (except to the extent that there is failure in the subsequent payment to the relevant holders under these Conditions).

In these Conditions, the period beginning on and including the Issue Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date are each called an "**Interest Period**".

Interest in respect of any Bond shall be calculated per US$1,000 in principal amount of the Bonds (the "**Calculation Amount**"). The amount of interest payable per Calculation Amount for any period shall, save as provided above in relation to equal instalments, be equal to the product of the rate of interest specified above, the Calculation Amount and the day-count fraction for the relevant period and rounding the resulting figure to the nearest cent (half a cent being rounded upwards). If interest is required to be calculated for a period of less than a complete Interest Period, the relevant day-count fraction will be determined on the basis of a 360-day year consisting of 12 months of 30 days each and in the case of an incomplete month, the number of days elapsed.

6 REDEMPTION AND PURCHASE

(a) **Final redemption**:

Unless previously redeemed, or purchased and cancelled, the Bonds will be redeemed at their principal amount on 28 July 2026 (the "**Maturity Date**"). The Bonds may not be redeemed at the option of the Issuer other than in accordance with this Condition 6.

(b) **Redemption for taxation reasons**:

The Bonds may be redeemed at the option of the Issuer in whole, but not in part, at any time, on giving not more than 60 nor less than 30 days' irrevocable notice to the Trustee and the Principal Paying Agent in writing and to the Bondholders (in accordance with Condition 14) at their principal amount (together with interest accrued to but excluding the date fixed for redemption) if the Issuer (or, if the Guarantee was called, the Guarantor) satisfies the Trustee immediately prior to the giving of such notice that (i) the Issuer (or, if the Guarantee was called, the Guarantor) has or will become obliged to pay Additional Tax Amounts as provided or referred to in Condition 8 as a result of any change in, or amendment to, the laws or regulations of any Relevant Jurisdiction, or any change in the application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after 21 July 2021, and (ii) such obligation cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it, provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Issuer (or the Guarantor, as the case may be) would be obliged to pay such Additional Tax Amounts were a payment in respect of the Bonds (or the Guarantee, as the case may be) then payable.

Prior to the giving of any notice of redemption pursuant to this Condition 6(b), the Issuer or the Guarantor, as the case may be, shall deliver to the Trustee:

(A) a certificate in English signed by an Authorised Signatory of the Issuer (or by an Authorised Signatory of the Guarantor, as the case may be) stating that the obligation referred to in (i) above of this Condition 6(b) cannot be avoided by the Issuer (or the Guarantor, as the case may be) taking reasonable measures available to it; and

(B) an opinion, addressed to the Trustee, of independent tax or legal advisers of recognised standing to the effect that such circumstances referred to in (i) above of this Condition 6(b) have occurred and the Issuer or the Guarantor, as the case may be, has or will become obliged to pay such Additional Tax Amounts as a result of such change and/or amendment.

The Trustee shall be entitled to accept and rely conclusively upon such certificate and opinion without further investigation or inquiry and without liability to the Issuer, the Guarantor, the Bondholders or any other person, as sufficient evidence of the satisfaction of the conditions precedent set out in (i) and (ii) above of this Condition 6(b), in which event the same shall be conclusive and binding on the Bondholders.

Upon the expiry of any such notice as is referred to in this Condition 6(b), the Issuer shall be bound to redeem the Bonds in accordance with this Condition 6(b).

(c) **Redemption for Relevant Events**:

At any time following the occurrence of a Relevant Event, the holder of any Bond will have the right, at such holder's option, to require the Issuer to redeem all, but not some only, of that holder's Bonds on the Put Settlement Date at a redemption price equal to 101 per cent. (in the case of a redemption for a Change of Control) or 100 per cent. (in the case of a redemption for a No Registration Event) of their principal amount (together with interest accrued to but excluding the Put Settlement Date). To exercise such right, the holder of the relevant Bond must deposit at the specified office of any Paying Agent a duly completed and signed notice of redemption, substantially in the form scheduled to the Agency Agreement, obtainable from the specified office of any Paying Agent (a "**Put Exercise Notice**"), together with the Certificate evidencing the Bonds to be redeemed, by not later than 30 days following the occurrence of a Relevant Event, or, if later, 30 days following the date upon which notice thereof is given to Bondholders by the Issuer in accordance with Condition 14. The "**Put Settlement Date**" shall be the fourteenth day after the expiry of such period of 30 days as referred to above in this Condition 6(c).

A Put Exercise Notice, once delivered, shall be irrevocable and the Issuer shall redeem the Bonds the subject of the Put Exercise Notices delivered as aforesaid on the Put Settlement Date.

The Issuer, failing whom the Guarantor, shall give notice to the Bondholders (in accordance with Condition 14) and to the Trustee and the Principal Paying Agent in writing by not later than 14 days following the first day on which it becomes aware of the occurrence of a Relevant Event, which notice shall specify the procedure for exercise by holders of their rights to require redemption of the Bonds pursuant to this Condition 6(c).

The Trustee and the Agents shall have no obligation or duty to take any steps to ascertain whether a Relevant Event or any event which could lead to a Relevant Event has occurred or may occur, and shall be entitled to assume that no such event has occurred until it have received written notice to the contrary from the Issuer and none of them shall have any obligation or duty to verify the accuracy, validity and/or genuineness of any documents in relation to or connection with the Registration Conditions and none of them shall be liable to Bondholders, the Issuer, the Guarantor or any other person for not doing so.

(d) **Redemption at the Make Whole Price at the option of the Issuer**

On giving not less than 30 nor more than 60 days' notice (a "**Make Whole Redemption Notice**") to the Trustee and the Principal Paying Agent in writing and to the Bondholders in accordance with Condition 14, the Issuer may at any time and from time to time but in any event before (and not including) 28 June 2026 (being the date that falls one month prior to the Maturity Date) redeem the Bonds, in whole but not in part, at a Make Whole Price as of, and accrued and unpaid interest, if any, to (but excluding), the redemption date (the "**Make Whole Redemption Date**") specified in the Make Whole Redemption Notice.

Neither the Trustee nor the Agents shall be responsible for calculating or verifying any calculations of any amounts payable under these Conditions, any notice of redemption (including, without limitation, the Make Whole Price and any calculation or determination for the purposes of determining the Make Whole Price) or any Put Exercise Notice, and none of them shall be liable to the Bondholders, the Issuer, the Guarantor or any other person for not doing so.

(e) **Redemption at par at the Option of the Issuer**

The Issuer may, on giving not less than 30 nor more than 60 days' notice (an "**Optional Redemption Notice**") to the Bondholders in accordance with Condition 14 (which notice shall be irrevocable) and in writing to the Trustee and the Principal Paying Agent, redeem the Bonds in whole, but not in part, at any time on or after 28 June 2026 (being the date that falls one month prior to the Maturity Date), at 100 per cent. of their principal amount together with any interest accrued to but excluding the date fixed for redemption specified in the Optional Redemption Notice.

(f) **Notice of Redemption**

All Bonds in respect of which any notice of redemption is given under this Condition 6 shall be redeemed on the date, in such place and in such manner as specified in such notice in accordance with this Condition 6. If there is more than one notice of redemption given in respect of any Bond (which shall include any notice given by the Issuer pursuant to Condition 6(b), 6(d) or 6(e) and any Put Exercise Notice given by a Bondholder pursuant to Condition 6(c)), the notice given first in time shall prevail and in the event of two notices being given on the same date, the first to be given shall prevail.

So long as the Bonds are represented by the Global Certificate, a right of a holder to redemption of the Bonds following the occurrence of a Relevant Event will be effected in accordance with the rules of the relevant clearing systems.

(g) **Purchase**

The Issuer, the Guarantor and their respective Subsidiaries may at any time purchase Bonds in the open market or otherwise at any price. The Bonds so purchased, while held by or on behalf of the Issuer, the Guarantor or any such Subsidiary, shall not entitle the holder to vote at any meetings of the Bondholders and shall not be deemed to be outstanding for certain purposes, including without limitation for the purpose of calculating quorums at meetings of the Bondholders or for the purposes of Conditions 9, 12(a) and 15.

(h) **Cancellation**

All Certificates representing Bonds redeemed or purchased by or on behalf of the Issuer, the Guarantor or any of their respective Subsidiaries shall, if so elected by the Issuer, be surrendered for cancellation to the Registrar and, upon surrender thereof, all such Bonds shall be cancelled forthwith. Any Certificates so surrendered for cancellation may not be reissued or resold and the obligations of the Issuer and the Guarantor in respect of any such Bonds shall be discharged immediately upon cancellation of the relevant Certificate.

7 PAYMENTS

(a) **Method of Payment**:

(i) Payments of principal and premium (if any) shall be made (subject to surrender of the relevant Certificates at the specified office of any Transfer Agent or of the Registrar if no further payment falls to be made in respect of the Bonds represented by such Certificates) in the manner provided in Condition 7(a)(ii).

(ii) Interest on each Bond shall be paid to the person shown as the Bondholder on the Register at the close of business on the fifth Payment Business Day before the due date for payment thereof (the "**Record Date**"). Payments of interest on each Bond shall be made in US dollars by wire transfer to the registered account of the Bondholder. For the purposes of this Condition 7(a), a Bondholder's "**registered account**" means the US dollar-denominated account maintained by or on behalf of it with a bank that processes payments in US dollars, details of which appear on the Register at the close of business on the Record Date.

(iii) If the amount of principal being paid upon surrender of the relevant Certificate is less than the outstanding principal amount of such Certificate, the Registrar will annotate the Register with the amount of principal so paid and will (if so requested in writing by the Issuer or a Bondholder) issue a new Certificate with a principal amount equal to the remaining unpaid outstanding principal amount. If the amount of premium (if any) or interest being paid is less than the amount then due, the Registrar will annotate the Register with the amount of premium (if any) or interest so paid.

*Notwithstanding the foregoing, so long as the Global Certificate is held on behalf of Euroclear Bank SA/NV, Clearstream Banking S.A. or any other clearing system, each payment in respect of the Global Certificate will be made to the person shown as the holder in the Register at the close of business of the relevant clearing system on the Clearing System Business Day before the due date for such payments, where "**Clearing System Business Day**" means a weekday (Monday to Friday, inclusive) except 25 December and 1 January.*

(b) **Payment initiation**: Where payment is to be made by wire transfer to an account in US dollars, payment instructions (for value on the due date or, if that is not a Payment Business Day, for value on the first following day which is a Payment Business Day) will be initiated on the due date for payment (or, if that date is not a Payment Business Day, on the first following day which is a Payment Business Day) or, in the case of payments of principal and premium (if any) where the relevant Certificate has not been surrendered at the specified office of any Transfer Agent or of the Registrar, on the first Payment Business Day on which the Principal Paying Agent is open for business and on or following which the relevant Certificate is surrendered.

(c) **Payments subject to fiscal laws**: All payments are subject in all cases to (i) any applicable fiscal or other laws, regulations and directives in the place of payment, but without prejudice to the provisions of Condition 8; and (ii) if applicable, any withholding or deduction required pursuant to an agreement described in Section 1471(b) of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**") or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or (without prejudice to the provisions of Condition 8) any law implementing an intergovernmental approach thereto. No commissions or expenses shall be charged to the Bondholders in respect of such payments.

(d) **Appointment of Agents**: The Principal Paying Agent, the Registrar and the Transfer Agent initially appointed by the Issuer and the Guarantor and their respective specified offices are listed below. The Principal Paying Agent, the Registrar and the Transfer Agent act solely as agents of the Issuer and the Guarantor (or, as provided in the Trust Deed, the Trustee) and do not assume any obligation or relationship of agency or trust for or with any Bondholder. The Issuer and the Guarantor reserve the right at any time with the prior written approval of the Trustee to vary or terminate the appointment of the Principal Paying Agent, the Registrar, any Transfer Agent or any of the other Agents and to appoint additional or other Agents, provided that the Issuer and the Guarantor shall at all times maintain (i) a Principal Paying Agent, (ii) a Registrar, (iii) a Transfer Agent and (iv) such other agents as may be required by any stock exchange on which the Bonds may be listed, in each case, as approved in writing by the Trustee.

Notice of any such termination or appointment or any change of any specified office of an Agent shall promptly be given by the Issuer to the Bondholders in accordance with Condition 14.

(e) **Delay in payment**: Bondholders will not be entitled to any interest or other payment for any delay after the due date in receiving the amount due on a Bond if the due date is not a Payment Business Day or if the Bondholder is late in surrendering or cannot surrender its Certificate (if required to do so).

(f) **Non-Payment Business Days**: If any date for payment in respect of any Bond is not a Payment Business Day, the Bondholder shall not be entitled to payment until the next following Payment Business Day nor to any interest or other sum in respect of such postponed payment.

8 TAXATION

All payments of principal, premium (if applicable) and interest by or on behalf of the Issuer or the Guarantor in respect of the Bonds or under the Guarantee shall be made free and clear of, and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or within any Relevant Jurisdiction, unless such withholding or deduction is required by law.

Where such withholding or deduction is made by the Issuer or, as the case may be, the Guarantor by or within the PRC up to and including the rate applicable on 21 July 2021 (the "**Applicable Rate**"), the Issuer or, as the case may be, the Guarantor will increase the amounts paid by it to the extent required, so that the net amount received by Bondholders equals the amounts which would otherwise have been received by them had no such withholding or deduction been required.

In the event that any such PRC deduction or withholding in excess of the Applicable Rate or any British Virgin Islands deduction or withholding is required, the Issuer or, as the case may be, the Guarantor shall pay such additional amounts ("**Additional Tax Amounts**") as will result in receipt by the Bondholders of such amounts as would have been received by them had no such withholding or deduction been required, except that no Additional Tax Amounts shall be payable in respect of any Bond:

(a) to a Bondholder or to a third party on behalf of a Bondholder who is liable to such taxes, duties, assessments or governmental charges in respect of such Bond by reason of his or a beneficial owner having some connection with any Relevant Jurisdiction, other than the mere holding of the Bond;

(b) in respect of which the Certificate representing it is presented or surrendered (where presentation or surrender is required) for payment more than 30 days after the Relevant Date except to the extent that the holder of it would have been entitled to such Additional Tax Amounts on presenting or surrendering the Certificate representing such Bond for payment on the last day of such period of 30 days; or

(c) by a Bondholder who would not be otherwise liable for or subject to such withholding or deduction by making a declaration of identity, non-residence or other similar claim for exemption with respect to the Bondholder or beneficial owner if, after having been duly requested to make such a declaration or claim, such Bondholder fails to do so within any applicable period prescribed by such relevant tax authority.

Any reference in these Conditions to principal, premium (if any) and interest shall be deemed to include any Additional Tax Amounts in respect of such principal, premium (if any) and interest (as the case may be) which may be payable under this Condition 8 or any undertaking given in addition to or in substitution of this Condition 8 pursuant to the Trust Deed, the Deed of Guarantee and the Bonds.

Neither the Trustee nor any Agent shall be responsible for paying any tax, duty, charges, assessments, government charges, withholding or other payment referred to in this Condition 8 or otherwise in connection with the Bonds or for determining whether such amounts are payable or the amount thereof, and shall not be responsible or liable for any failure by the Issuer, the Guarantor, the Bondholders or any other person to pay such tax, duty, charges, assessments, government charges, withholding or other payment in any jurisdiction.

9 EVENTS OF DEFAULT

If an Event of Default (as defined below) occurs, the Trustee at its discretion may, and if so requested in writing by holders of at least 25 per cent. of the aggregate principal amount of the Bonds then outstanding or if so directed by an Extraordinary Resolution shall (provided in any such case that the Trustee shall have first been indemnified and/or secured and/or pre-funded to its satisfaction), give notice to the Issuer and the Guarantor that the Bonds are, and they shall immediately become, due and payable at their principal amount together (if applicable) with any accrued and unpaid interest.

An "**Event of Default**" occurs if:

(a) *Non-Payment:* there has been a failure to pay (i) the principal of or any premium on any of the Bonds when due; or (ii) any interest on any of the Bonds within 10 days after the due date for such payment; or

(b) *Breach of Other Obligations:* the Issuer or the Guarantor does not perform or comply with any one or more of its other obligations under the Bonds, the Trust Deed or the Deed of Guarantee (other than where it gives rise to a redemption pursuant to Condition 6(c)) and such default (i) is, in the opinion of the Trustee, incapable of remedy or, (ii) is, in the opinion of the Trustee, capable of remedy but remains unremedied for 30 days after the Trustee has given written notice thereof to the Issuer or the Guarantor, as the case may be; or

(c) *Cross-Acceleration:* (i) any other present or future indebtedness of the Issuer, the Guarantor or any of their respective Principal Subsidiaries for or in respect of moneys borrowed or raised becomes due and payable prior to its stated maturity by reason of any actual default, event of default or the like (howsoever described), or (ii) the Issuer, the Guarantor or any of their respective Principal Subsidiaries fails to pay when due any amount payable by it under any present or future guarantee for, or indemnity in respect of, any moneys borrowed or raised provided that the aggregate amount of the relevant indebtedness, guarantees and indemnities in respect of which one or more of the events mentioned above in this Condition 9(c) have occurred equals or exceeds US$100 million or its equivalent (on the basis of the middle spot rate for the relevant currency against the US dollar as quoted by any leading bank on the day on which the relevant provisions operate); or

(d) *Enforcement Proceedings:* a distress, attachment, execution or other legal process is levied, enforced or sued out on or against the whole or any material part of the property, assets or revenues of the Issuer, the Guarantor or any of the Principal Subsidiaries and is not discharged or stayed within 45 days; or

(e) *Security Enforced:* any mortgage, charge, pledge, lien or other encumbrance, present or future, created or assumed by the Issuer, the Guarantor or any of the Principal Subsidiaries in respect of all or a material part of its assets becomes enforceable and any step is taken to enforce it (including the taking of possession or the appointment of a receiver, manager or other similar person) and is not discharged within 45 days; or

(f) *Insolvency:* the Issuer, the Guarantor or any of the Principal Subsidiaries is (or is, or could be, deemed by law or a court to be) insolvent or bankrupt or unable to pay its debts as and when such debts fall due, stops, suspends or threatens to stop or suspend payment of all or a substantial part of its debts, proposes or makes a general assignment or an arrangement or composition with or for the benefit of the relevant creditors in respect of any of such debts or a moratorium is agreed or declared in respect of or affecting all or any substantial part of the debts of the Issuer, the Guarantor or any of the Principal Subsidiaries; or

(g) *Winding-up:* an order of any court of competent jurisdiction is made or an effective resolution passed for the winding-up or dissolution of the Issuer, the Guarantor or any of the Principal Subsidiaries, or the Issuer, the Guarantor or any of the Principal Subsidiaries ceases or threatens to cease to carry on all or substantially all of its business or operations, except for (i) the purpose of and followed by a reconstruction, amalgamation, reorganisation, merger or consolidation on terms approved by an Extraordinary Resolution of the Bondholders, (ii) in the case of a Principal Subsidiary, whereby the undertaking and assets of such Principal Subsidiary are transferred to or otherwise vested in the Issuer, the Guarantor (as the case may be) and/or any of their respective Subsidiaries, (iii) a solvent winding-up or solvent dissolution of any Principal Subsidiary (other than the Issuer) or (iv) a disposal on an arm's length basis where the assets resulting from such disposal are vested in the Guarantor and/or any of its Subsidiaries; or

(h) *Nationalisation:* any step is taken by any person with a view to the seizure, compulsory acquisition or expropriation of all or a substantial part of the assets of the Issuer, the Guarantor or any of the Principal Subsidiaries; or

(i) *Authorisation and Consents:* any action, condition or thing (including the obtaining or effecting of any necessary consent, approval, authorisation, exemption, filing, licence, order, recording or registration) at any time required to be taken, fulfilled or done in order (i) to enable each of the Issuer and the Guarantor lawfully to enter into, exercise their respective rights and perform and comply with their respective obligations under the Bonds, the Trust Deed and the Deed of Guarantee, (ii) to ensure that those obligations are legally binding and enforceable and (iii) to make the Bonds, the Trust Deed and the Deed of Guarantee admissible in evidence in the courts of Hong Kong is not taken, fulfilled or done; or

(j) *Illegality:* it is or will become unlawful for the Issuer or the Guarantor to perform or comply with any one or more of their respective obligations under any of the Bonds, the Trust Deed or the Deed of Guarantee; or

(k) *Unenforceability of Guarantee:* except as permitted under the Deed of Guarantee, any part of the Guarantee is unenforceable or invalid or shall for any reason cease to be in full force and effect or is claimed to be unenforceable, invalid or not in full force and effect by the Issuer or the Guarantor; or

(l) *Analogous Events:* any event occurs which under the laws of any relevant jurisdiction has an analogous effect to any of the events referred to in Conditions 9(d) to 9(g) (both inclusive).

10 PRESCRIPTION

Claims against the Issuer or the Guarantor for payment in respect of the Bonds shall be prescribed and become void unless made within 10 years (in the case of principal or premium, if any) or five years (in the case of interest) from the appropriate Relevant Date in respect of them.

11 REPLACEMENT OF CERTIFICATES

If any Certificate is lost, stolen, mutilated, defaced or destroyed it may be replaced at the specified office of the Registrar or any other Agent, subject to all applicable laws and stock exchange or other relevant authority requirements, upon payment by the claimant of the expenses incurred in connection with such replacement and on such terms as to evidence, security, indemnity, pre-funding and otherwise as the Issuer and/or such Agent may require (provided that the requirement is reasonable in the light of prevailing market practice). Mutilated or defaced Certificates must be surrendered before replacements will be issued.

12 MEETINGS OF BONDHOLDERS, MODIFICATION AND WAIVER

(a) **Meetings of Bondholders**: The Trust Deed contains provisions for convening meetings of Bondholders to consider matters affecting their interests, including without limitation the sanctioning by Extraordinary Resolution of a modification of any of these Conditions or any provisions of the Trust Deed, the Agency Agreement and/or the Deed of Guarantee. Such a meeting may be convened by the Issuer, the Guarantor, or the Trustee, and shall be convened by the Trustee if requested in writing by Bondholders holding not less than 10 per cent. in aggregate principal amount of the Bonds for the time being outstanding and subject to it being indemnified and/or secured and/or pre-funded to its satisfaction against all costs and expenses. The quorum for any meeting convened to consider an Extraordinary Resolution will be two or more persons holding or representing more than 50 per cent. in aggregate principal amount of the Bonds for the time being outstanding, or at any adjourned meeting two or more persons being or representing Bondholders whatever the aggregate principal amount of the Bonds held or represented, unless the business of such meeting includes consideration of proposals, *inter alia*, (i) to modify the maturity of the Bonds or the dates on which interest is payable in respect of the Bonds, (ii) to reduce or cancel the principal amount of, any premium payable on redemption of, or interest on, the Bonds, (iii) to change the currency of payment of the Bonds, (iv) to modify the provisions concerning the quorum required at any meeting of Bondholders or the majority required to pass an Extraordinary Resolution, or (v) to modify or terminate the Deed of Guarantee other than in accordance with Condition 12(b), in which case the necessary quorum will be two or more persons holding or representing not less than 66 per cent., or at any adjourned meeting not less than 33 per cent., in aggregate principal amount of the Bonds for the time being outstanding. Any Extraordinary Resolution duly passed shall be binding on Bondholders (whether or not they were present at the meeting at which such resolution was passed and whether or not they voted in favour of or participated in such resolution).

The Trust Deed provides that a resolution (A) in writing signed by or on behalf of the Bondholders of not less than 90 per cent. in aggregate principal amount of the Bonds for the time being outstanding or (B) passed by Electronic Consent (as defined in the Trust Deed) shall for all purposes be as valid and effective as an Extraordinary Resolution passed at a meeting of Bondholders duly convened and held. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Bondholders. A resolution passed in writing will be binding on all Bondholders whether or not they participated in such written resolution.

So long as the Bonds are evidenced by the Global Certificate, Extraordinary Resolution may be passed by way of electronic consents through the relevant clearing system(s) by or on behalf of the holders of not less than 90 per cent. in aggregate principal amount of the Bonds for the time being outstanding.

(b) **Modification and Waiver**: The Trustee may (but shall not be obliged to) agree, without the consent of the Bondholders, to (i) any modification of any of these Conditions or any of the provisions of the Trust Deed, the Deed of Guarantee or the Agency Agreement which, in its opinion, is of a formal, minor or technical nature or is made to correct a manifest error or is to comply with any mandatory provision of applicable law, and (ii) any other modification (except as mentioned in the Trust Deed and the Deed of Guarantee), and any waiver or authorisation of any breach or proposed breach, of any of these Conditions or any of the provisions of the Trust Deed, the Deed of Guarantee or the Agency Agreement which is in the opinion of the Trustee not materially prejudicial to the interests of the Bondholders. Any such modification, authorisation or waiver shall be binding on the Bondholders and, unless the Trustee otherwise agrees, such modification, authorisation or waiver shall be notified by the Issuer, failing whom, the Guarantor, to the Bondholders as soon as practicable thereafter in accordance with Condition 14. The Trustee may request and conclusively rely upon certificate signed by an Authorised Signatory of the Issuer or of the Guarantor and/or an opinion of counsel concerning the compliance with the above conditions in respect of any modification and/or amendment.

(c) **Entitlement of the Trustee**: In connection with the performance and exercise of its functions, rights, powers and/or discretions (including but not limited to those referred to in this Condition 12) the Trustee shall have regard to the interests of the Bondholders as a class and shall not have regard to the interests of, or be responsible for the consequences of such exercise for individual Bondholders and the Trustee shall not be entitled to require on behalf of any Bondholder, nor shall any Bondholder be entitled to claim, from the Issuer, the Guarantor or the Trustee any indemnification or payment in respect of any tax consequence of any such exercise upon individual Bondholders.

13 FURTHER ISSUES

The Issuer may from time to time without the consent of the Bondholders create and issue further bonds having the same terms and conditions as the Bonds in all respects (or in all respects except for the issue date, the issue price, the first payment of interest on them, the timing for the Post-Issuance Filing with the NDRC and the timing for completion of the Cross-Border Security Registration) and so that such further issue shall be consolidated and form a single series with the Bonds. Any further bonds to be consolidated and form a single series with the Bonds shall be constituted by a deed supplemental to the Trust Deed and be guaranteed by the Guarantor pursuant to an additional deed of guarantee or a deed supplemental to the Deed of Guarantee. References in these Conditions to the Bonds include (unless the context requires otherwise) any other bonds issued pursuant to this Condition 13 and consolidated and forming a single series with the Bonds.

14 NOTICES

Notices to Bondholders will be valid if (a) made in writing in English and mailed to them by uninsured mail at the Issuer's (failing whom, the Guarantor's) expense at their respective addresses in the Register maintained by the Registrar and shall be deemed to have been given on the fourth weekday (being a day other than a Saturday, Sunday or public holiday) after the date of mailing; or (b) published at the Issuer's (failing whom, the Guarantor's) expense in a leading English language daily newspaper having general circulation in Asia (which is expected to be *The Wall Street Journal Asia*). The Issuer shall also ensure that notices are duly published in a manner that complies with the rules and regulations of any stock exchange or other relevant authority on which the Bonds are for the time being listed. Any such notice shall be deemed to have been given on the date of such publication or, if published more than once or on different dates, on the first date on which publication is made.

Until such time as any definitive certificates are issued and so long as the Global Certificate is held in its entirety on behalf of Euroclear Bank SA/NV and Clearstream Banking S.A., any notice to the Bondholders shall be validly given by the delivery of the relevant notice to Euroclear Bank SA/NV and Clearstream Banking S.A., for communication by the relevant clearing system to entitled accountholders in substitution for notification as required by the Conditions and shall be deemed to have been given on the date of delivery to such clearing system.

15 ENFORCEMENT

At any time after the Bonds become due and payable, the Trustee may, at its discretion and without further notice, take such actions and/or steps and/or institute such proceedings against the Issuer and/or the Guarantor as it may think fit to enforce the terms of the Trust Deed, the Deed of Guarantee and the Bonds, but it need not take any such actions and/or steps and/or institute any such proceedings unless (a) it shall have been so directed by an Extraordinary Resolution or so requested in writing by Bondholders holding at least 25 per cent. in aggregate principal amount of the Bonds then outstanding, and (b) it shall have been indemnified and/or secured and/or pre-funded to its satisfaction. No Bondholder may proceed directly against the Issuer or the Guarantor unless the Trustee, having become bound so to proceed, fails to do so within a reasonable time and such failure is continuing.

16 INDEMNIFICATION OF THE TRUSTEE

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including, without limitation, provisions relieving it from taking any steps and/or actions and/or instituting any proceedings to enforce its rights under the Trust Deed, the Agency Agreement, the Deed of Guarantee and/or these Conditions and/or in respect of the Bonds and/or the Guarantee and/or from taking other steps and/or actions and/or instituting proceedings unless first indemnified and/or secured and/or pre-funded to its satisfaction and entitling the Trustee to be paid or reimbursed for its fees, costs, expenses and indemnity payments and for any liabilities incurred by it in priority to the claims of Bondholders. The Trustee is entitled to enter into business transactions with the Issuer, the Guarantor and/or any entity related (directly or indirectly) to any of the Issuer or the Guarantor without accounting for any profit.

The Trustee may rely conclusively, and may act or refrain from acting, in each case without liability to Bondholders, the Issuer, the Guarantor or any other person on any report, confirmation, information or certificate from or any opinion advice of any lawyers, accountants, financial advisers, financial institutions or any other experts, whether or not addressed to it and whether their liability in relation thereto is limited (by its terms or by any engagement letter relating thereto entered into by the Trustee or any other person or in any other manner) by reference to a monetary cap, methodology or otherwise. The Trustee may accept and shall be entitled to rely on any such report, confirmation, information, certificate, opinion or advice, in which event such report, confirmation, certificate, opinion or advice shall be binding on the Issuer, the Guarantor and the Bondholders.

Whenever the Trustee is required or entitled by the terms of the Trust Deed, the Deed of Guarantee, the Agency Agreement or these Conditions to exercise any discretion or power, take or refrain from any action, make any decision or give any direction or certification, the Trustee is entitled, prior to exercising any such discretion or power, taking or refraining from any such action, making any such decision or giving any such direction or certification, to seek directions from the Bondholders by way of Extraordinary Resolution, and the Trustee shall be entitled to rely on any such direction or clarification and shall not be responsible or liable for any loss or liability incurred by the Issuer, the Guarantor, the Bondholders or any other person as a result of any delay in it exercising such discretion or power, taking or refraining from such action, making such decision or giving such direction or certification as a result of seeking such direction or clarification of any directions from the Bondholders or in the event that no direction is given to the Trustee by the Bondholders. The Trustee shall be entitled to rely on any direction, request or resolution of Bondholders given by Bondholders holding the requisite principal amount of Bonds outstanding or passed at a meeting of Bondholders convened and held in accordance with the Trust Deed and/or the Bonds. None of the Trustee or any Agent shall be liable to any Bondholder, the Issuer, the Guarantor or any other person for any action taken by the Trustee or such Agent in accordance with the instructions or any direction or request of the Bondholders.

None of the Trustee or any of the Agents shall be responsible for the performance by the Issuer, the Guarantor and any other person appointed by the Issuer and/or the Guarantor under the Trust Deed, the Deed of Guarantee, the Agency Agreement or these Conditions or in relation to the Bonds of the duties and obligations on their part expressed in respect of the same and, unless it has written notice from the Issuer or the Guarantor to the contrary, the Trustee and each Agent shall be entitled to assume that the same are being duly performed.

The Trustee and the Agents shall have no obligation to monitor or take any steps to ascertain compliance with the provisions of the Trust Deed, the Agency Agreement, the Deed of Guarantee or these Conditions or whether an Event of Default, Potential Event of Default (as defined in the Trust Deed) or Relevant Event has occurred or may occur, and shall not be liable to the Bondholders, the Issuer, the Guarantor or any other person for not doing so.

Each Bondholder shall be solely responsible for making and continuing to make its own independent appraisal of and investigation into the financial condition, creditworthiness, condition, affairs, status and nature of the Issuer, the Guarantor and their respective Subsidiaries, and the Trustee shall not at any time have any responsibility for the same and no Bondholder shall rely on the Trustee in respect thereof.

17 CONTRACTS (RIGHTS OF THIRD PARTIES) ACT 1999

No person shall have any right to enforce any term or condition of the Bonds under the Contracts (Rights of Third Parties) Act 1999, but this shall not affect any right or remedy which exists or is available apart from this Act.

18 GOVERNING LAW

(a) **Governing Law**: The Trust Deed, the Agency Agreement, the Deed of Guarantee and the Bonds and any non-contractual obligations arising out of or in connection with them are governed by and shall be construed in accordance with English law.

(b) **Jurisdiction**: The courts of Hong Kong are to have exclusive jurisdiction to settle any disputes, which may arise out of or in connection with the Trust Deed, the Agency Agreement, the Deed of Guarantee or the Bonds and accordingly any legal action or proceedings arising out of or in connection with the Trust Deed, the Agency Agreement, the

Deed of Guarantee or the Bonds ("**Proceedings**") may be brought in such courts. Pursuant to the Trust Deed, each of the Issuer and the Guarantor irrevocably submits to the exclusive jurisdiction of such courts.

(c) **Service of Process**: Pursuant to the Trust Deed each of the Issuer and the Guarantor has irrevocably agreed to accept service of process in any Proceedings in Hong Kong at the Guarantor's principal place of business in Hong Kong at Room 4501, 45/F., Far East Finance Centre, No.16 Harcourt Road, Admiralty, Hong Kong. If for any reason the Guarantor shall cease to have an office in Hong Kong, each of the Issuer and the Guarantor shall forthwith appoint an agent for service of process in Hong Kong and deliver to the Trustee a copy of the agent's acceptance of that appointment within 30 days of such cessation.

(d) **Independence and Waiver of Immunity**: The Guarantor is a separate legal and independent entity organised under the Company Law of the PRC; it is an enterprise undertaking commercial activities independent from the PRC government with ownership of its assets and the capacity independently to assume civil liabilities.

Each of the Guarantor and the Issuer hereby waives any right to claim sovereign or other immunity from jurisdiction or execution and any similar defence, and irrevocably consents to the giving of any relief or the issue of any process, including, without limitation, the making, enforcement or execution against any property whatsoever (irrespective of its use or intended use) of any order or judgment made or given in connection with any Proceedings.

19 DEFINITIONS

In these Conditions:

"**Additional Tax Amounts**" has the meaning ascribed to it in Condition 8;

"**Adjusted Treasury Rate**" means, with respect to any Make Whole Redemption Date, the rate per annum equal to the semi-annual equivalent yield in maturity of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date;

"**Audited Financial Reports**" means the annual audited consolidated statements of profit or loss and other comprehensive income, financial position, changes in equity, and cash flows of the Guarantor prepared under International Financial Reporting Standards or other applicable accounting standards together with any statements, reports (including any directors' and auditors' reports) and notes attached to or intended to be read with any of them;

"**Authorised Signatory**" has the meaning ascribed to the term in the Trust Deed;

"**business day**" means:

(a) in respect of Condition 3, means a day other than a Saturday, Sunday or public holiday on which commercial banks are generally open for business in the city in which the specified office of the Registrar or (as the case may be) such Transfer Agent with whom a Certificate is deposited in connection with a transfer or exchange, is located;

(b) in respect of the definitions of "**Comparable Treasury Price**" and "**Reference Treasury Dealer Quotations**", a day other than a Saturday or Sunday on which banks are open for business in New York City;

"**Certificate**" has the meaning ascribed to it in Condition 1(a);

"**Change of Control**" means the occurrence of one or more of the following events: (a) SASAC or any other agency as designated by the State Council of the PRC, together ceasing to own and control, directly or indirectly, at least 75 per cent. of Chinalco's issued and outstanding share capital; or (b) Chinalco, directly or indirectly, ceasing to be the largest holder of the issued share capital of the Guarantor or ceasing to Control the Guarantor; or (c) the Guarantor, directly or indirectly, ceasing to own and control 100 per cent. of the issued and outstanding share capital of the Issuer.

For the purpose of (b) above of this definition, Chinalco shall be deemed to "**Control**" or have "**Controlled**" the Guarantor if: (i) Chinalco, directly or indirectly (through Subsidiaries or otherwise), owns, acquires or controls more than 50 per cent. of the voting rights of the issued share capital of the Guarantor or (ii) a majority of the members of the Guarantor's board of Directors or other equivalent or successor governing body are nominated by Chinalco and/or Chinalco's Subsidiaries; or (iii) Chinalco possesses, directly or indirectly, the ability or power to direct the management policies of the Guarantor;

"**Comparable Treasury Issue**" means the U.S. Treasury security selected by the Quotation Agent as having a maturity comparable to the then remaining term of the Bonds that would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to most nearly equal to the Maturity Date and notified in writing to the Issuer and the Trustee;

"**Comparable Treasury Price**" means, with respect to any Make Whole Redemption Date:

(a) the average of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) on the third business day preceding such Make Whole Redemption Date, as set forth in the daily statistical release (of any successor release) published by the Federal Reserve Bank of New York and designated "Composite 3:30 p.m. Quotations for U.S. Government Securities"; or

(b) if such release (or any successor release) is not published or does not contain such prices on such business day, (i) the average of the Reference Treasury Dealer Quotations for such Make Whole Redemption Date, after excluding the highest and lowest of such Reference Treasury Dealer Quotations, or (ii) if fewer than three such Reference Treasury Dealer Quotations are available, the average of all such quotations;

"**Compliance Certificate**" the meaning ascribed to the term in the Trust Deed;

"**Director**" has the meaning ascribed to the term in the Trust Deed;

"**Guarantee**" has the meaning ascribed to it in Condition 2(b);

"**Listed Subsidiary**" means, at any time, any Subsidiary of the Issuer, or, as the case may be, the Guarantor, the ordinary voting shares of which are at such time listed on a recognised stock exchange, and "Listed Subsidiaries" shall be construed accordingly;

"**Make Whole Price**" means, with respect to a Bond at any Make Whole Redemption Date, the amount calculated by the Quotation Agent that is the greater of (a) the present value of the principal amount of the Bonds, assuming a scheduled repayment thereof on the Maturity Date plus all required remaining scheduled interest payments due on such Bond through the Maturity Date (but excluding accrued and unpaid interest to the Make Whole Redemption Date), computed using a discount rate equal to the Adjusted Treasury Rate plus 25 basis points, and (b) the principal amount of such Bonds;

a "**No Registration Event**" occurs when the Registration Conditions have not been satisfied in full on or before the Registration Deadline;

"**Payment Business Day**" means a day (other than a Saturday, a Sunday or a public holiday) on which banks and foreign exchange markets are generally open for business in New York City and the place in which the specified office of the Principal Paying Agent is located and in Hong Kong;

"**PRC**" means the People's Republic of China which, for the purposes of these Conditions, shall not include the Hong Kong Special Administrative Region of the People's Republic of China, the Macau Special Administrative Region of the People's Republic of China and Taiwan;

"**PRC Business Day**" means a day (other than a Saturday, Sunday or public holiday) on which commercial banks are generally open for business in Beijing;

"**Principal Subsidiary**" means any Subsidiary of the Issuer or the Guarantor:

(a) whose revenue or (in the case of a Subsidiary which itself has Subsidiaries) consolidated revenue, as shown by its latest audited income statement are at least 10 per cent. of the consolidated revenue of the Guarantor and its Subsidiaries as shown by the latest audited consolidated income statement of the Guarantor and its Subsidiaries; or

(b) whose gross assets or (in the case of a Subsidiary which itself has Subsidiaries) consolidated gross assets, as shown by its latest audited balance sheet are at least 10 per cent. of the amount which equals the amount included in the consolidated gross assets of the Guarantor and its Subsidiaries as shown by the latest audited consolidated balance sheet of the Guarantor and its Subsidiaries including, for the avoidance of doubt, the investment of the Guarantor in each Subsidiary whose accounts are not consolidated with the consolidated audited accounts of the Guarantor and after adjustment for minority interests; or

(c) to which is transferred the whole or substantially the whole of the assets of a Subsidiary which immediately prior to such transfer was a Principal Subsidiary, provided that the Principal Subsidiary which so transfers its assets shall forthwith upon such transfer cease to be a Principal Subsidiary and the Subsidiary to which the assets are so transferred shall cease to be a Principal Subsidiary at the date on which the first audited accounts (consolidated, if appropriate) of the Guarantor prepared as of a date later than such transfer are issued unless such Subsidiary would continue to be a Principal Subsidiary on the basis of such accounts by virtue of the provisions of paragraphs (a) or (b) above of this definition,

provided that, in relation to paragraphs (a) and (b) above of this definition:

(i) in the case of a corporation or other business entity becoming a Subsidiary after the end of the financial period to which the latest consolidated audited accounts of the Guarantor relate, the reference to the then latest consolidated audited accounts of the Guarantor for the purposes of the calculation above shall, until consolidated audited accounts of the Guarantor for the financial period in which the relevant corporation or other business entity becomes a Subsidiary are published be deemed to be a reference to the then latest consolidated audited accounts of the Guarantor adjusted to consolidate the latest audited accounts (consolidated in the case of a Subsidiary which itself has Subsidiaries) of such Subsidiary in such accounts;

(ii) if at any relevant time in relation to the Guarantor or any Subsidiary which itself has Subsidiaries no consolidated accounts are prepared and audited, revenue or gross assets of the Guarantor and/or any such Subsidiary shall be determined on the basis of pro forma consolidated accounts prepared for this purpose by the Guarantor;

(iii) if at any relevant time in relation to any Subsidiary, no accounts are audited, its revenue or gross assets (consolidated, if appropriate) shall be determined on the basis of pro forma accounts (consolidated, if appropriate) of the relevant Subsidiary prepared for this purpose by the Guarantor; and

(iv) if the accounts of any Subsidiary (not being a Subsidiary referred to in proviso (i) above) are not consolidated with those of the Guarantor, then the determination of whether or not such Subsidiary is a Principal Subsidiary shall be based on a pro forma consolidation of its accounts (consolidated, if appropriate) with the consolidated accounts (determined on the basis of the foregoing) of the Guarantor.

A certificate signed by any one Director of the Guarantor who is also an Authorised Signatory of the Guarantor stating that, in his/her opinion, a Subsidiary is or is not, or was or was not, a Principal Subsidiary or a Listed Subsidiary of the Guarantor shall, in the absence of manifest error, be conclusive and binding on all parties. A certificate signed by any one Director of the Issuer who is also an Authorised Signatory of the Issuer stating that, in his/her opinion, a Subsidiary is or is not, or was or was not, a Principal Subsidiary of the Issuer shall, in the absence of manifest error, be conclusive and binding on all parties;

"**Proceedings**" has the meaning ascribed to it in Condition 18(b);

"**Quotation Agent**" means the Reference Treasury Dealer selected and appointed by the Issuer (at the expense of the Issuer, failing whom, the Guarantor) and notified in writing to the Trustee;

"**Register**" has the meaning ascribed to it in Condition 1(a);

"**Registration Conditions**" means the receipt by the Trustee of the Registration Documents;

"**Registration Deadline**" means 5:00 p.m. (Beijing time) on the day falling 150 calendar days after the Issue Date;

"**Reference Treasury Dealer**" means each of any three investment banks of recognised standing that is a primary U.S. Government securities dealer in New York City, selected and appointed by the Issuer in good faith;

"**Reference Treasury Dealer Quotations**" means, with respect to each Reference Treasury Dealer and any Make Whole Redemption Date, the average as determined by the Quotation Agent, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to such Quotation Agent by such Reference Treasury Dealer at 5:00 p.m. (New York time) on the third business day preceding such Make Whole Redemption Date;

"**Regulation**" has the meaning ascribed to it in Condition 3(f);

"**Relevant Date**" means whichever is the later of (a) the date on which such payment first becomes due and (b) if the full amount payable has not been received by the Trustee or the Principal Paying Agent on or prior to such due date, the date on which, the full amount having been so received, notice to that effect shall have been given to the Bondholders;

a "**Relevant Event**" means a Change of Control or a No Registration Event;

"**Relevant Indebtedness**" means any indebtedness which is in the form of, or represented or evidenced by, bonds, notes, debentures, loan stock or other securities which for the time being are, or are intended to be or capable of being, quoted, listed or dealt in or traded on any stock exchange or over-the-counter or other securities market;

"**Relevant Jurisdiction**" means the British Virgin Islands, the PRC or, in any such case, any political subdivision or any authority therein or thereof having power to tax to which the Issuer or the Guarantor becomes subject in respect of payments made by it of any sums due in respect of the Bonds or the Guarantee (as applicable);

"**Relevant Period**" means, in relation to the Audited Financial Reports, each period of twelve months ending on the last day of the Guarantor's financial year (beginning the year ended 31 December 2020);

"**SASAC**" means the State-owned Assets Supervision and Administration Commission of the PRC or its successor;

"**Security Interest**" has the meaning ascribed to it in Condition 4(a)(i); and

a "**Subsidiary**" of any person means (a) any company or other business entity of which that person owns or controls (either directly or through one or more other Subsidiaries) more than 50 per cent. of the issued share capital or other ownership interest having ordinary voting power to elect directors, managers or trustees of such company or other business entity, or (b) any company or other business entity which at any time has its accounts consolidated with those of that person or which, under the law, regulations or generally accepted accounting principles of the jurisdiction of incorporation of such person from time to time, should have its accounts consolidated with those of that person.

SUMMARY OF PROVISIONS RELATING TO THE BONDS IN GLOBAL FORM

The Global Certificates contain provisions which apply to the Bonds while they are in global form, some of which modify the effect of the Terms and Conditions of the relevant series of the Bonds set out in this Offering Circular. The following is a summary of certain of those provisions. Terms defined in the Terms and Conditions of the relevant series of the Bonds set out in this Offering Circular have the meaning in the paragraphs below.

Each series of the Bonds will be represented by a Global Certificate which will be registered in the name of a nominee of, and deposited with, a common depositary on behalf of Euroclear and Clearstream.

Under the Global Certificates, the Issuer will promise to pay on 28 July 2024 (in the case of the 2024 Bonds) or 28 July 2026 (in the case of the 2026 Bonds) or on such earlier date as the amount payable upon redemption under the Terms and Conditions of the relevant series of the Bonds may become repayable in accordance with the Terms and Conditions of the relevant series of the Bonds the amount payable upon redemption under the Terms and Conditions of the relevant series of the Bonds in respect of the Bonds represented by the relevant Global Certificate, and to pay interest in respect of such Bonds from the Issue Date in arrear at the rates, on the dates for payment, and in accordance with the method of calculation provided for in the Terms and Conditions of the relevant series of the Bonds, save that the calculation is made in respect of the total aggregate amount of the relevant series of the Bonds represented by the relevant Global Certificate, together with such other sums and additional amounts (if any) as may be payable under the Terms and Conditions of the relevant series of Bonds, in accordance with the Terms and Conditions of the relevant series of the Bonds.

The relevant Global Certificate will be exchangeable for the definitive certificates if such Global Certificate is held on behalf of Euroclear or Clearstream, or any other clearing system selected by the Issuer and approved in writing by the Trustee, the Principal Paying Agent and the Registrar (as defined in the Terms and Conditions of the relevant series of the Bonds) (an "Alternative Clearing System"), and any such clearing system is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or does in fact do so. Individual definitive certificates will be issued in an aggregate principal amount equal to the principal amount of such Global Certificate. Such exchange will be effected in accordance with the provisions of the Trust Deed, the Agency Agreement and the regulations concerning the transfer and registration of the Bonds, in each case in respect of the relevant series of the Bonds, and, in particular, shall be effected without charge to any holder of the relevant Bonds or the Trustee, but against such indemnity and/or security as the Registrar or the relevant Agent may require in respect of any tax or other duty of whatsoever nature which may be levied or imposed in connection with such exchange. In such circumstances, the Issuer will, at its own expenses, cause sufficient individual definitive certificates to be executed and delivered to the Registrar for completion, authentication and despatch to the relevant holders. A person with an interest in the relevant Bonds in respect of which the relevant Global Certificate is issued must provide the Registrar not less than 30 days' notice at its specified office of such holder's intention to effect such exchange and a written order containing instructions and such other information as the Issuer and the Registrar may require to complete, execute and deliver such individual definitive certificates.

In addition, the relevant Global Certificate will contain provisions which modify the Terms and Conditions of the relevant series of the Bonds as they apply to the Bonds evidenced by the relevant Global Certificate. The following is a summary of certain of those provisions:

Notices: So long as the Bonds are represented by the Global Certificates and the relevant Global Certificate is held on behalf of Euroclear or Clearstream or an Alternative Clearing System, notices to Bondholders may be given by delivery of the relevant notice to Euroclear or Clearstream or such Alternative Clearing System, for communication by it to accountholders entitled to an interest in the relevant series of the Bonds in substitution for notification as required by the Terms and Conditions of the relevant series of the Bonds and shall be deemed to have been given on the date of delivery to such clearing system.

Meetings: For the purposes of any meeting of Bondholders, the Bondholders represented by the relevant Global Certificate shall (unless the relevant Global Certificate represents only one Bond) be treated as two persons for the purposes of any quorum requirements of a meeting of Bondholders and as being entitled to one vote in respect of each U.S.$1,000 in principal amount of the relevant Bonds for which the relevant Global Certificate is issued.

Transfers: Transfers of the beneficial interests in the relevant series of the Bonds represented by the relevant Global Certificate will be effected through the records of Euroclear or Clearstream or any Alternative Clearing System and their respective participants in accordance with the rules and operating procedures of Euroclear or Clearstream (or any Alternative Clearing System) and their respective participants.

Cancellation: Cancellation of any Bond represented by the relevant Global Certificate which is required by the Terms and Conditions of the relevant series of the Bonds to be cancelled will be effected by reduction in the principal amount of the Bonds in the register of Bondholders and the relevant Global Certificate on its presentation to or to the order of the Registrar for annotation (for information only) in the relevant Global Certificate.

Trustee's Powers: In considering the interests of Bondholders of the relevant series of the Bonds while the relevant Global Certificate is registered in the name of a nominee for a clearing system, the Trustee may, to the extent it considers appropriate to do so in the circumstances, but without being obliged to do so, (a) have regard to any information as may have been made available to it by or on behalf of the relevant clearing system or its operator as to the identity of its accountholders (either individually or by way of category) with entitlements in respect of the relevant series of the Bonds and (b) consider such interests on the basis that such accountholders were the Bondholders of the relevant series of the Bonds in respect of which the relevant Global Certificate is issued.

Bondholders' Redemption: The Bondholders' redemption option in Condition 6(c) of the Terms and Conditions of the relevant series of the Bonds may be exercised by the holder of the relevant Global Certificate giving notice to any Paying Agent within the time limits relating to the deposit of Bonds with a Paying Agent set out in the relevant Conditions in the Terms and Conditions of the relevant series of the Bonds, in accordance with the rules and procedures of Euroclear, Clearstream and any Alternative Clearing System, as applicable, failing which, in the form of the redemption notice available from any Paying Agent and stating the principal amount of Bonds in respect of which the option is exercised.

Issuer's Redemption: The option of the Issuer provided for in Conditions 6(b), 6(d) and 6(e) of the Terms and Conditions of the relevant series of the Bonds shall be exercised by the Issuer giving notice to the Bondholders within the time limits set out in and containing the information required by the relevant Conditions of the Terms and Conditions of the relevant series of the Bonds.

DESCRIPTION OF THE ISSUER

FORMATION

The Issuer was incorporated as a company with limited liability on 16 September 2013 under the laws of the British Virgin Islands. The registered office of the Issuer is at Maples Corporate Services (BVI) Limited, Kingston Chambers, PO Box 173, Road Town, Tortola, British Virgin Islands. As at the date of this Offering Circular, the Issuer is authorised to issue a maximum of 50,000 shares of one class of no par value and the Issuer has 100 shares in issue.

BUSINESS ACTIVITIES

The Issuer is a wholly-owned subsidiary of Chalco Hong Kong Ltd. ("**Chalco Hong Kong**"), which in turn is a wholly-owned subsidiary of the Guarantor. As at the date of this Offering Circular, the Issuer has not engaged, since its incorporation, in any material activities other than (i) issuing the 2013 October Securities and on-lending the proceeds of the 2013 October Securities to the Guarantor and some of its subsidiaries for general corporate use, (ii) Issuing the 2014 April Securities, which have been redeemed, and on-lending the proceeds of the 2014 April Securities to the Guarantor and some of its subsidiaries for general corporate use, (iii) issuing the 2016 November Securities and on-lending the proceeds of the 2016 November Securities to the Guarantor and some of its subsidiaries for general corporate use, (iv) issuing the 2018 September Securities and on-lending the proceeds to the Guarantor or any of its subsidiaries for general corporate purpose use and (v) entering into arrangements for the proposed issue of the Bonds and the proposed use of the proceeds of the Bonds for refinancing and on-lending to the Guarantor or any of its subsidiaries for general corporate use. As at the date of this Offering Circular, the Issuer has no subsidiaries nor employees.

DIRECTORS

The directors of the Issuer as at the date of this Offering Circular are Du Xiaoming and Yang Wei.

FINANCIAL STATEMENTS

As at the date of this Offering Circular, the Issuer has not prepared any financial statements and has no outstanding borrowings nor contingent liabilities other than the proposed issue of the Bonds, 2016 November Securities and the 2018 September Securities currently in issue.

DESCRIPTION OF THE GROUP

OVERVIEW

The Group is a leading enterprise in the non-ferrous metal industry in China. In terms of comprehensive scale, the Group ranks among the top enterprises in the global aluminum industry. The Group principally engages in alumina refining, primary aluminum smelting, chemical alumina products production and sales and trading and logistics of alumina, primary aluminum, other non-ferrous metal products, coal products and raw and ancillary materials in bulk. Since 2013, the Group has expanded its operations into coal mining and power generation. The remainder of the Group's revenue was derived from research and development activities and other products and services.

As at the date of this Offering Circular, the Group operates in the following five business segments:

- Alumina Segment — The Group mines and purchases bauxite and other raw materials, refines bauxite into alumina, and sells alumina to customers. The Group also engages in the production and sale of multi-form alumina bauxite.

- Primary Aluminum Segment — The Group procures alumina and other raw materials, supplemental materials and electricity power, smelts alumina to produce primary aluminum which will be sold to customers. The Group also produces and sells carbon products and aluminum alloy and other aluminum products.

- Trading Segment — The Group trades alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products, coal products and raw materials and supplemental materials, and provides logistics and transport services to customers.

- Energy Segment — The Group engages in coal mining, electricity generation by thermal power, wind power and solar power, new energy related equipment manufacturing businesses. The Group also sells coals to customers and sells electricity to regional power grid corporations.

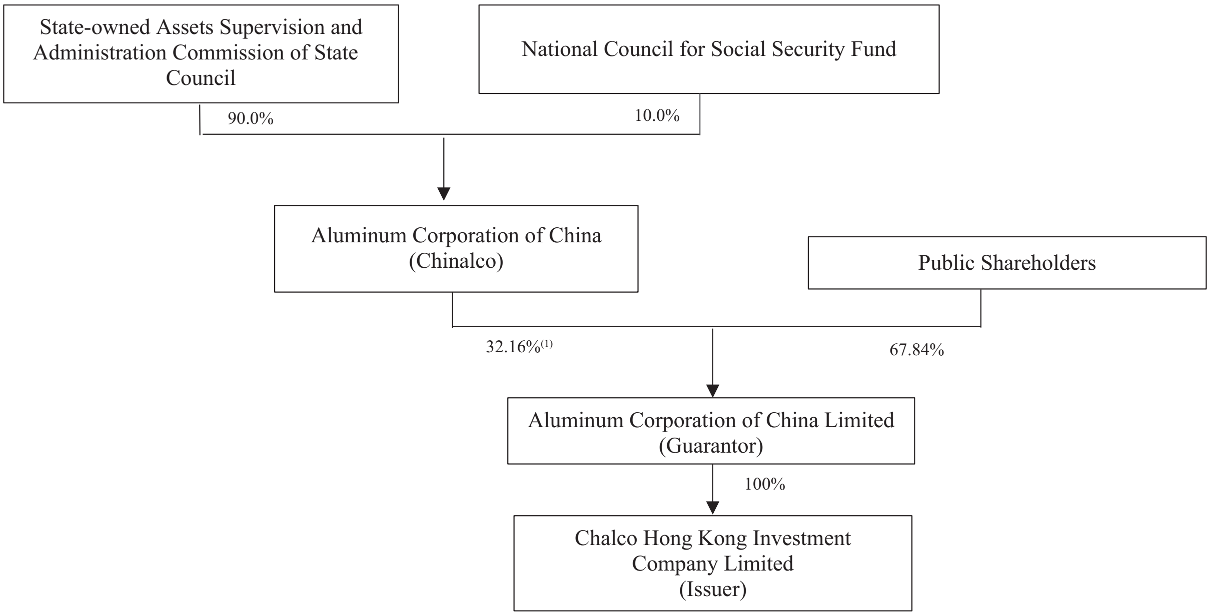
- Corporate and Other Operating Segment — This business segment mainly includes management of corporation, research and development activities and others.

The Group used to be engaged in aluminum fabrication operations, where it processed primary aluminum for the production and sales of various aluminum fabrication products. As approved at the Guarantor's 2012 annual general meeting held on 27 June 2013, the Group disposed of substantially all of its aluminum fabrication operations to Chinalco in line with the Group's development strategy to focus on the upstream sectors of the aluminum industry chain and the production of high value added products. As a result, the Group ceased to have its aluminum fabrication business as a separate segment in June 2013.

For the year ended 31 December 2019 and 2020, the Group's revenue amounted to RMB190,215.4 million and RMB185,994.3 million and the Group recorded a net profit of RMB1,490.6 million and RMB1,573.0 million, respectively for the same periods.

CORPORATE STRUCTURE

The following chart sets forth a simplified corporate structure of the Guarantor as at the date of this Offering Circular.



Note: (1) Chinalco directly owns 29.67% of the Guarantor's issued share capital and indirectly owns 2.49% of the Guarantor's issued share capital through Chinalco's controlled entities.

HISTORY AND DEVELOPMENT OF THE GROUP

The Guarantor was incorporated as a joint stock limited company under the PRC Company Law on 10 September 2001 under the name of Aluminum Corporation of China Limited. Pursuant to a reorganisation agreement entered into between Chinalco, Guangxi Investment and Guizhou Development in 2001, substantially all of Chinalco's alumina and primary aluminum production operations as well as a research institute and other related assets and liabilities were transferred to the Guarantor upon its formation. The Group acquired its bauxite mining operations and the associated mining rights from Chinalco pursuant to a separate mining rights agreement.

The Guarantor's H shares have been listed on the Main Board of the HKSE since 12 December 2001 (stock code: 2600) and became one of the Hang Seng index component stocks, and the Guarantor's A shares have been listed on the Main Board of the Shanghai Stock Exchange since 30 April 2007 (stock code: 601600). The Guarantor's ADSs have been listed on NYSE since 11 December 2001 (ticker symbol: ACH). The Guarantor was the only enterprise in the PRC named in the list of "Top 30 Global Non-ferrous companies" by *Metal Bulletin* from 2001 to 2002.

The Group experienced rapid growth from 2004 to 2008 and successfully consolidated and reorganised various aluminum assets and improved the concentration and competitiveness of aluminum smelters. Supported by the rapid development of the Group's business, Chinalco, the controlling shareholder of the Guarantor, has been a Fortune Global 500 company since 2008. The Guarantor ranked the third among the Chinese companies listed in the "Top 50 Publicly-listed Asia Companies" by *Business Week* in 2006. During the industrial transformation period from 2009 to 2014, the Group made firm decisions to strategically transform and upgrade by modernising production capacity, improving operation efficiency and reducing operation costs. In addition, the Group expanded into downstream sectors of the aluminum industry value chain and secured energy resources to increase business combination and operation efficiency. The Group also proactively adjusted core businesses by disposing of the aluminum fabrication operations and formed the four main business segments, alumina, primary aluminum, trading and energy. The Group become the supplier of major aluminum alloys and components of Shenzhou IX spacecraft in 2012. Since 2015, the Group obtained favourable results in strategic transformation initiatives and recorded profits for the following four consecutive years. Supported by abundant bauxite resources, the Group was able to improve its ability to secure internal supply of resources as a solid foundation for the continuous development of the Group's business. The Group further optimised the industry layout of its alumina and primary aluminum businesses and focused on the downstream sectors of the aluminum industry value chain, which the Group believes have higher margins and more competitiveness. The marketing, procurement and logistics platforms provide synergy effects to support the Group's core business. In addition, the Group continued to invest in technological innovations and technical improvement of production procedures and effectively reduced production costs. Since 2017, the Guarantor has successively introduced eight investors to implement market-oriented debt-to-equity swaps, effectively lowering the asset-to-liability ratio, greatly reducing financial costs and increasing its ability to resist the industry cycle risk.

Principal Subsidiaries

The table below sets forth details of the Group's principal subsidiaries as at 31 December 2020:

Principal Subsidiaries	Percentage of ownership interest attribution to the Guarantor	Principal activities
Shanxi Huaxing Aluminum Co. Ltd.	100.00%	Manufacture and distribution of alumina
Baotou Aluminum Co., Ltd.	100.00%	Manufacture and distribution of primary aluminum, aluminum alloy and related fabricated products and carbon products
Chalco HongKong Limited[(1)]	100.00%	Overseas investment and alumina import and export activities
China Aluminum International Trading Co, Ltd	100.00%	Import and export activities
Charlco Shanxi New Material Co., Ltd.	85.98%	Manufacture and distribution of alumina, primary aluminum and anode carbon products and electricity generation and supply
China Aluminum International Trading Group Co., Ltd..	100.00%	Import and export activities
Zunyi Aluminum Co., Ltd.	67.45%	Manufacturing and distribution of primary aluminum and alumina
Chalco Mining Co., Ltd..	100.00%	Manufacture, acquisition and distribution of bauxite mines, limestone ore, manufacturing and distribution of alumina
Chalco Energy Co., Ltd..	100.00%	Thermoelectric supply and investment management
China Aluminum Ningxia Energy Group Co., Ltd.	70.82%	Thermal power, wind power and solar power generation, coal mining, and power-related equipment manufacturing
Guizhou Huajin Aluminum Co., Ltd.	60.00%	Manufacture and distribution of alumina
Chalco Zhengzhou Research Institute of Non-ferrous Metal Co., Ltd.	100.00%	Research and development services
Chalco Shandong Co., Ltd.	100.00%	Manufacture and distribution of alumina
Chalco Zhongzhou Aluminum Co., Ltd.	100.00%	Manufacture and distribution of alumina
China Aluminum Logistics Group Corporation Co., Ltd..	100.00%	Logistic transportation
Chinalco Shanxi Jiaokou Xinghua Technology Ltd.	66.00%	Manufacture and distribution of primary aluminum
Chinalco Shanghai Company Limited	100.00%	Trading and engineering project management
Shanxi China Huarun Co., Ltd.	40.00%	Manufacture and distribution of primary aluminum
Guizhou Huaren New Material Co., Ltd.	40.00%	Manufacture and distribution of primary aluminum
Chinalco Materials Co., Ltd.	100.00%	Procurement of materials including raw materials and fuels

Note:

(1) Chalco HongKong Limited is incorporated in Hong Kong. All other principal subsidiaries of the Group are incorporated in the PRC.

The Controlling Shareholder

As at 31 December 2020, the Guarantor's parent company, Chinalco, a state-owned enterprise, beneficially owns 32.16% of the Guarantor's outstanding ordinary shares directly and indirectly through its controlled entities. Established on 23 February 2001, Chinalco is a key state-owned enterprise directly supervised by the central government. It principally engages in mineral resources development, non-ferrous metals smelting and processing, related trading activities as well as providing engineering and technical services. It also has the strongest copper capacity in China. According to Fortune Magazine, Chinalco, a Fortune Global 500 company since 2008, was ranked 217th among the Fortune Global 500 in 2020. As at 20 May 2021, Chinalco controlled six listed subsidiaries in the PRC, including Chalco.

Chinalco holds a significant portion of the Guarantor's domestic shares in the form of state legal person shares, which do not have voting rights different from the Guarantor's other shares. Chinalco has substantial influence over the Guarantor's management, policies and corporate actions and can exercise all rights as the Guarantor's controlling shareholder subject to the relevant laws, rules and regulations.

Disposal of Aluminum Fabrication Business

In line with the Group's development strategy to focus on the upstream sectors of the aluminum industry chain and the production of high value added products, the Group disposed of substantially all of its aluminum fabrication operations to Chinalco pursuant to the approval of its shareholders at the 2012 annual general meeting held on 27 June 2013.

On 13 May 2013, the Group submitted a tender notice to the China Beijing Equity Exchange to dispose of the equity interest it held in eight Aluminum Fabrication Subsidiaries, including Henan Aluminum, Chalco Southwest Aluminum, Chalco Southwest Aluminum Cold Rolling, Huaxi Aluminum, Qingdao Light Metal, Chalco Ruimin, Chalco Sapa Aluminum Products (Chongqing) Co., Ltd. and Guizhou Chalco Aluminum Co., Ltd. (collectively, "**Aluminum Fabrication Interests**") through open tender. Chinalco participated in and won the bid for the Aluminum Fabrication Interests on 7 June 2013. The Group entered into an agreement (the "**Aluminum Fabrication Interests Transfer Agreement**") with Chinalco on 9 June 2013 for the disposal of Aluminum Fabrication Interests for a consideration of RMB3,242.2 million. Such consideration was the initial bidding price, which was determined with reference to the appraised value of the Aluminum Fabrication Interests. Pursuant to the Aluminum Fabrication Interests Transfer Agreement, Chinalco agreed to pay the consideration in cash in two installments, namely, 30% of the consideration to be paid within five business days after the effective date of the agreement and 70% of the consideration to be paid by 30 June 2014. Chinalco shall pay interest for the second installment for the period starting from the date immediately after the effective date until the payment date at the one-year lending rate set by the PBOC. The disposal was approved at the 2012 annual general meeting held on 27 June 2013 and the Group completed the disposal on 27 June 2013. As at the date of this Offering Circular, Chinalco has paid the consideration in full.

As a condition precedent of the disposal of the Aluminum Fabrication Interests, on 9 June 2013, the Group entered into an agreement with Chinalco to transfer the outstanding entrusted loans the Group provided to Henan Aluminum and Qingdao Light Metal as at 31 December 2012 to Chinalco for a consideration of RMB1,756.0 million. Such consideration was determined by the parties with reference to the appraised total value of the loans. Pursuant to the agreement, Chinalco agreed to pay the consideration in cash in five equal instalments of RMB351.2 million, with the last installment, together with the relevant interests at the one-year lending rate set by the PBOC, to be paid on or before 30 June 2017. Such transfer was approved at the 2012 annual general meeting held on 27 June 2013 and the Group completed the transfer on 27 June 2013. As at the date of this Offering Circular, the payment has been fully settled by Chinalco.

In addition, the Group entered into an agreement with Northwest Aluminum Fabrication Plant, a subsidiary of Chinalco, on 6 June 2013 to dispose of all the assets of Northwest Aluminum for RMB1,659.6 million. Such consideration was determined by the parties with reference to the appraised net asset value of Northwest Aluminum. Pursuant to the agreement, Northwest Aluminum Fabrication Plant agreed to pay the consideration in cash in five equal instalments of RMB331.9 million, with the last installment, together with the relevant interests at the one-year lending rate set by the PBOC, to be paid on or before 30 June 2017. Such disposal was approved at the 2012 annual general meeting held on 27 June 2013 and the Group completed the disposal on 27 June 2013. As at the date of this Offering Circular, the payment had been fully settled by Northwest Aluminum Fabrication Plant.

Disposal of Chalco Iron Ore

Chalco Iron Ore, whose main business is investing in development of Simandou iron ore mine located in Guinea, used to be a subsidiary of Chalco Hong Kong. The Guarantor used to hold, through Chalco Hong Kong, 65% of the equity interests in Chalco Iron Ore (the "**Target Equity**"), with the remaining 35% held by other independent third parties. In line with the Guarantor's development strategy, the Guarantor entered into a share purchase agreement with Chalco Hong Kong, Chinalco and Chinalco Overseas Holdings on 18 October 2013, through which, the Guarantor disposed of the Target Equity through Chalco Hong Kong, to Chinalco Overseas Holdings, a wholly-owned subsidiary of Chinalco. The transfer of the Target Equity became effective on 26 December 2013, as a result of which, Chalco Hong Kong no longer holds any equity interest in Chalco Iron Ore and the financial results of Chalco Iron Ore ceased to be consolidated into the Group's financial results.

The Guarantor believes that this disposal has helped the Group to focus on the development of its core business of alumina and primary aluminum operations, where it has established leading market positions, reduce future capital expenditures on iron ore development and to improve asset-to-debt ratio and generate expected cash flows.

Boffa Project

On 8 June 2018, Chalco Hong Kong, Mining Company and the Guinean Government entered into a mining convention pursuant to which the Guinean Government will grant the Mining Company the mining licenses for the bauxite blocks in Boffa Nord and Boffa Sord for an initial term of 15 years commencing from the date of issue of the order for granting the mining licenses and renewable for another 15 years upon each expiry until the bauxite deposits are exhausted, and the last renewal period shall be the remaining time before the depletion of the bauxite deposits.

The mining area of the Boffa project is situated in the northeast Boffa, the provincial capital of Boffa Prefecture, Guinea. It contains two mining areas named Boffa Nord and Boffa Sord with an area of approximately 599 km^2 and approximately 658 km^2, respectively. According to the previous research and analysis conducted by the Guarantor, the Boffa project has available resource reserve of approximately 1.75 billion tonnes, in which alumina content and silicon dioxide content are approximately 39.1% and 1.1% respectively. Based on the previous research and the preliminary analysis conducted by the Guarantor and after taking into account (i) the bauxite reserve and the minable quantity in the mining area of the Boffa project; (ii) the advancement and effectiveness of the existing development technologies; (iii) labor cost, transportation expense and other development costs and other factors, the total investment of the Boffa project is estimated to be approximately US$706 million. This later may be subject to expansion pursuant to the need of actual situation. The Project was completed and put into operation in April 2020, by which an aggregate of RMB2,770 million of capital expenditure had been incurred for the Boffa Project. By the end of 2020, the Group extracted approximately 8.06 million tonnes of bauxite from the Boffa mine.

RECENT DEVELOPMENTS

Announcement of Financial Results of the Three Months Ended 31 March 2021

On 27 April 2021, the Group published its unaudited and unreviewed financial information as of and for the three months ended 31 March 2021 to satisfy its continuing disclosure obligation relating to our listing on the HKSE and the SSE. Such financial information has not been subject to an audit or review by the Group's auditors, and does not form part of this Offering Circular. It should not be relied upon by investors to provide the same quality of information associated with information that has been subject to an audit or review. Investors should be cautious and not place any reliance on the financial information other than that disclosed in this Offering Circular. None of the Trustee, the Agents or any of their respective affiliates, directors, employees, agents, representatives, officers, advisers or any person who controls any of them makes any representation or warranty, express or implied, regarding the sufficiency of the unaudited and unreviewed financial information as of and for the three months ended 31 March 2021 for an assessment of, and potential purchasers must exercise caution when using such data to evaluate, the Group's financial condition and results of operations. Such information should not be taken as an indication of the expected financial condition, results of operations and results of the Issuer or Group for these periods or the full financial year ending 31 December 2021.

For the three months ended 31 March 2021, the total revenue of the Group has increased significantly compared to the same period in 2020, primarily due to the increase in the selling price and the decrease in the cost of sales. The Group's net profit attributable to owners of the parent of the Group also increased for the three months ended 31 March 2021 compared with the corresponding period in 2020, primarily due to the increase of the price and decrease of the cost of electrolytic aluminum products.

Issuance of Carbon Neutral Bonds

On 1 June 2021, as approved by the National Association of Financial Market Institutional Investors, the Guarantor issued the very first green super short-term financing bond ("**Carbon Neutral Bonds**") with an aggregate principal amount of RMB400 million and a term of 269 days, with a coupon rate of 2.6 per cent. The Group intends to use the proceeds from the issuance of the Carbon Neutral Bonds to repay the project loan of its subsidiaries' wind power project.

Announcement on Estimated Profit Increase for the First Half of 2021

On 16 July 2021, the Group published an announcement on estimated profit increase for the first half of 2021. Based on preliminary calculations, the net profit attributable to the shareholders of the Group and the net cash flow generated from operating activities of the Group from 1 January 2021 to 30 June 2021 is expected to increase significantly compared with the corresponding period of the preceding year, as a result of the Group's effective control over cost and substantial increase in the gross profit of its principal products, as well as its efforts in improving the capital management level. The Group's gearing ratio as at 30 June 2021 is expected to decrease as compared with that as at the end of the preceding year, primarily due to the Group's stable improvement of its corporate operation level by way of concentrating on accounts receivables and inventories and debt pressure reduction.

Such estimated results are preliminary calculations of the Group only. Finalized details of the financial data of the Group will be disclosed in its interim report for the year of 2021. The relevant financial data in the estimated results announcement of the Company for the period have not been audited or reviewed by any certified public accountants and do not form part of this Offering Circular. Investors are advised to be aware of the investment risks involved and should be cautious and not place any reliance on the financial data other than that disclosed in this Offering Circular. None of the Trustee, the Agents or any of their respective affiliates, directors, employees, agents, representatives, officers, advisers or any person who controls any of them makes any representation or warranty, express or implied, regarding the sufficiency of the estimated results for the first half of 2021 for an assessment of, and potential purchasers must exercise caution when using such data to evaluate, the Group's financial condition and results of operations.

Such information should not be taken as an indication of the expected financial condition, results of operations and results of the Group for these periods or the full financial year ending 31 December 2021.

COMPETITIVE STRENGTHS

A leading company in the aluminum industry

The Group is a leading enterprise in the non-ferrous metal industry in China and ranks among the top enterprises in the global aluminum industry. The Group is a leading enterprise in aluminum industry in China, ranking among the top in the global aluminum industry in terms of overall strengths, and is a large manufacturer and operator with integration of mining of bauxite, coal and other resources; production, sales and technology research of alumina, carbon, primary aluminum and aluminum alloy products; international trade; logistics business; thermal and new energy power generation. The Group ranks first in the world in terms of its alumina production capacity, refined alumina production capacity, carbon production capacity, revenue scale and assets scale among its competitors in the same in 2020. The Group ranks second in the world in terms of its primary aluminum production capacity among its competitors in 2020. In 2020, the Group's production volume of alumina and primary aluminum amounted to approximately 14.53 million tonnes and 3.69 million tonnes, representing approximately 23.1% and 9.9% of the total alumina and primary aluminum output (including chemical alumina products) in China in 2020, respectively. For the years ended 31 December 2019 and 2020, the Group's revenue amounted to RMB190,215.4 million and RMB185,994.3 million and the Group recorded a net profit of RMB1,490.6 million and RMB1,573.0 million, respectively for the same periods. The Group maintains stable cash flow performance and adheres to the "Control Investment and Keep Cash"（控投資、保現金）Strategy; hence the Group achieved a year-on-year increase of 19% of operating net cash flow increase in 2020, representing the best performance level in recent years.

Capitalising on its deep understanding of the structural challenges of the aluminum industry that it has accumulated through years of operations, the Group maintains its leading market positions across the aluminum value chain. In addition, the Group possesses a comprehensive industry chain coverage with a well-planned and integrated operating structure that covers key sectors of the value chain, namely from bauxite mining, through alumina refining to primary aluminum production and trading of relevant commodities and aluminum alloy products the Group produced, which connects the upstream and downstream sectors.

In addition, the Group believes that it has strong capacity in technology research and is equipped with more sophisticated and efficient technology than most of its domestic competitors. The Group's research and development efforts over the years have the focus on facilitation the expansion of its production capacity and reduction of unit costs. The Group believes its utilisation of scientific and technological achievements has continuously improved its technologies in manufacturing and has facilitated the expansion of its production capacity and reduced unit costs.

Business development strategically aligned with the industry policies promulgated by the PRC government

In recent years, the PRC Government has implemented various measures, namely the supply side structure reform policy in order to improve the development of the overall aluminum industry in China, aiming to promote integration of aluminum operations with energy operations, requesting the demolishment of outdated production capacity and securing high-quality bauxite resources in China and overseas. The PRC government encourages consolidation in the Chinese primary aluminum industry to create larger, more efficient producers that are better positioned to implement measures to reduce emissions. The Group has actively responded to the national supply side structural reform policy and has adjusted its business development, which in turn benefits the Group's business operations and development, and strengthens its leading market positions in China's aluminum industry. For example, the Group has upgraded its production technologies, disposed of or closed outdated production capacities, transferred its production capacity to energy-rich areas, and acquired and consolidated suitable aluminum producers in China, in order to further improve its competitiveness. In addition, the Group has improved the alloying rate of products, increased the development of high value added refined alumina products, and continues to improve its competitive advantage.

In addition, the PRC Government recently encouraged enterprises to reduce carbon emissions in the course of operation, namely carbon reduction through production, carbon reduction through management, carbon reduction through technology and carbon reduction through life style. In response to "Emission Peak and Carbon Neutrality"（碳達峰、碳中和） and green development strategies, in June 2021, the Group issued the very first green carbon neutral bonds in the aluminum industry with an aggregate principal amount of RMB400 million and a term of 269 days, with a coupon rate of 2.6 per cent.. The Group continues to adhere to the environmental leadership strategy, fully implements the mandatory technical specifications of environmental management, formulates the company's carbon peak and carbon neutralization work plan, and vigorously carries out the action of reducing pollution and carbon. The Group has incorporated clean technologies which are subsequently incorporated into its operations to promote the concept of "zero emission" plants. The Group is committed to reducing emissions in all aspects, emphasises on environmental protection and pursues the green development pathway to echo the "Emission Peak and Carbon Neutrality"（碳達峰、碳中和） government initiative. In 2020, the Group has achieved remarkable recognitions in green development, for example, Zunyi Aluminum was recognised as a national green factory and the Group has built one new national level green mine and nine provincial level green mines, with 11,042 mu of reclaimed land and a reclamation rate of 94%. Shanxi Zhongrun became the first Grade A enterprise of the Guarantor to pass the performance review on heavy pollution weather in key industries and the Group increased its research efforts on environmental protection technology. For instance, the red mud of Chalco Shandong was used in expressway construction.

Furthermore, the Group is accelerating alumina supply bases expansions to vigorously develop the "Coastal and Overseas"（兩海）strategy. The Group believes that it is the only producer of alumina and primary aluminum in the PRC aluminum industry that also owns bauxite mine resources. As at 31 December 2020, the Group owned 15 bauxite mines worldwide. The Group's bauxite mines had approximately 968.2 million tonnes of aggregate bauxite reserves as at 31 December 2020. The Group believes that it owns and manages rich bauxite resources, and will continue to increase the number of self-owned bauxite, improve bauxite self-supply ratio and protect resource reserve. Pursuant to the Belt and Road Initiative, the Group will further explore the international responses to China's Belt and Road Initiative, explore international production capacity collaboration, expand access to bauxite resources, and actively acquire new overseas bauxite resources in Africa, Southeast Asia and other countries. In April 2020, the Boffa project in Guinea was completed and has commenced production, which has improved the Group's bauxite self-supply ratio.

The Group's business developments are strategically aligned with those policies aforementioned, which in turn benefits the Group's business operations and development, and strengthens its leading market positions in China's aluminum industry.

Strong support from the government and controlling shareholder

The Group is a strategic corporate platform for the PRC aluminum industry. At the time of its establishment, the Group was the only producer of both alumina and primary aluminum in the China. The Guarantor's controlling shareholder, Chinalco, is one of the key central enterprises under direct supervision of the State-owned Assets Supervision and Administration Commission of the State Council (the "**Central SASAC**"). As the Guarantor is the core subsidiary of Chinalco in which Chinalco has absolute control over its board of directors and management, the Guarantor has benefited and believes that it will continue to benefit from its parent company's favourable polices from the state. The Group has optimised its production facilities layout in China by allocating production capacity to regions with abundant raw material or energy supply at low costs, during such process the Group works closely with and is supported by local government. As a key component of the value chain, the Group's business is closely related to local economy and social livelihood, such as power plant, power grid, infrastructure, transportation, taxation and employment. The Group also actively participated in national policy making process and benefit as one of the main platforms for Chinalco to participate in promoting country-led policy implementation. In addition, the Group actively and closely cooperates with local government and large state-owned enterprises, including China Petroleum & Chemical Corporation ("**Sinopec**"), PetroChina Company Limited ("**PetroChina**"), China General Nuclear Power Group, CNBM Investment Co., Ltd, CITIC Group Corporation Ltd., China Merchant's Group, China Shipbuilding Industry Corporation, China Baowu Steel Group Corp., Ltd., China North Industries Group Corporation Limited, Guangxi Investment Group Co., Ltd., and Qingdao City Construction Investment (Group) CO., Ltd., to continuously update and improve its four aluminum industrial bases in Inner Mongolia, Shanxi, Guizhou and Guangxi and four carbon product bases in Gansu, Guizhou, Liaoning and Shanxi so as to accelerate the formation of the industrial synergy and agglomeration effect of traditional aluminum industry. As a leading company in the industry with close relationship with the Central SASAC, the Group is commissioned to consolidate the PRC aluminum industry in view of the recent oversupply in the whole industry by leveraging its capital and technology advantages.

The Group has also benefited from being the core subsidiary of, and the support provided by its controlling shareholder, Chinalco, who beneficially owns 32.16% of the Guarantor's outstanding ordinary shares as at the date of this Offering Circular. The Group received support from Chinalco in respect of its strategic development since its inception when Chinalco injected its entire bauxite mining, alumina refining and aluminum related operations into the Group without leaving any competing business, which ensured the Group's successful development. Chinalco also offered various assistance to the Group during the course of its establishment of financing channels and the Group's applications for projects that enjoy government subsidy or support, including state laboratories focusing on developing technologies for aluminum production and energy saving. In recent years, Chinalco also supported the development of the Group through acquiring the Group's non-core business operations with comparative low profitability or high capital demand, such as the Group's aluminum fabrication business and its equity interests in the Simandou Project, so that the Group could focus on its core businesses and achieve its long-term goals while maintaining favourable near-term gains. In addition, the Group benefits from decision supports from Chinalco where Chinalco has provided support in the overall business policy, business development direction and strategic planning to benefit the Group's long term, stable and sustainable development as Chinalco's core strategic unit. Furthermore, Chinalco has actively assisted the Group's coordination with a number of PRC administrative agencies, namely the NDRC, MOFCOM, STA, MOF, SASAC, SAFE and other ministries and provided support in the communication of matters regarding the foreign debt registration, import and export businesses and financial subsidies matters.

The description of support from PRC government above is on the support given to the Group's business operations and should not be read as any indication that the PRC government will provide any financial support to the Issuer or the Guarantor in respect of its obligations under the Bonds. Any ownership or control by the PRC government does not necessarily correlate to, or provide any assurance as to, the Issuer or the Guarantor's financial condition. See "Risk Factors – Risks Relating to the PRC – The PRC government has no payment or other obligations under the Bonds" for more information.

Growing core competitiveness to enhance resilience towards industry cycles

The Group has achieved favourable results by undertaking strategic transformation initiatives to optimise its business structure with an increased focus on profitability and reduced product costs in the face of challenging economic and market conditions in recent years. Despite the slowdown in the growth of China's economy and a significant and unprecedented price fluctuation of aluminum in 2020 due to the COVID-19 pandemic impact, the Group recorded a net profit of approximately RMB1,490.6 million for the year ended 31 December 2019 and a net profit of approximately RMB1,573.0 million the year ended 31 December 2020. The Group possesses the following core strengths in order to minimise the risk of raw material price fluctuation in the industry.

- **Leveraging on mining resources advantages and optimising the bauxite self-supply ratio**: The Group attaches great importance to securing stable supplies of bauxite through acquisition and development of high-quality bauxite resources. The Group believes that it is the only producer of alumina and primary aluminum in the PRC aluminum industry that also owns bauxite mine resources. The Group believes that it owns and manages rich bauxite resources in China.

Capitalising on its abundant bauxite resources, it can optimise the percentage of bauxite sourcing from third parties and the Group's own mines based on market prices, which in turn effectively reduces the risk of raw material price fluctuation. As at 31 December 2020, the Group owned 15 bauxite mines worldwide. The Group's bauxite mines had approximately 1.8 billion tonnes of aggregate overseas bauxite reserves as at 31 December 2020. The Group's self-owned mine rate increased from 37.6% in 2019 to 46.4% in 2020. The Group adheres to the global allocation of bauxite resources. In respect of the acquisition of foreign resources, the Group focuses on the improvement and optimisation of its project in Guinea, and actively explores the acquirement and development of bauxite resources in Indonesia and other Southeast Asian countries. As a result of significant progress of the "Coastal and Overseas"（兩海） strategy, the Group completed the Boffa mine in Guinea, which is the first overseas bauxite supply base of the Group and was put into production in April 2020. The Group's bauxite self-supply ratio increased from 37.6% in 2019 to 46.4% in 2020 and is expected to further increase significantly in the future. The Group currently owns 15 bauxite mines worldwide and will continue focusing on resource acquisition in the future in order to minimise the risk of raw material price fluctuation.

- **The top end of the value chain and start new journey on high-qualify development**: The Group has focused on the development of aluminum alloy and the production capacity of high-purity aluminum which has technologic features of low cost, low energy consumption and no pollution. In addition, the Group strives to improve its technologies in alumina refining, in particular, its alumina-to-silica ratio. For technologies in mining operations, through years of efforts, the Group has successfully developed mining technology suitable for the complex geological conditions of bauxite mines in China, which allows it to safely conduct mining operations with a comparatively low cost. The Group also actively made application of technological innovations such as the removal of alumina organic compound, comprehensive utilisation of red mud, low cost and high efficiency Alumina production, zero carbon residue production which are being promoted in the industry. The Group achieved significant progress in its high-purity aluminum production. The Group is the world's largest supplier of refined alumina, high-purity aluminum producer. In 2020, the Group's production volume of refined alumina amounted to 3,940 thousand tonnes, representing a 4% increase of that in 2019. In 2019 and 2020, the Group's production volume of aluminum alloy amounted to 1,270 and 1,260 thousand tonnes, respectively. The Group possesses the most sophisticated aluminum technology in China. For example, Zhengzhou Institute, as the Central SASAC "Science Reform Demonstration Enterprise", is equipped with the most advanced technology in China's aluminium industry, together with the support of Chinalco Central Research Institute and Aluminum Magnesium Design Institute. In 2020, the Group has newly developed 22 medium and high value-added alloy products and 12 refined alumina products, and has realised significant economic benefit from alloying and refined alumina.

- **Cost Advantage**: the Group refined its cost reduction measures in the following four aspects and has achieved significant cost reduction results.

  o Take all-factor benchmarking action to control cost: the Group continues to optimise manufacture management, decreases energy usage and establishes integrated marketing, procurement and logistics platforms to achieve refined operations. The Group continues to explore global mining capacity to ensure abundant supply of mineral ores and cope with market price fluctuation.

  o Technology upgrade and innovation: the Group emphasises on scientific research to continuously optimise production technology and procedures in order to improve the quality of products. The Group will further focus on the manufacturing of high value-added products with advanced technology so as to increase profit margin and the Group believes that it will achieve key technology breakthrough.

- o Management innovation: the Group implements a market oriented evaluation mechanism on the operation and results of the Guarantor's subsidiaries and branches in order to further optimise personnel allocation to promote job reassignment for employees and increase employee quality to boost business vitality, including the implementation of contract management and manager system.

- o Respond to market change flexibility: the Group utilises financial tools, flexible production arrangements and stable upstream downstream relationship to cope with complicated market dynamics, enhance resilience towards industry cycles.

By implementing the above measures, the average primary aluminum production cost of the Group has gradually reduced with industry ranking rising to top 40%. In addition, the Group's operating performance continues to improve leveraging on the three key advantages. For example, despite unprecedented alumina and primary aluminum price fluctuation and a slip in total revenue in 2020 due to COVID-19, having benefited from strict cost control measures, the Group recorded a year-on-year net profit increase of 5.5% in 2020. By taking integrated cash management measures to effectively improve the cash usage efficiency, the Group's liabilities to assets ratio has reached a new low. In 2020, the Group recorded a year-on-year liabilities to assets ratio (which was computed by dividing the total liabilities by the total assets of the Group as at 31 December 2020) decrease of 1.7%.

A robust developer and executor of aluminum industry strategy

The Group frequently participates in or initiates the formulation of industry standards and has been involved closely in the set-up of national policies and industrial standards for aluminum industry. The Group has become the major entity in charge of formulating national policies and industry technical standards in the aluminum industry, particularly in the aluminum industry where almost all of the technical standards are produced by the Group. Specifically, in relation to the aluminum industry, approximately 85.8 per cent. of the 283 national/industrial standards for the industry and 2 international/industrial standards for the industry are developed by the Group. In 2019, the Group became the first enterprise in the non-ferrous industry and among central enterprises to implement self-declaration disclosure of enterprise standards.

Below is a summary of major policies and standards formulated under the leadership of the Group:

Authority in Charge	Major Polices and Standards Formulated by the Group
State Council	The State Council: Guiding Opinions of the State Council on Resolving the Conflict of Rampant Overcapacity《國務院關於化解產能過剩矛盾的指導意見》
National Development and Reform Commission . . .	National Development and Reform Commission: Circular on the Closing Down and Rectifying Forces targeting Non compliant Projects in the Aluminum Industry《清理整頓電解鋁行業違規專案行動工作方案》
	National Development and Reform Commission: Circular on Facilitating the Orderly Development of Alumina Industry《關於促進氧化鋁產業有序發展的通知》
Ministry of Industry and Information Technology	Ministry of Industry and Information Technology: Norms and Conditions of the Aluminum Industry (2020 Version)《鋁行業規範條件》(2020年本)
	Ministry of Industry and Information Technology: Circular on the Inter province Replacements of Intra group Aluminum Capacities《關於企業集團內部電解鋁產能跨省置換工作的通知》

	Ministry of Industry and Information Technology: Circular on the Capacity Replacement Matters by Aluminum Enterprises through Merger and Acquisitions《關於電解鋁企業通過兼併重組等方式實施產能置換有關事項的通知》
Ministry of Land and Resources	Ministry of Land and Resources: Research Study on the Three rates System in relation to Tungsten Ore, Molybdenum Ore and Bauxite Mineral Reserves《鎢礦、鉬礦、鋁土礦礦產資源"三率"指標體系研究報告》

In addition, the Group led or participated in the formulation of more than 10 international/national nonferrous metals industry standards, including Nonferrous Metals Ming Design Standards, Technical Procedures and Standards for the Production Safety of Bauxite Mines and Construction Standards of non- ferrous Metals Green Mines.

The Group is also committed to strengthening scientific research efforts to promote technological reform. The Group's technological innovation and advanced technology promotion capabilities rank among the forefront of the industry. For example, the Group is currently running one national technical centre, one national engineering research centre, two PhD research stations along with 12 national and industry-accredited laboratories and testing centres. In 2020, the Group had 31 new inventions and patents, and led the formulation of 18 standards at group or higher level. As at 31 December 2020, the Group owned 1,404 valid patents, which were primarily related to technologies and process, equipment and new products.

Strong liquidity position with access to various sources of capital

The Group has a strong liquidity position supported by its operating cash flow generation capacities, disciplined capital expenditure programmes and access to various funding sources. The Group's sources of funding include, in addition to the Previous Securities, bank loans and medium and short-term bonds. In addition, the Group has developed and maintained long-term relationships with policy banks in the PRC and other major PRC and international banks and has never experienced material difficulty in obtaining bank loans. As at 31 December 2020, the aggregate banking facilities of the Group amounted to approximately RMB207.6 billion, respectively, among which, approximately 24.7% has been used. The Guarantor has been assigned a corporate credit rating of "A-" with a stable outlook by Fitch, which was the highest rate award in the global non-ferrous metal industry, reflecting the Guarantor's superior credit background.

Over the years, the Group has established sound relationships with, and able to access loans and credit facilities from major PRC domestic financial instructions, including the Chinese policy banks, the state-owned commercial banks and joint-equity commercial banks, such as China Development Bank, the Export-Import Bank of China, Bank of China, Agriculture Bank of China, China Construction Bank, National and Commercial Bank of China, Bank of Communications, China CITIC Bank and Shanghai Pudong Development Bank, Postal Service Bank of China, Industrial Bank Co. Ltd. and China Merchants Bank. The Group also had access to loans and credit facilities from international banks, including Bank of America, Barclays, HSBC, Morgan Stanley, J.P. Morgan, Deutsche Bank, Societe Generale and DBS. The Group also had access to credit facilities from domestic investment banks and insurance institutions, including CITIC Securities, China International Capital Corporation, Haitong Securities, China Securities International, Sinosure, China Life and China Pacific Insurance Company.

To further diversify the Group's financing channels, the Group has obtained various sources of funding by accessing the domestic and overseas capital markets, including offering and placement of corporate bonds. As at 31 December 2020, the Group has successfully completed 24 onshore bonds with an aggregate issuance amount of RMB26.9 billion, 21.6% of which remain outstanding. In addition, on 29 October 2013, 17 April 2014 and 7 November 2016, the Issuer issued the 2013 October Securities, and the 2014 April Securities and the 2016 November Securities, respectively, all of which were guaranteed by various subsidiaries of the Guarantor as subsidiary guarantors. On 7 September 2018, the issuer issued the 2018 September securities, which was guaranteed by Chalco Hong Kong with the benefit of the keepwell deed provided by the Guarantor. The proceeds in relation to the offshore bonds, namely the 2013 October Securities, the 2014 April Securities, the 2016 November Securities and the 2018 September securities were on-lent to the Guarantor and some of its subsidiaries for general corporate use.

The Group implements prudent financial policies and a sound internal control system covering capital management, investment management, risk management and debt management systems, each of which can be further illustrated from the following aspects:

- For treasury management, the Group has maintained sufficient cash flow and liquidity and has adopted a centralised capital management system to coordinate the overall financing need of the Group and to prudently optimise financing cost. The Group has also made continuous endeavour to boost capital utilisation efficiency;

- For investment management, the Group implements a set of internal investment review and management procedures. The Group considers the following criteria when making an investment decision, including investment return, access to resources, integration and synergies with existing core operations, skills and services development and risk control;

- For risk management, the Group has put in pace a sound risk management and internal control system and a prudent decision making mechanism for matters with significant risks. The Group has also adopted a unified accounting policy and centralised capital management system to minimize financial risks, credit risks and insolvency risks; and

- For liability management, the Group has managed to maintain a healthy level of indebtedness alongside business expansion. The Group has been proactively developing and diversifying its financing and funding channels and has managed to maintain a reasonable debt maturity with a sound currency structure. The Group actively engages in the market-oriented debt to equity swap, optimising the Group's debt structure and reduce financial expenses.

The Group pursues a prudent financial management policy by closely monitoring its capital and cash positions, the maturity profiles of its borrowings and managing the level of the Group's liquid assets to ensure the availability of sufficient cash flows to service its debt and meet cash requirements arising from its business. Given its diversified sources of capital and high quality project portfolio, the Group is able to continuously optimise its debt structure.

Experienced management team

Though years of effort, the Group has acquired a dedicated management team with extensive industry experience and global vision, which assists in successfully capturing ever-changing marketing opportunities, and developing and enhancing its competitive edges over other industry peers in terms of bauxite resources, manufacturing capacity and technologies and brand recognition. The Group's senior management team has significant experience in the global alumina and aluminum industries, as well as in government, economics, finance and corporate management. In addition, many members of the Group's management team have received education or on-position training overseas and participated in many cross-border mergers and acquisitions. For details, please see the section headed "*Directors, Supervisors and Senior Management*." As a result, the Group's management team has accumulated valuable experience in managing and operating overseas projects. The significant experience and proven track record of the Group's successful development provides the Group's senior management team with an in-depth understanding of the alumina and aluminum market as well as other associated sectors, such as the energy industry. This allows them to develop a long-term strategy to enhance the Group's leading position and obtain sustainable development in the future.

Committed to promoting green carbon reduction and social responsibility

As a subsidiary of state-owned enterprises and an outstanding listed enterprise, the Group has been committed to become a leading company in fulfilling its social responsibilities in the non-ferrous metal industry and has made great contribution to the national carbon reduction, environmental protection and poverty alleviation affairs. Among the first batch of Chinese companies publishing environmental social and governance report, the Group was the first domestic green bonds issuer in the PRC aluminum industry and has received the green bond evaluation report. The Group insists on the concept of "Lucid Waters and Lush Mountain are Invaluable Assets"（青山綠水就是金山銀山）and actively implements the national green development. In 2020, the Group achieved remarkable results in green development: Zunyi Aluminum was awarded as a national green factory, the Group built one new national level green mine with a total number of eight national level green mine, together with nine provincial-level green mines. The Group has completed 11,042 mu of reclaimed land in 2020, with a total reclaimed land of 89.8 thousand mu and the reclamation rate is 94%. The Group is dedicated and has become a leading enterprise in reducing emissions in all aspects and pursue the green development pathway to echo the "Emission Peak and Carbon Neutrality"（碳達峰、碳中和）and consequently achieved remarkable progress in 2020 in terms of energy conservation and the reduction carbon dioxide emission. Key indicators such as greenhouse gases and various waste emissions have been decreased. In 2020, the Group built wind power generation capacity of 2,610MWh and solar power generation capacity of 334MWh. Chalco Qinghai Branch used green power and reduced thermal power consumption by 5.01 billion kWh. Lanzhou Aluminum carried out the replacement of new energy for power generation rights and clean energy usage amounted to 5 billion kWh, which accounted for 89.59% of its total power usage.

In addition, the Group continuously monitors the livelihood of the communities where it operates and is engaged in improving community interests and returning to the local people's livelihood as the Group's corporate value. The Group carries out various public welfare activities. For example, the Group continues to provide assistance to Tibet and Qinghai and fixed-point poverty alleviation and other projects. In addition, the Group assists impoverished areas with infrastructure construction, poverty alleviation and income improvement projects, enrolling in schools for students under poverty and assist families in need. Currently, the Group has more than 6,000 registered volunteers and 251 voluntary organisations. Volunteers enter communities, villages and towns, and orphanages to carry out environmental protection, voluntary labour, volunteering teaching, poverty alleviation and assistance as well as voluntary blood donation activities with a total 60,000 services hours throughout the year.

Furthermore, in October 2020, China Aluminum Guinea Co., Ltd. was honored with the title of "the Advanced Group of Central Enterprises in Fighting against the COVID 19 Pandemic" at the Commendation Conference for Central Enterprises in Fighting Against the COVID 19 Pandemic held by the SASAC.

BUSINESS STRATEGIES

The Group intends to strengthen its market leadership position by relying on its strategic transformation, which the Group believes will continually improve its profitability and sustainability to play an active role in China's industrial reform. The Group intends to continue secure its abundant supply of bauxite resources, optimise and adjust its industry layout of the alumina and primary aluminum businesses, expanding along the value chain of aluminum industry into downstream sectors and develop an integrated marketing, procurement and logistics platforms to support the Group's core business. Leveraging on reforms in responsibility management by setting performance goals and operational improvements, as well as application of technological innovations and achievements, the Group strives to further improve its comprehensive competitiveness.

Further secure the abundant supply of bauxite resources to scientifically and effectively control the upstream and continually support the development of the Group's business.

The Group intends to further improve the profitability of its alumina business by securing more high-quality bauxite resources, increasing efficiency of bauxite mining and alumina processing, and improving product quality, so that it can convert its resource advantages into cost advantages. The Group aims to continue developing its core alumina business by taking cost control as the top priority and strives to enhance its cost competitiveness. As the world's largest alumina and refined alumina producer with advanced high purity aluminum production technology, the Group has realised lower production cost than the industry average and also successfully substituted the imported metallurgical grade alumina products.

The Group plans to continue improving its mining capacity so that it can rely more on self-owned mines for bauxite supply to mitigate potential risks associated with relying on imported bauxite or bauxite sourced from third parties and to reduce bauxite sourcing costs. The Group will also take advantage of China's Belt and Road Initiative to continue to strategically acquire and develop overseas resources, and expand its bauxite resource portfolio to achieve long-term and sustainable development in this business segment.

Optimise the Group's industry layout of the alumina and primary aluminum businesses and expand to the downstream sectors of the aluminum industry value chain for higher margins and more competitiveness.

The Group intends to further improve the profitability of its alumina and primary aluminum business by optimising the layout of its alumina and primary aluminum business. To achieve this, the Group will continue adjusting the layout of its production facilities in China to take advantage of low transportation or energy costs by allocating production capacity to regions with abundant raw material or energy supply at low costs. In particular, the Group has formed a plan of alumina production layout based on resources which involves the establishment of alumina and electrolytic industry base bases in the regions with the most concentrated and richest bauxite resources in China to realise cluster development. The Group plans to selectively invest into related restructuring projects. For example, the Group vigorously promotes the construction of hydropower aluminum base in Yunnan, aiming to gradually improve the uncompetitive production capacity.

In addition, to obtain a higher margins and more competitiveness, the Group aims to upgrade the product line to the downstream sectors of aluminum industry by developing refined alumina and heading toward the top end of the value chain, which in turn would increase its profitability. In particular, the Group plans to accelerate the development and manufacture of high-end products, such as chemical alumina, aluminum alloys and metallurgical grade alumina.

Integrate the centralized marketing, procurement and logistics platforms to enhance its synergy effects on the Guarantor's core business.

The Group plans to further enhance the competitiveness of its trading segment by focusing on marketing network coverage expansion, and enhancing the consolidated procurement platform and developing capabilities to provide value-added logistics services, such as sourcing, transportation and warehouse management. In particular, the Group intends to continue to enhance the efficiency of its existing consolidated procurement and marketing measures to strengthen its bargaining power, build a professional marketing team and promote the integration of logistics and warehousing resources. At the procurement stage, the Group will continuously improve the ability of resource coordination, supply guarantee and cost control through measures such as centralised procurement management, quality control, and procurement information system construction. The Group has successfully launched the "Aluminum E-commerce Platform"(鋁約益採) digital procurement platform and established a solid strategic partnership with more than 20 large enterprises, such as PetroChina, Sinopec, Shaanxi Coal, and Xinjiang Zhongtai. The Group has and will continue to achieve full coverage on the strategic supply on all types of commodity, centralised procurement system with unified operation for overall benefit optimisation, which helps to gradually build a leading domestic and international first class supply chain management system. At the logistic stage, the Group provides manufacturers with "door to door" logistics services, integrate "transportation, warehousing, and distribution" logistics resources and will continue to implement the strategy in the future. Specifically, the Group has signed strategic cooperation agenda with seven domestic railway bureaus and six major ports to develop a "road, rail, and maritime" multimodal transportation, and has comprehensively planed the overall layout of logistics parks, ports and warehousing. Therefore, the Group has established a comprehensive logistic service network for industrial commodity products in 13 provinces and cities in China, which effectively improves the logistics efficiency of Chinalco's industrial chain. The Group will continue to improve its market research capacity so as to better capture market opportunities. The Group has extensive marketing network in China, with 28 marketing centers spread over 14 provinces and municipalities. The Group intends to realise the unified sales pattern of internal products and expand the external market by focusing on increasing market share, using strong market pre-judgment capabilities and bargaining capabilities to strive for more benefits for the Group. The Group also plans to increase its geographic markets and products portfolio covered by its trading segment, so that it could diversify the revenue channels and mitigate the risks associated with conducting sales in limited markets or trading limited product lines. The Group believes that through adopting these measures, it could enhance its influence in relevant commodities markets and achieve higher profit.

Continually invest into technological innovations and optimizing its production procedures.

The Group will expedite technological innovation and transform scientific and technological achievements into economic benefits. The Group intends to reduce the costs of primary aluminum and alumina production through developing and utilising advanced energy conservation and production technologies. In addition, the Group strives to secure a stable power supply at low costs by obtaining preferential electricity prices and plans to continue to develop assets and technologies to improve its management of power supply.

BUSINESS

The Group principally engages in bauxite mining, alumina refining, primary aluminum smelting and the trading of aluminum related products, such as carbon products, aluminum alloy products and other aluminum products.

The Group used to be engaged in aluminum fabrication operations, where it processed primary aluminum for the production and sales of various aluminum fabrication products. As approved at the Guarantor's 2012 annual general meeting held on 27 June 2013, the Group disposed of substantially all of its aluminum fabrication operations to Chinalco in line with the Group's development strategy to focus on the upstream sectors of the aluminum industry chain and the production of high value added products. As a result, the Group ceased to have its aluminum fabrication business as a separate segment in June 2013.

In addition, the Guarantor acquired an aggregate of 70.82% equity interest in Ningxia Energy on 23 January 2013. Ningxia Energy is principally engaged in research and development, production and operation of energy products, mainly including coal mining, electricity generation by thermal power, wind power and solar power, new energy related equipment manufacturing business and construction and operation of coal aluminum integration. After the acquisition of Ningxia Energy, the Group established an energy segment to include (i) the operations of Ningxia Energy and (ii) the Group's other energy related operations that were formerly included in its corporate and other operating segments.

The table below sets forth the breakdown of revenue from the Group's operations by business segments for the years ended 31 December 2019 and 2020.

	Year Ended 31 December	
	2019	2020
	(Restated and unaudited)	(Audited)
	(RMB in millions)	
Alumina:		
Revenue	**43,900.0**	**42,382.1**
Revenue from external customers	14,326.6	12,945.2
Inter-segment Sales	29,573.4	29,436.9
Cost and expenses(1)	(43,055.2)	(40,954.8)
Segment results(2)	**844.8**	**1,427.3**
Primary aluminum:		
Revenue	**49,089.0**	**51,889.1**
Revenue from external customers	37,394.6	40,430.6
Inter-segment Sales	11,694.4	11,458.5
Cost and expenses(1)	(48,401.8)	(49,865.9)
Segment results(2)	**687.2**	**2,023.2**
Energy		
Revenue	**7,345.9**	**7,184.2**
Revenue from external customers	7,109.8	6,940.4
Inter-segment Sales	236.1	243.8
Cost and expenses(1)	(6,942.4)	(7,261.4)
Segment results(2)	**403.5**	**(77.2)**
Trading		
Revenue	**158,935.7**	**155,392.3**
Revenue from external customers	131,058.5	125,334.2
Inter-segment Sales	27,877.2	30,058.1
Cost and expenses(1)	(157,977.7)	(154,836.4)
Segment results(2)	**958.0**	**555.9**
Corporate and others:		
Revenue	**493.0**	**449.6**
Revenue from external customers	325.9	343.8
Inter-segment Sales	167.1	105.8
Cost and expenses(1)	(1,480.7)	(2,154.8)
Segment results(2)	**(987.7)**	**(1,705.2)**
Elimination(3)	213.2	(68.8)
Total profit before income tax	**2,119.0**	**2,155.2**

Notes:

(1) Consist of cost of sales, operating expenses, other income, other gains, finance income, finance costs and others attributable to each segment.

(2) Segment results refer to profit/(loss) before income tax.

(3) Elimination refers to the aggregate inter-segment eliminations of segment results of each segment.

Alumina Segment

Alumina Segment, which consists of mining and purchasing bauxite and other raw materials, refining bauxite into alumina, and selling alumina both internally to the Group's aluminum enterprises and trading enterprises and externally to customers outside the Group. The segment also includes the production and sale of multi-form alumina bauxite. Chemical alumina products are used in the production of chemical, pharmaceutical, ceramic and construction materials. In the process of refining bauxite into alumina, the Group also produces gallium as a by-product. Gallium is a rare, high value metal with applications in the electronics and telecommunication industries. The Group's revenue from the alumina segment for the year ended 31 December 2020 was RMB42,382.1 million, representing a decrease of RMB1,517.9 million from RMB43,900.0 million for the same period for the previous year, mainly attributable to the year-on-year decrease in the price of alumina.

As at 31 December 2020, the Group owned 15 bauxite mines in worldwide with approximately 968.2 million tonnes of aggregate bauxite reserves. For the years ended 31 December 2018, 2019 and 2020, the Group extracted approximately 17.3 million tonnes, 14.4 million tonnes and 17.2 million tonnes, respectively, of bauxite from its domestic bauxite mines.

Production Process

Alumina is refined from bauxite, an aluminum-bearing ore, through a chemical refining process. The refining process applied is determined by the mineral composition of the bauxite used in production. The Group's alumina refineries mainly employ the Bayer process, the Bayer-sintering series process, the Bayer-sintering combined process or the ore-dressing Bayer process. Most of the bauxite reserves in China contains diasporic bauxite, which contains high alumina content and relatively high silica content, resulting in bauxite reserves with low alumina-to-silica ratio. The Bayer process cannot efficiently refine diasporic bauxite that has not undergone processing to increase its alumina-to-silica ratio. The sintering process or the Bayer-sintering combined process is suitable for refining low alumina-to-silica ratio bauxite. The Group has developed and improved these processes to increase the Group's refining yield. During the Bayer process, the Group produces gallium as a by-product, which undergoes further processing before sale. In addition, the Group also produces some alumina chemical products (alumina hydrate and alumina-based industrial chemical products).

The Group owns abundant bauxite resources in China and overseas which helps secure a stable supply of raw materials for alumina productions. For details, please see the subsection headed "*Description of the Group – Business – Alumina Segment – Bauxite Mines*" below.

Production Capacity

The Group had annual alumina production capacity of approximately 20.86 million tonnes for the year ended 31 December 2020, which increased from 18.9 million tonnes for the year ended 31 December 2019.

The following table sets forth a breakdown of the Group's annual production capacity of alumina.

	Year Ended 31 December	
Production Capacity[1]	**2019**	**2020**
	(in million tonnes)	
Alumina segment		
Alumina	18.9	20.86

Note:

(1) Production capacity is calculated based on designed capacity, which accounts for various assumptions including downtime for ordinary maintenance and repairs, the ore grade of bauxite feedstock and subsequent capacity modifications.

The following table sets forth the annual production capacity of each of the Group's principal plants by business segment as at 31 December 2020:

Plant	As at 31 December 2020 Alumina (in thousand tonnes)[1]
Plants	
Guangxi branch	2,210
Zhongzhou Aluminum	3,050
Qinghai branch	–
Guangxi Huasheng	2,000
Chalco Mining	2,410
Chalco Shandong	2,270
Shanxi New Material	2,600
Chongqing branch	800
Lanzhou Aluminum	–
Zunyi Aluminum	1,000
Shandong Huayu	–
Baotou Aluminum	–
Zhengzhou Institute	20
Liancheng branch	–
Guizhou Huajin	1,600
Xinghua Technology	900
Shanxi Huaxing	2,000
Guizhou Huaren	–
Shanxi Zhongrun	–
Total	20,860

Note:

(1) Production capacity is calculated based on designed capacity, which accounts for various assumptions including downtime for ordinary maintenance and repairs, the ore grade of bauxite feedstock and subsequent capacity modifications.

Production Output

The following table sets forth a breakdown of the Group's production output by main products under its alumina segment for the periods indicated:

Production Output by Product	Year Ended 31 December 2019	 2020
	(in thousand tonnes), except for Gallium)	
Alumina segment		
Alumina	13,803	14,526
Chemical grade alumina	3,802	3,942
Gallium (in tonnes)[1]	98	–

Note:

(1) In August 2019, the Guarantor made a capital contribution with its gallium assets to China Rare Metals and Rare Earths Company Ltd. and is not engaged in gallium production in 2020.

For the year ended 31 December 2020, the Group's production output of alumina amounted to 14.53 million tonnes, representing approximately 39.0% of the total production output in China in 2020.

Utilisation Rate

Utilisation rate for the year ended 31 December 2020 is calculated by dividing the Group's utilised production capacity by the Group's total designed production capacity in 2020.

In 2020, the Group produced approximately 14.53 million tonnes of alumina and approximately 3.94 million tonnes of chemical grade alumina. The overall utilisation rate for the Group's alumina refineries was 86.0% as at 31 December 2020.

Production Facilities

The Group currently operates 11 alumina refineries and one research institute with a total designed annual production capacity of approximately 20.86million tonnes for the year ended 31 December 2020. Two of its refineries are integrated with primary aluminum smelters. In 2020, the Group produced approximately 14.53 million tonnes of alumina, approximately 3.94 million tonnes of refined aluminum products. In 2020, the Group exported approximately 0.74 million tonnes to self-produced alumina. All of the chemical alumina products that it produced in 2020 were sold by alumina refineries directly to external customers or internally to Chalco Trading for subsequent external trading.

The following table sets forth the annual production capacity, output of alumina and chemical grade alumina, utilisation rate of and production process applied in each of the Group's alumina refineries and the Group's Zhengzhou Institute.

	As at 31 December 2020		**For the Year Ended 31 December 2020**		
	Alumina Annual Production Capacity(1)	**Utilisation Rate(2)**	**Alumina Production Output**	**Electrolytic Aluminum Output**	**Production Process**
	(in thousand tonnes, except percentages)				
Shanxi New Material	2,600	100%	1,793	96	Bayer-sintering
Chalco Mining	2,410	74%	1,320	35	Bayer-sintering
Chalco Shandong	2,270	100%	1,648	2,594	Sintering and Bayer
Chalco Zhongzhou	3,050	84%	2,081	940	Sintering and Bayer
Guangxi branch	2,210	100%	2,353	196	Bayer
Zunyi Alumina	1,000	100%	1,143	9	Bayer
Chongqing branch(3)	800	–	–	–	Bayer-sintering
Zhengzhou Institute(4)	20	–	–	66	Bayer
Guizhou Huajin	1,600	100%	1,631	–	Bayer
Xinghua Technology	900	100%	864	7	Bayer
Shanxi Huaxing	2,000	50%	1,342	–	Bayer
Guangxi Huasheng	2,000	100%	352	–	Bayer
Total	20,860	79%	14,526	3,942.44	

Notes:

(1) Production capacity is calculated based on designed capacity, which accounts for various assumptions including downtime for ordinary maintenance and repairs, the ore grade of bauxite feedstock and subsequent capacity modifications.

(2) Capacity utilisation rate is calculated by dividing the Group's utilised production capacity as at 31 December 2020 by its total designed annual production capacity.

(3) In 2020, the Guarantor leased the alumina production facilities of its Chongqing branch to a third party.

(4) The alumina chemical products produced at the Zhengzhou Institute are sold commercially and such sales are included in the Group's total revenues.

Please also see the subsection headed "*Description of the Group – Principal Facilities*" in this Offering Circular.

Bauxite Mines

As at 31 December 2020, the Group had 14 own bauxite mines in China. The Group intends to continue to explore new bauxite reserves to replenish its reserves. The Group also actively explores opportunities to secure high-quality bauxite mining resources overseas and has one owned bauxite mine in Guinea and three owned bauxite mines in Indonesia where it is currently developing bauxite mines for its alumina production.

The Group's Own Bauxite Mines

Overview

As at 31 December 2020, the Group owned and operated 14 bauxite mines in China that had approximately 193 million tonnes of aggregate bauxite reserves. The Group also owns one bauxite mine in Guinea and three bauxite mines in Indonesia. For the years ended 31 December 2019 and 2020, the Group extracted approximately 14.4 million tonnes and 17.2 million tonnes, respectively, of bauxite from its domestic bauxite mines. In addition, in 2020, the Group extracted approximately 8.06 million tonnes of bauxite from the Boffa mine.

The following table sets forth information for the Group's bauxite mines as at 31 December 2020:

Mine	Location	Nature of Ownership	Mining Method	Permit Renewal[1]	Present Condition/ Current State of Exploration	Bauxite Production
						(in thousand tonnes)
Pingguo mine	Guangxi Zhuang Autonomous Zone, China	100% owned and operated by Chalco	Open pit	March 2024 – April 2036	Partly developed and operational	5,807
Guizhou mine[2]	Guizhou Province, China	100% owned and operated by Chalco	Open pit/ underground	October 2024 – December 2038	Partly developed and operational	2,001
Zunyi Mine	Guizhou Province, China	100% owned and operated by Chalco	Open pit/ underground	May 2021 – December 2030	Partly developed and operational	1,003
Xiaoyi mine	Shanxi Province, China	100% owned and operated by Chalco	Open pit	May 2023 – September 2031	Partly developed and operational	499
Shanxi Other Mines	Shanxi Province, Mines, China	100% owned and operated by Chalco	Open pit/ underground	December 2017 – July 2035[3]	Partly developed and operational or under development	1,523
Luoyang mine[4]	Henan Province, China	100% owned and operated by Chalco	Open pit/ underground	March 2021 – October 2031[3]	Partly developed and operational	754
Sanmenxia mine	Henan Province, China	100% owned and operated by Chalco	Underground	November 2021 – April 2027	Fully developed and operational	507
Jiaozuo mine	Henan Province, China	100% owned and operated by Chalco	Open pit/ underground	September 2018 – October 2024[3]	Partly developed and operational	388
Yangquan mine	Shanxi Province, China	100% owned and operated by Chalco	Open pit	September 2031 – May 2036	Partly developed and operational	426
Nanchuan mine	Chongqing Municipality, China	100% owned and operated by Chalco	Underground	December 2022 – November 2026	Suspended production	–
Sanmenxia area business department[4]	Henan Province, China	100% owned and operated by Chalco	Open pit/ underground	December 2020 – October 2031[3]	Partly developed and operational	401
Zhengzhou area business department[4]	Henan Province, China	100% owned and operated by Chalco	Open pit/ underground	April 2020 – October 2031[3]	Partly developed and operational	855
Xuping mine	Henan Province, China	100% owned and operated by Chalco	Open pit/ underground	May 2019 – October 2024[3]	Partly developed and operational	277
Huaxin mine	Shanxi Province, China	100% owned and operated by Chalco	Underground	September 2020 – August 2022[3]	Fully developed and operational	2,768
Boffa bauxite mine	Boffa, Guinea	Owned and operated by Chalco Guinea Company S.A., an 85% subsidiary of Chalco	Open pit/	July 2033	Operational	8,062
PT ALUSENTOSA	WestKalimantan, Indonesia	Owned and operated by PT Nusapati Prima, a 96.28% subsidiary of Chalco	Open pit/	December 2027	Suspended production	–
PT KALMIN	WestKalimantan, Indonesia	Owned and operated by PT Nusapati Prima, a 96.28% subsidiary of Chalco	Open pit/	December 2027	Suspended production	–
PT VISITAMA	WestKalimantan, Indonesia	Owned and operated by PT Nusapati Prima, a 96.28% subsidiary of Chalco	Open pit/	November 2038	Pending production commencement	–

Notes:

(1) All conditions to retain the Group's properties or leases have been fulfilled as at 31 December 2020. Each mine may be covered by one or more mining permits or exploration permits and the range of permit renewal dates is set forth above.

(2) Including both Guizhou No. 1 mine and Guizhou No. 2 mine.

(3) The Group is in the process of renewing these permits.

(4) To enhance the Group's mine management system and improve management efficiency and coordination, in 2020, Mianchi mine was renamed as Sanmengxia area business department; Luoyang mine was renamed as Luoyang area business department; Xiaoguan mine, Gongyi mine, Dengfeng mine and Xinmi mine were integrated as Zhengzhou area business department; and Xuchang mine and Pingdingshan mine were integrated as Xuping mine.

The following table sets forth certain estimated details of the reserves for the Group's bauxite mines in China as at 31 December 2020:

	Average Grade (%)			
Mine	**Total Reserves(1)(2)**	**Al2O3**	**SiO2**	**Ratio of Average A/S(3)**
	(in million tonnes)			
Pingguo mine	51.78	52.54	4.77	11.01
Guizhou mine(4)	38.15	64.48	9.06	7.12
Zunyi mine	9.63	59.50	10.66	5.58
Xiaoyi mine	9.99	65.73	12.21	5.38
Shanxi Other Mines	15.25	62.99	13.51	4.66
Luoyang area business department(5)	1.28	62.89	13.27	4.74
Sanmenxia mine	24.19	62.99	12.68	4.97
Jiaozuo mine	0.37	63.08	12.30	5.13
Yangquan mine	1.02	58.36	13.94	4.19
Nanchuan mine	17.82	58.50	15.67	3.73
Sanmenxia area business department(5)	4.73	62.01	14.32	4.33
Zhengzhou area business department(5)	12.64	63.22	13.90	4.55
Xuping mine(5)	3.89	63.79	12.26	5.20
Huaxin mine	2.54	61.82	9.01	6.86
Total (average) reserves	193.28	60.01	10.13	5.92
By reserve type				
Proven reserve	67.12	60.01	10.26	5.85
Probable reserve	126.16	60.01	10.08	5.95
Total (average) reserves	193.28	60.01	10.13	5.92

Notes:

(1) The Group's reserves take into consideration mining dilution and loss factors, which generally vary from 5% to 10% and are based on the planned mining method and selected drill data for each site.

(2) The Group's metallurgical recovery factors are calculated in accordance with the relevant PRC mining standards and vary from mine to mine.

(3) Refers to the ratio of average grade of Al_2O_3 to the average grade of SiO_2 of the reserves.

(4) Including both Guizhou No. 1 mine and Guizhou No. 2 mine.

(5) To enhance the Group's mine management system and improve management efficiency and coordination, in 2020, Mianchi mine was renamed as Sanmengxia area business department; Luoyang mine was renamed as Luoyang area business department; Xiaoguan mine, Gongyi mine, Dengfeng mine and Xinmi mine were integrated as Zhengzhou area business department; and Xuchang mine and Pingdingshan mine were integrated as Xuping mine.

Most of the bauxite in China is monohydrate, consisting mainly of Aluminosilicate compounds. Bauxite deposits have been discovered across a broad area of central China and are especially abundant in the southern and northern parts of central China. The largest bauxite deposit in China lies in Shanxi Province.

Rock Formation and Mineralisation

Except for the Group's Guangxi Pingguo mine which is an accumulation deposit due to original erosion, the bauxite deposits of the Group's mines in China usually have similar stratigraphic sequences. Primary bauxite deposit, as a type of sedimentary boehmite (Al2O3.H2O) the Carboniferous or Permian age, is contained in clay rock, limestone or coal seams. A zonary red shale is usually located at the bottom of the bauxite and the red seam distributes over the irregular "karst-type" erosion face on the top of Ordovician limestone. Aluminum deposits in northern China are usually covered with a very thick Quaternary weathering.

The thickness and quality of deposits vary with the Group's mine locations. Quality is usually consistent in smooth sections but changes sharply in karst "billabong" terrain. The level of hardness of minerals also varies. A sequence that includes a seam of hard bauxite of fine quality in the middle and soft bauxite of inferior quality on the bottom and top seams is common in deposits.

Generally, deposits are horizontal or with an obliquity of 0 to 8 degrees, but there are also steep deposits at an angle of 75 degrees, such as in Group's Guizhou No. 2 mine. Most of the original mineralisation is not influenced by folds and faults, and some fractures of a low obliquity and folds emerge in certain deposits, which is evident in the Guizhou No. 2 mine area where the underground mining method must be used due to the obliquity of its bauxite body reaching 70 degrees with the influence of folds and several metres of dislocation arising from partial faults.

Economic Significance

The Group's bauxite deposits in China are divided into three groups. They are primarily distinguished by drill hole spacing and the composition of the deposit, which can encompass rock formations such as intercalated clays, bauxite, footwall iron clay or Ordovician limestone. Bauxite deposit groups vary in the thickness and mineral quality of its reserves.

The Group uses the Chinese bauxite deposit estimation method, which is calculated using cut-off grades and thickness to outline continuous areas within the limits defined by samples of marginal grade. The Group utilises actual limiting sample points that are joined to create a polygonal outline, and grades are then calculated using a length weighted arithmetic average. The Group believes that the Chinese bauxite deposit estimation method of test boring, inspection pit, trial trench, density, tonnage analysis and calculation applied to the geological work of bauxite in China is an appropriate method to analyse these types of deposits.

Mining Rights

The Group is required to obtain mining rights permits to conduct mining activities. Under PRC laws and regulations, a mining enterprise must prepare and submit exploration reports for a mine to the local government to obtain a mining rights permit for a mine. If an applicant for the mining rights permit is not the owner of a mine, the applicant must first enter into a lease agreement with the mine owner before submitting an application. The mining rights permit is subject to renewal on a regular basis. Furthermore, the mining right owner is required to obtain land use rights on the land in order to operate these mines.

The Group leases the land use rights relating to foregoing mines from Chinalco pursuant to a land use rights lease agreement that became effective upon the Group's formation. Chinalco's land use rights relating to over 90% of the Group's mining properties are for 50-year terms beginning on 1 July 2001. The remaining land use rights relating to the mines that the Group owns and operates are for shorter terms, some as short as one year. All of the Group's land use rights lease agreements terminate on the expiry date of the mining rights or the end of the working life of the mine, whichever is earlier. Both the land use rights and land use rights lease agreements are renewable.

Safety Control

The Group has been in compliance with the National Mining Safety Law and related rules and regulations in China. The Group closely supervises and routinely inspects mining conditions with continual implementation of safety measures and procedures at its own bauxite mines and safety training for its mining personnel. In 2020, the Group did not experience any mining accidents that involved serious work injuries or death.

Jointly-operated bauxite mines

Historically, the Group has procured part of its bauxite supply from its jointly-operated mines. The Group managed these jointly-operated mines by contracting with local companies for their mining services to operate mines owned by the Group. On 28 June 2016, the Guarantor entered into a cooperative exploration agreement and an income sharing rights transfer agreement with Chinalco, pursuant to which the Guarantor will jointly operate Guizhou Maochang bauxite mine ("**Maochang Mine**") with Chinalco and hold 58.15% of the income sharing rights thereof. In the meantime, the Guarantor obtains 80% of Chinalco's income sharing rights in Maochang Mine through a one-off acquisition. Upon completion of the transactions under the cooperative exploration agreement and the income sharing rights transfer agreement, the Guarantor holds a total of 91.63% of the income sharing rights of Maochang Mine.

Alumina-to-Silica Ratio

The production method for alumina refining is determined by the mineral composition of the bauxite, in particular, its alumina-to-silica ratio. Most of the bauxite reserves in China are diasporic with low alumina-to-silica ratios. Based on the Group's current technology, an efficient application of the Bayer process requires bauxite with an alumina-to-silica ratio of 10:1 or higher, while the Bayer-sintering process can refine bauxite with an alumina-to-silica ratio as low as 4:1. In 2020, the average alumina-to-silica ratio of the proven and probable reserves of the Group's mines ranges from approximately 3.73:1 to 11.01:1.

Capital Expenditures for Bauxite Mines

The following table sets forth the Group's capital expenditures for its bauxite mines in China for the periods indicated:

	Year Ended 31 December	
	2019	**2020**
	(RMB in thousands)	
Capital Expenditures		
Infrastructure construction	1,314,802.9[(1)]	831,375.0[(2)]
Facility upgrade	6,079.8	–[(3)]
Total	1,320,882.7	831,375.0

Notes:

(1) The increase in capital expenditures on infrastructure construction in 2019 was primarily attributable to the construction of the Boffa Project. See "– History and Developments of the Group – Boffa Project" for more details.

(2) The decrease in capital expenditures on infrastructure construction in 2020 was primarily attributable to the completion of construction of the Boffa Project in 2020. See "– History and Developments of the Group – Boffa Project" for more details.

(3) The decrease in capital expenditures on facility upgrade in 2020 was primarily because the Group's technology transformation projects had been completed and the Group did not have any new technology transformation projects in 2020.

Primary Aluminum Segment

Primary aluminum segment consists of procuring alumina, raw and supplemental materials and electricity power, smelting alumina to produce primary aluminum, and selling them internally to the Group's trading enterprises and externally to customers outside the Group. This segment also includes the production and sales of carbon products, aluminum alloy products, high-purity aluminum and other electrolytic aluminum products. The Group's principal primary aluminum products are ingots, molten aluminum and aluminum alloys, which accounted for approximately 24.8%, 36.1% and 39.1%, respectively, of its total production volume of primary aluminum in 2020. Its standard 20 kilogram remelt ingots are used for general aluminum fabrication in the construction, electricity, electronics, transportation, packaging, machinery and durable goods industries. The Group internally produces substantially all the carbon products used at its smelters and sell the Group's remaining carbon products to external customers.

For the year ended 31 December 2020, the Group's output of primary aluminum amounted to approximately 3.69 million tonnes. As at 31 December 2020, the Group owned and operated nine primary aluminum smelters in China, with a total primary aluminum production capacity of approximately 4.46 million tonnes.

Production Process

The Group smelts alumina into primary aluminum through electrolytic reduction. The electrolytic process takes place in a reduction cell, or pot, a steel shell lined with carbon cathodes and refractory materials. Powerful electric currents are passed through the pot to produce molten aluminum. The molten aluminum is transferred to holding furnaces and then poured directly into moulds to produce foundry ingots, or further refined to form fabricating ingots, which may be used directly in the aluminum fabrication process. The primary aluminum the Group produces is in the form of ingots, molten aluminum and aluminum alloys.

All of the Group's primary aluminum smelters use pre-bake anode reduction pot-lines. In the pre-bake reduction process, the anodes are pre-formed in a separate facility where pollutants can be contained. The cells themselves are enclosed with removable panels so that the waste gas produced during the process can be extracted using large exhaust fans. The Group's waste gas is treated and purified to reduce dust and fluoride emissions to acceptable levels set by state environmental protection agencies.

Production Capacity

The Group's annual primary aluminum production capacity was approximately 4.46 million tonnes as at 31 December 2020.

The following table sets forth a breakdown of the Group's annual production capacity by products under its primary aluminum segment for the periods indicated.

	Year Ended 31 December	
Production Capacity[(1)]	**2019**	**2020**
	(in million tonnes)	
Primary aluminum segment		
Primary aluminum	4.59	4.46

Note:

(1) Production capacity is calculated based on designed capacity, which accounts for various assumptions including downtime for ordinary maintenance and repairs, the ore grade of bauxite feedstock and subsequent capacity modifications.

The following table sets forth the annual production capacity of primary aluminum of each of the Group's principal plants by business segment as at 31 December 2020:

Plant	As at 31 December 2020
	Primary Aluminum
	(in thousand tonnes)[1]
Plants	
Guangxi branch	–
Zhongzhou Aluminum	–
Qinghai branch	420
Guangxi Huasheng	–
Chalco Mining	–
Chalco Shandong	–
Shanxi New Material	424
Chongqing branch	–
Lanzhou branch	450
Zunyi Aluminum	375
Shandong Huayu	65
Baotou Aluminum[2]	1,340
Zhengzhou institute	–
Liancheng branch	550
Guizhou huajin	–
Xinghua Technology	–
Shanxi Huaxing	–
Guizhou Huaren	400
Shanxi Zhongrun	432
Total	4,456

Notes:

(1) Production capacity is calculated based on designed capacity, which accounts for various assumptions including downtime for ordinary maintenance and repairs, the ore grade of bauxite feedstock and subsequent capacity modifications.

(2) Including the primary aluminum production capacity of Inner Mongolia Huayun, a subsidiary of Baotou Aluminum.

Production Output

The following table sets forth a breakdown of the Group's production output of main products under primary aluminum segment for the periods indicated:

Production Output by Product	Year Ended 31 December 2019	2020
	(in thousand tonnes)	
Primary aluminum segment		
Primary aluminum[1]	3,788	3,695
Carbon	1,472	4,840

Note:

(1) Including ingots, molten aluminum and aluminum alloys.

In 2019, the Group's production output of primary aluminum amounted to approximately 3.79 million tonnes, representing approximately 10.5% of the total production output of China of that year. In 2020, the Group's production output of primary aluminum amounted to approximately 3.69 million tonnes, representing approximately 9.9% of the total production output in China of that year.

Utilisation Rate

In 2020, the Group produced approximately 3.69 million tonnes of primary aluminum. The average utilisation rate for the Group's smelters was 83% as at 31 December 2020.

Production Facilities

The Group operates nine primary aluminum smelters in China. The Group's smelters had an aggregate annual production capacity of approximately 4.46 million tonnes as at 31 December 2020. The following table sets forth the annual production capacity, aluminum output, utilization rate and smelting equipment used in each of its aluminum smelters:

	As at 31 December 2020		For the Year Ended 31 December 2020	
Plant	**Annual Production Capacity[(1)]**	**Utilisation Rate[(2)]**	**Aluminum Output[(3)]**	**Smelting Equipment**
	(in thousand tonnes, except percentages)			
Baotou Aluminum[(4)]	1,340	99%	1,249	200Ka, 240Ka, 400Ka and 500 Ka pre-bake
Guizhou Huaren	400	99%	486	500Ka
Lanzhou branch	450	99%	408	200Ka and 350Ka pre-bake
Qinghai branch	420	99%	403	180Ka and 210Ka pre-bake
Shandong Huayu[(5)]	65	0%	–	240Ka pre-bake
Shanxi New Material	424	66%	308	300Ka pre-bake
Zunyi Aluminum	375	100%	402	200Ka and 400Ka pre-bake
Shanxi Zhongrun	432	100%	285	500Ka
Liancheng branch	550	28%	153	200Ka and 500Ka pre-bake
Total	4,456	83%	3,695	

Notes:

(1) Production capacity takes into account designed capacity, downtime for ordinary maintenance and repairs and subsequent capacity modifications.

(2) Capacity utilization rate is calculated by dividing the Group's utilised production capacity as at the date indicated by the Group's total designed annual production capacity.

(3) Includes ingots, molten aluminum and aluminum alloys.

(4) Including the primary aluminum production facilities at Inner Mongolia Huayun, a subsidiary of Baotou Aluminum.

(5) Shandong Huayu halted its primary aluminum production in 2019. See "Principal Facilities – Shandong Huayu" for details.

Please also see the subsection headed "*Description of the Group – Principal Facilities*" in this Offering Circular.

Trading Segment

The Group's trading segment is mainly engaged in trading and logistics of alumina, primary aluminum, other non-ferrous metal products, and bulk crude fuels such as coal products, as well as supplemental materials to the internal manufacture enterprises and external customers. The Group established its trading business under Chalco Trading as a separate segment in July 2010 as a result of its operational structural adjustment. For details of the Group's trading and sales activities, please see the subsection headed "*Description of the Group – Sales and Marketing*". The Group sources goods for reselling from both its subsidiaries and external suppliers.

The Group continuously improves the operation mechanism of integrated marketing, procurement and logistics platforms, balances the resource allocation, strengthens the coordination of business, reduced the cost of internal services, increases the market-oriented operation, so as to strengthen its leading position in the industry.

For the year ended 31 December 2019, the revenue from external sales under the Group's trading segment amounted to RMB131,058.5 million, while the revenue from inter-segment sales amounted to RMB27,877.2 million. For the year ended 31 December 2020, the revenue from external sales under the Group's trading segment amounted to RMB125,334.2 million, while the revenue from inter-segment sales amounted to RMB30,058.1 million.

Chalco Trading

Chalco Trading is a limited liability company incorporated in the PRC and located in Beijing. It was established in April 2001. In June 2011, the Guarantor acquired 9.5% equity interest in Chalco Trading from China Aluminum Development Limited, a wholly-owned subsidiary of Chinalco. Upon completion of the acquisition, Chalco Trading became a wholly-owned subsidiary of the Guarantor.

Historically, Chalco Trading mainly generated revenue by selling self-produced products procured from the Group's alumina, primary aluminum and aluminum fabrication plants. As a result of the implementation of the Group's operational structural adjustment exercise, the Group established its trading business as a new business segment in 2010.

Energy Segment

The Group's energy segment consists of coal mining, electricity generation from coal, wind power, photovoltaic power and new energy equipment production, etc. Among its major products, coals are sold to the internal manufacturers of the Group and external customers outside the Group; and electricity power generated by public power plants, wind power and photovoltaic power stations of the Group is sold to local grid companies. It established its energy segment in January 2013 as a result of its acquisition of Ningxia Energy in line with its development strategy to partially offset its future energy costs and secure a portion of the coal it consumes in its operations. In 2020, it supplied supplied the majority of the electricity the Group generated for its own production use, supplied a portion of the coal output to its own electric power plant and sold the remaining portion to external customers.

The acquisition of Ningxia Energy has strategic significance to the Group that has established the Group's energy platform in northwestern China. Ningxia Energy has rich energy resources with a total coal production capacity of 16,000 thousand tonnes per year, a total thermal power installed capacity of 2,640 MW, a total wind power installed capacity of 1,605.8 MW, a total solar power installed capacity of 213.33 MW, an annual manufacturing capacity of producing 300 wind turbines with 2.5 MW, 500 power towers and 500 gearboxes, an annual manufacturing capacity of 320 MW photovoltaic modules, 50 MW batteries, 200 MW solar tracker and supporting equipment.

Coal Mines

The Group acquired 70% of the equity interest in Gansu Huayang in March 2011, which holds exploration rights for certain coal deposits in Gansu Province, namely, Luochuan mine. The Group renewed the exploration permit in 2020, which will expire in October 2025. The Group also acquired the mining rights for certain coal deposits Guizhou Province in January 2013 through Chalco Guizhou Mining Co., Ltd.

In addition, the Group acquired 70.82% of the equity interest in Ningxia Energy, which holds mining rights for coal deposits in Ningxia Autonomous Region. The coal mines owned and operated by Ningxia Energy include Wangwa mine, Wangwa No. 2 mine, Yindonggou mine and Yinxingyijing mine, all of which are underground thermal coal mines. The operations at these coal mines are powered by electricity from local power grids and are accessible by public roads. Wangwa mine, Wangwa No. 2 mine and Yindonggou mine are currently in extraction stage. In addition, Ningxia Energy holds 50% of interest in Yinxingyijing mine while the other joint owner in Yinxingyijing mine does not participate in its operation. Yinxingyijing mine has been put into operation since January 2019. The exploration permit of Yinxingyijing mine expired in August 2018 and has been cancelled since then. The Group obtained the mining permit in February 2018, which will expire in February 2048.

By investing in coal mining enterprises and acquiring mining rights for coal deposits, the Group plans to partially offset the Group's future energy costs, and to secure a portion of the coal the Group consumes in the Group's operations.

In addition, the Group operates its corporate and other aluminum-related corporate research and development activities under the corporate and other operating segment.

The Group used to engage in the aluminum fabrication business, where the Group processes primary aluminum for production and sales of various aluminum fabricated products, including casts, planks, screens, extrusions, forges, powder and die castings. As approved at the annual general meeting of the Guarantor held on 27 June 2013, the Group disposed such business to Chinalco in line with its development strategy.

Principal facilities

The Group's principal facilities include 22 principal production plants and the Group's Zhengzhou Institute. Set forth below is a description of the Group's principal production plants.

Guangxi Branch

The Guangxi branch commenced operations in 1994 and is located in Guangxi Zhuang Autonomous Region in southwestern China, an area rich in bauxite reserves. The Guangxi branch obtains bauxite delivered via highway from the Pingguo mine, one of the Group's wholly-owned mines, located less than 17 kilometres front the Guangxi branch.

The Pingguo mine contains large, easily exploitable bauxite reserves with high alumina-to-silica ratios. The Guangxi branch is the Group's only principal refinery that exclusively uses the Bayer process. With technology and production equipment imported from Europe, the Guangxi refinery features a high level of automation and energy efficiency. Since its inception, the Group has continually increased the designed production capacity at this branch by overcoming production bottlenecks and investing in capacity expansions. Guangxi branch had an annual alumina production capacity of approximately 2,210,000 tonnes as at 31 December 2020. In 2020, the Guangxi branch produced approximately 2,352,820 tonnes of alumina, along with approximately 196,200 tonnes of chemical alumina products.

Guizhou Branch

The Guizhou branch commenced its smelting operations in 1966 and was subsequently expanded to include alumina refining operations in 1978. The Group's Guizhou branch uses 160Ka and 230Ka pre-bake reduction pot-lines in its primary aluminum production. The smelter in the Guizhou branch has undergone technological innovations and overhauls since its inception. Since November 2017, the Group has been engaged in the gradual closing down of the 160Ka pre-bake reduction pot-lines. As at 31 December 2020, the Group's Guizhou branch had an annual aluminum alloy products production capacity of approximately 348,000 tonnes. In 2020, the Group's Guizhou branch produced approximately 158,132 tonnes of aluminum alloy products.

The Group's Guizhou branch also contains a modern carbon production facility, which produces carbon cathodes in addition to carbon anodes.

Chalco Mining

Chalco Mining was incorporated as one of the Group's subsidiaries in the PRC in 2007. The Group currently holds 18.86% of the equity interest in Chalco Mining. Upon completion of a proposed asset restructuring, the Group will hold 100% of the equity interest in Chalco Mining. To optimise the allocation of the Group's resources and further consolidate its operations, the Group transferred all of the assets and liabilities of its Henan branch to Chalco Mining in August 2017. The Henan branch commenced its alumina refining operation in 1966 and primary aluminum smelting operation in 1967 in Henan Province, a province rich in bauxite reserves. It was the first refinery in China to develop the

Bayer-sintering combined process. Bauxite is delivered to the Chalco Mining via railway and highway from the following mines: Xiaoguan mine, Gongyi mine and Dengfeng mine located in Zhengzhou, Luoyang mine in Luoyang, Mianchi mine in Mianchi, Xuchang mine in Zhengzhou, Sanmenxia mine in Sanmenxia and Jiaozuo mine in Jiaozuo. The alumina production line that the Group put into operation at Chalco Mining uses the ore-dressing Bayer process, which the Group developed to refine low alumina-to-silica ratio bauxite. Chalco Mining's production facilities have been substantially upgraded, with equipment imported from Germany and Denmark. The refinery has also benefited from its access to high alumina-to-silica ratio bauxite from certain of the Group's mines and through purchases on the market. Chalco Mining had an annual alumina production capacity of approximately 2,410,000 tonnes as at 31 December 2020. In 2020, Chalco Mining produced approximately 1,320,350 tonnes of alumina and 34,940 tonnes of chemical alumina products, respectively.

Chalco Shandong

Chalco Shandong was incorporated as one of the Group's subsidiaries in the PRC in 2015. The predecessor of Chalco Shandong was the Group's Shandong branch, which commenced operations in 1954. The Group currently holds 69.20% of the equity interest in Chalco Shandong. Upon completion of a proposed asset restructuring, the Group will hold 100% of the equity interest in Chalco Shandong. Chalco Shandong has the capacity to produce alumina and chemical alumina products. Bauxite is delivered to Chalco Shandong via railway and highway from the Yangquan mine in Yangquan, Shanxi Province. Its alumina refinery was China's first production facility for alumina. It produces its alumina through the Bayer-sintering process and the Bayer process. Chalco Shandong purchases some bauxite from overseas and the rest from small third-party mines in Henan and Shanxi Provinces. Chalco Shandong had an annual alumina production capacity of approximately 2,270,000 tonnes as at 31 December 2020. It produced approximately 1,647,970 tonnes of alumina in 2020.

In addition, Chalco Shandong produces a substantial amount of chemical alumina products. In 2020, it produced approximately 2,594,340 tonnes of chemical alumina products. It is the largest and most technologically advanced production facility for chemical alumina products in China with the ability to produce a wide variety of chemical alumina products.

Chalco Shandong had engaged in primary aluminum production before the Group suspended the operations of its primary aluminum production facilities in June 2013. In 2017, the disposal of Chalco Shandong's primary aluminum production facilities was completed.

Qinghai Branch

Located in Qinghai Province, the Group's Qinghai branch is a stand-alone primary aluminum production facility. This branch commenced operations in 1987 and is one of the most technologically advanced primary aluminum smelters in China. It operates 180Ka and 210Ka automated pre-bake anode reduction pot-lines that were developed domestically. It benefits from relatively low electricity costs in Qinghai Province due to the hydroelectric power stations in the region. The Qinghai branch sources alumina from Shanxi New Material, Chalco Shandong, Chalco Mining and Chalco Zhongzhou and incurs higher transportation costs for both raw materials and its primary aluminum products than the Group's other branches.

The Group's Qinghai branch had an annual primary aluminum production capacity of approximately 420,000 tonnes as at 31 December 2020. It produced approximately 403,410 tonnes of primary aluminum in 2020.

Guizhou Huaren

Established in May 2017 and located in Qingzhen, Guizhou Province, Guizhou Huaren is a stand-alone primary aluminum production facility and commenced full operation in September 2018. Guizhou Huaren had an annual primary aluminum production capacity of approximately 400,000 tonnes as at 31 December 2020. It produced approximately 486,140 tonnes of primary aluminum products in 2020.

Shanxi Zhongrun

Established in November 2015 and located in Lvliang, Shanxi Province, Shanxi Zhongrun specializes in producing primary aluminum products. The first batch of electrolytic cells of Shangxi Zhongrun was put into operations in May 2018. Shanxi Zhongrun was fully put into operation in December 2020. Shanxi Zhongrun had an annual primary aluminum production capacity of approximately 432,000 tonnes as at 31 December 2020. It produced approximately 284,940 tonnes of primary aluminum products in 2020.

Zhongzhou Aluminum

Located in Henan Province, Zhongzhou Aluminum is a stand-alone alumina plant, located near abundant bauxite, coal and water supplies. Zhongzhou Aluminum was incorporated as one of the Group's subsidiaries in the PRC in 2015 and is currently its wholly owned subsidiary. The predecessor of Zhongzhou Aluminum was the Group's Zhongzhou branch. Zhongzhou Aluminum commenced operations in 1993 and is equipped with imported and self-developed technology and has undergone various improvements and upgrades, in particular to its Bayer-sintering process and Bayer process. Zhongzhou Aluminum obtains bauxite supplies partly from extractions of the Group's mines, and partly from external suppliers in Henan and Shanxi Provinces and overseas.

Zhongzhou Aluminum had an annual alumina production capacity of approximately 3,050,000 tonnes as at 31 December 2020. Zhongzhou Aluminum produced approximately 2,080,680 tonnes of alumina and approximately 940,160 tonnes of chemical alumina products in 2020.

Chongqing Branch

The Group's Chongqing branch is located in Chongqing. Chongqing branch completed the construction of alumina production facilities in 2010 and its annual alumina production capacity was approximately 800,000 tonnes as at 31 December 2020. The Group has suspended production in Chongqing branch since July 2014 due to the relatively significant decrease in the price of alumina as compared with the price of alumina during the construction period, large negative variation of mineral resources and the high costs of natural gas and other energy at the time of suspension. In 2018, the Group entered into agreements with a third party to lease the alumina production facilities of Chongqing branch and to cooperate on mine operations, respectively. In 2020, the Group received RMB50.0 million for leasing alumina production facilities.

Guangxi Huasheng

Established in June 2017 and located in Fangchenggang, Guangxi Province, Guangxi Huasheng is mainly engaged in producing alumina products and was put into production in the third quarter of 2020. Guangxi Huasheng had an annual alumina production capacity of approximately 2,000,000 tonnes as at 31 December 2020. Guangxi Huasheng produced approximately 351,630 tonnes of alumina in 2020.

Guizhou Huajin

Established in July 2014 and located in Qingzhen, Guizhou Province, Guizhou Huajin specialises in producing alumina products. Guizhou Huajin had an annual alumina production capacity of approximately 1,600,000 tonnes as at 31 December 2020. Guizhou Huajin produced approximately 1,630,700 tonnes of alumina products in 2020.

Shanxi Huaxing

Located in Shanxi Province, Shanxi Huaxing is a stand-alone alumina plant which commenced trial production in October 2013. Shanxi Huaxing obtains bauxite supplies from the Group's own mines delivered primarily via highway and is located near abundant coal and water supplies.

In December 2015, the Group transferred out 50% of its equity interests in Shanxi Huaxing, a then wholly-owned subsidiary of the Guarantor, through the Shanghai United Assets and Equity Exchange. In December 2018, the Group acquired the 50% equity interests in Shanxi Huaxing through the Shanghai United Assets and Equity Exchange from Baotou Transportation Investment Group Co., Ltd. Upon completion of the acquisition, Shanxi Huaxing became the Group's wholly-owned subsidiary.

Shanxi Huaxing had an annual alumina production capacity of approximately 2,000,000 tonnes as at 31 December 2020. Shanxi Huaxing produced approximately 1,342,360 tonnes of alumina products in 2020.

Lanzhou Aluminum

Located in Lanzhou city in Gansu Province, the Group's Lanzhou branch is a stand-alone primary aluminum plant. It was part of Lanzhou Aluminum before July 2007 and was acquired by the Group through share exchange in April 2007. In January 2019, the Group turned the Lanzhou branch into its wholly-owned subsidiary, Lanzhou Aluminum, in order to promote its business vitality. Lanzhou Aluminum owns a primary aluminum smelting plant with a designed annual primary aluminum production capacity of approximately 450,000 tonnes as at 31 December 2020. It produced approximately 408,070 tonnes of primary aluminum in 2020.

Shanxi New Material (formerly known as Shanxi Huaze)

Shanxi New Material is situated in Shanxi Province. In March 2003, the Group established the joint venture company, Shanxi Huaze, with Zhangze Electric Power to commence the construction of a primary aluminum production facility. In 2017, the Group contributed certain assets related to alumina production of the Group's Shanxi branch to Shanxi Huaze. Upon completion of the Group's asset contribution, the Group's shareholding in Shanxi Huaze increased from 60% to 85.98% and Shanxi Huaze was renamed to Shanxi New Material. Shanxi New Material had an annual alumina production capacity of approximately 2,600,000 tonnes as at 31 December 2020 and produced approximately 1,792,930 tonnes of alumina and 95,620 tonnes of chemical alumina products in 2020. Its designed annual production capacity of primary aluminum was approximately 424,000 tonnes as at 31 December 2020 and it produced approximately 307,560 tonnes of primary aluminum in 2020.

Zunyi Aluminum

Zunyi Aluminum is situated in Guizhou Province. As at 31 December 2020, the Group held 67.445% equity interest in Zunyi Aluminum. Zunyi Aluminum's annual primary aluminum production capacity was approximately 1,000,000 tonnes as at 31 December 2020. In 2020, it produced approximately 1,142,610 tonnes of primary aluminum. On 29 June 2018, the Guarantor entered into a joint venture contract with Guizhou Wujiang Hydroelectricity Development Co., Ltd. and four other companies to reorganise and merge Zunyi Alumina and Zunyi Aluminum to promote the coordinated development of the enterprises and reduce production cost. Upon completion of the merger and reorganisation, the shareholding held by the Guarantor in Zunyi Aluminum will be increased to 67.4%.

Fushun Aluminum

Fushun Aluminum is situated in Liaoning Province, and is a stand-alone primary aluminum plant. In March 2006, the Group entered into a share transfer agreement with Liaoning Fushun Aluminum Plant to acquire 100% of the equity interests in Fushun Aluminum for a consideration of RMB500 million. Fushun Aluminum's primary business was the production of primary aluminum and carbon products. The Group suspended production in Fushun Aluminum in October 2015 due to the relatively significant decrease in the price of primary aluminum and high costs of electricity at the time of suspension. In 2020, the Group disposed of the primary aluminum production facilities in Fushun Aluminum. Fushun Aluminum did not have any annual primary aluminum production capacity as at 31 December 2020 and did not produce any primary aluminum in 2020.

Fushun Aluminum had an annual anode carbon production capacity of approximately 530,000 tonnes as at 31 December 2020 and it produced approximately 322,454 tonnes of baked carbon anodes in 2020.

Shandong Huayu

Shandong Huayu is situated in Shandong Province and is a stand-alone primary aluminum plant. The Group currently holds a 55% equity interest in Shandong Huayu. Since November 2018, the Group has gradually suspended production of aluminum at Shandong Huayu due to market environment and production restriction for environmental protection. In 2019, the Group halted its primary aluminum production and before that Shandong Huayu produced approximately 8,500 tonnes of primary aluminum in 2019. In October 2020, Shandong Huayu agreed to transfer its primary aluminum capacity quota of 135,000 tonnes to Yunnan Aluminum through judicial auction at a consideration of RMB538.66 million. Shandong Huayu had an annual primary aluminum production capacity of approximately 65,000 tonnes as at 31 December 2020. ShandongHuayu still has supporting facilities and coal-fired generators.

Gansu Hualu

Gansu Hualu is situated in Gansu Province, and is a stand-alone primary aluminum plant. In August 2006, the Group entered into a share transfer agreement with Baiyin Nonferrous Metal (Group) Co., Ltd. ("Baiyin Nonferrous") and Baiyin Ibis Aluminum Co., Ltd. ("**Baiyin Ibis**"). Baiyin Nonferrous contributed 127,000 tonnes of primary aluminum smelting and supporting facilities owned by Baiyin Ibis as capital contribution and holds a 49% equity interest in Gansu Hualu. The Group holds a 51% equity interest in Gansu Hualu. Since November 2015, the production of primary aluminum of Gansu Hualu has been suspended. In 2017, the primary aluminum production facilities in Gansu Hualu have been disposed or in the process of disposal. In 2019, most of the primary aluminum production facilities in Gansu Hualu were disposed and the rest were disposed in 2020. Gansu Hualu had no annual primary aluminum production capacity as at 31 December 2020 and did not produce any primary aluminum in 2020.

In addition, Gansu Hualu also possesses production capacity of carbon products. Its designed annual production capacity of anode carbon products was approximately 150,000 tonnes as at 31 December 2020 and it produced approximately 93,823 tonnes of anode carbon products in 2020.

Baotou Aluminum

Baotou Aluminum is located in the Inner Mongolia Autonomous Region, and is a stand-alone primary aluminum plant. On 28 December 2007, through A Shares issuance and exchange for Baotou Aluminum shares, the Group acquired 100% of the equity interest of Baotou Aluminum. The Group currently holds 74.33% of the equity interest in Baotou Aluminum. Upon completion of a proposed asset restructuring, the Group will hold 100% of the equity interest in Baotou Aluminum. In April 2015, Baotou Aluminum and Baotou Transportation Investment Group Co., Ltd. established Inner Mongolia Huayun. Inner Mongolia Huayun commenced operations in 2017. Together with the primary aluminum production facilities at Inner Mongolia Huayun, Baotou Aluminum had a consolidated annual primary aluminum production capacity of approximately 1,340,000 tonnes as at 31 December 2020 and a consolidated output of approximately 1,249,490 tonnes of primary aluminum in 2020.

Liancheng Branch

The Group's Liancheng branch is located in Gansu Province. In late May 2008, the Group acquired 100% of the equity interest in Liancheng Longxing Aluminum Company Limited from Chinalco on the China Beijing Equity Exchange and subsequently turned it into the Group's Liancheng branch which specialises in producing primary aluminum. The Group's Liancheng branch had an annual primary aluminum production capacity of approximately 550,000 tonnes as at 31 December 2020. It produced approximately 152,900 tonnes of primary aluminum in 2020.

Ningxia Energy

The Group acquired a 70.82% equity interest in Ningxia Energy in January 2013. Ningxia Energy was established in June 2003. It is an integrated power generation company with total installed capacity of 4,459.1 MW as at 31 December 2020. It also operates coal mines located in the Ningxia Autonomous Region. Its principal business includes conventional coal-fire power generation and renewable energy generation. In 2020, Ningxia Energy produced approximately 11.2 million tonnes of coal and approximately 15.1 billion kWh of electricity.

Zhengzhou Institute

Zhengzhou Institute, located in Zhengzhou, Henan Province, was incorporated as one of the Group's subsidiaries in 2015. Its predecessor was established in August 1965 and has served as the centre for the Group's research and development efforts. Zhengzhou Institute specialises in the research and development of technologies for primary aluminum smelting, alumina refining and the development of new products of chemical alumina. Zhengzhou Institute is the only institute in China dedicated to light metals research and has played a key role in bringing about technological innovations in China's aluminum industry. Zhengzhou Institute was approved by the Ministry of Science and Technology of the PRC in 2003 to establish the National Research Center of Aluminum Refinery Technologies and Engineering. As at 31 December 2020, Zhengzhou Institute had a limited production capacity for chemical alumina products, which it uses in connection with its research and development efforts.

Xinghua Technology

The Group acquired a 66% equity interest in Xinghua Technology in December 2016. Located at Shanxi Province, Xinghua Technology is an alumina plant with an annual alumina production capacity of approximately 900,000 tonnes as at 31 December 2020. It produced approximately 863,880 tonnes of alumina and approximately 6,890 tonnes of chemical alumina in 2020.

RAW MATERIALS AND SUPPLIERS

Raw Materials

Alumina Segment

Bauxite is the principal raw material in alumina production. The Group has procured its bauxite supply principally from three sources:

- the Group's own bauxite mining operations;
- jointly-operated mines; and
- other suppliers, which principally include small independent mines in China and, to a lesser extent, international suppliers.

On average, the Group's refineries consumed approximately 2.4 tonnes of bauxite to produce one tonne of alumina in 2020. Its mines supplied approximately 20.50 million tonnes of bauxite to its refineries in 2020. The Group purchases bauxite from a number of suppliers and does not depend on any supplier for its bauxite requirements. In 2020, bauxite secured from other suppliers accounted for approximately 53.6% of its total bauxite supply, primarily because its demand for bauxite exceeded the production of its mines.

The following table sets forth the volumes and percentages of bauxite supplied by the Group's own bauxite mines and other suppliers of the periods indicated:

	Year Ended 31 December			
	2019		2020	
	Bauxite Supply	Percentage of Bauxite Supply	Bauxite Supply	Percentage of Bauxite Supply
		(%)		(%)
	(in thousand tonnes, except percentages)			
Own mines[1]	14,791.2	37.6	20,498.3	46.4
Other suppliers	24,499.9	62.4	23,723.2	53.6
Total	39,291.1	100.0	44,221.5	100.0

Note:

(1) Including the bauxite supplied by the Boffa mine in Guinea since 2020.

For details about the Group's own bauxite mines and jointly-operated bauxite mines, please see the subsection headed "*Description of the Group – Business – Alumina Segment – Bauxite Mines*" above.

In addition to the Group's own bauxite mines and the Group's jointly-operated bauxite mine, the Group also sourced bauxite from other suppliers, which accounted for 53.6% of the Group's total bauxite supply for the year ended 31 December 2020.

Procurement

The Group generally sources the Group's bauxite from mines close to the Group's refineries to control transportation costs. Except for Chalco Shandong, all of the Group's refineries are located in the four provinces where over 90% of China's potentially mineable bauxite has been found. The Group purchases a substantial amount of bauxite to satisfy the Group's alumina production needs. Additionally, to fully utilise the bauxite from its mines, the Group refine all bauxite that meets the minimum technical requirements for its production of alumina. The Group also purchase higher grade ore from other suppliers and blend the ore of various grades to meet the technical requirements for its alumina production. This practice allows for flexibility and the inclusion of lower grade bauxite to optimise the use of bauxite deposits available to the Group. The Group does not use its historical average purchase prices for 2019 and 2020, or any other historical index to estimate the Group's bauxite reserves.

To support the growth of the Group's alumina production, the Group continuously seeks opportunities to streamline and optimise the Group's bauxite procurement, including the ongoing restructuring of the Group's joint mining operators. The corporate management department at the Group's headquarters is responsible for the oversight and coordination of the Group's supply of bauxite. To determine how the Group's bauxite requirement will be allocated among the Group's principal sources each year, the Group estimates its total bauxite needs for the year at first. Based on market conditions, production costs and other factors, the Group determines the amount of bauxite that the Group wishes to source from the Group's own bauxite mines, and allocates the remaining requirements among the jointly-operated bauxite mine and other suppliers. The Group's management or operational control of the Group's own bauxite mines and jointly-operated bauxite mine generally allows it to adjust procurement from these sources during the course of the year to accommodate changes in the Group's plans or market conditions.

Prices

There is neither governmental regulation on bauxite prices nor an official trading market for bauxite in China. The Group negotiates bauxite prices with its suppliers based on ore quality, mining costs, market conditions, transportation costs and various governmental taxes or levies, including a resource tax imposed by local governments. The Group's total bauxite cost is currently influenced by the following factors:

- the cost of the Group's mining operations;
- the market conditions relating to purchases from small independent mines; and
- the market conditions relating to purchases from overseas.

Affected by market prices, the average purchase price of bauxite per tonne from the Group's other suppliers in 2020 decreased by 4.1% compared to 2019. The average cost of bauxite per tonne from the Group's own mines increased by 15.5% compared to 2019, mainly due to increase of the supply of Boffa mine in 2020, the total costs of which are generally higher than those of our domestic mines.

Primary Aluminum Segment

An average of approximately 1.91 tonnes of alumina and 13,444 kWh of electricity were required to produce one tonne of primary aluminum ingots in 2020.

Alumina and electricity, the two principal components of costs in the smelting process, accounted for approximately 41% and 37%, respectively, of the Group's unit primary aluminum production costs in 2020. Apart from alumina and electricity, the Group also requires carbon anodes, carbon cathodes, fluoride salt and cryolite for its smelting operations.

Alumina is the main raw material used in the production of primary aluminum. Its primary aluminum plants that do not have integrated alumina refining operations onsite obtain alumina internally from its alumina refineries located elsewhere or externally on the market.

Supplemental Materials, Electricity and Fuel

The sales and marketing department at the Group's headquarter coordinates and manages its supply chain for all its major raw materials in conjunction with the procurement centre at each production facility, which manages the logistics and inventory of raw materials locally. The Group is able to purchase diesel, the main fuel used by its mining and manufacturing equipment, from the public markets, and the Group sources its water from local rivers, lakes or underground sources.

Alumina Segment

Electricity, coal, alkali (caustic soda or soda ash) and heavy oil are the principal materials used in the Group's alumina production. The average cost of alumina production per tonne is RMB2,061 in 2019 and RMB1,879 in 2020 respectively.

Electricity

Electricity is one of the principal cost components in the Group's refining process. The Group generates electricity at a number of refineries and purchases the remaining electric power it requires from regional power grids at government-mandated rates. Most of the Group's power supply plans are one to three year renewable plans. Power prices in China can vary, sometimes substantially, from one region to another, based on demand and power production costs in the region. Power costs for the Group's various alumina refineries vary accordingly.

Coal

Large quantities of coal are used as a reducing agent and fuel to produce steam and gas in the alumina refining process. As at 31 December 2020, the Group held minority interests in a number of coal mining enterprises, including Shanxi Jiexiu, Qinghai Energy, Xuehugou Coal Industry Co., Ltd., Huasheng Wanjie Coal Co., Ltd., Dongdong Coal, Chalco Liupanshui, Huozhou Coal Group Xingshengyuan Coal Co., Ltd., and Guizhou Yuneng. The Group holds 70% of the equity interest in Gansu Huayang, which holds mining rights for coal deposits in the Luochuan mining area, Gansu Province. The Group has also acquired 70.82% of the equity interest in the Ningxia Energy, which holds mining rights for coal deposits in Ningxia Autonomous Region.

Guizhou Yuneng, an associate company in which the Group holds 25% of the equity interest, has been under development. In 2019, one of the coal mines under its construction was put into production, and another coal mine under its construction is expected to be put into operation in 2021. The operation of Huozhou Coal Group Xingshengyuan Coal Co., Ltd. has been suspended for technological upgrade. Its mining permit was renewed in 2020. Chalco Liupanshui filed bankruptcy in 2019 as a result of the supply-side structural reform carried out by the PRC government in the coal industry and the bankruptcy has been accepted by the court. It has been under the liquidation process. The rest of the coalmining enterprises in which the Group directly or indirectly has minority equity interests are currently in the extraction or trial production stage. By investing in coal mining enterprises and acquiring mining rights for coal deposits, the Group plans to partially offset its future energy costs.

Alkali is used as a supplemental material in alumina refining. The Bayer-sintering process and the Bayer-sintering combined process require soda ash while caustic soda is used in the Bayer process. The Group's alumina refineries use natural gas and coal gas as fuel to refine alumina. There is no governmental regulation of the prices of coal, alkali or fuel. The Group purchases these raw materials from external suppliers under negotiated supply contracts, which it believes are competitively priced. The Group has not experienced difficulty in obtaining these materials in sufficient quantity and at acceptable prices.

Primary Aluminum Segment

Smelting primary aluminum requires a substantial and continuous supply of electricity. For the years ended 31 December 2019 and 2020, the Group used approximately 13,350 kWh and 13,444 kWh of electricity, respectively, to produce one tonne of primary aluminum. For the years ended 31 December 2019 and 2020, electricity accounted for 34% and 37%, respectively, of the Group's unit primary aluminum production costs for the relevant periods.

The availability and price of electricity are key factors in the Group's primary aluminum production. Interruptions of electricity supply can result in lengthy production shutdowns, increased costs associated with restarting production and waste of production in progress, and prolonged interruptions can cause damage to or the destruction of production equipment and facilities. The preferential electricity prices formerly enjoyed by Chinese primary aluminum enterprises were eliminated in 2009. The Group's average annual electricity price per kilowatt-hour remained relatively stable from 2019 to 2020.

Carbon anodes and cathodes are key raw materials in the smelting process. Each of the Group's smelters is able to produce carbon products necessary for its operations other than carbon cathodes. In addition, the Group's Qinghai branch possesses production capacity of carbon cathodes and is able to manufacture carbon cathodes products.

Procurement

The corporate management department at the Group's headquarter is responsible for the oversight and coordination of its supply of bauxite. To determine how its bauxite requirement will be allocated among its principal sources each year, the Group first estimates its total bauxite needs for the year. Based on market conditions, production costs and other factors, the Group determines the amount of bauxite that it wishes to source from the Group's mines, and the remaining from other suppliers.

The Group is able to purchase diesel, the main fuel used by the Group's mining and manufacturing equipment, from the public markets, and the Group sources its water from local rivers, lakes or underground sources.

CENTRALISED SALES AND MARKETING

The Group has established integral marketing, procurement and logistic platforms. The Group coordinates substantially all of its sales and marketing activities of its self-produced alumina products and some of its sales and marketing activities for its self-produced aluminum products through Chalco Trading. The Group's subsidiaries and branches sell some of the Group's self-produced primary aluminum products directly to external customers. The Group's alumina refineries sell the Group's self-produced chemical grade alumina directly to external customers or indirectly through Chalco Trading for subsequent external trading. For all of the Group's self-produced products that are sold either through Chalco Trading for subsequent external sale or directly to external customers, the Group's subsidiaries and branches play an important role in providing after-sales services and strengthening the Group's presence in the marketplace. Since late 2009, the Group has also been engaged in the trading of non-ferrous metal products including alumina, primary aluminum, copper, zinc and lead as well as coal products that the Group sources from third-party suppliers through Chalco Trading.

Alumina

The Group sells its self-produced alumina to customers primarily through Chalco Trading, giving priority to customers with whom it has long-standing relationships and who have established a strong credit history, after reserving sufficient alumina for its forecasted primary aluminum production. In 2020, the Group supplied approximately 6.79 million tonnes of alumina produced at its refineries to its smelters, which represented approximately 46.7% of its total alumina production, and sold the remainder to its customers. In addition, it also procures and sells outsourced alumina under long-term agreements or on the spot market through Chalco Trading. It sold approximately 2.70 million tonnes of outsourced alumina in 2020.

The sales prices of alumina at which the Group's alumina refineries sell internally to Chalco Trading are determined based on its budgeted sale prices, spot market prices and the prices of primary aluminum on SHFE. Chalco Trading coordinates the external negotiation and execution of sales contracts of the Group's alumina products. Chalco Trading sells its self-produced alumina and alumina sourced from third-party suppliers to smelters throughout China. All of the Group's major customers in the past three years have been domestic smelters. The Group primarily sourced alumina from third-party suppliers on the spot market, and it is normally required to pay the full price of the outsourced alumina before each delivery.

Chalco Trading sells the Group's self-produced alumina and outsourced alumina under spot sales agreements and long-term sales agreements with terms ranging from one year to three years. The Group's long-term sales agreement for alumina normally sets forth the quantity of alumina to be sold by the Group in each month and each year, the price determination mechanism, payment method, place of delivery and delivery method. Places of delivery under the Group's sales agreements are arranged to be where it could efficiently manage the transportation of alumina and help reduce logistics cost. The Group's customers are normally required to pay for their procurement before each delivery. As a result, the spot price of alumina and fluctuations of primary aluminum prices on the SHFE affect the alumina prices at which it sells.

Chalco Trading sets the price for the external sales of alumina products after taking into account the following factors:

- international and domestic supply-demand situation;
- CIF Chinese ports prices for alumina imports into China and other relevant import expenses;
- international and domestic alumina transportation costs;
- effects of the PRC Government's policies on raw materials required by the Group's alumina refineries; and
- the Group's short-term and mid-term projections for alumina prices.

Primary Aluminum

The Group sells all of its self-produced and outsourced primary aluminum to domestic customers. The Group expects China to remain its key market for primary aluminum for the foreseeable future. Customers of its primary aluminum products principally consist of aluminum fabricators and distributors that resell its primary aluminum products to aluminum fabricators or other purchasers.

To improve the efficiency of the Group's distribution, it divides its China market into the following regions: southern China (including Guangdong and Fujian Provinces), eastern China (including Jiangsu and Zhejiang Provinces and Shanghai Municipality), southwestern China (including Sichuan Province and Chongqing Municipality), the Beijing-Tianjin-Tanggu area, and central China. In general, the Group satisfies each purchase order with products from its nearest smelter to minimize transportation costs.

The Group's primary aluminum smelting subsidiaries and branches sell a portion of the Group's primary aluminum output directly to external customers. Each of its smelters is normally responsible for the sale of products to the customers from neighbouring markets, negotiating the pricing and delivery terms based on market conditions.

The Group's primary aluminum smelting subsidiaries and branches also sell a portion of its primary aluminum output internally to Chalco Trading at prices based on the spot prices of primary aluminum on Yangtze or Nanchu. The Group establishes pricing guidelines for Chalco Trading to conduct external domestic sales of its self-produced primary aluminum products, taking into account four main factors: the primary aluminum spot prices and futures price on the SHFE, spot prices in the regions of eastern China and southern China, its production costs and expected profit margins, and supply and demand. Chalco Trading then coordinates the external sales of primary aluminum. Chalco Trading sells its self-produced primary aluminum products to external customers through the following three channels:

- *Contract sales.* Most of the Group's primary aluminum sales are made pursuant to contracts entered into directly with its long-standing customers. The terms for its sales contracts for primary aluminum are typically one year. The Group prices its primary aluminum products based on the SHFE prices and spot market prices for primary aluminum.
- *Sales on the SHFE.* As part of the Group's effort to manage market risk, it sells a portion of its primary aluminum products on the SHFE through futures contracts with terms ranging from one month to twelve months to hedge against declines in primary aluminum prices.
- *Sales on the spot market.* The Group also sells its primary aluminum products on the spot market at prices with reference to various factors, such as market spot prices and transportation costs.

In addition, the Group also procures and sells outsourced primary aluminum on the spot market or through short-term futures and options transactions. The Group determines its sales prices of the outsourced primary aluminum through negotiations with its customers, taking into consideration its procurement prices and the prevailing market conditions. The Group sold approximately 5.18 million tonnes of outsourced primary aluminum in 2020.

Chemical Alumina Products and Gallium

Chemical alumina products and gallium are derived from the Group's alumina production. The Group adjusts its production of these products based on market demand. The Group's alumina refineries sell its chemical alumina products directly to external customers or indirectly to external customers through Chalco Trading for subsequent external trading.

In August 2019, the Group made a capital contribution with all of its gallium assets to China Rare Metals and Rare Earths Company Ltd. and is not engaged in gallium production currently.

Coal

Ningxia Energy sells a portion of its self-produced coal directly to external customers through short-term contracts at prices determined through negotiations with its customers, taking into consideration factors including its procurement prices and prevailing market conditions. Ningxia Energy consumes the rest of its self-produced coal at its own electric power plant.

In addition, the Group also procures and sells outsourced coal under long-term agreements or on the spot market through Chalco Trading. The Group sold approximately 3.9 million tonnes of outsourced coal in 2020.

Trading of Outsourced Non-ferrous Metal Products and Other Materials

Since late 2009, the Group has been actively engaged in the trading of alumina and primary aluminum sourced from third-party suppliers. Through Chalco Trading, the Group also sells other non-ferrous metal products such as copper, zinc and lead as well as coal products that it procures from its third-party suppliers to external customers on the spot market or under long-term sales agreements. In 2020, the Group sold approximately 0.6 million tonnes of outsourced copper, zinc and lead. In addition, the Group also sells outsourced raw and ancillary materials such as iron ore, charred coal and cathode copper in bulk to customers such as steel manufacturers and copper processing companies on the spot market.

Chalco Trading has a team with trading expertise to conduct research on the markets of non-ferrous metal products and other materials. From time to time, the Group may enter into futures and options transactions to hedge against price fluctuations in the non-ferrous metal product market.

Delivery

The Group relies on rail shipping and trucks for the delivery of products within China.

The Group's alumina is transported by rail or trucks, and transportation costs are generally borne by its customers and excluded from its sales prices. For long-distance deliveries, the Group maintains spur lines connecting its plants to the national railway routes.

Most of the Group's primary aluminum products are transported by rail, and its coal products are transported both by trucks and by rail. Rail shipping on the PRC national railway system is subject to government mandated pricing.

Major Suppliers and Customers

The Group's major suppliers include BHP Group, Rio Tinto Group, Glencore plc, Noble Group Holdings Limited, China Energy Investment, China Petroleum, PetroChina and Vantage Nooc Limited. The Group's major customers are National Food and Strategic Reserves Administration, Samsung Group, Baosteel Group, Toyota Group, Unilever plc, LG Corporation, Glencore plc, Mitsui & Co., Ltd. and Trafigura Group Pte. Ltd.

COMPETITION

Competition from Domestic Competitors

Alumina

The Group sold substantially all of the remaining self-produced alumina to domestic customers in 2020. The Group's competitors include other domestic and international alumina producers that conduct sales in China. In 2020, the Group's alumina production (with chemical alumina products included) represented approximately 23.1% of total domestic production in China.

The Group is a leading enterprise in non-ferrous metal industry in China. As at 31 December 2020, 18 alumina producers in China (including Chalco) each had annual production capacity of 500,000 tonnes or above, which collectively represented approximately 96.9% of the total alumina production capacity in China. As at the same date, among these 18 alumina producers, 14 alumina producers (including Chalco) each had annual production capacity of one million tonnes or above, which collectively represented approximately 89.2% of the total alumina production capacity in China. In order to improve the efficiency and competitiveness of the Chinese alumina industry as well as to protect the environment, MIIT published the Standard Conditions in July 2013 and issued a new version in March 2020, which provides stringent standards for the existing alumina enterprises. Although the Group faces competition from other domestic and international refineries, the Group has several advantages over such competitors, including: it has access to a substantial and stable supply of bauxite;

The Group has access to a substantial and stable supply of bauxite;

- it is experienced in alumina production and its production technologies are specifically adapted to the particular chemical composition of bauxite found in China;

- it has strong capabilities in technology research and holds certain proprietary technologies and patents; and

- it has a substantial workforce that has extensive experience in production and management.

Primary Aluminum

The Group derived all of its primary aluminum revenues from domestic sales in 2020. Its competitors include other domestic and international primary aluminum producers that conduct sales in China. In 2020, its primary aluminum production represented approximately 9.9% of total domestic production in China.

It is a leading enterprise in non-ferrous metal industry in China. As at 31 December 2020, 21 primary aluminum producers in China (including Chalco) each had annual production capacity of 500,000 tonnes or above, which collectively represented approximately 89.2% of the total primary aluminum production capacity in China. As at the same date, among these 21 primary aluminum producers, ten primary aluminum producers (including Chalco) each had annual production capacity of one million tonnes or above, which collectively represented approximately 69.6% of the total primary aluminum production capacity in China. The PRC government encourages consolidation in the Chinese primary aluminum industry to create larger, more efficient producers that are better positioned to implement measures to reduce emissions. Moreover, according to the Standard Conditions and other administrative regulations, new primary aluminum projects for expanding production capacity must be approved by the relevant administrative departments and must have stable supply of alumina. In addition, pursuant to relevant PRC regulations, the construction of new primary aluminum projects and the reconstruction or expansion of existing primary aluminum projects would be approved only if such projects would introduce new primary aluminum production capacity in an amount equal to or smaller than the amount of existing production capacity to be replaced.

Although the Group faces competition from other domestic and international smelters, it has several advantages over such competitors, including:

- *Scale of production.* With nine primary aluminum smelters, the Group can achieve significant economies of scale. In addition, its scale of production enables it to achieve high production volumes to fill large customer orders and maintain a large customer base. Through its national distribution network, the Group is able to make timely deliveries to customers from its local warehouses.

- *Technology.* The Group believes that it has more sophisticated and efficient technology than most of the Group's domestic competitors. The FHEST technology developed and employed by it is currently one of the most advanced energy saving technology in primary aluminum smelting in China. In addition, in terms of technological support and research and development capabilities, it is equipped with the most advanced research and development institute within the aluminum industry in China and enjoys advantages over other domestic smelters in technology advancement.

- *Vertical integration.* As a leading integrated alumina and primary aluminum producer in China, it is able to supply alumina internally to its primary aluminum plants. As a result, it saves on transportation, warehousing and related costs. In addition, because the Group operates its own alumina refineries, it is able to assure a stable supply of alumina for its primary aluminum smelting operations.

- *Quality.* The Group has maintained and will continue to improve on the high quality standards for its primary aluminum which has satisfied national and industrial standards and customers' need. The primary aluminum produced by most of its smelters satisfies the quality standards of the LME.

Competition from International Competitors

The tariff rate for alumina and primary aluminum imports was eliminated on 1 January 2008 and 1 August 2007, respectively. In 2020, China had net import of approximately 3.65 million tonnes of alumina (with chemical alumina products included), increased significantly from a net import of 1.37 million tonnes in 2019, primarily attributable to the fact that the alumina price in the international market was under pressure due to the increase in overseas alumina supply in 2020 and China ramped up its alumina imports during the time when price difference between the domestic and international market was favorable. China had net import of approximately 1.06 million tonnes of primary aluminum in 2020, compared to a net export of approximately 811 tonnes of primary aluminum in 2019, primarily because after the COVID-19 pandemic was effectively controlled in China, the rapid recovery of demand in the domestic market boosted the price, while the COVID-19 pandemic continued to spread overseas, causing a blow to the demand in overseas market, which stimulated a large number of import of primary aluminum. "*Risk Factors – Risks relating to the Group – The Group's business may be materially and adversely affected by the COVID-19 pandemic*."

The Group expects to continue to face competition from international suppliers of alumina and primary aluminum which are large international companies. Some competitors may also consider establishing joint venture companies with local producers in China to gain access to the resources in China and to lower transportation costs. However, the Group expects it will continue to benefit from certain PRC governmental policies that promote large domestic smelters.

Research and development

The Group's research and development efforts over the years have facilitated the expansion of its production capacity and reduced its unit costs. The Group has successfully commercialized its previous research and development results in various technologies. In 2020, the Group completed 108 technological projects, including 85 independent research and development projects, 17 special key science and technology projects and six science and technology application projects. In addition, it filed a total of 201 patent applications in 2020.

As at 31 December 2020, the Group owned 1,404 patents, which were primarily related to technologies and processes, equipment and new products. Once registered, a patent in China for an invention is valid for 20 years and for a utility model or a design 10 years from the date of the patent application. As at 31 December 2020, the Group owned 25 trademarks, each of which had a term of 10 years.

The Group does not regard any single patent, license, or trademark to be material to its sales and operations as a whole. The Group is neither involved in any material intellectual property disputes against it nor is the Group pursuing any litigation relating to intellectual property rights against any party.

The Group's department of science and technology management coordinates the research and development efforts undertaken at Zhengzhou Institute and technology centres at the Group's plants. The Zhengzhou Institute, the only organisation in China dedicated to aluminum smelting research, is responsible for the research and development of technologies for its operations. The technology centres at the Group's plants focus on providing engineering solutions and applying its developed technologies. Each of the plants also conducts operational testing and pilot experimentation relating to various research and development topics. Although the Group collaborates with universities and other research institutions in China on some of its projects, the Group generally does not outsource its research and development.

The Group's total expenditure for research and development was approximately RMB940.8 million and RMB1,434.1 million for 2019 and 2020 respectively.

Quality control

The Group has established and implemented strict quality control systems at various stages of the Group's integrated operations in accordance with applicable industry standards. The Group requests its quality management department to make regular checks on each batch of its products. In addition, the Group engages independent quality control institutions to make inspections on its products twice a year at its manufacturing sites and customers facilities, respectively, to ensure the quality of its products. The Group renews its ISO14001 environmental management accreditation and its ISO9000 quality management accreditation annually.

During the years ended 31 December 2019 and 2020, the Group had not experienced any material disputes with the Group's customers or return of goods due to the quality of the Group's products.

EMPLOYEES

As at 31 December 2019 and 2020, the Group had approximately 65,507 and 63,007 employees, respectively. The number of the Group's employees decreased from 2019 to 2020, which was mainly due to its optimised staffing and normal retirement. The table below sets forth the number of the Group's employees by function and location as at the periods indicated:

	As at 31 December			
	2019		2020	
	(number)	(%)	(number)	(%)
Function:				
Alumina production	28,437	43.41	24,485	38.86
Primary aluminum production	22,189	33.87	22,612	35.89
Mining Operation	3,996	6.10	4,721	7.49
Research and development	1,101	1.68	783	1.24
Sales and marketing	819	1.25	643	1.02
Energy	6,017	9.19	6,833	10.84
Management and others[1]	2,948	4.50	2,930	4.65
Total	65,507	100.0	63,007	100.0

Note:

(1) Excluding the Group's management personnel for alumina production, primary aluminum production and aluminum fabrication.

The Group has workers' unions at the plant level that protect employees' rights and welfare benefits, organise educational programmes, encourage employee participation in management decisions and mediate disputes between individual employees and the Group. All employees are union members. The Group has not experienced any strikes or other labour disturbances that has interfered with its operations, and the Group believes that it maintains good relationships with its employees.

The remuneration package of the Group's employees includes salary, bonuses and allowances. Employees also receive welfare benefits including medical care, housing subsidies, childcare and education, retirement and other miscellaneous items.

In accordance with applicable PRC regulations, the Group participates in pension contribution plans organised by provincial and municipal governments, under which each of the Group's plants is required to contribute an amount equal to a specified percentage of its employees' salaries, bonuses and various allowances. The amount of contribution as a percentage of the employees' salary is, on average, approximately 20.0% depending in part on the location of the plant. The Group has made all required pension contributions up to 31 December 2020. Retirees who retired prior to the date of the reorganisation will have their pensions paid out of the pension plans established by the PRC government. The Group provides to the Group's employees various social welfare benefits through various institutions owned by Chinalco and its other affiliates or through third parties.

Environmental protection

The Group's operations are subject to a wide variety of PRC national and local environmental laws and regulations, including those governing waste discharge, generation, treatment and disposal of hazardous materials, land reclamation, air and water emissions and mining matters. For example, the PRC Government has set discharge standards for emissions to air and water. To enforce these standards, national environmental protection authorities have imposed discharge fees that increase for each incremental amount of discharge up to the limit set by the regulation. The relevant PRC Government agencies are authorised to order any operations that exceed discharge limits to take remediation measures, which are subject to the relevant agency's approval, or order the closure of any operations that fail to comply with applicable regulations. In December 2016, the PRC government promulgated the

Environmental Protection Tax Law which became effective from 1 January 2018. The Environmental Protection Tax Law has replaced discharge fees with environmental protection tax levy, which is calculated based on the pollution equivalents converted from pollutant emissions.

The pollutants discharged from the Group's alumina refining process include red mud, waste water and gas emissions and particulates. The Group's primary aluminum production process generates fluorides, pitch fume and particulates. It is illegal to release these pollutants untreated. The discharge of these pollutants after treatment must comply with national and local discharge limits.

Each of the Group's alumina refineries, primary aluminum smelters and other production plants has its own waste treatment facilities onsite or has developed other methods to dispose of industrial waste in compliance with applicable environmental laws and regulations. The Group was granted ISO14001 accreditations issued by China Quality Certification Center and the International Certification Network in 2004. In 2020, the Group passed the review and the accreditations were renewed.

The Group has increased its energy-efficiency by implementing new production techniques and technologies, upgrading its production facilities, optimising its production process and enhancing its logistics and operations management. The Group has incorporated clean technology and processes into its operations with a view to promoting the concept of "zero emission" plants. Since 2009, the Group has achieved its target of zero industrial waste water emission in its alumina and primary aluminum production. The Group actively implemented the PRC Government's guideline of carbon neutrality and published the first professional carbon reduction report among the PRC enterprises. The Group also insists on applying the social responsibility international standard ISO26000 in its general practices and obtains the highest five-star rating of its social responsibility report for several consecutive years. Its "Social Responsibility Innovation of Large Nonferrous Metal Enterprise Based on Management Modules and Negative Lists" was awarded the first prize of the 25th National Enterprise Management Modernization Innovation in June 2021, evidencing the Group's leading position in social responsibility in the non-ferrous metal industry and state-owned enterprises.

The Group's total expenditures for maintaining compliance with environmental laws and regulations were RMB914 million and RMB1,171 million for the years ended 31 December 2019 and 2020, respectively. In 2019 and 2020, the Group did not have any major environmental pollution incidents. The Group believes that its operations are substantially in compliance with currently applicable national and provincial environmental regulations. Please also see the subsection headed "*Risk Factors – Risks relating to the Group – The Group is subject to, and incurs costs to comply with, environmental laws and regulations*."

Insurance

The Group maintains insurance coverage for its fixed assets such as plant, machinery, equipment, office facilities and transportation vehicles against accidents or natural disasters such as typhoons, tornadoes, floods, landslides and lightning strikes. However, there are certain types of losses, such as losses from war, acts of terrorism and natural disasters, for which the Group cannot obtain insurance at a reasonable cost or at all.

The Group is covered under the work-related injury insurance required by the local government labour departments, and it has procured additional business accidental insurance for its employees. More extensive insurance is either unavailable in China or would impose a cost on the Group's operations that would reduce the Group's competitiveness.

The Group's insurance premiums amounted to a total of RMB42.9 million and RMB38.6 million for the years ended 31 December 2019 and 2020, respectively.

PROPERTIES

Owned Properties

Pursuant to the reorganisation in connection with the Group's initial public offering in 2001, Chinalco transferred to the Group, among other operating assets, ownership of the buildings and properties for the operation of the Group's core businesses. Chinalco retained its remaining buildings and properties for its operations. The buildings transferred to the Group comprise 4,631 buildings with an aggregate gross area of approximately 4.2 million square metres. These buildings may be sold or transferred only with the consent of Chinalco and in accordance with applicable land transfer procedures. Chinalco has undertaken to provide its consent and the necessary assistance to facilitate land grant procedures to ensure that the Group's buildings can be legally transferred or sold.

Leased Properties

The Group and Chinalco also lease to each other a number of other buildings and properties for ancillary uses, which comprise mainly buildings for offices, dormitory, canteen and storage purposes. As at 31 December 2020, all the following leases are valid and have not expired.

Leases from the Group to Chinalco

The Group leases to Chinalco 150 buildings with an aggregate gross area of approximately 148,687 square metres.

Lease from Chinalco to the Group

Chinalco leases to the Group 106 buildings with an aggregate gross area of approximately 182,542 square metres. Chinalco had obtained proper land and building title certificates for all of the buildings it leases to the Group. Chinalco, through its wholly-owned subsidiary China Aluminum Investment and Development Co., Ltd., leases to the Group certain office premises with an aggregate gross area of approximately 182,542 square metres. In June 2018, the Group and China Aluminum Investment and Development Co., Ltd., a wholly-owned subsidiary of Chinalco, renewed a tenancy agreement pursuant to which the Group would lease from Chinalco the office premises at certain floors of No. 62 North Xizhimen Street, Haidian District, Beijing, PRC, with an aggregate gross floor area of 22,303 square meters. This agreement will expire on 31 December 2021.

Chinalco leases to the Group 426 pieces or parcels of land, located in eight provinces, covering an aggregate area of approximately 50.68 million square metres for any purpose related to the Group's operations and businesses. The leased land mainly consists of:

- 419 pieces of allocated land with an area of approximately 49.79 million square metres; Chinalco has obtained authorisation from the relevant administrative authorities to manage and lease the land use rights for such land; and

- Sevenpieces of land with an area of approximately 0.9 million square metres; Chinalco has paid the land premiums and obtained land use rights certificates.

The land is leased for the following terms:

- *allocated land*: 50 years commencing from 1 July 2001 (except for land use rights of mines operated by the Group, whose leased terms shall end on the expiration date of the mining rights or at the end of the actual mine life, whichever is earlier);

- *granted land*: until expiration of the relevant land use right permits; and

- *for both allocated or granted land*: normal commercial terms that stipulate, among other conditions, the terms of use, monthly or annual rental amounts payable in RMB and a six-month notification provision for termination of any lease agreement.

LEGAL COMPLIANCE

The Group is required to obtain and maintain valid permits, licences and certificates from various governmental authorities to conduct the Group's businesses, including, among others, those required for the Group's mining and trading of alumina products and its coal mining operations.

As at the date of this Offering Circular, the Group has obtained and maintained all the permits, licences and certificates material to its operations.

The Group is from time to time involved in legal proceedings arising in the ordinary course of its business, including as plaintiff or defendant in litigation or arbitration proceedings. To the best of its knowledge after due enquiry, no member of the Group is aware of any current or pending litigation or arbitration proceedings against the Group or any of its senior management team members that could have a material adverse effect on its businesses, financial condition and results of operations.

DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

DIRECTORS

The following table sets forth information regarding the Guarantor's directors as at the date of this Offering Circular:

Name	Age	Position
LIU Jianping	53	Chairman and Executive Director
ZHU Runzhou	56	Executive Director and the President
JIANG Tao.	47	Executive Director
OU Xiaowu	56	Executive Director and President
ZHANG Jilong	56	Non-executive Director
WANG Jun	55	Non-executive Director
QIU Guanzhou	72	Independent Non-executive Director
YU Jinsong	67	Independent Non-executive Director
CHAN Yuen Sau, Kelley	50	Independent Non-executive Director

Executive Director

Mr. Liu Jianping, aged 53, is currently the Chairman and an executive director of the Guarantor. Mr. Liu graduated from Renmin University of China with a master's degree in economics majoring in commodity. Mr. Liu has extensive experience in human resource and corporate management, etc. He is also a member of the Party group, deputy general manager and security head of Aluminum Corporation of China (中國鋁業集團有限公司). He successively worked in the department of restructuring, laws and regulations of National Food and Strategic Reserve Administration (國家糧食儲備局), the department of personnel of National Food and Strategic Reserve Administration (國家糧食儲備局), the department of personnel, the organization department of the CPC Central Committee and the First Bureau of Management of Enterprise Leaders of the State-owned Assets Supervision and Administration Commission of China Grain Reserve Group Ltd. Company (中國儲備糧管理總公司). He successively served as the deputy head and head of the department of personnel (bureau of retired veteran cadres) of Aluminum Corporation of China (中國鋁業公司), the head of the human resources department (veteran cadre work department) of the Aluminum Corporation of China (中國鋁業公司), the general manager of the human resource department of Aluminum Corporation of China Limited (中國鋁業股份有限公司), the assistant to the general manager of Aluminum Corporation of China (中國鋁業公司), a member of the Party group, deputy general manager and general manager of copper business department (銅事業部) of Aluminum Corporation of China (中國鋁業公司), the chairman and president of China Copper Co., Ltd. (中國銅業有限公司), and the chairman of Yunnan Copper (Group) Co., Ltd. (雲南銅業(集團)有限公司). Currently, Mr. Liu also serves as the secretary of the Party Committee and chairman of China Copper Co., Ltd. (中國銅業有限公司) and the chairman of Chinalco Mining Corporation International Co., Ltd. (中國礦業國際有限公司).

Mr. Zhu Runzhou, aged 56, is currently an executive director and president of the Guarantor. Mr. Zhu graduated from Wuhan University, majoring in software engineering, with a master degree in engineering. He is a professor-level senior engineer. Mr. Zhu has successively served as the deputy chief engineer of Gansu Jingyuan Power Plant (甘肅靖遠發電廠), the chairman of Baiyin Huadian Water Supply Co., Ltd. (白銀華電供水有限公司), head of Guodian Guizhou Kaili Power Plant (國電貴州凱裡發電廠), director of the preparatory office of the technical transformation program of Guodian in Duyun City, deputy general manager of Guodian Guizhou Branch, deputy general manager of Guodian Yunnan Branch and general manager of Guodian Power Xuanwei Power Generation Co., Ltd. (國電電力宣威發電有限責任公司), general manager of Guodian Guangxi Branch, deputy general manager of the energy management department of the Guarantor and deputy general manager of Chalco Energy Co., Ltd. (中鋁能源有限公司), a director, general manager and chairman of Chalco Ningxia Energy Group Co., Ltd. (中鋁寧夏能源集團有限公司), the general manager of Chalco Xinjiang Aluminum Power Co., Ltd. (中鋁新疆鋁電有限公司), and an executive Director and vice president of the Guarantor.

Mr. JIANG Tao, aged 47, is currently an executive director of the Guarantor. Mr. Jiang graduated from Northeastern University (東北大學) with a doctor's degree in engineering majoring in nonferrous metals metallurgy, and is an excellent senior engineer. Mr. Jiang is currently the secretary of the Party Committee and executive director of Chalco Zhongzhou Aluminum Co., Ltd. (中鋁中州鋁業有限公司), and the executive director of Henan Zhongzhou Aluminum Plant Co., Ltd. (河南中州鋁廠有限公司). Mr. Jiang has extensive experience in corporate management and production skills. He successively served as the deputy manager of the department of production and operation, deputy head of Second Alumina Plant (第二氧化鋁廠), deputy head and head of Alumina Plant (氧化鋁廠), assistant to the general manager and head of Second Alumina Plant (第二氧化鋁廠) of Chalco Shandong Co., Ltd. (中鋁山東有限公司), the standing member of the Party Committee of Shandong Aluminum Co., Ltd (山東鋁業有限公司) and deputy general manager of Chalco Shandong Co., Ltd. (中鋁山東有限公司), the deputy secretary of the Party Committee of Shandong Aluminum Co., Ltd (山東鋁業有限公司) and the director and general manager of Chalco Shandong Co., Ltd. (中鋁山東有限公司).

Mr. OU Xiaowu, aged 56, is currently an executive director and president of the Guarantor. Mr. Ou graduated from Xiamen University with a bachelor's degree in economics majoring in planning and statistics and is a senior auditor. Mr. Ou has extensive experience in auditing and financial management. He is also the deputy secretary of the Party Committee and secretary of the Discipline Inspection Committee of Aluminum Corporation of China Limited (中國鋁業股份有限公司). He successively served as the deputy head and head of 2nd division and head of 1st division of the audit department in China Nonferrous Metals Industry Corporation (中國有色金屬工業總公司), the deputy head of the finance department and audit department of China Copper Lead Zinc Group Corporation (中國銅鉛鋅集團公司), the deputy general manager of Guizhou Branch of Aluminum Corporation of China Limited (中國鋁業股份有限公司貴州分公司), the deputy head and head of the finance department (audit department) and chief financial officer of copper business department (銅事業部) of Aluminum Corporation of China (中國鋁業公司), a director and chief financial officer of China Copper Co., Ltd. (中國銅業有限公司), the general manager of the finance department and audit department of Aluminum Corporation of China Limited (中國鋁業股份有限公司), and a deputy chief auditor and general manager of the audit department of Aluminum Corporation of China (中國鋁業集團有限公司). Mr. Ou also served as a supervisor of China Copper Co., Ltd. (中國銅業有限公司), China Aluminum International Engineering Corporation Limited (中鋁國際工程股份有限公司) and China Aluminum Group High-end Manufacturing Co., Ltd. (中國鋁業集團高端製造股份有限公司), the chairman of the supervisory committee of Qinghai Yellow River Hydropower Renewable Aluminum Co., Ltd. (青海黃河水電再生鋁業有限公司), and a supervisor of Chalco Energy Co., Ltd. (中鋁能源有限公司) and Aluminum Corporation of China Limited (中國鋁業股份有限公司).

None-executive Director

Mr. Zhang Jilong, aged 56, is currently a non-executive director of the Guarantor. Mr. Zhang graduated from Central South University with a doctor's degree in engineering majoring in mining engineering, and is an excellent senior engineer. Mr. Zhang has extensive experience in scientific and technological research and development, and corporate management, etc. He is also the general manager of aluminum processing division of Aluminum Corporation of China (中國鋁業集團有限公司). He successively served as the deputy head of breakthrough and development division of the science and technology development of China Nonferrous Metals Industry Corporation (中國有色金屬工業總公司), the deputy head and head of science and technology division of department of planning and development of the State Bureau of Nonferrous Metal Industry (國家有色金屬工業總公司), the head of science and technology division of the department of production skills of Aluminum Corporation of China (中國鋁業公司), the deputy general manager of science and technology research and product development center and the manager of comprehensive department of Aluminum Corporation of China Limited (中國鋁業股份有限公司), the deputy head and head of science and technology department (military office) of Aluminum Corporation of China (中國鋁業公司) and the deputy manager of science and technology research center and product development center of Aluminum Corporation of China Limited (中國鋁業股份有限公司), the head of the department of science and technology management (military supporting office) of Aluminum Corporation of China (中國鋁業公司) and the deputy dean of

Chinalco Research Institute of Science and Technology (中鋁科學技術研究院), the general manager of the department of science and technology management (military supporting office) of Aluminum Corporation of China Limited (中國鋁業股份有限公司), the general manager, secretary of the Party Committee and chairman of Xinan Aluminum (Group) Co., Ltd. (西南鋁業(集團)有限責任公司), the general manager of aluminum processing department of Aluminum Corporation of China (中國鋁業公司) and the director of Chinalco Ruimin Co., Ltd. (中鋁瑞閩股份有限公司).

Mr. Wang Jun, aged 55, is currently a non-executive Director of the Guarantor. Mr. Wang graduated from Huazhong Institute of Engineering with a degree of industrial and civil construction, he is an engineer. He has extensive experience in financial and corporate management. Mr. Wang formerly served as the engineer in the engineering department of Babcock & Wilcox Beijing Company Ltd.; deputy manager of the real estate development department of China Yanxing Company; senior deputy manager of equity management department and senior manager of business management department, senior manager, deputy general manager, general manager of custody and settlement department in China Cinda Asset Management Co., Ltd and general manager of the equity management department of China Cinda Asset Management Co., Ltd. Mr. Wang currently serves as the business director of China Cinda Asset Management Co., Ltd. Mr. Wang also serves as a director of China Nuclear Engineering Corporation Limited currently.

Mr. Qiu Guanzhou, aged 72, is currently a non-executive Director of the Guarantor. Mr. Qiu graduated from Central South University of Technology majoring in mineral processing engineering with a doctoral degree and is a famous mineral engineer. He is also an academician of Chinese Academy of Engineering, currently serves as a professor and tutor of doctoral students in Central South University. Mr. Qiu previously served as the vice-principal of Central South University of Technology (Central South University). Mr. Qiu has dedicated himself to the research of processing and utilizing low-grade, complex and refractory metallic mineral resources in China for a long time, and has obtained significant achievements in flotation separation of fine and sulphide minerals and direct reduction of iron ore, especially the outstanding contributions made in the aspect of biohydrometallurgy in low-grade sulphide ore. He was awarded as a national science and technology expert with outstanding contributions. Mr. Qiu has published many science papers and treatises, and obtained several national technological inventions and scientific and technological advancement awards. He served as the academic leader of the innovative research group under National Natural Science Foundation of China in 2003. In 2004 and 2009, he consecutively served as the chief scientist for biometallurgy project of the National 973 Project twice. He was the president of the 19th International Biohydrometallurgy Symposium in 2011 and was elected as the vice president of International Biohydrometallurgy Society. Currently, Mr. Qiu also serves as the independent director of Lomon Billions Group Co., Ltd. (龍蟒佰利聯集團有限公司) and Guangdong Hongda Blasting Co., Ltd. (廣東宏大爆破股份有限公司).

Mr. Yu Jinsong, aged 67, is currently a non-executive Director of the Guarantor. He is a doctor of law, a professor and tutor of doctoral students of Renmin University of China, and the head of the Institute of International Law (academic part-time job). Mr. Yu focuses on research about international economic law, particularly international investment law and transnational corporation law. He has published dozens of academic papers in multiple major academic journals and several academic works, and obtained multiple national and provincial awards for achievements in teaching and research. Mr. Yu has successively served as an arbitrator of China International Economic and Trade Arbitration Commission (中國國際經濟貿易仲裁委員會), a member of the law planning group of National Philosophy and Social Science Research (國家哲學社會科學研究法學學科規劃小組), a mediator and arbitrator (2004-2016) of the International Centre for Settlement of Investment Disputes of the World Bank (世界銀行解決投資爭端國際中心), a member of the Social Science Committee of Ministry of Education (教育部社會科學委員會), a vice chairman of the Chinese Society of International Law (中國國際法學會), a member and counselor of the International Law Advisory Committee of Ministry of Foreign Affairs (外交部國際法諮詢委員會) and a member of the Advisory Committee on Economic and Trade Policy of

Ministry of Commerce(商務部經貿政策諮詢委員會). Currently, Mr. Yu also serves as an independent director of Zhongshan Broad-Ocean Motor Co., Ltd.(中山大洋電機股份有限公司) and Zhejiang Zhongxin Fluoride Chemicals Co., Ltd.(浙江中欣氟材股份有限公司).

Ms. Chan Yuen Sau Kelly, aged 50, is currently a non-executive Director of the Guarantor. Ms. Chan graduated from the City University of Hong Kong majoring in Accounting (with Honors). She is also a Justice of the Peace. Ms. Chan is a fellow of the Association of Chartered Certified Accountants (ACCA), the Hong Kong Institute of Certified Public Accountants (HKICPA), and the Hong Kong Institute of Directors (HKIoD). Ms. Chan has nearly three decades of working experience in finance and accounting and practical experience in fields such as corporate governance, risk management, business process reorganization, auditing, etc. Ms. Chan has successively served as a manager of auditing and management consultancy of Deloitte & Touche, the financial and administrative head in Hong Kong and Macau of Heineken(喜力集團), and the chief financial officer of Moet Hennessy Diageo(酩悅軒尼詩帝亞吉歐). Ms. Chan currently serves as the managing director of Yuanbo Consultancy Service Company(遠博顧問服務公司), the chairperson of Asian Chief Financial Officer Council(亞洲首席財務官理事會) of The Conference Board, the president of the Hong Kong Institute of Women Certified Public Accountants(香港女會計師公會), the chairperson of Zhongda Zhuanyan Co., Ltd.(中大轉研有限公司) and Employees' Compensation Insurance Levies Management Board(僱員補償保險徵款管理局), a member of the Air Transport Licensing Authority(空運牌照局), a member of the board of The Chinese University of Hong Kong, a member of the Education Commission(教育統籌委員會), a member of the Harbourfront Commission(海濱事務委員會) and a member of the Quality Education Fund Steering Committee(優質教育基金督導委員會). Currently, Ms. Chan also serves as an independent non-executive director of Morimatsu International Holdings Company Limited.

SUPERVISORS

The following table sets forth information regarding the supervisors of the Guarantor:

Name	Age	Position
YE Guohua	52	Chairman of Supervisory Committee
SHAN Shulan	49	Supervisor
GUAN Xiaoguang	50	Supervisor
YUE Xuguang	57	Supervisor

Mr. Ye Guohua, aged 52, is currently the chairman of the Supervisory Committee of the Guarantor. Mr. Ye graduated from Shanghai University of Finance and Economics, majoring in accounting, with a bachelor degree in economics and is a senior accountant. Mr. Ye has extensive experience in financial management and accounting. He has successively served as the director of accounting department of the refinery of Shanghai Gaoqiao Petrochemical Company(上海高橋石油化工公司), the deputy chief accountant and head of accounting department of Sinopec Shanghai Gaoqiao Branch(中國石化股份公司上海高橋分公司), the chief financial officer, executive director, a member of the Party Committee, deputy general manager of Sinopec Shanghai Petrochemical Company Limited(上海石油化工股份有限公司), the director of accounting department of China Petroleum & Chemical Group Corporation(中國石油化工集團公司), the chairman of Century Bright International Investment Company(盛駿國際投資有限公司), the chairman of Sinopec Insurance Limited(中石化保險有限公司), the vice chairman of Taiping & Sinopec Financial Leasing Co., Ltd.(太平石化金融租賃有限責任公司), a director of Sinopec Finance Co., Ltd.(中石化財務有限公司), and a director of Sinopec Oilfield Service Corporation(中石化石油工程技術服務有限責任公司). Mr. Ye is also a member of the Communist Party Committee and the chief accountant of Chinalco, and the chairman of Chinalco High-end Manufacturing Co., Ltd.(中國鋁業集團高端製造股份有限公司).

Ms. Shan Shulan, aged 49, is currently a Supervisor of the Guarantor. Ms. Shan graduated from Beijing Institute of Light Industry(北京輕工業學院), majoring in industrial corporate management, with a bachelor degree in engineering. She is a certified public accountant and statistician. Ms. Shan has extensive experience in accounting, finance management and other fields. She has successively served as an economic analyst at the economic research office of Beijing Glass Instruments Plant (北京玻璃儀器廠), the financial manager of Beijing CEMFIL Glass Fiber Co. Ltd. (北京賽姆菲爾玻璃纖維有限公司) under Saint-Gobain in China, the financial manager for Beijing region of Carrefour (China) Co., Ltd. (家樂福(中國)有限公司), the financial manager for China region of Baker Hughes Centrilift, the financial manager for China region of Microsoft Research Asia (China)(微軟(中國)亞洲研究院), and the business director and deputy head of budget division and the head of budget assessment division of the finance department of Aluminum Corporation of China (中國鋁業公司). Ms. Shan currently serves as the deputy director of the finance department of Aluminum Chinalco, she also concurrently serves as a supervisor of Chinalco Innovative Development Investment Company Limited (中國創新開發投資有限公司), a director of Aluminum Corporation of China Overseas Holdings Limited, a supervisor of China Aluminum Intelligent Technology Development Co., Ltd. (中鋁智慧科技發展有限公司), a director of Chinalco High-end Manufacturing Co., Ltd. (中國鋁業集團高端製造股份有限公司) and a director of China Aluminum Insurance Broker (Beijing) Co., Ltd. (中鋁保險經紀(北京)股份有限公司).

Mr. Guan Xiaoguang, aged 50, is currently a Supervisor of the Guarantor and the general manager of the general affairs department of the Guarantor. Mr. Guan is a master of business administration from Peking University. He is a senior economist with rich experience in human resources management and political work. Mr. Guan has successively served as a cadre of the personnel division and deputy secretary of the Youth League Committee of the North China University of Technology, deputy secretary of the Youth League Committee of the attached agencies directly under the China Nonferrous Metals Industry Corporation (中國有色金屬工業總公司), deputy director and director of the Investment Management Office of the China Nonferrous Metals Industry Association (中國有色金屬工業協會), head of business and deputy director of the office of the expert advisory committee of the Aluminum Corporation of China (中國鋁業公司), manager of the talent development and training division of the human resources department of the Guarantor, head and deputy director of the talent development and training division of the human resources department (veteran cadre work department) of the Aluminum Corporation of China (中國鋁業公司), deputy secretary of the Party committee, chairman of the labour union and supervisor of Shandong Aluminum Co., Ltd (山東鋁業公司), deputy general manager and general manager of the president's office (the office of the Party committee (discipline inspection commission)) of the Guarantor.

Mr. Yue Xuguang, aged 57, is currently a Supervisor of the Guarantor. Mr. Yue graduated from Kunming Institute of Technology with a bachelor degree in engineering majoring in mineral census and exploration. He is a senior economist. He has rich experience in human resources management. Mr. Yue has successively served as the deputy head of the coordination division of the labour insurance bureau and the head of the labour management division of the personnel and education department of China Nonferrous Metals Industry Corporation (中國有色金屬工業總公司), the deputy head of the general division of the personnel office of State Bureau of Nonferrous Metal Industry (國家有色金屬局)(enjoying the head-level treatment), the deputy head of the personnel department of China Aluminum Corporation (中國鋁業集團公司), the head of the labour division of the personnel department of Aluminum Corporation of China (中國鋁業公司), the manager of the remuneration management division of the human resources department of the Guarantor, the head of the general division of the general office of Aluminum Corporation of China (中國鋁業公司), the manager of the general division of the capital operating department of the Guarantor, the deputy general manager and general manager of the human resources department of the Guarantor, the deputy head (departmental head level) of the human resources department (veteran cadre work department) of the Aluminum Corporation of China (中國鋁業公司), the secretary of the party committee and deputy general manager of Chinalco Asset Operation and Management Co., Ltd. (中鋁資產經驗管理有限公司) and the general manager of the human resources department of the Guarantor.

SENIOR MANAGEMENT

The following table sets forth information regarding the senior management of the Guarantor:

Name	Age	Position
ZHU Runzhou	56	President
OU Xiaowu	56	President
WANG Jun	50	Vice President
WU Maosen	57	Vice President

Mr. ZHU Runzhou, aged 56, is an executive director and president of the Guarantor. See"– *Executive Director*".

Mr. OU Xiaowu, aged 56, is an executive director and president of the Guarantor. See"– *Executive Director*".

Mr. Wang Jun, aged 50, is currently the chief financial officer and the secretary to the Board (company secretary) of the Guarantor. Mr. Wang obtained a master's degree in business administration from Tsinghua University. He is a senior accountant and a member of the Chartered Institute of Management Accountants (CIMA). He has also been recognised as the national top accounting leading talent. Mr. Wang has worked in grassroots units, overseas companies, listed companies and various departments of the group, and has extensive experience in financial accounting, fund management and capital operation. Mr. Wang has successively served as a director, the chief financial officer and the secretary to the Board of Directors of China Aluminum International Engineering Corporation Limited (中鋁國際工程股份有限公司), the deputy chief accountant, general manager of finance department and capital operating department of Chinalco and a Supervisor of the Guarantor. Mr. Wang currently also serves as a director of Chinalco Finance Co., Ltd. (中鋁財務有限責任公司) and a director of Aluminum Corporation of China Overseas Holdings Limited (中鋁海外控股有限公司).

Mr. Wu Maosen, aged 57, is currently a vice president of the Guarantor. Mr. Wu graduated from Dalian Railway College with a bachelor's degree in engineering, majoring in welding technology and equipment. He is a senior engineer with excellent performance. Mr. Wu has extensive experience in corporate management. He has successively served as the deputy head of the alumina branch, the deputy head of the overhauling branch and the director of the transport department of Shanxi Aluminum Plant, the assistant to the general manager of Shanxi Branch of Aluminum Corporation of China Limited, the deputy commander-in-chief of the engineering and construction command department of Chalco Shanxi, a deputy general manager of Shanxi Huaze Aluminum & Power Co., Ltd. (山西華澤鋁電有限公司), the deputy head and head of Shanxi Aluminum Plant, a director, a general manager and the secretary of the Party committee of Qinghai Huanghe Hydropower Regeneration Aluminum Co., Ltd. (青島黃河水電再生鋁業有限公司), the secretary of the Party committee, an executive director and general manager of Chalco Asset Operation and Management Company (中鋁資產經營管理有限公司) and successively served as an executive director of Chalco Shanghai Company Limited (中鋁(上海)有限公司), an executive director and the general manager of Chalco Industrial Development Co., Ltd. (中鋁置業發展有限公司), the chairman of the board of Huaxi Aluminum Company Limited (華西鋁業有限責任公司), the chairman of the board and the general manager of Chalco Investment and Development Co., Ltd. (中鋁投資發展有限公司), the deputy team- leader of the team aiming at making up deficits and shaking off dilemma, transforming and upgrading of Shanxi Branch of Aluminum Corporation of China Limited and Shanxi Aluminum Plant and the chairman and an executive director of the board of Chinalco Research Institute of Science and Technology Co., Ltd. (中鋁科學技術研究院有限公司).

EXCHANGE RATE INFORMATION

PRC

The PBOC sets and publishes daily a base exchange rate with reference primarily to the supply and demand of Renminbi against a basket of currencies in the markets during the prior day. The PBOC also takes into account other factors such as the general conditions existing in the international foreign exchange market. Since 1994, the conversion of Renminbi into foreign currencies, including Hong Kong dollars and US dollars, has been based on rates set by the PBOC, which are set daily based on the previous day's inter-bank foreign exchange market rates and current exchange rates in the world financial markets. From 1994 to 20 July 2005, the official exchange rate for the conversion of Renminbi to US dollars was generally stable. On 21 July 2005, the PRC Government changed its decade-old policy of pegging the value of the Renminbi to that of the US dollar, to allow the value of the Renminbi to fluctuate within a narrow and managed band based on market supply and demand and by reference to a basket of currencies. This change in policy has resulted in a significant appreciation of the Renminbi against the US dollar.

The PRC Government has made further adjustments to the exchange rate system. The PBOC authorised the China Foreign Exchange Trading Center, effective since 4 January 2006, to announce the central parity exchange rate of certain foreign currencies against the Renminbi at 9:15 a.m. each business day. This rate is set as the central parity for trading against the Renminbi in the inter-bank foreign exchange spot market and the over the counter exchange rate for that business day. On 18 May 2007, the PBOC enlarged, effective on 21 May 2007, the floating band for the trading prices in the inter-bank spot exchange market of Renminbi against the US dollar from 0.3% to 0.5% around the central parity rate. This allows the Renminbi to fluctuate against the US dollar by up to 0.5% above or below the central parity rate published by the PBOC. On 19 June 2010, the PBOC announced that in view of the recent economic situation and financial market developments in China and abroad, and the balance of payments situation in China, it has decided to proceed further with reform of the Renminbi exchange rate regime and to enhance the Renminbi exchange rate flexibility. According to the announcement, the exchange rate floating bands will remain the same as previously announced but the PBOC will place more emphasis on reflecting the market supply and demand with reference to a basket of currencies. On 12 April 2012, the PBOC announced that effective on 16 April 2012, the floating band for the trading prices in the inter-bank spot exchange market of Renminbi against the US dollar is enlarged from 0.5% to 1.0% around the central parity rate, which allows the Renminbi to fluctuate against the US dollar by up to 1.0% above or below the central parity rate published by the PBOC, and it was further expanded to 2.0%. on 17 March 2014. More adjustments may be made to the exchange rate system by the PRC government in the future. Currently, the PBOC announces the closing price of a foreign currency traded against Renminbi in the inter-bank foreign exchange spot market after the closing of the market on each business day, and makes it the central parity for the following business day.

On 11 August 2015, the PBOC announced that the exchange rates between the Renminbi and foreign currencies would become more market driven, taking into account of the closing exchange rates on the previous trading day, supply and demand of foreign currencies and the fluctuations of exchanges rates between major international currencies. From 11 August to 13 August 2015, the value of the Renminbi depreciated by approximately 4.4%. against the US dollar and has stabilised since then. The PRC Government may in the future make further adjustments to the exchange rate system.

Although the PRC governmental policies have been introduced in 1996 to reduce restrictions on the convertibility of the Renminbi into foreign currency for current account items, conversion of the Renminbi into foreign currency for capital items, such as foreign direct investment, loans or security, requires the approval of the SAFE and other relevant authorities. The following table sets forth for the periods indicated, certain information concerning the exchange rates between Renminbi and US dollars. The exchange rates reflect the exchange rates as set forth in the H.10 statistical release of the Board of Governors of the Federal Reserve System of the United States.

Period	Exchange Rate			
	Period End	Average(1)	High	Low
	(RMB per US$1.00)			
2016	6.9430	6.6400	6.9580	6.4480
2017	6.5063	6.7569	6.9575	6.4773
2018	6.8755	6.6090	6.9737	6.2649
2019	6.9618	6.9014	7.1786	6.6822
2020	6.5250	6.9042	7.1681	6.5208
2021				
January	6.4282	6.4672	6.4822	6.4282
February	6.4730	6.4601	6.4869	6.4344
March	6.5518	6.5109	6.5716	6.4648
April	6.4749	6.5186	6.5649	6.4710
May	6.3674	6.4321	6.4749	6.3674
June	6.4566	6.4250	6.4811	6.3796
July (through July 9)	6.4788	6.4765	6.4898	6.4679

Note:

(1) Determined by averaging the rates on the last business day of each month during the relevant year, except for monthly average rates in 2021, which were determined by averaging the daily rates for such month or part thereof.

Hong Kong

The Hong Kong dollar is freely convertible into other currencies, including the US dollar. Since 17 October 1983, the Hong Kong dollar has been linked to the US dollar at the rate of HK$7.80 to US$1.00. The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China (the "Basic Law"), which came into effect on 1 July 1997, provides that no foreign exchange control policies shall be applied in Hong Kong.

The market exchange rate of the Hong Kong dollar against the US dollar continues to be determined by the forces of supply and demand in the foreign exchange market. However, against the background of the fixed rate system which applies to the issuance and withdrawal of Hong Kong currency in circulation, the market exchange rate has not deviated significantly from the level of HK$7.80 to US$1.00. In May 2005, the Hong Kong Monetary Authority broadened the 22-year-old trading band from the original rate of HK$7.80 per US dollar to a rate range of HK$7.75 to HK$7.85 per US dollar. The Hong Kong government has indicated its intention to maintain the link within that rate range. Under the Basic Law, the Hong Kong dollar will continue to circulate and remain freely convertible. The Hong Kong government has also stated that it has no intention of imposing exchange controls in Hong Kong and that the Hong Kong dollar will remain freely convertible into other currencies, including the US dollar.

The following table sets forth for the periods indicated, certain information concerning the exchange rate between Hong Kong dollars against US dollars. The exchange rates reflect exchange rates as set forth in the weekly H.10 statistical release of the Board of Governors of the Federal Reserve System of the United States.

Period	Exchange Rate			
	Period End	Average[1]	High	Low
	(HKD per US$1.00)			
2016	7.7534	7.7620	7.8270	7.7505
2017	7.8128	7.7926	7.8267	7.7754
2018	7.8305	7.8376	7.8499	7.8043
2019	7.7850	7.8351	7.8499	7.7894
2020	7.7534	7.7559	7.7951	7.7498
2021				
January	7.7531	7.7533	7.7555	7.7517
February	7.7567	7.7529	7.7567	7.7515
March	7.7746	7.7651	7.7746	7.7562
April	7.7664	7.7691	7.7849	7.7596
May	7.7610	7.7654	7.7697	7.7608
June	7.7658	7.7617	7.7666	7.7566
July (through July 9)	7.7676	7.7670	7.7680	7.7656

Note:

(1) Averages are calculated by averaging the rates on the last business day of each month during the relevant year. Monthly averages are calculated by averaging the daily rates during the relevant monthly period.

TAXATION

The following summary of certain BVI, Hong Kong, PRC and European Union tax consequences of the purchase, ownership and disposition of the Bonds is based upon applicable laws, regulations, rulings and decisions in effect as at the date of this Offering Circular, all of which are subject to change (possibly with retroactive effect). This discussion does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase, own or dispose of the Bonds and does not purport to deal with consequences applicable to all categories of investors, some of which may be subject to special rules. Neither these statements nor any other statements in this Offering Circular are to be regarded as advice on the tax position of any Bondholder or any persons acquiring, selling or otherwise dealing in the Bonds or on any tax implications arising from the acquisition, sale or other dealings in respect of the Bonds. Persons considering the purchase of the Bonds should consult their own tax advisers concerning the possible tax consequences of buying, holding or selling any Bonds under the laws of their country of citizenship, residence or domicile.

British Virgin Islands

Payments of interest and principal on the Bonds will not be subject to taxation in the British Virgin Islands and no withholding will be required on the payment of interest and principal to any holder of the Bonds nor will gains derived from the disposal of the Bonds be subject to British Virgin Islands income or corporation tax, provided that the payments are made to persons who are not resident in the British Virgin Islands.

No estate, inheritance, succession or gift tax, rate, duty, levy or other charge is payable by persons who are not resident in the British Virgin Islands with respect to the Bonds.

There are currently no withholding taxes or exchange control regulations in the British Virgin Islands applicable to the Issuer.

If neither the Issuer nor any subsidiary holds an interest in real estate in the British Virgin Islands, no stamp duty is payable in respect of the issue of the Bonds or on an instrument of transfer in respect of the Bonds.

Hong Kong

Withholding Tax

No withholding tax is payable in Hong Kong in respect of payments of principal or interest on the Bonds or in respect of any capital gains arising from the sale of the Bonds.

Profits Tax

Hong Kong profits tax is chargeable on every person carrying on a trade, profession or business in Hong Kong in respect of profits arising in or derived from Hong Kong from such trade, profession or business (excluding profits arising from the sale of capital assets).

Interest on the Bonds may be deemed to be profits arising in or derived from Hong Kong from a trade, profession or business carried on in Hong Kong in the following circumstances:

(i) interest on the Bonds is derived from Hong Kong and is received by or accrues to a corporation carrying on a trade, profession or business in Hong Kong;

(ii) interest on the Bonds is derived from Hong Kong and is received by or accrues to a person, other than a corporation, carrying on a trade, profession or business in Hong Kong and is in respect of the funds of that trade, profession or business;

(iii) interest on the Bonds is received by or accrues to a financial institution (as defined in the Inland Revenue Ordinance (Cap. 112) of Hong Kong (the "IRO")) and arises through or from the carrying on by the financial institution of its business in Hong Kong; or

(iv) interest on the Bonds is received by or accrues to a corporation, other than a financial institution, and arises through or from the carrying on in Hong Kong by the corporation of its intra-group financing business (within the meaning of section 16(3) of the IRO).

Sums received by or accrued to a financial institution by way of gains or profits arising through or from the carrying on by the financial institution of its business in Hong Kong from the sale, disposal and redemption of Bonds will be subject to Hong Kong profits tax. Sums received by or accrued to a corporation, other than a financial institution, by way of gains or profits arising through or from the carrying on in Hong Kong by the corporation of its intra-group financing business (within the meaning of section 16(3) of the IRO) from the sale, disposal or other redemption of Bonds will be subject to Hong Kong profits tax.

Sums derived from the sale, disposal or redemption of Bonds will be subject to Hong Kong profits tax where received by or accrued to a person, other than a financial institution, who carries on a trade, profession or business in Hong Kong and the sum has a Hong Kong source unless otherwise exempted. The source of such sums will generally be determined by having regard to the manner in which the Bonds are acquired and disposed of.

In certain circumstances, Hong Kong profits tax exemptions (such as concessionary tax rates) may be available. Investors are advised to consult their own tax advisors to ascertain the applicability of any exemptions to their individual position.

Stamp Duty

No Hong Kong stamp duty will be chargeable upon the issue or transfer of a Bond.

PRC

Enterprise Income Tax

Pursuant to the EIT Law and its implementation regulations, enterprises that are established under laws of foreign countries and regions whose "de facto management bodies" are within the territory of the PRC may be deemed by the relevant PRC tax authorities to be PRC tax resident enterprises for the purpose of the EIT Law and required to pay enterprise income tax at the rate of 25% in respect of their income sourced from both within and outside China. If the relevant PRC tax authorities decide, in accordance with applicable tax rules and regulations, that the "de facto management body" of the Issuer is within the territory of the PRC, the Issuer may be held to be a PRC tax resident enterprise for the purpose of the EIT Law and be subject to enterprise income tax at the rate of 25% on its income sourced from both within and outside PRC.

The EIT Law, its implementation regulations impose withholding tax at the rate of 10%, or a lower rate if tax treaty benefits are available, on PRC-source income paid to a "non-resident enterprise" that does not have an establishment or place of business in China or that has an establishment or place of business in China but the relevant income is not effectively connected therewith. Pursuant to these provisions of the EIT Law, in the event the Issuer is considered a PRC resident enterprise by the PRC tax authorities in the future, interest payable to non-resident enterprise holders of the Notes may be treated as income derived from sources within China and be subject to such PRC withholding tax. Further, in accordance with the Individual Income Tax Law of the PRC ("**IIT Law of PRC**") which was revised and implemented on January 1, 2019 and its implementation regulations which was revised and implemented on January 1, 2019, if the Issuer is considered a PRC tax resident enterprise, interest payable to non-resident individual holders of the Notes may be treated as income derived from sources within China and be subject to a 20% individual income tax; accordingly, if the Issuer is treated as a PRC tax resident enterprise, the Issuer would be obliged to withhold such individual income tax on payments of interests to non-resident individual holders of the Notes. To the extent that China has entered into arrangements relating to the avoidance of double-taxation with any jurisdiction, such as Hong Kong, that allow a lower rate of withholding tax, such lower rate may apply to qualified holders of the Notes.

As confirmed by the Issuer, as of the date of this Offering Circular, the Issuer has not been given notice or informed by the PRC tax authorities that it is considered as a PRC tax resident enterprise for the purpose of the EIT Law, nor has it sought clarification from the PRC tax authorities in this regard. On that basis, non-resident enterprise holders of the Notes would not be subject to income tax imposed by any governmental authority in the PRC in respect of the holding of the Notes or any repayment of principal and payment of interest made thereon. However, there is no assurance that the Issuer will not be treated as a PRC tax resident enterprise under the EIT Law and related implementation regulations in the future.

In addition, as the Guarantor is a PRC resident enterprise, in the event that the Guarantor is required to fulfil its obligations under the Guarantees by making interest payments on behalf of the Issuer, the Guarantor may be obliged to withhold PRC enterprise income tax at the rate up to 10% on such payments of interest to non-PRC resident enterprise holders of the Notes and 20% for non-resident individual holders of the Notes if such interest payments are deemed to be derived from sources within the PRC. To the extent that the PRC has entered into arrangements relating to the avoidance of double-taxation with any jurisdiction, such as Hong Kong, which allows a lower rate of withholding tax, such lower rate may apply to qualified holders of the Notes. Repayment of the principal will not be subject to PRC withholding tax.

VAT

On 23 March 2016, the Ministry of Finance and the State Administration of Taxation ("**SAT**") issued the Circular of Full Implementation of Business Tax to VAT Reform (《關於全面推開營業稅改徵增值稅試點的通知》)(Caishui [2016] No. 36, "**Circular 36**") which confirms that business tax will be completely replaced by VAT from 1 May 2016 as pilot. With effect from 1 May 2016, the income derived from the provision of financial services within PRC which attracted business tax will be entirely replaced by, and subject to, VAT.

According to Circular 36, the entities and individuals providing the services within PRC shall be subject to VAT. The services are treated as being provided within PRC where either the service provider or the service recipient is located in PRC. The services subject to VAT include the provision of financial services such as the provision of loans. It is further clarified under Circular 36 that the "loans" refers to the activity of lending capital for another's use and receiving the interest income thereon. Based on the definition of "loans" under Circular 36, if the Guarantor makes any interest payments on the Notes under the Guarantee to the holder of Notes, the interests paid by the Guarantor to the holder of Notes is likely to be treated as the holders of the Notes providing loans to the Guarantor, which thus shall be regarded as the provision of financial services subject to VAT. Further, upon thus situation, given that the Guarantor is located in the PRC, the holders of the Notes would be regarded as providing financial services within PRC and consequently, the holders of the Notes shall be subject to VAT at the rate of 6% when receiving the interest payments under the Notes if the PRC tax authorities deem such financial services is provided within PRC. In addition, the holders of the Notes shall be subject to the local levies at approximately 12% of the VAT payment. Upon thus situation, given that the Guarantor pays interest income to Noteholders who are located outside of the PRC, the Guarantor, acting as the obligatory withholder in accordance with applicable law, shall withhold VAT and local levies from the payment of interest income to Noteholders who are located outside of the PRC.

Where a holder of the Notes who is an entity or individual located outside of the PRC resells the Notes to an entity or individual whether it is located outside of or in the PRC and derives any gain, since neither the seller nor the notes is located in the PRC, theoretically Circular 36 does not apply and the Guarantor does not have the obligation to withhold the VAT or the local levies. However, there is uncertainty as to the applicability of VAT if either the seller of Notes is located within the PRC.

Circular 36 has been issued quite recently and the above disclosure may be subject to further change upon the issuance of further clarification rules and/or different interpretation by the competent tax authority. There is uncertainty as to the application of Circular 36.

Pursuant to the EIT Law, the VAT reform detailed above, if the Guarantor makes any interest payments on the Notes to the holder of Notes under the Guarantee, the Guarantor shall withhold EIT, (should such tax apply) from the payments of interest in respect of the Notes for any non-PRC-resident Noteholder and the Guarantor shall withhold VAT (should such tax apply) from the payments of interest in respect of the Notes for any Noteholders located outside of the PRC. However, in the event that the Guarantor is required to make such a deduction or withholding (whether by way of EIT, or VAT or otherwise), the Guarantor has agreed to pay such additional amounts as will result in receipt by the Noteholders of such amounts after such withholding or deduction as would have been received by them had no such withholding or deduction been required.

Stamp Duty

No PRC stamp tax will be chargeable upon the issue or transfer of a Note to the extent that the register of holders of the Notes is maintained outside mainland China. The Issuer intends to maintain the register of holders of the Notes outside mainland China.

SUBSCRIPTION AND SALE

The Issuer and the Guarantor have entered into a subscription agreement in respect of each series of the Bonds with China CITIC Bank International Limited, DBS Bank Ltd., Bank of China Limited, BOCI Asia Limited, China Construction Bank (Asia) Corporation Limited, Barclays Bank PLC, Crédit Agricole Corporate and Investment Bank, Société Générale and Shanghai Pudong Development Bank Co., Ltd., Hong Kong Branch as the Managers, each dated 21 July 2021 (the "Subscription Agreements") pursuant to which and subject to certain conditions contained in the Subscription Agreements, the Issuer has agreed to sell to the Managers, and the Managers have agreed severally but not jointly to subscribe and pay for, or procure subscribers to subscribe and pay for, the aggregate principal amount of the Bonds in the amounts set out in the Subscription Agreements.

The Subscription Agreements provide that the Issuer and the Guarantor will jointly and severally indemnify the Managers and their affiliates against certain liabilities in connection with the offer and sale of the Bonds. The Subscription Agreements provide that the obligations of the Managers are subject to certain conditions precedent and entitles the Managers to terminate the Subscription Agreements in certain circumstances prior to payment being made to the Issuer.

The Managers and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities ("Banking Services or Transactions"). The Managers and their respective affiliates may have, from time to time, performed, and may in the future perform, various Banking Services or Transactions with the Issuer and the Guarantor for which they have received, or will receive, fees and expenses.

In connection with the Offering, the Managers and/or their respective affiliates of the Issuer or the Guarantor may place orders, receive allocations and purchase Bonds for their own account (without a view to distributing such Bonds) and such orders and/or allocations of the Bonds may be material. Such entities may hold or sell such Bonds or purchase further Bonds for their own account in the secondary market or deal in any other securities of the Issuer or the Guarantor, and therefore, they may offer or sell the Bonds or other securities otherwise than in connection with the Offering. Accordingly, references herein to the Bonds being "offered" should be read as including any offering of the Bonds to the Managers and/or their respective affiliates for their own account. Such entities are not expected to disclose such transactions or the extent of any such investment, otherwise than in accordance with any legal or regulatory obligation to do so. If such transactions occur, the trading price and liquidity of the Bonds may be impacted. Furthermore, it is possible that only a limited number of investors may subscribe for a significant proportion of the Bonds. If this is the case, liquidity of trading in the Bonds may be constrained (see "*Risk Factors – Risks relating to the Bonds and the Guarantee – The liquidity and price of the Bonds following this offering may be volatile*."). The Issuer, the Guarantor and the Managers are under no obligation to disclose the extent of the distributions of the Bonds amongst individual investors, otherwise than in accordance with any applicable legal or regulatory requirements.

In connection with the issue of the Bonds, the Stabilisation Manager or any person acting on behalf of the Stabilisation Manager may, to the extent permitted by applicable laws and directives, over-allot the Bonds or effect transactions with a view to supporting the price of the Bonds at a level higher than that which might otherwise prevail, but in so doing, the Stabilisation Manager or any person acting on behalf of the Stabilisation Manager shall act as principal and not as agent of the Issuer or the Guarantor. However, there is no assurance that the Stabilisation Manager or any person acting on behalf of the Stabilisation Manager will undertake stabilisation action. Any loss or profit sustained as a consequence of any such overallotment or stabilisation shall be for the account of the Managers.

In the ordinary course of their various business activities, the Managers and their respective affiliates make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Issuer and/or the Guarantor, including the Bonds and could adversely affect the trading price and liquidity of the Bonds. The Managers and their affiliates may make investment recommendations and/or publish or express independent research views (positive or negative) in respect of the Bonds or other financial instruments of the Issuer or the Guarantor, and may recommend to their clients that they acquire long and/or short positions in the Bonds or other financial instruments of the Issuer or the Guarantor

General

The Bonds are a new issue of securities with no established trading market. No assurance can be given as to the liquidity of any trading market for the Bonds.

The distribution of this Offering Circular or any offering material and the offering, sale or delivery of the Bonds is restricted by law in certain jurisdictions. Therefore, persons who may come into possession of this Offering Circular or any offering material are advised to consult with their own legal advisers as to what restrictions may be applicable to them and to observe such restrictions. This Offering Circular may not be used for the purpose of an offer or invitation in any circumstances in which such offer or invitation is not authorised.

If a jurisdiction requires that the offering be made by a licensed broker or dealer and a Manager or any affiliate of a Manager is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by that Manager or its affiliate on behalf of the Issuer in such jurisdiction.

No action has been taken or will be taken in any jurisdiction that would permit a public offering of the Bonds, or possession or distribution of this Offering Circular or any amendment or supplement thereto or any other offering or publicity material relating to the Bonds, in any country or jurisdiction where action for that purpose is required.

United States

The Bonds and the Guarantee have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in certain transactions exempt from the registration requirements of the Securities Act. Terms used in this paragraph have the meanings given to them by Regulation S under the Securities Act ("Regulation S").

Each Manager has agreed that, except as permitted by the Subscription Agreements, it will not offer or sell the Bonds and the Guarantee (i) as part of their distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering and the Issue Date, within the United States or to, or for the account or benefit of, U.S. persons, and it will have sent to each dealer to which it sells Bonds and the Guarantee during the distribution compliance period a confirmation or other notice setting forth the restrictions on offers and sales of the Bonds and the Guarantee within the United States or to, or for the account or benefit of, U.S. persons. Terms used in this paragraph have the meanings given to them by Regulation S.

The Bonds and the Guarantee are being offered and sold outside of the United States to non-U.S. persons in reliance on Regulation S.

In addition, until 40 days after the commencement of the offering of the Bonds and the Guarantee, an offer or sale of the Bonds and the Guarantee within the United States by any dealer that is not participating in the offering may violate the registration requirements of the Securities Act.

Prohibition of Sales to EEA Retail Investors

Each Manager has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Bonds which are the subject of the offering contemplated by this Offering Circular in relation thereto to any retail investor in the European Economic Area. For the purposes of this provision, the expression "retail investor" means a person who is one (or more) of the following:

(a) a retail client as defined in point (11) of Article 4(1) of MiFID II; or

(b) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II.

Prohibition of Sales to UK Retail Investors

Each Manager has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Bonds which are the subject of the offering contemplated by this Offering Circular in relation thereto to any retail investor in the United Kingdom. For the purposes of this provision, the expression "retail investor" means a person who is one (or more) of the following:

(a) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA; or

(b) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA.

United Kingdom

Each Manager has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA"), received by it in connection with the issue or sale of the Bonds in circumstances in which Section 21(1) of the FSMA does not apply to the Issuer or the Guarantor; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Bonds in, from or otherwise involving the United Kingdom.

PRC

Each Manager has represented and agreed that the Bonds are not being offered or sold and may not be offered or sold, directly or indirectly, in the PRC, except as permitted by the securities laws of the PRC.

Hong Kong

Each Manager has represented and agreed that:

(i) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Bonds other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (the "SFO") and any rules made under the SFO; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the

Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the "C(WUMP)O") or which do not constitute an offer to the public within the meaning of the C(WUMP)O; and

(ii) it has not issued or had in its possession for the purposes of issue, and will not issue or have in their possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Bonds, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the Bonds which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under the SFO.

Singapore

Each Manager has acknowledged that this Offering Circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each Manager has represented and agreed that it has not offered or sold any Bonds or caused the Bonds to be made the subject of an invitation for subscription or purchase and will not offer or sell any Bonds or cause the Bonds to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this Offering Circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Bonds, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1A) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Bonds are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the Bonds pursuant to an offer made under Section 275 of the SFA except:

(i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Singapore SFA Product Classification: In connection with Section 309B of the SFA and the CMP Regulations 2018, the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Bonds are 'prescribed capital markets products' (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

British Virgin Islands

Each Manager has represented and agreed it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Bonds to the public in the British Virgin Islands.

GENERAL INFORMATION

1. **Clearing Systems:** The 2024 Bonds have been accepted for clearance through Euroclear and Clearstream under Common Code 236627233 and ISIN XS2366272339. The 2026 Bonds have been accepted for clearance through Euroclear and Clearstream under Common Code 236627241 and ISIN XS2366272412.

2. **Authorisations:** The Issuer has obtained all necessary consents, approvals and authorisations in connection with the issue and performance of its obligations under the Bonds, the Trust Deeds and the Agency Agreements. The issue of the Bonds was authorised by the resolutions of the board of directors of the Issuer on 16 July 2021. The Guarantor has obtained all necessary consents, approvals and authorisations in connection with the performance of its obligations under the Trust Deeds, the Agency Agreements the Deeds of Guarantee and the Bonds. The entering into the Deeds of Guarantee was authorised and approved by a resolution of the board of directors of the Guarantor on 23 March 2021 and a resolution of annual 2020 general meeting of the Guarantor on 29 June 2021. PRC counsels to the Issuer and the Guarantor, and to the Managers have advised that no approvals or consents are required from any regulatory authorities or other relevant authorities in the PRC for the Issuer and the Guarantor to enter into the Trust Deeds, the Agency Agreements and the Deeds of Guarantee, other than Cross-Border Security Registration.

3. **LEI**: The Issuer's Legal Entity Identifier is 549300F6W7ZYN8BF2K08.

4. **No Material Adverse Change:** There has been no material adverse change in the financial or trading position or prospects of the Guarantor and the Group since 31 December 2020. There has been no material adverse change in the financial or trading position or prospects of the Issuer since the date of its incorporation.

5. **Litigation:** None of the Issuer, the Guarantor or any other member of the Group is involved in any litigation or arbitration proceedings that the Issuer or the Guarantor, as the case may be, believes are material in the context of the Bonds or the Guarantee nor are any of the Issuer or the Guarantor aware that any such proceedings are pending or threatened.

6. **Available Documents:** Copies of the Guarantor's 2019 annual report published by the Guarantor on 26 March 2020, the Guarantor's 2020 annual report published by the Guarantor on 23 March 2021, the Agency Agreements, the Trust Deeds, the Deeds of Guarantee and the Articles of Association of each of the Issuer and the Guarantor are available for inspection (i) from the Issue Date at the Guarantor's principal place of business in Hong Kong currently at Room 4501, 45/F, Far East Finance Centre, No. 16 Harcourt Road, Admiralty, Hong Kong, and (ii) in the case of the Trust Deeds, the Agency Agreements and the Deeds of Guarantee only, by Bondholders of the relevant series of the Bonds upon written request and provision of proof of holding and identity to the satisfaction of the Trustee or, as the case may be, the Principal Paying Agent at the principal place of business of the Trustee (being at the date of this Offering Circular at 20/F CCB Tower, 3 Connaught Road Central, Central, Hong Kong) and the specified office for the time being of the Principal Paying Agent at all reasonable times during usual business hours (being between 9:00 a.m. (Hong Kong time) and 3:00 p.m. (Hong Kong time), from Monday to Friday (excluding public holidays)), so long as the relevant series of the Bonds are outstanding. The Guarantor prepares and publishes an annual report and an interim report every year. Copies of the Guarantor's annual report and interim report in respect of the latest year and period can be obtained from its corporate website.

7. **Financial Statements:** Each of (i) the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2019; and (ii) the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020, all of which are included elsewhere in this Offering Circular, have been audited by Ernst & Young and PricewaterhouseCoopers, respectively. None of the Issuer, the Guarantor, the Managers, the Trustee or the Agents (or any of

their respective affiliates, directors, officers, employees, representatives, advisers, agents or any person who controls any of them) makes any representation or warranty, express or implied, regarding the sufficiency of such financial information for an assessment of, and potential investors must exercise caution when using such data to evaluate, the Group's financial condition, results of operations and results.

8. **Listing:** Application will be made to the HKSE for the listing of each series of the Bonds by way of debt issues to Professional Investors (as defined in Chapter 37 of the Rules Governing the Listing of Bonds on the HKSE) (''Professional Investors'') only. It is expected that dealing in, and listing of, the Bonds on the HKSE will commence on 29 July 2021. This offering circular is for distribution to Professional Investors only.

INDEX TO FINANCIAL STATEMENTS

Notes:

(1) The Independent Auditor's Report on the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2020 set out herein is reproduced from the Guarantor's annual report for the year ended 31 December 2020 published on 23 March 2021. Page references referred to in the report are to pages set out in such annual report.

(2) The consolidated financial statements of the Guarantor as at and for the year ended 31 December 2019 appearing on pages F-10 to F-18 of this Offering Circular have been restated to reflect the business combination under common control incurred during the year ended 31 December 2020. Please refer to the subsection headed "*Summary Financial Information of the Guarantor*" for details.

(3) The Independent Auditor's Report on the consolidated financial statements of the Guarantor as at and for the year ended 31 December 2019 set out herein is reproduced from the Guarantor's annual report for the year ended 31 December 2019 published on 26 March 2020. Page references referred to in the report are to pages set out in such annual report.

(4) The consolidated financial statements of the Guarantor as at and for the year ended 31 December 2018 appearing on pages F-227 to F-237 of this Offering Circular have been restated to reflect the business combination under common control incurred during the year ended 31 December 2019. Please refer to the subsection headed "*Summary Financial Information of the Guarantor*" for details.

羅兵咸永道

To the Shareholders of Aluminum Corporation of China Limited
(incorporated in the People's Republic of China with limited liability)

OPINION

What we have audited

The consolidated financial statements of Aluminum Corporation of China Limited (the "Company") and its subsidiaries (the "Group") set out on pages 179 to 386, which comprise:

- the consolidated statement of financial position as at 31 December 2020;
- the consolidated statement of profit or loss and other comprehensive income for the year then ended;
- the consolidated statement of changes in equity for the year then ended;
- the consolidated statement of cash flows for the year then ended; and
- the notes to the consolidated financial statements, which include a summary of significant accounting policies.

Our opinion

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2020, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRSs") and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing ("ISAs"). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

INDEPENDENCE

We are independent of the Group in accordance with the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants ("IESBA Code"), and we have fulfilled our other ethical responsibilities in accordance with the IESBA Code.

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.

Key audit matters identified in our audit are summarised as follows:

- Impairment assessment of property, plant and equipment

- Impairment assessment of goodwill

KEY AUDIT MATTERS (CONTINUED)

Key Audit Matter	How our audit addressed the Key Audit Matter
Impairment assessment of property, plant and equipment	
Refer to Notes 3(a) and Note 7 to the consolidated financial statements. As at 31 December 2020, the Company's net carrying amount of property, plant and equipment ("PP&E") was RMB100,638 million. Management assesses related assets for potential impairment whenever there are indications that the carrying value of an asset or a group of assets may not be recoverable. As at 31 December 2020, management performed impairment assessment on property, plant and equipment ("PP&E") with impairment indications at the level of cash generating unit ("CGU") to which the PP&E was allocated using discounted cash flow model. The discounted cash flows model used for the impairment assessment of PP&E involved significant assumptions including product prices and the discount rate. We focused on auditing the impairment assessment of PP&E because the carrying amount of PP&E as at 31 December 2020 was significant, and the estimation of recoverable amount of PP&E was subject to high degree of estimation uncertainty. The inherent risk in relation to the impairment assessment of PP&E is considered significant due to the complexity of the model and subjectivity of significant assumptions used. Therefore, we identified impairment assessment of PP&E as a key audit matter.	In addressing this matter, we performed the following procedures: • Obtained an understanding of the management's internal control and assessment process of recoverable amounts of PP&E, and assessed the inherent risk of material misstatement by considering the degree of estimation uncertainty and level of other inherent risk factors such as complexity, subjectivity, changes and susceptibility to management bias or fraud. • Evaluated and tested the key controls over the impairment assessment of PP&E, including controls over the development of model and significant assumptions used in the impairment test. • Evaluated the reasonableness of the significant assumptions of production prices applied by management by comparing management forecast prices against the historical and present market prices, taking into account the published forecast prices. • Involved our valuation specialists to evaluate the appropriateness of the model and the reasonableness of the discount rate that management used. • Tested the completeness, accuracy and relevancy of the underlying data used and the mathematical accuracy of the calculations in the model. Based on our work, we found that the result of management's impairment assessment of PP&E was supported by the evidence we obtained.

KEY AUDIT MATTERS (CONTINUED)

Key Audit Matter	How our audit addressed the Key Audit Matter
Impairment assessment of goodwill	
Refer to Notes 3(b) and Note 6 to the consolidated financial statements. As at 31 December,2020, the Company's carrying value of goodwill was RMB3,510 million. Management performed impairment assessment of goodwill on an annual basis. When performing the impairment assessment, the recoverable amount of the CGU to which the goodwill was allocated was estimated by management using discounted cash flow model, and compared with the carrying amount of the CGU to determine if goodwill was impaired. The discounted cash flow models used for the impairment assessment of goodwill involved significant assumptions including product prices, the long-term growth rate and the discount rate. We focused on auditing the impairment assessment of goodwill because the carrying amount of goodwill as at 31 December 2020 was significant, and the estimation of recoverable amount of goodwill was subject to high degree of estimation uncertainty. The inherent risk in relation to the impairment assessment of goodwill is considered significant due to the complexity of the model and subjectivity of significant assumptions used. Therefore, we identified impairment assessment of goodwill as a key audit matter.	In addressing this matter, we performed the following procedures: • Obtained an understanding of the management's internal control and assessment process of recoverable amounts of goodwill, and assessed the inherent risk of material misstatement by considering the degree of estimation uncertainty and level of other inherent risk factors such as complexity, subjectivity, changes and susceptibility to management bias or fraud. • Evaluated and tested the key controls over the impairment assessment of goodwill, including controls over the development of model and significant assumptions used in the impairment test. • Evaluated the reasonableness of product prices applied by management by comparing management forecast prices against the historical and present market prices taking into account the published forecast prices. • Involved our valuation specialist to evaluate the appropriateness of the model and the reasonableness of certain significant assumptions, including the long-term growth rate and the discount rate. • Tested the completeness, accuracy and relevancy of the underlying data used and the mathematical accuracy of the calculations in the models. Based on our work, we found that the result of management's impairment assessment of goodwill was supported by the evidence we obtained.

OTHER INFORMATION

The directors of the Company are responsible for the other information. The other information comprises all of the information included in the annual report other than the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do 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 and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

RESPONSIBILITIES OF DIRECTORS AND THOSE CHARGED WITH GOVERNANCE FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRSs and the disclosure requirements of the Hong Kong Companies Ordinance, 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 have no realistic alternative but to do so.

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

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. We report our opinion solely to you, as a body, and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report. 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.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

- 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 auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with 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 to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

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 auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is LEONG Kin Bong.

PricewaterhouseCoopers
Certified Public Accountants

Hong Kong, 23 March 2021

(If there is any inconsistency between the English and Chinese version of the independent auditor's report, the English version shall prevail)

(Amounts expressed in thousands of RMB
unless otherwise stated)

Consolidated Statement of Financial Position

	Notes	31 December 2020	31 December 2019 (Restated)
ASSETS			
Non-current assets			
Intangible assets	6	**13,448,304**	13,764,460
Property, plant and equipment	7	**100,638,153**	103,408,976
Investment properties	8	**1,601,876**	1,503,266
Right-of-use assets	20 (a)	**14,287,838**	15,890,437
Investments in joint ventures	9 (a)	**3,374,553**	3,385,582
Investments in associates	9 (b)	**9,173,410**	9,512,401
Other financial assets measured at fair value	10	**1,526,703**	2,239,251
Deferred tax assets	11	**1,481,235**	1,522,729
Other non-current assets	12	**3,165,920**	3,208,922
Total non-current assets		**148,697,992**	154,436,024
Current assets			
Inventories	13	**19,856,754**	19,515,641
Trade and notes receivables	14	**9,293,218**	7,419,218
Other current assets	15	**6,349,220**	9,178,799
Other financial assets measured at fair value	37.2	**17,311**	3,503,175
Restricted cash and term deposits	16	**1,056,037**	1,305,781
Cash and cash equivalents (excluding bank overdrafts)	16	**9,631,152**	7,778,853
Total current assets		**46,203,692**	48,701,467
Total assets		**194,901,684**	203,137,491

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	**31 December 2020**	**31 December 2019** (Restated)
EQUITY AND LIABILITIES			
EQUITY			
Share capital	17	**17,022,673**	17,022,673
Other equity instruments	41	**4,486,429**	5,487,104
Other reserves	18	**34,564,504**	34,369,802
Accumulated losses		**(1,741,596)**	(2,207,600)
Total equity attributable to owners of the Company		**54,332,010**	54,671,979
Non-controlling interests	38	**16,839,706**	16,085,487
Total equity		**71,171,716**	70,757,466
LIABILITIES			
Non-current liabilities			
Interest-bearing loans and borrowings	19	**57,518,097**	59,243,563
Other non-current liabilities	21	**2,147,558**	2,220,620
Deferred tax liabilities	11	**1,437,087**	1,712,739
Total non-current liabilities		**61,102,742**	63,176,922

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	**31 December 2020**	**31 December 2019** (Restated)
Current liabilities			
Trade and notes payables	23	**15,440,859**	12,608,806
Other payables and accrued liabilities	22	**10,754,008**	12,415,608
Contract liabilities	5	**1,399,339**	1,638,826
Financial liabilities at fair value through profit or loss	37.2	**26,684**	805
Income tax payable		**299,053**	252,454
Interest-bearing loans and borrowings	19	**34,707,283**	42,286,604
Total current liabilities		**62,627,226**	69,203,103
Total liabilities		**123,729,968**	132,380,025
Total equity and liabilities		**194,901,684**	203,137,491
Net current liabilities		**(16,423,534)**	(20,501,636)
Total assets less current liabilities		**132,274,458**	133,934,388

The accompanying notes on pages 188 to 386 are an integral part of these consolidated financial statements.

The financial statements on pages 179 to 386 were approved by the Board of Directors on 23 March 2021 and were signed on its behalf.

Ao Hong	**Wang Jun**
Director	*Chief Financial Officer*

Consolidated Statement of Profit or Loss and Other Comprehensive Income

Year ended 31 December 2020
(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	For the year ended 31 December **2020**	2019 (Restated)
Revenue	5	**185,994,253**	190,215,398
Cost of sales	25	**(172,571,364)**	(178,068,129)
Gross profit		**13,442,889**	12,147,269
Selling and distribution expenses	25	**(1,457,056)**	(1,675,869)
General and administrative expenses	25	**(4,156,940)**	(3,971,895)
Research and development expenses	25	**(1,434,056)**	(940,828)
Impairment losses on property, plant and equipment		**(416,841)**	(259,354)
Net impairment losses on financial assets	26	**(978,834)**	(171,016)
Other income	27	**139,551**	84,611
Other gains, net	28	**903,872**	1,247,509
Operating profit		**6,022,585**	6,460,427
Finance income	29	**226,921**	261,193
Finance costs	29	**(4,420,528)**	(4,921,541)
Finance costs, net		**(4,193,607)**	(4,660,348)
Share of net profits of investment accounted for using the equity method			
Joint ventures	9 (a)	**180,502**	270,115
Associates	9 (b)	**145,737**	48,767
		326,239	318,882
Profit before income tax		**2,155,217**	2,118,961
Income tax expense	32	**(582,188)**	(628,376)
Profit for the year		**1,573,029**	1,490,585
Profit attributable to:			
Owners of the Company		**741,004**	853,102
Non-controlling interests		**832,025**	637,483
		1,573,029	1,490,585

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	For the year ended 31 December 2020	2019 (Restated)
Basic and diluted earnings per share for profit attributable to ordinary shareholders of the Company (expressed in RMB per share)	33	**0.028**	0.037
Profit for the year		**1,573,029**	1,490,585
Other comprehensive income			
Items that will be reclassified to profit or loss			
Exchange differences on translation of foreign operations		**163,008**	(32,323)
Items that will not be reclassified to profit or loss			
Changes in fair value of financial assets measured at fair value through other comprehensive income		**(43,920)**	57,815
Income tax effect		**3,066**	(14,642)
Share of other comprehensive income of associates and joint ventures accounted for using the equity method		**(2,522)**	–
Other comprehensive income for the year, net of tax		**119,632**	10,850
Total comprehensive income for the year		**1,692,661**	1,501,435
Total comprehensive loss/income for the year attributable to:			
Owners of the company		**862,119**	863,702
Non-controlling interests		**830,542**	637,733
		1,692,661	1,501,435

Consolidated Statement of Changes in Equity

Year ended 31 December 2020
(Amounts expressed in thousands of RMB unless otherwise stated)

	Attributable to owners of the Company											
		Capital reserve										
	Share capital *(Note 17)*	Share premium	Other capital reserves	Statutory surplus reserve	Special reserve	Fair value reserve	Other equity instruments	Foreign currency translation reserve	Accumulated losses	Total	Non-controlling interests	Total equity
At 31 December 2019	**17,022,673**	**27,019,102**	**1,108,544**	**5,867,557**	**139,891**	**49,511**	**5,487,104**	**182,197**	**(2,216,946)**	**54,659,633**	**16,065,427**	**70,725,060**
Adjustment due to a business combinations under common control *(Note 39)*	–	3,000	–	–	–	–	–	–	9,346	12,346	20,060	32,406
At 1 January 2020 (Restated)	**17,022,673**	**27,022,102**	**1,108,544**	**5,867,557**	**139,891**	**49,511**	**5,487,104**	**182,197**	**(2,207,600)**	**54,671,979**	**16,085,487**	**70,757,466**
Profit for the year	–	–	–	–	–	–	–	–	741,004	741,004	832,025	1,573,029
Other comprehensive income for the year												
Changes in fair value of equity investments at fair value through other comprehensive income, net of tax	–	–	–	–	–	(39,371)	–	–	–	(39,371)	(1,483)	(40,854)
Exchange differences on translation of foreign operations	–	–	–	–	–	–	–	163,008	–	163,008	–	163,008
Share of other comprehensive income of associates and joint ventures accounted for using the equity method	–	–	–	–	–	(2,522)	–	–	–	(2,522)	–	(2,522)
Total comprehensive income for the year	–	–	–	–	–	(41,893)	–	163,008	741,004	862,119	830,542	1,692,661
Business combinations under common control *(Note 39)*	–	(21,896)	–	–	–	–	–	–	–	(21,896)	21,896	–
Capital injection from non-controlling shareholders	–	3,271	–	–	–	–	–	–	–	3,271	426,751	430,022
Disposal of subsidiaries	–	–	3,616	–	–	–	–	–	–	3,616	–	3,616
Issuance of senior perpetual securities	–	–	–	–	–	–	1,000,000	–	–	1,000,000	–	1,000,000
Release of deferred government subsidies	–	–	49,290	–	–	–	–	–	–	49,290	–	49,290
Other appropriations	–	–	–	–	32,259	–	–	–	–	32,259	(19,741)	12,518
Share of reserves of joint ventures and associates	–	–	(58)	–	7,105	–	–	–	–	7,047	–	7,047
Distribution of other equity instruments	–	–	–	–	–	–	–	–	(275,000)	(275,000)	(146,416)	(421,416)
Underwriting fees of other equity instruments	–	–	–	–	–	–	(675)	–	–	(675)	–	(675)
Dividends distribution of subsidiaries to non-controlling shareholders	–	–	–	–	–	–	–	–	–	–	(358,813)	(358,813)
Repayment of senior perpetual securities	–	–	–	–	–	–	(2,000,000)	–	–	(2,000,000)	–	(2,000,000)
At 31 December 2020	**17,022,673**	**27,003,477**	**1,161,392**	**5,867,557**	**179,255**	**7,618**	**4,486,429**	**345,205**	**(1,741,596)**	**54,332,010**	**16,839,706**	**71,171,716**

(Amounts expressed in thousands of RMB unless otherwise stated)

Consolidated Statement of Changes in Equity (Continued)

	Attributable to owners of the Company											
		Capital reserve										
	Share capital *(Note 17)*	Share premium	Other capital reserves	Statutory surplus reserve	Special reserve	Fair value reserve	Other equity instruments	Foreign currency translation reserve	Accumulated losses	Total	Non-controlling interests	Total equity
At 31 December 2018	14,903,798	18,454,678	11,690,292	5,867,557	145,938	6,588	3,988,000	214,520	(2,856,064)	52,415,307	15,254,312	67,669,619
Adjustment due to a business combination under common control	–	3,000	–	–	–	–	–	–	7,243	10,243	19,659	29,902
At 1 January 2019 (Restated)	14,903,798	18,457,678	11,690,292	5,867,557	145,938	6,588	3,988,000	214,520	(2,848,821)	52,425,550	15,273,971	67,699,521
Profit for the year	–	–	–	–	–	–	–	–	853,102	853,102	637,483	1,490,585
Other comprehensive income for the year												
Changes in fair value of equity investments at fair value through other comprehensive income, net of tax	–	–	–	–	–	42,923	–	–	–	42,923	250	43,173
Exchange differences on translation of foreign operations	–	–	–	–	–	–	–	(32,323)	–	(32,323)	–	(32,323)
Total comprehensive income for the year	–	–	–	–	–	42,923	–	(32,323)	853,102	863,702	637,733	1,501,435
Business combinations under common control *(Note 38)*	–	(237)	–	–	–	–	–	–	–	(237)	–	(237)
Capital injection from non-controlling shareholders	–	–	4,144	–	–	–	–	–	–	4,144	706,970	711,114
Acquisition of non-controlling interests	–	–	149,322	–	–	–	–	–	–	149,322	(149,322)	–
Disposal of subsidiaries	–	–	–	–	(1,666)	–	–	–	119	(1,547)	(26,234)	(27,781)
Issuance of senior perpetual securities	–	–	–	–	–	–	1,499,104	–	–	1,499,104	–	1,499,104
Issuance of share capital	2,118,875	8,564,661	(10,735,214)	–	–	–	–	–	–	(51,678)	–	(51,678)
Other appropriations	–	–	–	–	(5,317)	–	–	–	–	(5,317)	(17,768)	(23,085)
Share of reserves of joint ventures and associates	–	–	–	–	936	–	–	–	–	936	–	936
Dividends distribution of subsidiaries to non-controlling shareholders	–	–	–	–	–	–	–	–	–	–	(199,215)	(199,215)
Distribution of other equity instruments	–	–	–	–	–	–	–	–	(212,000)	(212,000)	(140,648)	(352,648)
At 31 December 2019	17,022,673	27,022,102	1,108,544	5,867,557	139,891	49,511	5,487,104	182,197	(2,207,600)	54,671,979	16,085,487	70,757,466

Consolidated Statement of Cash Flow

Year ended 31 December 2020
(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	For the year ended 31 December 2020	2019 (Restated)
Net cash flows from operating activities	35	**14,881,346**	12,491,673
Investing activities			
Purchases of property, plant and equipment		**(5,038,896)**	(9,050,859)
Purchase of other financial assets at fair value		**(7,020,000)**	(3,500,700)
Proceeds from disposal of property, plant and equipment		**1,534,275**	1,132,847
Purchases of investment properties		**–**	(44,062)
Proceeds from disposal of a joint venture and an associate		**–**	367,867
Proceeds from disposal of subsidiaries, net of cash		**42,910**	23,797
Proceeds from disposal of other financial assets measured at fair value		**11,207,783**	2,155
Proceeds from disposal of intangible assets		**277,715**	5,764
Proceeds from disposal of right-of-use assets		**15,118**	–
Investments in joint ventures		**(4,333)**	(50,000)
Investments in associates		**(7,473)**	(2,653,244)
Dividend from other financial assets measured at fair value		**82,794**	97,775
Dividends received from associates and joint ventures		**323,109**	236,708
Change in deposit of futures contracts		**(56,156)**	(67,253)
Assets-related government grants received		**47,558**	103,373
Investment income from other financial assets measured at fair value		**524,726**	–
Proceeds from acquisition of subsidiaries, net of cash		**3,690**	–
Net cash flows generated/(used) in investing activities		**1,932,820**	(13,395,832)

(Amounts expressed in thousands of RMB
unless otherwise stated)

	Notes	For the year ended 31 December 2020	2019 (Restated)
Financing activities			
Repayments of short-term notes and mid-term bonds		**(30,638,813)**	(22,400,000)
Repayments of short-term and long-term bank borrowings and other loans		**(43,111,460)**	(66,105,388)
Repayments of gold leasing arrangements		**(6,921,860)**	(1,607,905)
Cash consideration paid for business combination under common control		**–**	(237)
Proceeds from gold leasing arrangements		**–**	6,921,860
Proceeds from issuance of short-term bonds and medium-term notes, net of issuance costs		**25,900,000**	37,974,402
Drawdown of short-term and long-term bank borrowings and other loans		**46,021,404**	40,669,197
Senior perpetual securities' distribution paid		**(421,416)**	(352,648)
Capital injection from non-controlling shareholders		**197,276**	711,114
Share issue cost		**–**	(51,678)
Principal portion of lease payments		**(1,748,202)**	(3,032,106)
Dividends paid by subsidiaries to non-controlling shareholders		**(356,340)**	(222,930)
Interest paid		**(3,664,725)**	(4,467,803)
Repayments of senior perpetual securities		**(2,000,000)**	–
Instalment payment of bonds issuance expenses		**(29,285)**	(9,913)
Proceeds from issuance of perpetual securities, net of issuance costs		**1,000,000**	1,500,000
Net cash flows used in financing activities		**(15,773,421)**	(10,474,035)
Net increase/(decrease) in cash and cash equivalents		**1,040,745**	(11,378,194)
Cash and cash equivalents at beginning of year		**7,778,853**	19,135,842
Effect of foreign exchange rate changes, net		**(88,401)**	21,205
Cash and cash equivalents at 31 December	16	**8,731,197**	7,778,853

1 GENERAL INFORMATION

Aluminum Corporation of China Limited (the "Company") (中國鋁業股份有限公司) and its subsidiaries (together the "Group") are principally engaged in manufacture and distribution of alumina, primary aluminum and energy products, and the operational governance across the relevant industry. The Group is also engaged in the investment in coal, railway, machinery manufacturing and the relevant industry, and the development of bauxite related resources, the production, fabrication and distribution of bauxite, carbon and relevant non-ferrous metal products as well as the trading and logistics of non-ferrous metal products and coal products.

The Company is a joint stock company which was established on 10 September 2001 and is domiciled in the People's Republic of China (the "PRC") with limited liability. The address of its registered office is No. 62 North Xizhimen Street, Haidian District, Beijing, the PRC.

The Company's shares have been listed on the Main Board of the Hong Kong Stock Exchange and the New York Stock Exchange since 2001. The Company also listed its A shares on the Shanghai Stock Exchange in 2007.

In the opinion of the directors, the ultimate holding company and parent of the Company is Aluminum Corporation of China ("Chinalco") (中國鋁業集團有限公司), a company incorporated and domiciled in the PRC and wholly owned by the State-owned Assets Supervision and Administration Commission of the State Council.

(Amounts expressed in thousands of RMB
unless otherwise stated)

1 GENERAL INFORMATION (CONTINUED)

Information about subsidiaries

Particulars of the Company's principal subsidiaries are as follows:

Name	Place of registration and business	Registered capital	Principal activities	Percentage of equity attributable to the Company Direct	Indirect
Shanxi Huaxing Aluminum Co. Ltd. ("Shanxi Huaxing") (山西華興鋁業有限公司)	PRC/Mainland China	1,850,000	Manufacture and distribution of alumina	60.00%	40.00%
Baotou Aluminum Co., Ltd. ("Baotou Aluminum") (包頭鋁業有限公司)	PRC/Mainland China	2,245,510	Manufacture and distribution of primary aluminum, aluminum alloy and related fabricated products and carbon products	100.00%	–
China Aluminum International Trading Co., Ltd. ("Chalco Trading") (中鋁國際貿易有限公司)	PRC/Mainland China	1,731,111	Import and export activities	100.00%	–
Chalco Shanxi New Material Co., Ltd. ("Shanxi New Material") (中鋁山西新材料有限公司)	PRC/Mainland China	4,279,601	Manufacture and distribution of alumina, primary aluminum and anode carbon products and electricity generation and supply	85.98%	–
China Aluminum International Trading Group Co., Ltd. ("Trading Group") (中鋁國際貿易集團有限公司)	PRC/Mainland China	1,030,000	Import and export activities	100.00%	–
Zunyi Aluminum Co., Ltd. (遵義鋁業股份有限公司)	PRC/Mainland China	3,204,900	Manufacture and distribution of primary aluminum and alumina	67.45%	–
Chalco Hong Kong Ltd. ("Chalco Hong Kong") (中國鋁業香港有限公司)	Hong Kong	HKD849,940 in thousand	Overseas investments and alumina import and export activities, and mining and distribution of bauxite	100.00%	–

(Amounts expressed in thousands of RMB unless otherwise stated)

1 GENERAL INFORMATION (CONTINUED)

Information about subsidiaries (Continued)

Name	Place of registration and business	Registered capital	Principal activities	Percentage of equity attributable to the Company Direct	Indirect
Chalco Mining Co., Ltd. ("Chalco Mining") (中鋁礦業有限公司)	PRC/Mainland China	4,028,859	Manufacture, acquisition and distribution of bauxite mines, limestone ore and alumina	100.00%	–
Chalco Energy Co., Ltd. (中鋁能源有限公司)	PRC/Mainland China	1,384,398	Thermoelectric supply and investment management	100.00%	–
China Aluminum Ningxia Energy Group Co., Ltd. ("Ningxia Energy") (中鋁寧夏能源集團)	PRC/Mainland China	5,025,800	Thermal power, wind power and solar power generation, coal mining, and power-related equipment manufacturing	70.82%	–
Guizhou Huajin Aluminum Co., Ltd. ("Guizhou Huajin") (貴州華錦鋁業有限公司)	PRC/Mainland China	1,000,000	Manufacture and distribution of alumina	60.00%	–
Chalco Zhengzhou Research Institute of Non-ferrous Metal Co., Ltd. (中國鋁業鄭州有色金屬研究院有限公司)	PRC/Mainland China	214,858	Research and development services	100.00%	–
Chalco Shandong Co., Ltd. ("Chalco Shandong") (中鋁山東有限公司)	PRC/Mainland China	4,052,847	Manufacture and distribution of alumina	100.00%	–
Chalco Zhongzhou Aluminum Co., Ltd. ("Zhongzhou Aluminum") (中鋁中州鋁業有限公司)	PRC/Mainland China	5,071,235	Manufacture and distribution of alumina	100.00%	–

(Amounts expressed in thousands of RMB unless otherwise stated)

1 GENERAL INFORMATION (CONTINUED)

Information about subsidiaries (Continued)

Name	Place of registration and business	Registered capital	Principal activities	Percentage of equity attributable to the Company Direct	Indirect
China Aluminum Logistics Group Corporation Co., Ltd. (中鋁物流集團有限公司)	PRC/Mainland China	964,291	Logistics and transportation	100.00%	–
Chinalco Shanxi Jiaokou Xinghua Technology Ltd. ("Xinghua Technology") (中鋁集團山西交口興華科技股份有限公司)	PRC/Mainland China	588,182	Manufacture and distribution of primary aluminum	33.00%	33.00%
Chinalco Shanghai Company Limited ("Chinalco Shanghai") (中鋁(上海)有限公司)	PRC/Mainland China	968,300	Trading and engineering project management and leasing	100.00%	–
Shanxi China Huarun Co., Ltd. ("Shanxi Huarun") (山西中鋁華潤有限公司)	PRC/Mainland China	1,641,750	Manufacture and distribution of primary aluminum	40.00%	–
Guizhou Huaren New Material Co., Ltd. ("Guizhou Huaren") (貴州華仁新材料有限公司)	PRC/Mainland China	1,200,000	Manufacture and distribution of primary aluminum	40.00%	–
Chinalco Materials Co., Ltd. (中鋁物資有限公司)	PRC/Mainland China	1,000,000	Import and export activities and trading	100.00%	–

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

This note provides a list of the significant accounting policies adopted in the preparation of these consolidated financial statements. These policies have been consistently applied to all the years presented, unless otherwise stated. The financial statements are for the Group consisting of the Company and its subsidiaries.

2.1 Basis of preparation

2.1.1 Compliance with IFRS and HKCO

The consolidated financial statements of the Company have been prepared in accordance with International Financial Reporting Standards ("IFRS") and the disclosure requirements of the Hong Kong Companies Ordinance Cap. 622 ("HKCO").

The preparation of the financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

2.1.2 Going Concern

As at 31 December 2020, the Group's current liabilities exceeded its current assets by approximately RMB16,424 million (31 December 2019 (restated): RMB20,502 million). The directors of the Company have considered the Group's available sources of funds as follows:

- The Group's expected net cash inflows from operating activities in 2021;
- Unutilised banking facilities of approximately RMB156,318 million as at 31 December 2020, of which amounts totalling RMB130,371 million will be subject to renewal during the next 12 months. The directors of the Company are confident that these banking facilities could be renewed upon expiration based on the Group's past experience and good credit standing;

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

2.1.2 Going Concern (Continued)

- Bond facilities registered with National Association of Financial Market Institutional Investors but not yet utilised; and

- Other available sources of financing from banks and other financial institutions given the Group's credit history.

The directors of the Company believe that the Group has adequate resources to continue operations for the foreseeable future of not less than 12 months from 31 December 2020. The directors of the Company therefore are of the opinion that it is appropriate to adopt the going concern basis in preparing the consolidated financial statements.

2.1.3 Historical cost convention

The financial statements have been prepared on a historical cost basis except for certain financial assets and financial liabilities measured at fair value.

2.1.4 New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing 1 January 2020:

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

2.1.4 New and amended standards adopted by the Group (Continued)

- Definition of Material – amendments to IAS 1 and IAS 8
- Definition of a Business – amendments to IFRS 3
- Interest Rate Benchmark Reform – amendments to IFRS 9, IAS 39 and IFRS 7
- Covid-19-Related Rent Concessions – amendments to IFRS 16
- Revised Conceptual Framework for Financial Reporting

The amendments listed above did not have any material impact on the amounts recognised in prior periods and are not expected to significantly affect the current or future periods.

2.1.5 New standards and interpretations not yet adopted

Certain new accounting standards and interpretations have been published that are not mandatorily effective for 31 December 2020 reporting periods and have not been early adopted by the Group. These standards are not expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Principles of consolidation and equity accounting

2.2.1 Subsidiaries

Subsidiaries are all entities (including structured entities) over which the Group has control. The Group controls an entity where the Group 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 to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The acquisition method of accounting is used to account for business combinations by the Group (Note 2.3).

Inter-company transactions, balances and unrealised gains on transactions between group companies are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

Non-controlling interests in the results and equity of subsidiaries are shown separately in the consolidated statement of profit or loss and other comprehensive income, statement of changes in equity and balance sheet respectively.

2.2.2 Associates

Associates are all entities over which the Group has significant influence but not control or joint control. This is generally the case where the Group holds between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method of accounting (Note 2.2.4), after initially being recognised at cost.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Principles of consolidation and equity accounting (Continued)

2.2.3 Joint arrangements

Under IFRS 11 'Joint Arrangements', investments in joint arrangements are classified as either joint operations or joint ventures. The classification depends on the contractual rights and obligations of each investor, rather than the legal structure of the joint arrangement. The Group only has joint ventures.

Joint ventures

Interests in joint ventures are accounted for using the equity method (Note 2.2.4), after initially being recognised at cost in the consolidated statement of financial position.

2.2.4 Equity method

Under the equity method of accounting, the investments are initially recognised at cost and adjusted thereafter to recognise the Group's share of the post-acquisition profits or losses of the investee in profit or loss, and the Group's share of movements in other comprehensive income of the investee in other comprehensive income. Dividends received or receivable from associates and joint ventures are recognised as a reduction in the carrying amount of the investment.

Where the Group's share of losses in an equity-accounted investment equals or exceeds its interest in the entity, including any other unsecured long-term receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the other entity.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Principles of consolidation and equity accounting (Continued)

2.2.4 Equity method (Continued)

Unrealised gains on transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in these entities. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of equity-accounted investees have been changed where necessary to ensure consistency with the policies adopted by the Group.

The carrying amount of equity-accounted investments is tested for impairment in accordance with the policy described in Note 2.11.

2.2.5 Changes in ownership interests

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A change in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interests to reflect their relative interests in the subsidiary. Any difference between the amount of the adjustment to non-controlling interests and any consideration paid or received is recognised in a separate reserve within equity attributable to owners of the Company.

When the Group ceases to consolidate or equity account for an investment because of a loss of control, joint control or significant influence, any retained interest in the entity is remeasured to its fair value with the change in carrying amount recognised in profit or loss. This fair value becomes the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognised in other comprehensive income are reclassified to profit or loss or transferred to another category of equity as specified/permitted by applicable IFRSs. If the ownership interest in a joint venture or an associate is reduced but joint control or significant influence is retained, only a proportionate share of the amounts previously recognised in other comprehensive income are reclassified to profit or loss where appropriate.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.3 Business combination

(a) Merger accounting for business combinations under common control

The consolidated financial statements incorporate the financial statements of the combining entities or businesses in business combination under common control as if they had been combined from the date when the combining entities or businesses first came under the control of the ultimate holding company.

The net assets of the combining entities or businesses are consolidated using the carrying amount from the ultimate holding company's perspective. No amount is recognised for goodwill or excess of the Group's interest in the book value of the net assets over cost at the time of the common control combination, to the extent of the continuation of the ultimate holding company's interest.

The consolidated statement of comprehensive income includes the results of each of the combining entities or businesses from the earliest date presented or since the date when the combining entities or businesses first came under common control, where this is a shorter period, regardless of the date of the common control combination.

The comparative financial data have been restated to reflect the business combinations under common control occurred during this year as disclosed in Note 39.

Transaction costs, including professional fees, registration fees, costs of furnishing information to shareholders, costs or losses incurred in combining operations of the previously separate businesses and other costs incurred in relation to the common control combination that is to be accounted for by using the merger accounting method are recognised as expenses in the period in which they are incurred.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.3 Business combination (Continued)

(b) Acquisition method of accounting for other business combinations and goodwill

The acquisition method of accounting is used to account for the acquisition of subsidiaries by the Group, other than common control combinations. The consideration transferred is measured at the acquisition date fair value which is the sum of acquisition date fair value of assets transferred by the Group, liabilities assumed by the Group to the former owner of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. The consideration transferred included the fair value of any assets and liabilities resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at fair value at the acquisition date. All other components of non-controlling interests are measured at fair value. For each business combination, the Group elects whether to measure the non-controlling interests in the acquiree that are present ownership interests and entitle their holders to a proportional share of net assets in the event of liquidation at fair value or at the proportional share of the acquiree's identifiable net assets.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date. This includes the separation of embedded derivatives in host contracts of the acquiree.

If the business combination is achieved in stages, the previously held equity interest is remeasured at its acquisition date fair value and any resulting gain or loss is recognised in profit or loss.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.3 Business combination (Continued)

(b) Acquisition method of accounting for other business combinations and goodwill (Continued)

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred, the amount recognised for non-controlling interests and any fair value of the Group's previously held equity interests in the acquiree over the identifiable net assets acquired and liabilities assumed. If the sum of this consideration and other items is lower than the fair value of the net assets acquired, the difference is, after reassessment, recognised in profit or loss as a gain on bargain purchase.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. Goodwill is tested for impairment at least annually or more frequently if events or changes in circumstances indicate that the carrying value may be impaired. The Group performs its annual impairment test of goodwill as at 31 December. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units, or groups of cash-generating units, that are expected to benefit from the synergies of the combination, irrespective of whether other assets or liabilities of the Group are assigned to those units or groups of units.

Impairment is determined by assessing the recoverable amount of the cash-generating unit (group of cash-generating units) to which the goodwill relates. Where the recoverable amount of the cash-generating unit (group of cash-generating units) is less than the carrying amount, an impairment loss is recognised. An impairment loss recognised for goodwill is not reversed in a subsequent period.

Where goodwill has been allocated to a cash-generating unit (or group of cash-generating units) and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on the disposal. Goodwill disposed of in these circumstances is measured based on the relative value of the operation disposed of and the portion of the cash-generating unit retained.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.4 Separate financial statements

Investments in subsidiaries, associates and jointly ventures are accounted for at cost less impairment. Cost includes direct attributable costs of investment. The results of subsidiaries, associates and jointly ventures are accounted for by the Company on the basis of dividend received and receivable.

Impairment testing of the investments in subsidiaries, associates and jointly ventures is required upon receiving a dividend from these investments if the dividend exceeds the total comprehensive income of the subsidiary, associates and jointly ventures in the period the dividend is declared or if the carrying amount of the investment in the separate financial statements exceeds the carrying amount in the consolidated financial statements of the investee's net assets including goodwill.

2.5 Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision maker. The chief operating decision-makers, who are responsible for allocating resources and assessing the performance of the operating segments, have been identified as the executive presidents committee of the Company that make strategic decisions.

2.6 Foreign currency translation

Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The consolidated financial statements are presented in RMB, which is the Company's functional and presentation currency.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.6 Foreign currency translation (Continued)

Transactions and balances

Foreign currency transactions recorded by the entities in the Group are initially recorded using their respective functional currency rates prevailing at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency rates of exchange ruling at the end of the reporting period. Differences arising on settlement or translation of monetary items are recognised in profit or loss.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was measured. The gain or loss arising on translation of a non-monetary item measured at fair value is treated in line with the recognition of the gain or loss on change in fair value of the item.

In determining the exchange rate on initial recognition of the related asset, expense or income on the derecognition of a non-monetary asset or non-monetary liability relating to an advance consideration, the date of initial transaction is the date on which the Group initially recognises the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Group determines the transaction date for each payment or receipt of the advance consideration.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.6 Foreign currency translation (Continued)

Group companies

The results and financial positions of all the group entities (none of which has the currency of a hyper-inflationary economy) that has a functional currency different from the presentation currency are translated into the presentation currency as follows:

(i) assets and liabilities in each statement of financial position presented are translated at the closing rates at the end of the reporting period;

(ii) income and expenses in each statement of profit and loss and other comprehensive income are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rates at the dates of the transactions); and

(iii) all resulting exchange differences are recognised in other comprehensive income. Upon disposal of a foreign operation, the other comprehensive income related to the foreign operation is reclassified to profit or loss.

Goodwill and fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate. Exchange differences arising are recognised in other comprehensive income.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.7 Property, plant and equipment

Property, plant and equipment, other than construction in progress, are stated at cost less accumulated depreciation and any impairment losses. When an item of property, plant and equipment is classified as held for sale or when it is part of a disposal group classified as held for sale, it is not depreciated and is accounted for in accordance with IFRS 5. The cost of an item of property, plant and equipment comprises its purchase price and any directly attributable costs of bringing the asset to its working condition and location for its intended use.

Expenditure incurred after items of property, plant and equipment have been put into operation, such as repairs and maintenance, is normally charged to profit or loss in the period in which it is incurred. In situations where the recognition criteria are satisfied, the expenditure for a major inspection is capitalised in the carrying amount of the asset as a replacement. Where significant parts of property, plant and equipment are required to be replaced at intervals, the Group recognises such parts as individual assets with specific useful lives and depreciates them accordingly.

Depreciation is calculated on the straight-line basis to write off the cost of each item of property, plant and equipment to its residual value over its estimated useful life. The principal annual rates used for this purpose are as follows:

Buildings	8 – 45 years
Machinery	3 – 30 years
Transportation facilities	6 – 10 years
Office and other equipment	3 – 10 years

Where parts of an item of property, plant and equipment have different useful lives, the cost of that item is allocated on a reasonable basis among the parts and each part is depreciated separately. Residual values, useful lives and the depreciation method are reviewed, and adjusted if appropriate, at least at each financial year end.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.7 Property, plant and equipment (Continued)

An item of property, plant and equipment including any significant part initially recognised is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss on disposal or retirement recognised in profit or loss in the year the asset is derecognised is the difference between the net sales proceeds and the carrying amount of the relevant asset.

Construction in progress ("CIP") represents buildings under construction, which is stated at cost less any impairment losses, and is not depreciated. Cost comprises the direct costs of construction and capitalised borrowing costs on related borrowed funds during the period of construction. CIP is reclassified to the appropriate categories of property, plant and equipment when completed and ready for use.

An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount (Note 2.11).

2.8 Investment properties

Investment properties are interests in land use rights and buildings (including the leasehold property held as a right-of-use asset which would otherwise meet the definition of an investment property) held to earn rental income and/or for capital appreciation, rather than for use in the production or supply of goods or services or for administrative purposes; or for sale in the ordinary course of business. Such properties are measured initially at cost, including transaction costs. After initial recognition, the Group uses the cost methods to measure all of its investment properties.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.8 Investment properties (Continued)

Depreciation is calculated on the straight-line basis to write off the cost to investment property's residual value over its estimated useful life. The estimated useful lives are as follows:

Buildings	50 years
Land use rights	40 – 70 years

The carrying amounts of investment properties measured using the cost method are reviewed for impairment when events or changes in circumstances indicate that the carrying amounts may not be recoverable.

Any gains or losses on the retirement or disposal of an investment property are recognised in profit or loss in the year of the retirement or disposal.

2.9 Intangible assets

(a) Goodwill

Goodwill is measured as described in Note 2.3. Goodwill on acquisitions of subsidiaries is included in intangible assets. Goodwill is not amortised but it is tested for impairment annually, or more frequently if events or changes in circumstances indicate that it might be impaired, and is carried at cost less accumulated impairment losses. Gains and losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold.

Goodwill is allocated to cash-generating units for the purpose of impairment testing. The allocation is made to those cash-generating units or groups of cash-generating units that are expected to benefit from the business combination in which the goodwill arose. The units or groups of units are identified at the lowest level at which goodwill is monitored for internal management purposes, being the operating segments (Note 5).

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.9 Intangible assets (Continued)

(b) Mining rights and mineral exploration rights

The Group's mineral exploration rights and mining rights relate to coal, bauxite and other mines.

(i) Recognition

Except for mineral exploration rights and mining rights acquired in a business combination, mineral exploration rights and mining rights are initially recorded at cost which includes the acquisition consideration, qualifying exploration and other direct costs. The mineral exploration rights are stated at cost less any impairment, and the mining rights are stated at cost less any amortisation and impairment.

(ii) Reclassification

Mineral exploration rights are converted to mining rights when obtain mining rights certification, or technical feasibility and commercial viability of extracting a mineral resource are demonstrable, and are subject to amortisation when commercial production has commenced.

The Group assesses the stage of each mine under construction to determine when a mine moves into the production stage. The criteria used to assess the start date are determined based on the unique nature of each mine construction project. The Group considers various relevant criteria, such as completion of a reasonable period of testing of the mine and equipment, ability to produce in saleable form (within specifications) and ability to sustain ongoing production to assess when a mine is substantially complete and ready for its intended use.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.9 Intangible assets (Continued)

(b) Mining rights and mineral exploration rights (Continued)

(iii) Amortisation

Mining rights other than coal mining rights are amortised on a straight-line basis over a shorter period of the mining right valid period and expected mining life. Estimated mineable periods of the majority of the mining rights range from 3 to 30 years.

Coal mining rights are amortised on a unit-of-production basis over the economically recoverable reserves evaluated based on the reserves estimated in accordance with the standards of the mine concerned.

(iv) Impairment

An impairment review is performed when there are indicators that the carrying amount of the mineral exploration rights and mining rights may exceed their recoverable amounts. To the extent that this occurs, the excess is fully provided as an impairment loss.

(c) Computer software

Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use specific software. These costs are amortised over their estimated useful lives, which do not exceed 10 years. Costs associated with maintaining computer software programmes are recognised as an expense as incurred.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.9 Intangible assets (Continued)

(d) Aluminum production quota

Aluminum production quota are initially recorded at cost and subsequently states at cost less any amortisation and impairment. Amortisation is provided on a straight-line basis over expected useful life.

(e) Other intangible assets

Other intangible assets mainly include profit-sharing rights of Maochang mine, which are initially recorded at costs incurred to acquire the specific right. Amortisation is calculated on the straight-line basis over its estimated useful life. The estimated useful live of profit-sharing rights of Maochang mine is 22.5 years.

For intangible assets with finite useful life, the estimated useful lives and amortisation method are reviewed annually at the end of each reporting period and adjusted when necessary.

2.10 Research and development costs

Research and development expenditures are classified as research expenditures and development expenditures according to the nature of the expenditures and whether there is significant uncertainty of development activities transforming to assets.

Research expenditures are recognised in profit or loss for the current period. Development expenditures are recognised as assets when all of the following criteria are met:

(i) it is technically feasible to complete the asset so that it will be available for use or sale;

(ii) management intends to complete the asset and intends and has the ability to use or sell it;

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.10 Research and development costs (Continued)

(iii) it can be demonstrated that the asset will generate probable future economic benefits;

(iv) there are adequate technical, financial and other resources to complete the development of the asset and management has the ability to use or sell the asset; and

(v) the expenditure attributable to the asset during its development phase can be reliably measured.

Development expenditures that do not meet the criteria above are recorded in profit or loss for the current period as incurred. Development expenditures that have been recorded in profit or loss in previous periods will be not recognised as assets in subsequent periods. The Group has not had any development expenditure capitalised.

2.11 Impairment of non-financial assets

Goodwill and intangible assets that have an indefinite useful life are not subject to amortisation and are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired. Other assets are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash inflows which are largely independent of the cash inflows from other assets or groups of assets (cash-generating units). Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.12 Non-current assets (or disposal groups) held for sale

Non-current assets (or disposal groups) are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. They are measured at the lower of their carrying amount and fair value less costs to sell, except for assets such as deferred tax assets, assets arising from employee benefits, financial assets and investment property that are carried at fair value and contractual rights under insurance contracts, which are specifically exempt from this requirement.

An impairment loss is recognised for any initial or subsequent write-down of the asset (or disposal group) to fair value less costs to sell. A gain is recognised for any subsequent increases in fair value less costs to sell of an asset (or disposal group), but not in excess of any cumulative impairment loss previously recognised. A gain or loss not previously recognised by the date of the sale of the non-current asset (or disposal group) is recognised at the date of derecognition.

Non-current assets (including those that are part of a disposal group) are not depreciated or amortised while they are classified as held for sale. Interest and other expenses attributable to the liabilities of a disposal group classified as held for sale continue to be recognised.

Non-current assets classified as held for sale and the assets of a disposal group classified as held for sale are presented separately from the other assets in the balance sheet. The liabilities of a disposal group classified as held for sale are presented separately from other liabilities in the balance sheet.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets

Initial recognition and measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortised cost, fair value through other comprehensive income, and fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient of not adjusting the effect of a significant financing component, the Group initially measures a financial asset at its fair value, plus in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under IFRS 15 in accordance with the policies set out for "Revenue recognition" below.

In order for a financial asset to be classified and measured at amortised cost or fair value through other comprehensive income, it needs to give rise to cash flows that are solely payments of principal and interest ("SPPI") on the principal amount outstanding. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Financial assets classified and measured at amortised cost are held within a business model with the objective to hold financial assets in order to collect contractual cash flows, while financial assets classified and measured at fair value through other comprehensive income are held within a business model with the objective of both holding to collect contractual cash flows and selling. Financial assets which are not held within the aforementioned business models are classified and measured at fair value through profit or loss.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets (Continued)

Initial recognition and measurement (Continued)

All regular way purchases and sales of financial assets are recognised on the trade date, that is, the date that the Group commits to purchase or sell the asset. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the period generally established by regulation or convention in the market place.

Subsequent measurement

The subsequent measurement of financial assets depends on their classification as follows:

Financial assets at amortised cost (debt instruments)

Financial assets at amortised cost are subsequently measured using the effective interest method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

Financial assets at fair value through other comprehensive income (debt instruments)

For debt investments at fair value through other comprehensive income, interest income, foreign exchange revaluation and impairment losses or reversals are recognised in profit or loss and computed in the same manner as for financial assets measured at amortised cost. The remaining fair value changes are recognised in other comprehensive income. Upon derecognition, the cumulative fair value change recognised in other comprehensive income is recycled to profit or loss.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets (Continued)

Subsequent measurement (Continued)

Financial assets designated at fair value through other comprehensive income (equity investments)

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity investments designated at fair value through other comprehensive income when they meet the definition of equity under IAS 32 Financial Instruments: Presentation and are not held for trading. The classification is determined on an instrument-by-instrument basis.

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognised as other income in profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in other comprehensive income. Equity investments designated at fair value through other comprehensive income are not subject to impairment assessment.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognised in profit or loss.

This category includes derivative instruments, wealth management products and equity investments which the Group had not irrevocably elected to classify at fair value through other comprehensive income. Dividends on equity investments classified as financial assets at fair value through profit or loss are also recognised as other gains in profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets (Continued)

Subsequent measurement (Continued)

Financial assets at fair value through profit or loss (Continued)

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if the economic characteristics and risks are not closely related to the host; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the hybrid contract is not measured at fair value through profit or loss. Embedded derivatives are measured at fair value with changes in fair value recognised in profit or loss. Reassessment only occurs if there is either a change in the terms of the contract that significantly modifies the cash flows that would otherwise be required or a reclassification of a financial asset out of the fair value through profit or loss category.

A derivative embedded within a hybrid contract containing a financial asset host is not accounted for separately. The financial asset host together with the embedded derivative is required to be classified in its entirety as a financial asset at fair value through profit or loss.

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognised (i.e., removed from the Group's consolidated statement of financial position) when:

- the rights to receive cash flows from the asset have expired; or
- the Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a "pass-through" arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets (Continued)

Subsequent measurement (Continued)

Financial assets at fair value through profit or loss (Continued)

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risk and rewards of ownership of the asset. When it has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the Group continues to recognise the transferred asset to the extent of the Group's continuing involvement. In that case, the Group also recognises an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

Impairment of financial assets

The Group recognises an allowance for expected credit losses ("ECLs") for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The ECL at 31 December 2019 was estimated based on a range of forecast economic conditions as at that date. Since early January 2020, the coronavirus outbreak has spread across mainland China and beyond, causing disruption to business and economic activity. The impact on GDP and other key indicators have been considered when determining the severity and likelihood of downside economic scenarios that are used to estimate ECL under IFRS 9 in 2020.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets (Continued)

Impairment of financial assets (Continued)

General approach

ECLs are recognised in three stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12 months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL). For those have objective evidence of impairment at the reporting date, lifetime ECL are recognised and interest revenue is calculated on the net carrying amount.

At each reporting date, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and considers reasonable and supportable information that is available without undue cost or effort, including historical and forward-looking information.

The Group considers a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Debt investments at fair value through other comprehensive income and financial assets at amortised cost are subject to impairment under the general approach and they are classified within the following stages for measurement of ECLs except for trade receivables and contract assets which apply the simplified approach as detailed below.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Investments and other financial assets (Continued)

Impairment of financial assets (Continued)

General approach (Continued)

Stage 1 – Financial instruments for which credit risk has not increased significantly since initial recognition and for which the loss allowance is measured at an amount equal to 12-month ECLs

Stage 2 – Financial instruments for which credit risk has increased significantly since initial recognition but that are not credit-impaired financial assets and for which the loss allowance is measured at an amount equal to lifetime ECLs

Stage 3 – Financial assets that are credit-impaired at the reporting date (but that are not purchased or originated credit-impaired) and for which the loss allowance is measured at an amount equal to lifetime ECLs

Simplified approach

For trade receivables and contract assets that do not contain a significant financing component or when the Group applies the practical expedient of not adjusting the effect of a significant financing component, the Group applies the simplified approach in calculating ECLs. Under the simplified approach, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

For trade receivables and contract assets that contain a significant financial component and lease receivables, the Group chooses as its accounting policy to adopt the simplified approach in calculating ECLs with policies as described above.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.14 Financial liabilities

Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognised initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, derivative financial instruments and interest-bearing bank and other borrowings.

Subsequent measurement

The subsequent measurement of financial liabilities depends on their classification as follows:

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. This category also includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by IFRS 9. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments. Gains or losses on liabilities held for trading are recognised in profit or loss. The net fair value gain or loss recognised in profit or loss does not include any interest charged on these financial liabilities.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.14 Financial liabilities (Continued)

Subsequent measurement (Continued)

Financial liabilities at amortised cost (loans and borrowings)

After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortised cost, using the effective interest rate method unless the effect of discounting would be immaterial, in which case they are stated at cost. Gains and losses are recognised in profit or loss when the liabilities are derecognised as well as through the effective interest rate amortisation process.

Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the effective interest rate. The effective interest rate amortisation is included in finance costs in profit or loss.

Financial liabilities at amortised cost (trade and other payables)

These amounts represent liabilities for goods and services provided to the Group prior to the end of financial year which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities unless payment is not due within 12 months after the reporting period. They are subsequently measured at amortised cost using the effective interest method.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.14 Financial liabilities (Continued)

Subsequent measurement (Continued)

Financial guarantee contracts

Financial guarantee contracts issued by the Group are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. A financial guarantee contract is recognised initially as a liability at its fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequent to initial recognition, the Group measures the financial guarantee contracts at the higher of: (i) the ECL allowance determined in accordance with the policy as set out in "Impairment of financial assets"; and (ii) the amount initially recognised less, when appropriate, the cumulative amount of income recognised.

Derecognition of financial liabilities

A financial liability is derecognised when the obligation under the liability is discharged or cancelled, or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and a recognition of a new liability, and the difference between the respective carrying amounts is recognised in profit or loss.

2.15 Offsetting financial instruments

Financial assets and liabilities are offset and the net amount is reported in the balance sheet where the Group currently has a legally enforceable right to offset the recognised amounts, and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.16 Derivatives

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument. The Group's derivative instruments do not qualify for hedge accounting. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognised immediately in profit or loss and are included in other gains/(losses).

2.17 Inventories

Inventories comprise raw materials, work-in-progress, finished goods, spare parts and packaging materials and others, and are stated at the lower of cost and net realisable amount. Cost is determined using the weighted average method. Work-in-progress and finished goods comprise materials, direct labour and an appropriate proportion of all production overhead expenditure (based on the normal operating capacity). Borrowing costs are excluded as the inventory of the Group usually didn't meet the definition of "qualifying assets".

Provision for impairment of inventories is usually determined by the excess of cost over the net realisable amount and recorded in profit or loss. Net realisable amounts are determined based on the estimated selling price less estimated conversion costs, selling expenses and related taxes in the ordinary course of business. The provision for or the reversal of provision for impairment of inventories is recognised within "Cost of sales" in profit or loss.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.18 Cash and cash equivalents

For the purpose of presentation in the statement of cash flows, cash and cash equivalents includes cash on hand and demand deposits, and short term highly liquid investments that are readily convertible into known amounts of cash, are subject to an insignificant risk of changes in value, and have a short maturity of generally within three months when acquired, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities in the balance sheet.

2.19 Borrowing costs

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale. Qualifying assets are assets that necessarily take a substantial period of time to get ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalisation.

Other borrowing costs are expensed in the period in which they are incurred.

2.20 Current and deferred income tax

The income tax expense or credit for the period is the tax payable on the current period's taxable income based on the applicable income tax rate for each jurisdiction adjusted by changes in deferred tax assets and liabilities attributable to temporary differences and to unused tax losses.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.20 Current and deferred income tax (Continued)

Current income tax

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period in the countries where the Company and its subsidiaries and associates operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation and considers whether it is probable that a taxation authority will accept an uncertain tax treatment. The Group measures its tax balances either based on the most likely amount or the expected value, depending on which method provides a better prediction of the resolution of the uncertainty.

Deferred income tax

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred tax liabilities are not recognised if they arise from the initial recognition of goodwill. Deferred income tax is also not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantively enacted by the end of the reporting period and are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled.

Deferred tax assets are recognised only if it is probable that future taxable amounts will be available to utilise those temporary differences and losses.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.20 Current and deferred income tax (Continued)

Deferred income tax (Continued)

Deferred tax liabilities and assets are not recognised for temporary differences between the carrying amount and tax bases of investments in foreign operations where the Company is able to control the timing of the reversal of the temporary differences and it is probable that the differences will not reverse in the foreseeable future.

Deferred tax assets and liabilities are offset where there is a legally enforceable right to offset current tax assets and liabilities and where the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Current and deferred tax is recognised in profit or loss, except to the extent that it relates to items recognised in other comprehensive income or directly in equity. In this case, the tax is also recognised in other comprehensive income or directly in equity, respectively.

2.21 Employee benefits

Employee benefits mainly include salaries, bonuses, allowances and subsidies, pension insurance, social insurance and housing funds, labour union fees, employees' education fees and other expenses related to the employees for their services. The Group recognises employee benefits as liabilities during the accounting period when employees rendered the services and allocates the related cost of assets and expenses based on different beneficiaries.

(a) Bonus plans

The expected cost of bonus plans is recognised as a liability when the Group has a present legal or constructive obligation as a result of services rendered by employees and a reliable estimate of the obligation can be made.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.21 Employee benefits (Continued)

(b) Retirement benefit obligations

The Group primarily pays contributions on a monthly basis to participate in a pension plan organised by the relevant municipal and provincial governments in the PRC. In 2020, the Group made monthly contributions at the rate of 16% (2019: 17%) of the qualified employees' salaries and was exempted after January. The municipal and provincial governments undertake to assume the retirement benefit obligations of all existing and future retired employees payable under these plans. The Group has no legal or constructive obligations for further contributions if the fund does not hold sufficient assets to pay all employees the benefit relating to their current and past services.

(c) Other social insurance and housing funds

The Group provides other social insurance and housing funds to the qualified employees in the PRC based on certain percentages of their salaries. These percentages are not to exceed the upper limits of the percentages prescribed by the Ministry of Human Resources and Social Security of the PRC. These benefits are paid to social security organisations and the amounts are expensed as incurred. The Group has no legal or constructive obligations for further contributions if the fund does not hold sufficient assets to pay all employees the benefit relating to their current and past services.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.21 Employee benefits (Continued)

(d) Termination benefit obligations and early retirement benefit obligations

Termination and early retirement benefit obligations are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary redundancy and/or early retirement in exchange for these benefits. The Group recognises termination and early retirement benefit obligations when it is demonstrably committed to either: terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal; or providing termination benefits as a result of an offer made to encourage voluntary redundancy and/or early retirement. The specific terms vary among the terminated and early retired employees depending on various factors including position, length of service and district of the employees concerned. Benefits falling due for more than 12 months after the end of the reporting period are discounted to their present values.

2.22 Provisions

Provisions for legal claims, asset retirement obligations are recognised when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are not recognised for future operating losses.

Where there are a number of similar obligations, the likelihood that an outflow will be required in settlement is determined by considering the class of obligations as a whole. A provision is recognised even if the likelihood of an outflow with respect to any one item included in the same class of obligations may be small.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.22 Provisions (Continued)

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period. The discount rate used to determine the present value is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The increase in the provision due to the passage of time is recognised as interest expense.

2.23 Revenue recognition

Revenue from contracts with customers

Revenue from contracts with customers is recognised when control of goods or services is transferred to the customers at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

When the consideration in a contract includes a variable amount, the amount of consideration is estimated to which the Group will be entitled in exchange for transferring the goods or services to the customer. The variable consideration is estimated at contract inception and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognised will not occur when the associated uncertainty with the variable consideration is subsequently resolved.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.23 Revenue recognition (Continued)

Revenue from contracts with customers (Continued)

When the contract contains a financing component which provides the customer with a significant benefit of financing the transfer of goods or services to the customer for more than one year, revenue is measured at the present value of the amount receivable, discounted using the discount rate that would be reflected in a separate financing transaction between the Group and the customer at contract inception. When the contract contains a financing component which provides the Group a significant financial benefit for more than one year, revenue recognised under the contract includes the interest expense accreted on the contract liability under the effective interest method. For a contract where the period between the payment by the customer and the transfer of the promised goods or services is one year or less, the transaction price is not adjusted for the effects of a significant financing component, using the practical expedient in IFRS 15.

(a) Sale of industrial products

Revenue from the sale of industrial products (including sales of scrap and other materials) is recognised at the point in time when control of the asset is transferred to the customer, generally on delivery of the industrial products.

(b) Rendering of services

The Group provides transportation service and the revenue from services is recognised over time, using an input method to measure progress towards complete satisfaction of the service, because the customer simultaneously receives and consumes the benefits provided by the Group.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.23 Revenue recognition (Continued)

Revenue from other sources

(a) Rental income

Rental income is recognised on a time proportion basis over the lease terms. Variable lease payments that do not depend on an index or a rate are recognised as income in the accounting period in which they are incurred.

(b) Other income

Interest income is recognised on an accrual basis using the effective interest method by applying the rate that exactly discounts the estimated future cash receipts over the expected life of the financial instrument or a shorter period, when appropriate, to the net carrying amount of the financial asset.

Dividend income is recognised when the shareholders' right to receive payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably.

2.24 Earning per share

(a) Basic earnings per share

Basic earnings per share is calculated by dividing:

- the profit attributable to owners of the Company, excluding any costs of servicing equity other than ordinary shares;
- by the weighted average number of ordinary shares outstanding during the financial year, adjusted for bonus elements in ordinary shares issued during the year and excluding treasury shares.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.24 Earning per share (Continued)

(b) Diluted earnings per share

Diluted earnings per share adjusts the figures used in the determination of basic earnings per share to take into account:

- the after-income tax effect of interest and other financing costs associated with dilutive potential ordinary shares, and

- the weighted average number of additional ordinary shares that would have been outstanding assuming the conversion of all dilutive potential ordinary shares.

2.25 Leases

Leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, for leases of real estate for which the Group is a lessee, it has elected not to separate lease and non-lease components and instead accounts for these as a single lease component.

Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants other than the security interests in the leased assets that are held by the lessor. Leased assets may not be used as security for borrowing purposes.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.25 Leases (Continued)

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable;

- variable lease payment that are based on an index or a rate, initially measured using the index or rate as at the commencement date;

- amounts expected to be payable by the Group under residual value guarantees;

- the exercise price of a purchase option if the Group is reasonably certain to exercise that option, and

- payments of penalties for terminating the lease, if the lease term reflects the Group exercising that option.

Lease payments to be made under reasonably certain extension options are also included in the measurement of the liability.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases in the Group, the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.25 Leases (Continued)

To determine the incremental borrowing rate, the Group:

- where possible, uses recent third-party financing received by the individual lessee as a starting point, adjusted to reflect changes in financing conditions since third party financing was received;
- uses a build-up approach that starts with a risk-free interest rate adjusted for credit risk for leases held by the Group, which does not have recent third-party financing, and,
- makes adjustments specific to the lease, eg term, country, currency and security.

If a readily observable amortising loan rate is available to the individual lessee (through recent financing or market data) which has a similar payment profile to the lease, then the Group entities use that rate as a starting point to determine the incremental borrowing rate.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Lease payments are allocated between principal and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability;
- any lease payments made at or before the commencement date less any lease incentives received;

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.25 Leases (Continued)

- any initial direct costs, and
- restoration costs.

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis as follows:

Buildings	2 – 20 years
Machinery	2 – 10 years
Land use rights	10 – 50 years

If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. While the Group revalues its land and buildings that are presented within property, plant and equipment, it has chosen not to do so for the right-of-use buildings held by the Group.

Payments associated with short-term leases of equipment and vehicles and all leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. The Group applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (that is those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the recognition exemption for leases of low-value assets to leases of office equipment that are considered to be of low value (i.e. below RMB30,000).

Lease income from operating leases where the Group is a lessor is recognised in income on a straight-line basis over the lease term (Note 8). Initial direct costs incurred in obtaining an operating lease are added to the carrying amount of the underlying asset and recognised as expense over the lease term on the same basis as lease income. The respective leased assets are included in the balance sheet based on their nature. The Group did not need to make any adjustments to the accounting for assets held as lessor as a result of adopting the new leasing standard.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.26 Dividend distribution

Provision is made for the amount of any dividend declared, being appropriately authorised and no longer at the discretion of the entity, on or before the end of the reporting period but not distributed at the end of the reporting period.

2.27 Government grants

Government grants are recognised at their fair value where there is reasonable assurance that the grant will be received and all attaching conditions will be complied with. When the grant relates to an expense item, it is recognised as income on a systematic basis over the periods that the costs, which it is intended to compensate, are expensed.

Asset-related government grants are recognised when the government document designates that the government grants are used for constructing or forming long-term assets. If the government document is inexplicit, the Group should make a judgement based on the basic conditions to obtain the government grants, and recognises them as asset-related government grants if the conditions are to construct or to form long-term assets. Otherwise, the government grants should be income-related.

For asset-related government grants that is related to long lived assets that already exist at the time of recognising the government grant, the grant is deducted in calculating the carrying amount of the asset. The grant is recognised in profit or loss over the life of a depreciable asset as a reduced depreciation expense. If the asset is not yet purchased or constructed at the time of recognising the government grant, the grant is recognised as deferred income and will be deducted from the cost of the asset once the asset is recognised.

Income-related government grants that are specific to compensate expenses or costs that have already incurred, they are directly recognised in profit or loss for the current period as deduction of the related expenses or costs. If the income-related government grants are specific to compensate future expenses or costs of the Group, they are recognised as deferred income and will be released to profit or loss when the related expenses or costs are incurred.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES

The preparation of the Group's consolidated financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these judgements, assumptions and estimates could result in outcomes that require a material adjustment to the carrying amounts of assets or liabilities affected in future periods.

Judgements

In the process of applying the Group's accounting policies and preparing the Group's consolidated financial statements, management has made the following judgements, apart from those involving estimates, which have a significant effect on the amounts recognised in the consolidated financial statements.

(a) Significant influence over an entity in which the Group holds less than 20% of voting rights

At 31 December 2020, the Group owned 10.04% equity interest in Yunnan Aluminium Co., Ltd.* ("Yunnan Aluminum") (雲南鋁業股份有限公司). The Group considers that it has significant influence over Yunnan Aluminum even though it owns less than 20% of the voting rights, on the grounds that the Group is the second largest shareholders of Yunnan Aluminum and assigned one out of the eleven directors of the Board of Directors of Yunnan Aluminum Group, thus have the right to participate in decision making of Yunnan Aluminum.

At 31 December 2020, the Group owned a 6.68% equity interest in Chalco Mineral Resources Co.,Ltd.* ("Chalco Resources") (中鋁礦產資源有限公司). The Group considers that it has significant influence over Chalco Resources even though it owns less than 20% of the voting rights, on the grounds that the Group can appoint one out of the five directors of the Board of Directors of Chalco Resources, thus have the right to participate in decision making of Chalco Resources.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Judgements (Continued)

(a) Significant influence over an entity in which the Group holds less than 20% of voting rights (Continued)

At 31 December 2020, the Group owned 14.71% of the voting right of Chinalco Capital Holdings Co., Ltd.* ("Chinalco Capital") (中鋁資本控股有限公司). The Group considers that it has significant influence over Chinalco Capital since it can appoint one out of three directors of the Board of Directors of Chinalco Capital, thus have the right to participate in decision making of Chinalco Capital.

At 31 December 2020, the Group owned a 16% equity interest in Baise New Aluminum Power Co., Ltd. * ("New Aluminum Power") (百色新鋁電力有限公司). The Group considers that the Group has significant influence over New Aluminum Power even though it owns less than 20% of the voting rights, on the grounds that the Group can appoint one out of the nine directors of the Board of Directors of New Aluminum Power, thus have the right to participate in decision making of New Aluminum Power.

At 31 December 2020, the Group owned a 14.29% equity interest in Inner Mongolia Qiliugou Co., Ltd.* ("Inner Mongolia Qiliugou") (內蒙古圪柳溝能源有限公司). The Group considers that it has significant influence over Inner Mongolia Qiliugou even though it owns less than 20% of the voting rights, on the grounds that the Group can appoint one out of the seven directors of the Board of Directors of Inner Mongolia Qiliugou, thus have the right to participate in decision making of Inner Mongolia Qiliugou.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Judgements (Continued)

(b) Consolidation of entities in which the Group holds less than a majority of voting rights

At 31 December 2020, the Group owned a 40.23% equity interest in Ningxia Yinxing Energy Co., Ltd. ("Yinxing Energy") (寧夏銀星能源股份有限公司). Since the remaining 59.77% of the equity shares in Yinxing Energy are held by a large number of individual shareholders, in opinion of the directors of the Company, the Group has control over Yinxing Energy, and Yinxing Energy continues to be included in the consolidation scope.

At 31 December 2020, the Company owned a 40% equity interest in Guizhou Huaren New Materials Co., Ltd.* ("Guizhou Huaren") (貴州華仁新材料有限公司). In accordance with the acting-in-concert agreement signed between the Company and Qingzhen Industry Investment Co., Ltd.* ("Qingzhen Industry") (清鎮市工業投資有限公司) and Guizhou Chengqian Enterprise (Group) Co., Ltd. * ("Guizhou Chengqian") (貴州成黔企業(集團)有限公司). Qingzhen Industry and Guizhou Chengqian would exercise the shareholders' and Board of Directors' votes in concert with the Group. Therefore, the directors of the Company believe that the Company has control over Guizhou Huaren and consolidated Guizhou Huaren's financial statements from the date the Group obtained control.

At 31 December 2020, the Company owned 40% of the shares of Shanxi China Aluminum China Resources Co., Ltd.* ("Shanxi Zhongrun")(山西中鋁華潤有限公司). In accordance with the acting-in-concert agreement signed between the Company and China Resources Coal Industry Group Co., Ltd. ("China Resources Coal Industry"), China Resources Coal Industry would exercise the shareholders' and Board of Directors' votes in concert with the Group. Therefore, the directors of the Company believe that the Company has control over Shanxi Zhongrun and consolidated Shanxi Zhongrun's financial statements from the date the Group obtained control.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Estimates and assumptions

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below. The Group's assumptions and estimates are based on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Group. Such changes are reflected in the assumptions when they occur.

(a) Impairment assessment of property, plant and equipment

As at 31 December 2020, the Company's net carrying amount of property, plant and equipment ("PP&E") was RMB100,638 million. Management assesses related assets for potential impairment whenever there are indications that the carrying value of an asset or a group of assets may not be recoverable. As at 31 December 2020, management performed impairment assessment on property, plant and equipment ("PP&E") with impairment indications at the level of cash generating unit ("CGU") to which the PP&E was allocated using discounted cash flow model. The discounted cash flows model used for the impairment assessment of PP&E involved significant assumptions including product prices and the discount rate.

(b) Impairment assessment of goodwill

As at 31 December,2020, the Company's carrying value of goodwill was RMB3,510 million. Management performed impairment assessment of goodwill on an annual basis. When performing the impairment assessment, the recoverable amount of the CGU to which the goodwill was allocated was estimated by management using discounted cash flow model, and compared with the carrying amount of the CGU to determine if goodwill was impaired. The discounted cash flow models used for the impairment assessment of goodwill involved significant assumptions including product prices, the long-term growth rate and the discount rate.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Estimates and assumptions (Continued)

(c) Property, plant and equipment and intangible assets (excluding goodwill) – estimated useful lives and residual values

The Group's management determines the estimated useful lives and residual values (if applicable) and consequently the related depreciation/amortisation charges for its property, plant and equipment and intangible assets (excluding goodwill). These estimates are based on the historical experience of the actual useful lives of property, plant and equipment of similar nature and functions, or based on the useful life of intangible assets. Management will increase the depreciation/amortisation charge where useful lives are less than previously estimated, and it will write off or write down technically obsolete or non-strategic assets that have been abandoned or sold.

Actual economic lives may differ from estimated useful lives and actual residual values may differ from estimated residual values. Periodic review could result in change in depreciable lives and residual values and therefore change in depreciation/amortisation expense in future periods.

(d) Coal reserve estimates and units-of-production amortisation for coal mining rights

External qualified valuation professionals evaluate "economically recoverable reserves" based on the reserves estimated by external qualified exploration engineers in accordance with the PRC standards. The estimates of coal reserves are inherently imprecise and represent only the approximate amounts of the coal reserves because of the subjective judgements involved in developing such information. Economically recoverable reserve estimates are evaluated on a regular basis and have taken into account recent production and technical information about each mine.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Estimates and assumptions (Continued)

(e) Estimated net realisable value of inventories

In accordance with the Group's accounting policy, the Group's management estimated net realisable value of inventories based on specific facts and circumstances. For different types of inventories, it requires the estimation on selling prices, costs of conversion, selling expenses and the related tax expense to calculate the net realisable amount of inventories. For inventories held for executed sales contracts, management estimates the net realisable amount based on the contracted price. For raw materials and work-in-progress, management has established a model in estimating the net realisable amount at which the inventories can be realised in the normal course of business after considering the Group's manufacturing cycles, production capacity and forecasts, estimated future conversion costs and selling prices. Management also takes into account the price or cost fluctuations and other related matters occurring after the end of the reporting period which reflect conditions that existed at the end of the reporting period.

It is reasonably possible that if there is a significant change in circumstances including the Group's business and the external environment, outcomes within the next financial year would be significantly affected.

(f) Investments in joint ventures and associates – recoverable amount

In accordance with the Group's accounting policy, each investment in a joint venture and an associate is evaluated in every reporting period to determine whether there are any indicators of impairment. If any such indicators exists, an estimate of the recoverable amount is performed and an impairment loss is recognised to the extent that the carrying amount exceeds the recoverable amount. The recoverable amount of the investment in a joint venture and an associate is measured at the higher of fair value less costs of disposal and value in use.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Estimates and assumptions (Continued)

(f) Investments in joint ventures and associates – recoverable amount (Continued)

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

Value in use is also generally determined as the present value of the estimated future cash flows of 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) and operating costs. 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 on the recoverable amounts of the investments. In such circumstances, some or all of the carrying value of the investments may be impaired and the impairment would be charged against profit or loss.

(g) Income tax

The Group estimates its income tax provision and deferred taxation in accordance with the prevailing tax rules and regulations, taking into account any special approvals obtained from the relevant tax authorities and any preferential tax treatment to which it is entitled in each location or jurisdiction in which the Group operates. There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. The Group recognises liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, the differences will impact on the income tax and deferred tax provisions in the period in which the determination is made.

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Estimates and assumptions (Continued)

(g) Income tax (Continued)

Deferred tax assets are recognised for unused tax losses and deductible temporary differences, such as the provision for impairment of receivables, inventories and property, plant and equipment and accruals of expenses not yet deductible for tax purposes, to the extent that it is probable that taxable profits will be available against which the losses deductible temporary difference can be utilised.

An entity shall recognise a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates and joint ventures, except to the extent that both of the following conditions are satisfied:

- the parent, investor or joint venture is able to control the timing of the reversal of the temporary difference; and
- it is probable that the temporary difference will not reverse in the foreseeable future.

In the event that future tax rules and regulations or related circumstances change, adjustments to current and deferred taxation may be necessary which would impact on the Group's results or financial position.

(Amounts expressed in thousands of RMB unless otherwise stated)

3 SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES (CONTINUED)

Estimates and assumptions (Continued)

(h) Impairment of receivables

The loss allowances for receivables are based on assumptions about risk of default and expected loss rates to determine the expected loss. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation, based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period.

The Group takes into account different macroeconomic scenarios in considering forward looking information. The Group regularly monitors and reviews the key macroeconomic assumptions and parameters related to the calculation of expected credit losses, including the risk of economic downturn, external market environment, technological environment, changes in customer conditions, GDP and consumer price index, etc. During the year ended 31 December 2020, the Group has taken into account the uncertainties arising from the COVID-19 outbreak and updated the relevant assumptions and parameters accordingly. The key macroeconomic parameters are listed below：

			Scenarios	
Items	**Year**	**Basic**	**Negative**	**Positive**
Growth rate of gross GDP growth rate	2021	8.83%	8.39%	9.27%
	2022 and subsequent years	5.30%	5.04%	5.57%
Consumer Price Index growth rate	2021	1.33%	1.26%	1.40%
	2022 and subsequent years	2.40%	2.28%	2.52%

4 SIGNIFICANT CHANGES IN THE CURRENT REPORTING PERIOD

There was outbreak of COVID-19 in the PRC in January 2020 and subsequently expanded to a worldwide pandemic. The COVID-19 outbreak had great impact on domestic aluminum and alumina market during the first half of 2020.

The Group has followed and strengthened its support to the government's requirements on COVID-19 prevention and control work and has taken possible effective measures to mitigate the impact, including control of procurement and sales paces in market fluctuations, adjustment of the products structure and marketing strategies and reduction of operating costs and expenses.

As at 31 December 2020 and up to date of this report, the COVID-19 has been effectively controlled in the PRC. As a result, domestic production and market of industrial products has gradually returned to normal and the price of aluminum and alumina has recovered to the level before the outbreak of COVID-19. However, the control of COVID-19 globally seems still indefinite, which increases the risk of global economic recession and uncertainty of PRC economy in a longer term. The Company will continuously monitor and assess the development of the COVID-19. Impairment test for financial and non-financial assets has been carried out with key assumptions and factors been considered for necessary revisions as the result of the COVID-19 outbreak. The liquidity risk, including the basis of going concern, has also been assessed up to date of authorisation of this financial statements (Note 37).

(Amounts expressed in thousands of RMB unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION

(a) Revenue

Revenue recognised during the year is as follows:

	2020	2019 (Restated)
Revenue from contracts with customers (net of value-added tax)		
Sale of goods	**184,077,018**	188,752,179
Transportation services	**1,587,246**	1,145,304
	185,664,264	189,897,483
Revenue from other sources		
Rental income	**329,989**	317,915
	185,994,253	190,215,398

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

	For the year ended 31 December 2020						
	Alumina segment	Primary Aluminum segment	Energy Segment	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Type of goods or services							
Sales of goods	42,295,806	51,729,483	7,184,216	151,540,471	449,058	(69,122,016)	184,077,018
Transportation services	–	–	–	3,768,342	–	(2,181,096)	1,587,246
Total revenue	42,295,806	51,729,483	7,184,216	155,308,813	449,058	(71,303,112)	185,664,264
Geographical markets							
Mainland China	42,295,806	51,729,483	7,184,216	146,666,981	449,058	(71,303,112)	177,022,432
Outside of mainland China	–	–	–	8,641,832	–	–	8,641,832
Total revenue from contracts with customers	42,295,806	51,729,483	7,184,216	155,308,813	449,058	(71,303,112)	185,664,264
Timing of revenue recognition							
Goods transferred at a point in time	42,295,806	51,729,483	7,184,216	151,540,471	449,058	(69,122,016)	184,077,018
Services transferred over time	–	–	–	3,768,342	–	(2,181,096)	1,587,246
Total revenue from contracts with customers	42,295,806	51,729,483	7,184,216	155,308,813	449,058	(71,303,112)	185,664,264

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

The following table shows the amounts of revenue recognised in the current reporting period that were included in the contract liabilities at the beginning of the reporting period:

	For the year ended 31 December	
	2020	2019
Revenue recognised that was included in contract liabilities at the beginning of the reporting period:		
– Sale of goods	**1,565,285**	1,543,164
– Others	**73,541**	36,158
	1,638,826	1,579,322

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

(ii) Performance obligations

Information about the Group's performance obligations is summarised below:

Revenue from sales of products (including sales of the other materials)

The performance obligation is satisfied upon delivery of the industrial products and payment is generally due within 30 to 90 days from delivery, except for new customers, where advance is normally required.

Sales of goods were made in a short period of time and the performance obligation was mostly satisfied in one year or less at the end of each year,thus the Group applied the expedient of not to disclose the transaction price allocated to unsatisfied performance obligation.

Transportation services

The performance obligation is satisfied over time as services are rendered and payment is generally due upon completion of the relevant services.

Amounts expected to be recognised as revenue for remaining contract performance obligation:

	For the year ended 31 December	
	2020	2019
Within one year	**1,399,340**	1,638,826
After one year	**182,859**	125,758
	1,582,199	1,764,584

The remaining performance obligations expected to be recognised in more than one year relate to rendering of services that are to be satisfied within 1–10 years. All the other remaining performance obligations are satisfied in one year or less at the end of each year.

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information

The executive presidents committee of the Company have been identified as the chief operating decision makers. The committee is responsible for the review of the internal reports in order to allocate resources to operating segments and assess their performance.

The committee considers the business from a product perspective comprising alumina, primary aluminum and energy for the Group's manufacturing business, which are identified as separate reportable operating segments. In addition, the Group's trading business is identified as a separate reportable operating segment. The Group's reportable operating segments also include corporate and other operating segments.

The committee assesses the performance of operating segments based on profit or loss before income tax in related periods. The manner of assessment used by the committee is consistent with that applied to the consolidated financial information for the year ended 31 December 2019. Management has determined the reportable operating segments based on the reports reviewed by the committee that are used to make strategic decisions.

The Group's five reportable operating segments are summarised as follows:

- The alumina segment, which consists of mining and purchasing bauxite and other raw materials, refining bauxite into alumina, and selling alumina both internally to the Group's aluminum enterprises and trading enterprises and externally to customers outside the Group. This segment also includes the production and sale of multi-form alumina bauxite.

- The primary aluminum segment, which consists of procuring alumina and other raw materials, supplemental materials and electricity power, smelting alumina to produce primary aluminum which is sold to the Group's trading enterprises and external customers, including Chinalco and its subsidiaries. This segment also includes the production and sale of carbon products and aluminum alloy and other aluminum products.

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

- The trading segment, which consists of the trading of alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products, coal products and raw materials and supplemental materials and logistics and transport services to internal manufacturing plants and external customers. The products are sourced from fellow subsidiaries and international and domestic suppliers of the Group. Sales of products manufactured by the Group's manufacturing business are included in the total revenue of the trading segment and are eliminated with the segment revenue of the respective segments which supplied the products to the trading segment.

- The energy segment mainly includes coal mining, electricity generation by thermal power, wind power and solar power, new energy related equipment manufacturing business. Sales of coals are mainly to the Group's internal and external coal consuming customers; electricity is sold to regional power grid corporations.

- Corporate and other operating segments, which mainly include management of corporate, research and development activities and others.

Prepaid current income tax and deferred tax assets are excluded from segment assets, and income tax payable and deferred tax liabilities are excluded from segment liabilities. All sales among the reportable operating segments were conducted on terms mutually agreed among group companies, and have been eliminated upon consolidation.

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2020						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Total revenue	42,382,097	51,889,084	7,184,216	155,392,357	449,611	(71,303,112)	185,994,253
Inter-segment revenue	(29,436,854)	(11,458,500)	(243,788)	(30,058,138)	(105,832)	71,303,112	–
Sales of self-produced products *(Note (i))*	–	–	–	21,492,083	–	–	–
Sales of products sourced from external suppliers	–	–	–	103,842,136	–	–	–
Revenue from external customers	12,945,243	40,430,584	6,940,428	125,334,219	343,779	–	185,994,253
Segment profit/(loss) before income tax	1,427,294	2,023,168	(77,235)	555,864	(1,705,175)	(68,699)	2,155,217
Income tax expense							(582,188)
Profit for the year							1,573,029

(Amounts expressed in thousands of RMB unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2020						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Other items							
Finance income	42,912	58,437	36,333	72,632	16,607	–	226,921
Finance costs	(826,521)	(1,364,606)	(995,572)	(170,937)	(1,062,892)	–	(4,420,528)
Share of profits and losses of joint ventures	75,405	–	35,308	5,011	64,778	–	180,502
Share of profits and losses of associates	4,930	(35,328)	(17,905)	38,683	155,357	–	145,737
Depreciation of right-of-use assets	(364,655)	(234,387)	(96,967)	(21,075)	(50,469)	–	(767,553)
Depreciation and amortisation (excluding the depreciation of right- of-use assets)	(2,934,949)	(2,937,761)	(1,943,524)	(23,287)	(71,281)	–	(7,910,802)
(Losses)/gain on disposal of property, plant and equipment	(15,274)	456,925	3,989	2,147	652	–	448,439
Realised loss on futures, forward and option contracts, net	–	–	–	675,442	(152,064)	–	523,378
Other income	21,549	11,087	55,561	33,207	18,147	–	139,551
Impairment loss on property, plant and equipment	(23,135)	(388,755)	–	(4,951)	–	–	(416,841)
Unrealised (losses/gains on futures contracts,net	–	–	–	(27,705)	17,311	–	(10,394)

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2020						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Gain on disposal of subsidiaries	–	–	–	–	11,305	–	11,305
Changes for impairment of inventories	(121,286)	103,524	(15,642)	2,184	981	–	(30,239)
Provision for impairment of receivables	(58,778)	(14,417)	(108,059)	(414,342)	(383,238)	–	(978,834)
Dividends from other financial assets measured at fair value	–	–	–	–	82,794	–	82,794
Investments in associates	88,356	539,058	396,454	1,565,235	6,584,307	–	9,173,410
Investments in joint ventures	1,076,085	–	334,763	43,258	1,920,447	–	3,374,553
Additions during the year:							
Intangible assets	2,157	3,546	–	1,413	266	–	7,382
Right-of-use assets	12,001	–	59,010	2,875	2,893	–	76,779
Property, plant and equipment	2,317,271	1,069,086	881,810	328,033	25,119	–	4,621,319

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2019 (Restated)						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Total revenue	43,899,982	49,089,019	7,345,971	158,935,656	492,940	(69,548,170)	190,215,398
Inter-segment revenue	(29,573,401)	(11,694,382)	(236,136)	(27,877,188)	(167,063)	69,548,170	–
Sales of self-produced products *(Note (i))*	–	–	–	24,380,771	–	–	–
Sales of products sourced from external suppliers	–	–	–	106,677,697	–	–	–
Revenue from external customers	14,326,581	37,394,637	7,109,835	131,058,468	325,877	–	190,215,398
Segment profit/(loss) before income tax	844,848	687,246	403,479	958,007	(987,704)	213,085	2,118,961
Income tax expense							(628,376)
Profit for the year							1,490,585

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2019 (Restated)						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Other items							
Finance income	61,644	53,252	35,093	105,664	5,540	–	261,193
Finance costs	(651,238)	(1,328,730)	(1,064,769)	(224,292)	(1,652,512)	–	(4,921,541)
Share of profits and losses of joint ventures	86,245	–	(22,272)	3,767	202,375	–	270,115
Share of profits and losses of associates	(6,319)	11,621	(32,660)	36,579	39,546	–	48,767
Depreciation of right-of-use assets	(495,693)	(338,975)	(146,139)	(45,541)	(49,477)	–	(1,075,825)
Depreciation and amortisation (excluding the depreciation of right-of-use assets)	(2,830,153)	(3,235,356)	(1,488,077)	(79,365)	(81,467)	–	(7,714,418)
(Losses)/gains on disposal of property, plant and equipment and intangible assets	(576,669)	833,288	(3,982)	7,271	(224)	–	259,684
Realised gain on futures, forward and option contracts, net	–	–	60,671	–	–	–	60,671
Other income	21,252	716	11,382	47,666	3,595	–	84,611
Impairment on property, plant and equipment	(8,742)	(247,112)	–	(3,500)	–	–	(259,354)
Unrealised gain on futures, forward and option contracts,net	–	–	–	(9,851)	–	–	(9,851)
Gain on disposal of subsidiaries	118	–	3,014	2,738	255,317	–	261,187

(Amounts expressed in thousands of RMB unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2019 (Restated)						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Changes for impairment of inventories	69,740	166,331	34,136	(19,076)	–	–	251,131
Reversal of/(provision for) impairment of receivables, net of bad debts recovered	6,837	1,088	(53,227)	(122,420)	(3,294)	–	(171,016)
Dividends from other financial assets measured at fair value	–	–	1,000	–	96,775	–	97,775
Investments in associates	83,424	574,385	362,757	2,021,964	6,469,871	–	9,512,401
Investments in joint ventures	1,076,085	–	79,199	298,991	1,931,307	–	3,385,582
Additions during the year:							
Intangible assets	209,366	949,013	(5,062)	1,869	200	–	1,155,386
Right-of-use assets	1,080,285	131,797	8,411	27,365	–	–	1,247,858
Property, plant and equipment *(Note (ii))*	6,490,041	2,381,644	1,454,659	132,841	165,832	–	10,625,017

(i) The sales of self-produced products include sales of self-produced alumina amounting to RMB12,465 million (2019: RMB13,330 million), sales of self-produced primary aluminium amounting to RMB8,784 million (2019: RMB10,689 million), and sales of self-produced other products amounting to RMB243 million (2019: RMB362 million).

(ii) The additions to property, plant and equipment under sale and leaseback contracts are not included.

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	As at 31 December 2020					
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Total
As at 31 December 2020						
Segment assets	**87,409,820**	**62,050,175**	**39,671,083**	**20,520,759**	**44,594,935**	**254,246,772**
Reconciliation:						
Elimination of inter-segment receivables						**(60,582,399)**
Other eliminations						**(360,498)**
Corporate and other Unallocated assets:						**–**
Deferred tax assets						**1,481,235**
Prepaid income tax						**116,574**
Total assets						**194,901,684**
Segment liabilities	**48,883,452**	**39,204,713**	**26,197,235**	**12,815,610**	**55,475,215**	**182,576,225**
Elimination of inter-segment payables						**(60,582,397)**
Corporate and other Unallocated liabilities:						**–**
Deferred tax liabilities						**1,437,087**
Income tax payable						**299,053**
Total liabilities						**123,729,968**

(Amounts expressed in thousands of RMB
unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	As at 31 December 2019 (Restated)					
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Total
Segment assets	90,584,165	63,155,573	38,886,172	17,496,224	49,658,116	259,780,250
Reconciliation:						
Elimination of inter-segment receivables						(58,151,596)
Other eliminations						(106,985)
Corporate and other unallocated assets:						–
Deferred tax assets						1,522,729
Prepaid income tax						93,093
Total assets						203,137,491
Segment liabilities	47,247,335	38,588,473	26,582,436	9,376,820	66,771,364	188,566,428
Elimination of inter-segment payables						(58,151,596)
Corporate and other unallocated liabilities:						–
Deferred tax liabilities						1,712,739
Income tax payable						252,454
Total liabilities						132,380,025

(Amounts expressed in thousands of RMB unless otherwise stated)

5 REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

The Group mainly operates in Mainland China. Geographical information on operating segments is as follows:

	For the year ended 31 December	
	2020	2019 (Restated)
Segment revenue from external customers		
– Mainland China	**177,352,421**	184,439,383
– Outside of Mainland China	**8,641,832**	5,776,015
	185,994,253	190,215,398

	31 December 2020	31 December 2019 (Restated)
Non-current assets (excluding financial assets and deferred tax assets)		
– Mainland China	**142,671,962**	147,876,838
– Outside of Mainland China	**2,890,338**	2,668,533
	145,562,300	150,545,371

For the year ended 31 December 2020, revenues of approximately RMB46,262 million (2019: RMB40,567 million) were derived from entities directly or indirectly owned or controlled by the PRC government including Chinalco. These revenues are mainly attributable to the alumina, primary aluminum, energy and trading segments. There were no individual customers that contributed 10% or more of the Group's revenue during the years ended 31 December 2020 and 2019.

(Amounts expressed in thousands of RMB
unless otherwise stated)

6 INTANGIBLE ASSETS

	Goodwill	Mining rights	Mineral exploration rights	Others	Total
Year ended 31 December 2020					
Opening net carrying amount	3,510,892	7,972,911	1,001,332	1,279,325	13,764,460
Additions	–	–	–	7,382	7,382
Disposals	–	(277,715)	–	–	(277,715)
Impairment	–	–	–	(416)	(416)
Amortisation	–	(412,599)	–	(46,883)	(459,482)
Business combination	–	–	–	89	89
Transfer from property, plant and equipment *(Note 7)*	–	149,544	–	284,743	434,287
Currency translation differences	(1,035)	(6,308)	(12,958)	–	(20,301)
Closing net carrying amount	3,509,857	7,425,833	988,374	1,524,240	13,448,304
As at 31 December 2020					
Cost	3,509,857	9,876,722	988,374	1,932,329	16,307,282
Accumulated amortisation and impairment	–	(2,450,889)	–	(408,089)	(2,858,978)
Net carrying amount	3,509,857	7,425,833	988,374	1,524,240	13,448,304

(Amounts expressed in thousands of RMB unless otherwise stated)

6 INTANGIBLE ASSETS (CONTINUED)

	Goodwill	Mining rights and others	Mineral exploration rights	Others	Total
Year ended 31 December 2019 (Restated)					
Opening net carrying amount	3,510,633	7,682,383	1,113,959	572,390	12,879,365
Additions	–	467,640	–	687,746	1,155,386
Reclassification	–	115,871	(115,871)	–	–
Disposals	–	–	–	(9)	(9)
Amortisation	–	(294,766)	–	(44,172)	(338,938)
Transfer from property, plant and equipment *(Note 7)*	–	–	–	63,370	63,370
Currency translation differences	259	1,783	3,244	–	5,286
Closing net carrying amount	3,510,892	7,972,911	1,001,332	1,279,325	13,764,460
As at 31 December 2019					
Cost	3,510,892	10,016,634	1,001,332	1,640,081	16,168,939
Accumulated amortisation and impairment	–	(2,043,723)	–	(360,756)	(2,404,479)
Net carrying amount	3,510,892	7,972,911	1,001,332	1,279,325	13,764,460

(Amounts expressed in thousands of RMB
unless otherwise stated)

6 INTANGIBLE ASSETS (CONTINUED)

For the year ended 31 December 2020, the amortisation expenses of intangible assets recognised in profit or loss were analysed as follows:

	31 December 2020	31 December 2019 (Restated)
Cost of sales	**371,616**	294,766
General and administrative expenses	**87,866**	44,172
	459,482	338,938

As at 31 December 2020, the Group has pledged intangible asset with a net carrying value amounting to RMB0.96 million (31 December 2019: RMB757 million) for bank and other borrowings as set out in Note 24 to the financial statements.

As at 31 December 2020, the Group was in the process of applying for the certificates of mining rights with a carrying value amounting to RMB40 million (31 December 2019: RMB51 million). There have been no litigations, claims or assessments against the Group for compensation with respect to the use of these rights to date. As at 31 December 2020, the carrying value of these rights only represented approximately 0.002% of the total asset value of the Group (31 December 2019: approximately 0.02%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group has the rights to use the above mining rights, and that there is no material adverse impact on the overall financial position of the Group.

(Amounts expressed in thousands of RMB unless otherwise stated)

6 INTANGIBLE ASSETS (CONTINUED)

Impairment testing of goodwill

The lowest level within the Group at which goodwill is monitored for internal management purposes is the operating segment before aggregation. Therefore, goodwill is allocated to the Group's CGUs and groups of CGUs that are expected to benefit from the synergies of the relevant business combination. A summary of goodwill allocation is presented below:

	31 December 2020		31 December 2019	
	Alumina	**Primary aluminum**	Alumina	Primary aluminum
Qinghai Branch	**–**	**217,267**	–	217,267
Guangxi Branch	**189,419**	**–**	189,419	–
Lanzhou Aluminum Co,. Ltd	**–**	**1,924,259**	–	1,924,259
PT. Nusapati Prima ("PTNP")	**14,963**	**–**	15,998	–
Shanxi Huaxing	**1,163,949**	**–**	1,163,949	–
	1,368,331	**2,141,526**	1,369,366	2,141,526

The recoverable amount of a CGU is determined based on value-in-use calculations. These calculation of VIU use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the 5-year period are extrapolated using the estimated growth rate of 2% (2019: 2%) not exceeding the long-term average growth rate for the businesses in which the CGU operates. Other key assumptions applied in the impairment testing include future prices of aluminum and alumina and the discount rate. Management determined these key assumptions based on past performance and their expectations on market development. Furthermore, the Group adopts a pre-tax rate of 12.62% (2019: 12.62%) that reflects specific risks related to CGUs and groups of CGUs as the discount rate. The assumptions above are used in analysing the recoverable amounts of CGUs and groups of CGUs within operating segments. These estimates and judgments may be affected by unexpected changes in the future market or economic conditions.

Based on their assessment, there was no impairment of goodwill as at 31 December 2020 and 31 December 2019.

(Amounts expressed in thousands of RMB unless otherwise stated)

7 PROPERTY, PLANT AND EQUIPMENT

	Buildings	Machinery	Transportation facilities	Office and other equipment	Construction in progress	Total
Year ended 31 December 2020						
Opening net carrying amount at 1 Jan 2020 (Restated)	40,777,331	49,487,287	429,581	354,825	12,359,952	103,408,976
Reclassifications and internal transfers	3,301,076	7,114,160	809,433	47,546	(11,272,215)	–
Transfer to intangible assets *(Note 6)*	–	–	–	–	(434,287)	(434,287)
Transfer from right-of-use assets and non-current assets*	–	1,982,812	–	–	–	1,982,812
Transfer to investment properties *(Note 8)*	(78,135)	–	–	–	–	(78,135)
Transfer to other non-current assets	–	–	–	–	(38,430)	(38,430)
Transfer to right-of-use assets *(Note 20)*	(140,254)	–	–	–	(744,887)	(885,141)
Additions	296,395	182,427	48,607	10,659	4,083,231	4,621,319
Business combination	1,290	52,357	(18)	(28)	–	53,601
Government grants	(1,646)	(40,676)	–	–	–	(42,322)
Disposals	(120,386)	(173,789)	(27,145)	(918)	(58,659)	(380,897)
Depreciation	(1,689,768)	(5,315,869)	(96,999)	(49,534)	–	(7,152,170)
Impairment loss	(80,641)	(326,444)	(125)	(558)	(9,073)	(416,841)
Currency translation differences	(103)	(183)	(27)	(19)	–	(332)
Closing net carrying amount	42,265,159	52,962,082	1,163,307	361,973	3,885,632	100,638,153
As at 31 December 2020						
Cost	63,188,254	114,359,882	2,844,604	869,252	4,005,995	185,267,987
Accumulated depreciation and impairment	(20,923,095)	(61,397,800)	(1,681,297)	(507,279)	(120,363)	(84,629,834)
Net carrying amount	42,265,159	52,962,082	1,163,307	361,973	3,885,632	100,638,153

* This includes the right-of-use assets recognised previously under sale and leaseback contracts of RMB1,664 million that were reclassified from property, plant and equipment, upon initial adoption of IFRS 16. After the expiration of those contracts, they were recognised as property, plant and equipment.

(Amounts expressed in thousands of RMB
unless otherwise stated)

7 PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

	Buildings	Machinery	Transportation facilities	Office and other equipment	Construction in progress	Total
As at 31 December 2019 (Restated)						
Opening net carrying amount	38,748,649	47,847,491	537,300	159,291	12,315,564	99,608,295
Reclassifications and internal transfers	3,869,147	5,125,998	(29,181)	207,546	(9,173,510)	–
Government grants	(7,211)	(69,012)	–	–	–	(76,223)
Transfer to right-of-use assets	(107,368)	(495)	–	–	–	(107,863)
Transfer to intangible assets *(Note 6)*	–	–	–	–	(63,370)	(63,370)
Transfer to investment properties *(Note 8)*	(179,564)	–	–	–	–	(179,564)
Transfer from right-of-use assets	–	1,674,260	–	–	–	1,674,260
Additions	576,107	636,555	47,527	12,944	9,351,884	10,625,017
Disposal of subsidiaries	(85,851)	(73,432)	(3,270)	(239)	–	(162,792)
Disposals	(79,280)	(378,817)	(19,672)	(939)	(70,201)	(548,909)
Depreciation	(1,852,041)	(5,121,970)	(103,126)	(23,639)	–	(7,100,776)
Impairment losses	(105,346)	(153,394)	(14)	(185)	(415)	(259,354)
Currency translation differences	89	103	17	46	–	255
Closing net carrying amount	40,777,331	49,487,287	429,581	354,825	12,359,952	103,408,976
As at 31 December 2019						
Cost	60,216,498	101,630,516	2,284,564	830,866	12,511,787	177,474,231
Accumulated depreciation and impairment	(19,439,167)	(52,143,229)	(1,854,983)	(476,041)	(151,835)	(74,065,255)
Net carrying amount	40,777,331	49,487,287	429,581	354,825	12,359,952	103,408,976

(Amounts expressed in thousands of RMB
unless otherwise stated)

7 PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

For the year ended 31 December 2020, depreciation expenses recognised in profit or loss were analysed as follows:

	31 December 2020	31 December 2019 (Restated)
Cost of sales	**6,991,119**	6,930,180
General and administrative expenses	**123,521**	163,989
Research and development expenses	**32,395**	–
Selling and distribution expenses	**5,135**	6,607
	7,152,170	7,100,776

As at 31 December 2020, the Group was in the process of applying for the ownership certificates of buildings with a net carrying value of RMB7,616 million (31 December 2019: RMB7,315 million). There has been no litigations, claims or assessments against the Group for compensation with respect to the use of these buildings as at the date of approval of these financial statements.

As at 31 December 2020, the carrying value of the above buildings only represented approximately 3.65% of the Group's total asset value (31 December 2019: 3.60% (restated)). Management considers that it is probable that the Group will be able to obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group has the rights to use the above property, plant and equipment, and that there is no material adverse impact on the overall financial position of the Group.

For the year ended 31 December 2020, interest expenses of RMB124 million (2019: RMB289 million) (Note 29) arising from borrowings attributable to the construction of property, plant and equipment during the year were capitalised at annual rates ranging from 4.00% to 6.68% (2019: 4.00% to 6.96%) (Note 29), and were included in additions to property, plant and equipment.

7 PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

As at 31 December 2020, the Group has pledged property, plant and equipment at a net carrying value amounting to RMB5,191 million (31 December 2019: RMB4,946 million) for bank and other borrowings as set out in Note 24 to the financial statements.

As at 31 December 2020, the carrying value of temporarily idle property, plant and equipment of the Group was RMB750 million (31 December 2019: RMB952 million).

Impairment testing for property, plant and equipment

When any indicators of impairment are identified, property, plant and equipment are reviewed for impairment based on each CGU. The CGU is an individual plant or entity. The carrying values of these individual plants or entities were compared to the recoverable amounts of the CGUs, which were based predominantly on value-in-use. Value-in-use calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the same cash flow projections of the fifth year. Other key assumptions applied in the impairment testing include the future prices of aluminum and alumina and the discount rate. Management determined these key assumptions based on past performance and their expectations on market development. Further, the Group adopts a pre-tax rate of 10.16% (2019: 10.16%) that reflects specific risks related to the CGUs as discount rate. These estimates and judgments may be affected by unexpected changes in the future market or economic conditions.

In addition to the CGUs for which impairment was tested based on value-in-use, the Group also assessed the recoverable amounts for property, plant and equipment to be disposed or abandoned soon, and recognised impairment losses of RMB417 million in 2020 (2019: RMB259 million).

(Amounts expressed in thousands of RMB
unless otherwise stated)

8 INVESTMENT PROPERTIES

	Buildings	Land use rights	Total
Year ended 31 December 2020			
Opening net carrying amount	414,168	1,089,098	1,503,266
Additions	–	–	–
Transfer from property, plant and equipment *(Note 7)*	78,135	–	78,135
Transfer from right-of-use assets *(Note 20)*	–	45,885	45,885
Disposals	–	(1,005)	(1,005)
Depreciation	(10,814)	(13,591)	(24,405)
Closing net carrying amount	481,489	1,120,387	1,601,876
As at 31 December 2020			
Cost	601,850	1,221,710	1,823,560
Accumulated depreciation and impairment	(120,361)	(101,323)	(221,684)
Net carrying amount	481,489	1,120,387	1,601,876

(Amounts expressed in thousands of RMB unless otherwise stated)

8 INVESTMENT PROPERTIES (CONTINUED)

	Buildings	Land use right	Total
Year ended 31 December 2019			
Opening net carrying amount	235,974	920,032	1,156,006
Additions	44,063	–	44,063
Transfer from property, plant and equipment *(Note 7)*	179,564	–	179,564
Transfer from right-of-use assets *(Note 20)*	–	239,765	239,765
Disposal	(36,949)	(52,537)	(89,486)
Depreciation	(8,484)	(18,075)	(26,559)
Impairment loss	–	(87)	(87)
Closing net carrying amount	414,168	1,089,098	1,503,266
As at 31 December 2019			
Cost	508,705	1,159,343	1,668,048
Accumulated depreciation and impairment	(94,537)	(70,245)	(164,782)
Net carrying amount	414,168	1,089,098	1,503,266

The Group's investment properties consist of land use rights held for rental income and buildings leased to third parties under operating leases.

As at 31 December 2020, the Group was in the process of applying for the ownership certificates of investment properties with a net carrying value of RMB59 million(31 December 2019: RMB255 million). There have been no litigations, claims or assessments against the Group for compensation with respect to the use of these rights to date. As at 31 December 2020, the carrying value of these investment properties only represented approximately 0.03% of the total asset value of the Group (31 December 2019: 0.13%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group has the rights to use the above investment properties, and that there is no material adverse impact on the overall financial position of the Group.

(Amounts expressed in thousands of RMB
unless otherwise stated)

8 INVESTMENT PROPERTIES (CONTINUED)

As at 31 December 2020, the fair value of the buildings was approximately RMB926 million (31 December 2019: RMB1,071 million) which was estimated based on the market price of comparable buildings in the nearby area. The directors of the Company estimated that the fair value of the land use right was approximately RMB1,296 million (31 December 2019: RMB1,269 million), which was determined based on the transaction prices for similar lands nearby.

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES

(a) Investments in joint ventures

Movements in investments in joint ventures are as follows:

	31 December 2020	31 December 2019
As at 1 January	**3,385,582**	3,393,349
Capital injections	**4,333**	50,000
Disposal	**–**	(114,604)
Share of profits for the year	**180,502**	270,115
Share of changes in reserves	**1,491**	8,746
Dividends declared	**(197,355)**	(222,024)
Impairment	**–**	–
As at 31 December	**3,374,553**	3,385,582

As at 31 December 2020, all joint ventures of the Group were unlisted.

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

As at 31 December 2020, particulars of the Group's material joint venture is as follows:

Name	Place of establishment and operation	Registered and paid-in capital	Principal activities	Effective equity interest held: Ownership interest	Voting power	Profit sharing
Guangxi Huayin Aluminum Co.,Ltd. *("Guangxi Huayin") (廣西華銀鋁業有限公司)	PRC/Mainland China	2,441,987	Manufacturing	33%	33%	33%

* Guangxi Huayin, which is considered a material joint venture of the Group, is accounted for using the equity method.

The English names represent the best effort by management of the Group in translating the Chinese names of the companies as they do not have official English names.

(Amounts expressed in thousands of RMB
unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

The following table illustrates the summarised financial information in respect of Guangxi Huayin:

	31 December 2020	31 December 2019 (Restated)
Cash and cash equivalents	**247,680**	261,447
Other current assets	**970,096**	1,222,290
Current assets	**1,217,776**	1,483,737
Non-current assets	**5,361,592**	5,249,101
Financial liabilities	**750,000**	1,106,593
Other current liabilities	**772,700**	960,077
Current liabilities	**1,522,700**	2,066,670
Non-current liabilities	**580,419**	414,299
Net assets	**4,476,249**	4,251,869

(Amounts expressed in thousands of RMB unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

	31 December 2020	31 December 2019 (Restated)
Reconciliation to the Group's interest in the joint venture:		
Proportion of the Group's ownership	**33.00%**	33.00%
Group's share of net assets of the joint venture	**1,477,162**	1,403,117
Carrying amount of the investment	**1,477,162**	1,403,117
Revenue	**4,631,737**	5,226,893
Gross profit	**800,965**	1,303,254
Interest income	**7,388**	9,781
Depreciation and amortisation	**531,512**	525,109
Interest expenses	**51,855**	63,351
Profit before income tax	**195,189**	621,315
Income tax	**21,152**	79,300
Other comprehensive income	**–**	–
Total comprehensive income for the year	**174,037**	542,015
Dividend received	**99,000**	198,000

(Amounts expressed in thousands of RMB
unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

The following table illustrates the aggregate financial information of the Group's joint ventures that are not individually material:

	31 December 2020	31 December 2019
Share of the joint ventures' profits for the year	**121,120**	91,250
Share of the joint ventures' total comprehensive income	**121,120**	91,250
Aggregate carrying amount of the Group's investments in joint ventures	**1,897,391**	1,870,538

There were no material contingent liabilities relating to the Group's interests in the joint ventures and the joint ventures themselves.

(Amounts expressed in thousands of RMB unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates

Movements in investments in associates are as follows:

	31 December 2020	31 December 2019
As at 1 January	**9,512,401**	6,363,462
Investment to Yunnan Aluminum	**–**	1,491,736
Investment to Heqing Yixin Aluminum Industry Co.,Ltd. (鶴慶溢鑫鋁業有限公司) ("Yixin Aluminum")	**–**	941,160
Capital injections, other than to Yunnan Aluminum and Yixin Aluminum	**–**	729,368
Subsidiaries changed into associates	**7,473**	16,283
Capital reduction	**(14,850)**	(20,250)
Share of profits for the year	**145,737**	48,767
Dividends declared	**(480,397)**	(50,314)
Share of changes in reserves	**3,046**	(7,811)
As at 31 December	**9,173,410**	9,512,401

As at 31 December 2020, except for Yunnan Aluminium, all associates of the Group were unlisted.

As at 31 December 2020, no associate was individually material to the Group except for Yunnan Aluminum.

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates (Continued)

As at 31 December 2020, particulars of the Group's material associate is as follows:

Name	Place of establishment and operation	Registered and paid-in capital	Principal activities	Effective equity interest held Ownership interest	Voting power	Profit sharing
Yunnan Aluminum	PRC/Mainland China	3,128,207	Manufacturing	10.04%	10.04%	10.04%

Yunnan Aluminum, which is considered a material associate of the Group, is accounted for using the equity method.

The English names represent the best effort by management of the Group in translating the Chinese names of the companies as they do not have official English names.

(Amounts expressed in thousands of RMB
unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates (Continued)

The following table illustrates the summarised financial information in respect of Yunnan Aluminum:

	31 December 2020	31 December 2019
Cash and cash equivalents	**1,186,778**	4,052,271
Other current assets	**4,848,942**	5,081,477
Current assets	**6,035,720**	9,133,748
Non-current assets	**39,960,249**	35,706,818
Financial liabilities	**5,632,439**	8,502,318
Other current liabilities	**11,728,170**	12,012,348
Current liabilities	**17,360,609**	20,514,666
Non-current liabilities	**10,658,126**	7,254,037
Net assets	**17,977,234**	17,071,863
Non-controlling interests	**2,504,346**	2,213,934

(Amounts expressed in thousands of RMB unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates (Continued)

	31 December 2020	31 December 2019
Reconciliation to the Group's interest in the associate:		
Proportion of the Group's ownership	**10.04%**	10.04%
Group's share of net assets of the associate	**1,553,478**	1,491,736
Carrying amount of the investment	**1,553,478**	1,491,736
Revenue	**29,567,864**	24,283,623
Gross profit	**4,084,535**	3,241,005
Interest income	**35,345**	46,865
Depreciation and amortisation	**1,571,308**	1,381,066
Interest expenses	**649,600**	945,786
Profit before income tax	**1,032,497**	596,546
Income tax	**122,384**	51,340

(Amounts expressed in thousands of RMB unless otherwise stated)

9 INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates (Continued)

	31 December 2020	31 December 2019
Other comprehensive income	**(36,602)**	28,183
Total comprehensive income for the year	**873,511**	573,389
Dividend received	**–**	–

The following table illustrates the aggregate financial information of the Group's associates that are not individually material:

	31 December 2020	31 December 2019 (Restated)
Share of the associates' profits	**83,518**	48,767
Share of the associates' total comprehensive income	**83,518**	48,767
Aggregate carrying amount of the Group's investments in the associates	**7,619,932**	8,020,665

There were no material contingent liabilities relating to the Group's interests in the associates and the associates themselves.

As at 31 December 2020, the Group had pledged investments in associates amounting to RMB396 million (31 December 2019: RMB539 million) as set out in Note 24 to the financial statements.

(Amounts expressed in thousands of RMB unless otherwise stated)

10 OTHER FINANCIAL ASSETS MEASURED AT FAIR VALUE

	31 December 2020	31 December 2019
Listed equity investments, at fair value		
Dongxing securities Co., Ltd.(東興證券股份有限公司)	**8,812**	8,853
Unlisted equity investments, at fair value		
Sanmenxia Dachang Mining Co., Ltd.(三門峽達昌礦業有限公司)	**20,921**	20,905
Inner Mongolia Ganqimaodu Port Development Co., Ltd.(內蒙古甘其毛都港務發展股份有限公司)	**16,669**	30,410
Yinchuan Economic and Technological Development Zone Investment Holding Co., Ltd. (銀川經濟技術開發區投資控股有限公司)	**17,234**	20,000
China Color International Alumina Development Co., Ltd.(中色國際氧化鋁開發有限公司)	**6,636**	6,614
Luoyang Jianyuan Mining Co., Ltd. (洛陽建元礦業有限公司)	**4,975**	4,960
NingXia Electric Power Trading Center Co., Ltd(寧夏電力交易中心有限公司)	**4,305**	–
Ningxia Ningdian Logistics Transportation Co., Ltd.(寧夏寧電物流運輸有限公司)	**1,641**	1,640
Chinalco Innovative Development Investment Company Limited ("Chinalco Innovative") (中鋁創新開發投資有限公司)	**329,234**	365,681
Size Industry Investment Fund (Note)	**980,498**	1,653,251
Fangchenggang Chisha Pier Co., Ltd.(防城港赤沙碼頭有限公司)	**700**	700
Xingxian Shengxing Highway Investment Management Co., Ltd. (興縣盛興公路投資管理有限公司)	**135,079**	126,237
	1,517,891	2,230,398
	1,526,703	2,239,251

The above equity investments were irrevocably designated at fair value through other comprehensive income as the Group considers these investments to be strategic in nature.

Note:

During the year ended 31 December 2020, size Industry Investment Fund repaid capital of RMB700 million, and dividend income of RMB82 million. The remaining capital balance was all repaid in February 2021

(Amounts expressed in thousands of RMB
unless otherwise stated)

11 DEFERRED TAX

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current income tax assets against current income tax liabilities and when the deferred taxes relate to the same tax authority.

The movements in deferred tax assets and liabilities during the year ended 31 December 2020 without taking into consideration the offsetting of balances within the same tax jurisdiction, are as follows:

Movements in deferred tax assets:

	Provision for impairment	Accrued expenses	Tax losses	Unrealised profit at consolidation	Others	Total
As at 31 December 2018	385,843	242,370	616,237	169,876	182,370	1,596,696
Business combination under common control	71	270	–	–	5	346
As at 1 January 2019 (Restated)	385,914	242,640	616,237	169,876	182,375	1,597,042
Acquisition of subsidiaries	190	(31)	–	–	7	166
Credit/(charged) to profit or loss	59,218	(33,214)	(40,047)	(521)	(2,955)	(17,519)
As at 31 December 2019	445,322	209,395	576,190	169,355	179,427	1,579,689
As at 1 January 2020	**445,322**	**209,395**	**576,190**	**169,355**	**179,427**	**1,579,689**
Acquisition of subsidiaries	**–**	**–**	**–**	**–**	**36**	**36**
Credit/(charged) to profit or loss	**65,196**	**(99,810)**	**(105,811)**	**56,731**	**51,116**	**(32,578)**
As at 31 December 2020	**510,518**	**109,585**	**470,379**	**226,086**	**230,579**	**1,547,147**

(Amounts expressed in thousands of RMB
unless otherwise stated)

11 DEFERRED TAX (CONTINUED)

Movements in deferred tax liabilities:

	Interest capitalisation	Fair value changes of financial assets	Depreciation and amortisation	Fair value adjustments arising from acquisition of subsidiaries	total
As at 1 January 2019	43,832	5,606	32,489	1,784,919	1,866,846
Exchange realignment	–	–	–	416	416
Credited to other comprehensive income	–	14,642	–	–	14,642
Credited to profit or loss	(5,825)	(12,517)	(8,616)	(85,247)	(112,205)
As at 31 December 2019	38,007	7,731	23,873	1,700,088	1,769,699
As at 1 January 2020	**38,007**	**7,731**	**23,873**	**1,700,088**	**1,769,699**
Exchange realignment	**–**	**–**	**–**	**(1,406)**	**(1,406)**
Charged to other comprehensive income	**–**	**(3,066)**	**–**	**–**	**(3,066)**
Acquisition of subsidiaries	**–**	**–**	**–**	**1,274**	**1,274**
Credited/(charged) to profit or loss	**(12,167)**	**4,235**	**13,234**	**(268,804)**	**(263,502)**
As at 31 December 2020	**25,840**	**8,900**	**37,107**	**1,431,152**	**1,502,999**

The temporary differences associated with investments in the Group's associates and joint ventures, for which a deferred tax liability has not been recognised in the periods presented, aggregate to RMB317 million (2019: RMB827 million), considering dividends from investments in associates and joint ventures are exempted from the PRC income tax and the Group has no plan to dispose any of these investees in the foreseeable future.

(Amounts expressed in thousands of RMB
unless otherwise stated)

11 DEFERRED TAX (CONTINUED)

For presentation purposes, certain deferred tax assets and liabilities have been offset in the consolidated statement of financial position. The following is an analysis of the deferred tax balances of the Group for financial reporting purposes:

	31 December 2020	31 December 2019 (Restated)
Net deferred tax assets	**1,481,235**	1,522,729
Net deferred tax liabilities	**1,437,087**	1,712,739

As at 31 December 2020, the Group has not recognised deferred tax assets of RMB1,514 million (31 December 2019: RMB1,467 million) in respect of accumulated tax losses amounting to RMB6,593 million (31 December 2019: RMB6,210 million) arising in Mainland China that can be carried forward for offsetting against future taxable income, and deferred tax assets of RMB2,032 million (31 December 2019: RMB2,287 million) in respect of deductible temporary differences amounting to RMB8,848 million (31 December 2019: RMB9,160 million) as it was considered not probable that those assets would be realised.

As at 31 December 2020, the expiry profile of these tax losses not recognised for deferred tax assets was analysed as follows:

	31 December 2020	31 December 2019 (Restated)
Expiring in		
2020	**–**	690,646
2021	**213,992**	958,188
2022	**795,012**	1,211,002
2023	**882,156**	997,376
2024	**2,110,447**	2,353,070
2025	**2,591,903**	–
	6,593,510	6,210,282

(Amounts expressed in thousands of RMB
unless otherwise stated)

12 OTHER NON-CURRENT ASSETS

	31 December 2020	31 December 2019 (Restated)
Financial assets		
– Long-term receivables	**127,754**	128,673
Prepayment for mining rights	**809,722**	813,822
Long-term prepaid expenses	**654,291**	650,062
Deferred losses for sale and leaseback transactions*	**396,368**	766,546
Others	**1,177,785**	849,819
	3,038,166	3,080,249
	3,165,920	3,208,922

* As disclosed in Note 20, the Group entered into several sale and leaseback agreements which constitute finance leases in previous years. The deferred losses arising from the sale are classified as other non-current assets and were amortised over the useful lives of the assets leased back.

As at 31 December 2020 and 31 December 2019, long-term receivables were denominated in RMB and non-interest-bearing.

(Amounts expressed in thousands of RMB unless otherwise stated)

13 INVENTORIES

	31 December 2020	31 December 2019 (Restated)
Raw materials	**7,450,822**	6,825,871
Work-in-progress	**7,290,838**	7,847,599
Finished goods	**4,830,076**	4,501,633
Spare parts	**789,136**	842,734
Packaging materials and others	**25,709**	57,870
	20,386,581	20,075,707
Less: provision for impairment of inventories	**(529,827)**	(560,066)
	19,856,754	19,515,641

Movements in the provision for impairment of inventories are as follows:

	31 December 2020	31 December 2019 (Restated)
As at 1 January	**560,066**	811,197
Provision for impairment of inventories	**1,492,153**	1,503,406
Disposal of subsidiary	**–**	(772)
Reversal arising from increase in net realisable value	**(170,766)**	(340,134)
Written off upon sales of inventories	**(1,351,626)**	(1,413,631)
As at 31 December	**529,827**	560,066

As at 31 December 2020 and 31 December 2019, no inventories were pledged for any borrowings.

(Amounts expressed in thousands of RMB
unless otherwise stated)

14 TRADE RECEIVABLES AND NOTES RECEIVABLE

	31 December 2020	31 December 2019 (Restated)
Trade receivables	**5,680,558**	5,290,178
Less: impairment	**(933,563)**	(715,597)
	4,746,995	4,574,581
Notes receivable	**4,546,223**	2,844,637
	9,293,218	7,419,218

As at 31 December 2020, other than trade and notes receivables amounting to RMB685 million denominated in USD (31 December 2019: RMB1,111 million which were denominated in USD), all other trade and notes receivables were denominated in RMB.

Trade and notes receivables due from the Group's joint ventures and associates amounted to RMB800 million (31 December 2019: RMB788 million) and RMB17 million (31 December 2019: RMB0.03 million), respectively, which are payable on credit terms comparable to those offered to the major customers of the Group.

As at 31 December 2020, the Group pledged notes receivable amounting to RMB1,499 million (31 December 2019: RMB667 million) as set out in Note 24 to the financial statements.

(Amounts expressed in thousands of RMB unless otherwise stated)

14 TRADE RECEIVABLES AND NOTES RECEIVABLE (CONTINUED)

Trade receivables and notes receivable are non-interest-bearing and generally with credit terms of 3 to 12 months. Certain of the Group's sales were on advance payments or documents against payment. In some cases, these terms are extended for qualifying long term customers that have met specific credit requirements. As at 31 December 2020, the ageing analysis of trade receivables based on invoice date was as follows:

	For the year ended 31 December	
	2020	2019 (Restated)
Within 1 year	**2,978,123**	2,923,616
Between 1 and 2 years	**1,031,050**	742,477
Between 2 and 3 years	**183,288**	377,836
Over 3 years	**1,488,097**	1,246,249
	5,680,558	5,290,178
Less: loss allowance for impairment	**(933,563)**	(715,597)
	4,746,995	4,574,581

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates are based on days past due for groups of various customer segments with similar loss patterns (i.e., by geographical region, product type, customer type and rating, and coverage by letters of credit or other forms of credit insurance). The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions The Group also assesses impairment loss individually if there is evidence of significant increases in credit risk at an individual level..

(Amounts expressed in thousands of RMB
unless otherwise stated)

14 TRADE RECEIVABLES AND NOTES RECEIVABLE (CONTINUED)

Set out below is the information about the credit risk exposure on the Group's trade receivables using a provision matrix:

	As at 31 December 2020		
	Gross carrying amount	Expected credit losses	Expected credit losses loss rate(%)
Alumina and primary aluminum			
Within 1 year	**245,345**	**7,104**	**2.90**
Between 1 and 2 years	**126,165**	**12,084**	**9.58**
Between 2 and 3 years	**13,153**	**2,325**	**17.68**
Over 3 years	**108,590**	**103,207**	**95.04**
	493,253	**124,720**	**/**
Trading			
Within 1 year	**401,267**	**9,753**	**2.43**
Between 1 and 2 years	**1,132**	**110**	**9.72**
Between 2 and 3 years	**–**	**–**	**/**
Over 3 years	**4,660**	**4,635**	**99.46**
	407,059	**14,498**	**/**
Energy			
Within 1 year	**231,232**	**1,204**	**0.52**
Between 1 and 2 years	**33,024**	**1,710**	**5.18**
Between 2 and 3 years	**28,177**	**4,806**	**17.06**
Over 3 years	**47,084**	**44,493**	**94.50**
	339,517	**52,213**	**/**

(Amounts expressed in thousands of RMB unless otherwise stated)

14 TRADE RECEIVABLES AND NOTES RECEIVABLE (CONTINUED)

	As at 31 December 2020		
	Gross carrying amount	**Expected credit losses**	**Expected credit losses loss rate(%)**
Corporate and other operating segments			
Within 1 year	**22,600**	**1,774**	**7.85**
Between 1 and 2 years	**2,339**	**635**	**27.15**
Between 2 and 3 years	**13,320**	**5,010**	**37.61**
Over 3 years	**1,593**	**1,346**	**84.49**
	39,852	**8,765**	**/**
	1,279,681	**200,196**	
Individually assessed trade receivables	**4,400,877**	**733,367**	
	5,680,558	**933,563**	

(Amounts expressed in thousands of RMB
unless otherwise stated)

14 TRADE RECEIVABLES AND NOTES RECEIVABLE (CONTINUED)

Set out below is the information about individually assessed trade receivables:

	As at 31 December 2020		
	Gross carrying amount	Expected credit losses	Expected credit losses loss rate(%)
State Grid Ningxia Electric Power Company	**2,077,715**	**5,704**	**0.27**
China Aluminum ZiBo International Trading Co.,Ltd	**727,682**	**–**	**–**
Zhuhai Hongfan nonferrous metal Chemical Co., Ltd	**270,419**	**270,419**	**100.00**
Wiseson Resources (Singapore) PTE., LTD	**266,345**	**266,345**	**100.00**
Aluminum Industry Co., Ltd., Luoyang, Henan	**247,163**	**10,005**	**4.05**
Xinjiang Jiarun Resources Holdings Co., Ltd.	**230,189**	**–**	**–**
Inner Mongolia Power (Group) Co., Ltd.	**214,471**	**506**	**0.24**
Guizhou Jinpingguo Aluminum Rod Co., Ltd.	**111,138**	**65,946**	**59.34**
Others	**255,755**	**114,442**	**44.75**
	4,400,877	**733,367**	**/**

The Group has no individual provision for impairment of notes receivables. The Group measures the provision for loss on the basis of expected credit losses. The Group considers that notes receivables are not exposed to significant credit risk and has limited default risk.

Movements in the loss allowance for impairment of trade receivables are as follows:

	31 December 2020	31 December 2019 (Restated)
As at 1 January	**715,597**	659,261
Impairment loss	**403,633**	237,504
Write off	**(122,786)**	(97,554)
Reversal	**(64,661)**	(83,095)
Others	**1,780**	481
As at 31 December	**933,563**	716,597

(Amounts expressed in thousands of RMB unless otherwise stated)

15 OTHER CURRENT ASSETS

	31 December 2020	31 December 2019 (Restated)
Financial assets		
– Deposits paid to suppliers	**558,073**	501,918
– Dividends receivable	**412,736**	58,092
– Receivables from disposal of assets	**20,950**	1,969,833
– Entrusted loans and loans receivable from third parties	**1,530,452**	1,544,070
– Entrusted loans and loans receivable from related parties	**1,264,423**	1,309,095
– Interest receivables	**39,531**	40,936
– Recoverable reimbursement for freight charges	**283,460**	223,884
– Receivable of electricity price adjustment	**494,595**	619,206
– Receivable from disposal of aluminium capacity quota	**538,655**	–
– Other financial assets	**1,064,763**	1,093,480
	6,207,638	7,360,514
Less: impairment allowance	**(2,224,511)**	(1,696,735)
	3,983,127	5,663,779
Advances to employees	**17,043**	17,207
Deductible input value added tax receivables	**1,379,288**	2,424,648
Prepaid income tax	**116,574**	93,093
Prepayments to related parties for purchases	**79,435**	229,324
Prepayments to suppliers for purchases and others	**725,776**	635,363
Others	**49,598**	118,100
	2,367,714	3,517,735
Less: impairment allowance	**(1,621)**	(2,715)
	2,366,093	3,515,020
Total other current assets	**6,349,220**	9,178,799

(Amounts expressed in thousands of RMB
unless otherwise stated)

15 OTHER CURRENT ASSETS (CONTINUED)

As at 31 December 2020, except for amounts included in other current assets amounting to RMB152 million, which were denominated in USD (31 December 2019: other current assets amounting to RMB37 million denominated in USD), remaining amounts in other current assets were denominated in RMB.

As at 31 December 2020, except for entrusted loans and loans receivable (31 December 2019: except for entrusted loans and loans receivable) which were interest-bearing assets, all amounts in other current assets were non-interest-bearing (31 December 2019: all non-interest-bearing).

As at 31 December 2020, the ageing analysis of financial assets included in other current assets was as follows:

	31 December 2020	31 December 2019 (Restated)
Within 1 year	**2,386,289**	1,443,338
Between 1 and 2 years	**142,887**	882,798
Between 2 and 3 years	**191,228**	151,974
Over 3 years	**3,487,234**	4,882,404
	6,207,638	7,360,514
Less: provision for impairment	**(2,224,511)**	(1,696,735)
	3,983,127	5,663,779

(Amounts expressed in thousands of RMB unless otherwise stated)

15 OTHER CURRENT ASSETS (CONTINUED)

Movements in the provision for impairment in other current assets are as follows:

	2020	2019 (Restated)
At beginning of year	**1,699,450**	1,744,503
Impairment loss	**656,873**	42,897
Write off	**(113,180)**	(62,318)
Reversal	**(17,011)**	(26,290)
Others	**–**	658
As at 31 December	**2,226,132**	1,699,450

Financial assets included in other current assets at amortised cost are subject to impairment under the general approach and they are classified within the following stages for measurement of ECLs.

As at 31 December 2019 (Restated)	**Gross carrying amount**	**Expected credit losses**
Stage 1 – 12 months expected credit loss	**2,218,891**	**5,961**
Stage 2 – life time expected credit loss	**578,213**	**14,966**
Stage 3 – life time expected credit loss with credit-impaired	**3,410,534**	**2,203,584**
	6,207,638	**2,224,511**

(Amounts expressed in thousands of RMB
unless otherwise stated)

15 OTHER CURRENT ASSETS (CONTINUED)

As at 31 December 2019	Gross carrying amount	Expected credit losses
Stage 1 – 12 months expected credit loss	1,524,602	–
Stage 2 – life time expected credit loss	4,097,994	82,070
Stage 3 – life time expected credit loss with credit-impaired	1,737,918	1,614,665
	7,360,514	1,696,735

16 CASH AND CASH EQUIVALENTS AND RESTRICTED CASH

	31 December 2020	31 December 2019 (Restated)
Restricted cash	**1,056,037**	1,305,781
Cash and cash equivalents	**9,631,152**	7,778,853
	10,687,189	9,084,634

Reconciliation to the consolidated statement of cash flow:

The above figures reconcile to the amount of cash and cash equivalent shown in the consolidated statement of cash flows at the end of the financial year as follows:

	31 December 2020	31 December 2019 (Restated)
Balances shown in the consolidated balance sheet	**9,631,152**	7,778,853
Bank overdrafts	**(899,955)**	–
Balances per consolidated statement of cash flows	**8,731,197**	7,778,853

(Amounts expressed in thousands of RMB
unless otherwise stated)

16 CASH AND CASH EQUIVALENTS AND RESTRICTED CASH (CONTINUED)

Restricted cash mainly represented deposits held for use in issued notes payable and letters of credit.

As at 31 December 2020, cash and cash equivalent and restricted cash of the Group were denominated in the following currencies:

	31 December 2020	31 December 2019 (Restated)
RMB	**9,581,174**	7,878,530
USD	**1,095,713**	1,195,720
HKD	**2,763**	4,423
EUR	**2,055**	1,943
Others	**5,484**	4,018
	10,687,189	9,084,634

Cash at banks earns interest at floating rates based on daily bank deposit rates. The bank balances, time deposits and restricted cash are deposited with creditworthy banks with no recent history of default.

17 SHARE CAPITAL

As at 31 December 2019 and 31 December 2020, all issued shares were registered and fully paid. Both A shares and H shares rank pari passu with each other.

The number of the Company's authorised and issued ordinary shares was 17,022,672,951 at par value of RMB1.00 per share as at 31 December 2020.

(Amounts expressed in thousands of RMB
unless otherwise stated)

18 RESERVES

The amounts of the Group's reserves and the movements therein for the current and prior years are presented in the consolidated statement of changes in equity of the financial statements.

19 INTEREST-BEARING LOANS AND BORROWINGS

	31 December 2020	31 December 2019 (Restated)
Long-term loans and borrowings		
Lease liabilities *(Note 20)*	**7,086,151**	8,369,262
Medium-term notes and bonds *(Note (b))*		
– Unsecured	**18,975,379**	16,736,755
Long-term bank and other loans *(Note (a))*		
– Secured *(Note (f))*	**9,216,299**	13,254,721
– Guaranteed *(Note (e))*	**4,846,446**	3,948,400
– Unsecured	**28,951,819**	21,632,766
	43,014,564	38,835,887
Total long-term loans and borrowings	**69,076,094**	63,941,904
Current portion of lease liabilities *(Note 20)*	**(828,272)**	(1,358,654)
Current portion of medium-term notes and bonds	**(7,100,711)**	–
Current portion of long-term bank and other loans	**(3,629,014)**	(3,339,687)
	(11,557,997)	(4,698,341)
Non-current portion of long-term loans and borrowings	**57,518,097**	59,243,563

(Amounts expressed in thousands of RMB
unless otherwise stated)

19 INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

	31 December 2020	31 December 2019 (Restated)
Short-term loans and borrowings		
Bank and other loans *(Note (c))*		
– Secured *(Note (f))*	**863,738**	465,000
– Guaranteed *(Note (e))*	**50,000**	–
– Unsecured*	**19,824,292**	20,773,166
	20,738,030	21,238,166
Short-term bonds, unsecured *(Note (d))*	**2,411,256**	9,331,488
Gold leasing arrangements	**–**	7,018,609
Current portion of lease liabilities *(Note 20)*	**828,272**	1,358,654
Current portion of medium-term notes	**7,100,711**	–
Current portion of long-term bank and other loans	**3,629,014**	3,339,687
	13,969,253	21,048,438
Total short-term borrowings and current portion of long-term loans and borrowings	**34,707,283**	42,286,604

As at 31 December 2020, except for loans and borrowings of the Group amounting to RMB15 million (31 December 2019: RMB17 million) and RMB1,312 million (31 December 2019: RMB4,006 million) which were denominated in JPY and USD, respectively, all loans and borrowings were denominated in RMB.

As at 31 December 2020, included in the Group's interest-bearing loans and borrowings are amounts due to subsidiaries of Chinalco RMB4,229 million (31 December 2019: RMB4,181 million), as set out in Note 36(b). There were no interest-bearing loans and borrowings obtained from joint ventures and associates as at 31 December 2020 and 2019.

(Amounts expressed in thousands of RMB unless otherwise stated)

19 INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

As at 31 December 2020, Shangdong Huayu Alloy Materials Co. Ltd. ("Shangdong Huayu"), a subsidiary of the Company did not repay short-term secured bank loans with principal amount of RMB583 million, which resulted in an event of default. In October 2020, the lending bank has applied to and obtained approval from the Intermediate Court of Linyi City, Shangdong Province ("Linyi Court") of enforcing their rights through selling Shangdong Huayu's transferrable quota eligible for production of 135,000 tons aluminium products in the PRC through public tender. Yunnan Aluminium, an associate of RMB539 million. The consideration in cash was received by Linyi Court before the year end, which will be transferred to the lending banks for repayment of the bank loans.

Note:

(a) Long-term bank and other loans

(i) The maturity of long-term bank and other loans is set out below:

	Loans from banks and other financial institutions		Other loans		Total of long-term bank and other loans	
	31 December 2020	31 December 2019 2020 (Restated)	**31 December 2019**	31 December 2020 (Restated)	**31 December 2019**	31 December 2019 (Restated)
Within 1 year	**3,626,564**	3,337,202	**2,450**	2,485	**3,629,014**	3,339,687
Between 1 and 2 years	**6,700,237**	7,523,290	**2,450**	2,485	**6,702,687**	7,525,775
Between 2 and 5 years	**15,630,739**	9,151,573	**7,350**	7,455	**15,638,089**	9,159,028
Over 5 years	**17,042,324**	18,806,428	**2,450**	4,969	**17,044,774**	18,811,397
	42,999,864	38,818,493	**14,700**	17,394	**43,014,564**	38,835,887

(ii) Other loans were provided by local bureaus of the Ministry of Finance to the Group. The weighted average annual interest rate of long-term bank and other loans for the year ended 31 December 2020 was 4.9% (2019: 5.2%).

(Amounts expressed in thousands of RMB unless otherwise stated)

19 INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Note: (Continued)

(b) Medium-term notes and bonds

Outstanding medium-term bonds and private placement notes of the Group as at 31 December 2020 are summarised as follows:

	Face value (RMB)/maturity	**Effective interest rate**	**31 December 2020**	31 December 2019
2018 Medium-term notes	2,000,000/2021	5.84%	**1,998,802**	1,992,339
2019 Medium-term bonds	2,000,000/2024	4.31%	**1,985,264**	1,982,228
2018 Medium-term bonds	1,100,000/2021	4.66%	**1,099,284**	1,098,218
2018 Medium-term bonds	900,000/2023	5.06%	**898,807**	898,315
2018 Medium-term bonds	1,400,000/2021	4.30%	**1,398,160**	1,397,319
2018 Medium-term bonds	1,600,000/2023	4.57%	**1,597,071**	1,596,192
2019 Medium-term bonds	2,000,000/2022	3.84%	**1,999,196**	1,998,604
2019 Medium-term bonds	1,000,000/2022	3.50%	**1,997,265**	1,997,097
2019 Medium-term bonds	900,000/2023	4.99%	**999,623**	999,462
2020 Medium-term bonds	900,000/2023	3.04%	**897,972**	–
2020 Medium-term bonds	500,000/2025	3.31%	**499,853**	–
2020 Medium-term bonds	1,000,000/2023	3.07%	**999,617**	–
2018 Hong Kong Medium-term bonds	2,785,840/2021	5.25%	**2,604,466**	2,776,981
			18,975,379	16,736,755

Medium-term notes and bonds were issued for capital expenditure and operating cash flows purposes, as well as for the purpose of re-financing of bank loans.

(c) Short-term bank and other loans

Other loans were entrusted loans provided by state-owned companies to the Group.

The weighted average annual interest rate of short-term bank and other loans for the year ended 31 December 2020 was 3.46% (2019: 4.29%).

(Amounts expressed in thousands of RMB
unless otherwise stated)

19 INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Note: (Continued)

(d) Short-term bonds

Outstanding short-term bonds as at 31 December 2020 are summarised as follows:

	Face value (RMB)/maturity	**Effective interest rate**	**31 December 2020**	31 December 2019 (Restated)
Ningxia short-term bonds	300,000/2020	3.97%	–	300,000
Short-term bonds	1,000,000/2020	2.45%	–	1,008,161
Short-term bonds	2,000,000/2020	2.63%	–	2,013,127
Short-term bonds	3,000,000/2020	2.00%	–	3,008,384
Short-term bonds	3,000,000/2020	2.30%	–	3,001,816
Short-term bonds	500,000/2021	1.40%	**501,781**	–
Short-term bonds	1,000,000/2021	2.30%	**1,002,925**	–
Short-term bonds	500,000/2021	1.20%	**500,553**	–
Short-term bonds	400,000/2021	2.46%	**405,997**	–
			2,411,256	9,331,488

All the above short-term bonds were issued for working capital needs.

(Amounts expressed in thousands of RMB unless otherwise stated)

19 INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Note: (Continued)

(e) Guaranteed interest-bearing loans and borrowings

Details of the interest-bearing loans and borrowings in which the Group received guarantees are set out as follows:

Guarantors	31 December 2020	31 December 2019
Long-term loans		
Yinyi Fengdian, Neimenggu, Alashan *(Note (iv))*	**144,000**	150,000
Ningxia Energy *(Note (i))*	**1,134,400**	1,274,400
Yinxing Energy *(Note (i))*	**19,000**	46,000
Baotou Aluminum Limited Company (包頭鋁業有限公司) and Baotou Communications Investment Group Limited Company (包頭交通投資集團有限公司) *(Note (ii))*	**1,137,500**	1,250,000
The Company and Hangzhou Jinjiang Group Limited Company (“Hangzhou Jinjiang”, 杭州錦江集團有限公司) *(Note (iii))*	**–**	10,000
Hangzhou Jinjiang *(Note (v))*	**–**	123,500
Qingzhen Industrial Investment Co.,Ltd. (清鎮市工業投資有限公司) (Note (v))	**–**	47,250
Guizhou Industrial Investment Group Co.,Ltd. (貴州產業投資集團有限責任公司) *(Note (v))*	**–**	47,250
The Company	**2,411,546**	1,000,000
	4,846,446	3,948,400
Short-term loans		
Ningxia Energy *(Note (i))*	**50,000**	–
	4,896,446	3,948,400

Notes:

(i) The guarantor is a subsidiary of the Company.

(ii) The guarantors are a subsidiary of the Company and a third party respectively.

(iii) The guarantors are the Company and a third party respectively.

(iv) The guarantors are subsidiaries of the Company.

(v) The guarantor is a third party.

* The English names represent the best effort by management of the Group in translating the Chinese names of the Companies as they do not have any official English names.

(f) The assets pledged for secured bank and other borrowings were set out in Note 24 to the financial statements.

(Amounts expressed in thousands of RMB unless otherwise stated)

20 LEASE

The Group as a lessee

The Group has lease contracts for various items of plant and machinery, motor vehicles and other equipment used in its operations. Lump sum payments were made upfront to acquire the leased land from the owners with lease periods of 20 to 30 years, and no ongoing payments will be made under the terms of these land leases. Leases of plant and machinery generally have lease terms between 3 and 5 years, while motor vehicles generally have lease terms between 2 and 5 years. Other equipment generally has lease terms of 12 months or less and/or is individually of low value. Generally, the Group is restricted from assigning and subleasing the leased assets outside the Group. There are several lease contracts that include extension and termination options and variable lease payments, which are further discussed below.

(a) Right-of-use assets

The carrying amounts of the Group's right-of-use assets and the movements during 2020 and 2019 are as follows:

	Buildings	Machinery	Land use rights	Total
As at 1 January 2020	**287,255**	**3,756,305**	**11,846,877**	**15,890,437**
Additions	**15,023**	**8,831**	**52,925**	**76,779**
Transfer from property, plant and equipment *(Note 7)*	**–**	**–**	**885,141**	**885,141**
Contract modification	**(12,317)**	**–**	**(43,496)**	**(55,813)**
Transfer to property, plant and equipment	**–**	**(1,663,686)**	**–**	**(1,663,686)**
Transfer to investment properties *(Note 8)*	**–**	**–**	**(45,885)**	**(45,885)**
Disposal	**–**	**–**	**(15,792)**	**(15,792)**
Depreciation	**(54,792)**	**(321,464)**	**(391,297)**	**(767,553)**
Impairment	**–**	**(15,790)**	**–**	**(15,790)**
As at 31 December 2020	**235,169**	**1,764,196**	**12,288,473**	**14,287,838**

(Amounts expressed in thousands of RMB unless otherwise stated)

20 LEASE (CONTINUED)

The Group as a lessee (Continued)

(a) Right-of-use assets (Continued)

	Buildings	Machinery	Land use rights	Total
As at 1 January 2019	396,499	6,128,291	11,452,061	17,976,851
Additions	21,203	11,606	1,215,049	1,247,858
Transfer to investment properties *(Note 8)*	–	–	(239,765)	(239,765)
Transfer to property, plant and equipment *(Note 7)*	–	(1,674,260)	–	(1,674,260)
Government grants	–	(107,441)	–	(107,441)
Contract modification	(45,507)	–	(137,358)	(182,865)
Disposals	–	–	(52,668)	(52,668)
Depreciation	(84,940)	(601,891)	(388,994)	(1,075,825)
Impairment losses	–	–	(1,448)	(1,448)
As at 31 December 2019	287,255	3,756,305	11,846,877	15,890,437

As at 31 December 2020, the Group was in the process of applying for the certificates of land use rights with a carrying amount of RMB1,109 million (31 December 2019: RMB74 million). There has been no litigations, claims or assessments against the Group for compensation with respect to the use of land parcels to date. As at 31 December 2020, the carrying value of these land parcels only represented approximately 0.57% of the total asset value of the Group (31 December 2019: 0.04%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group has the right to use the above land, and that there is no material adverse impact on the overall financial position of the Group.

As at 31 December 2020, the Group has pledged land use rights at a net carrying value amounting to RMB1,232 million (2019: RMB373 million) for bank and other borrowings as set out in Note 24 to the financial statements.

(Amounts expressed in thousands of RMB
unless otherwise stated)

20 LEASE (CONTINUED)

The Group as a lessee (Continued)

(b) Lease liabilities

The carrying amount of lease liabilities (included under interest-bearing bank and other borrowings) and the movements during the year are as follows:

	Year ended 31 December 2020
Carrying amount at 1 January	8,369,262
New leases	54,109
Lease modification	(55,814)
Accretion of interest recognised during the year	466,796
Payments	(1,748,202)
Carrying amount at 31 December	7,086,151
Analysed into:	
Current portion	828,272
Non-current portion	6,257,879

(c) The amounts recognised in profit or loss in relation to leases are as follows:

	31 December 2020
Interest on lease liabilities	466,796
Depreciation charge of right-of-use assets	767,553
Expense relating to short-term leases	214,204
Expense relating to leases of low-value assets	39,130
Total amount recognised in profit or loss	1,487,683

(Amounts expressed in thousands of RMB
unless otherwise stated)

20 LEASE (CONTINUED)

The Group as a lessee (Continued)

(d) The total cash outflow for leases is disclosed in Notes 35(c), respectively, to the financial statements.

The Group as a lessor

Rental income recognised by the Group during the year was RMB330 million (2019: RMB318 million), details of which are included in Note 5 to the financial statements. In the opinions of the directors, the undiscounted lease payments receivable by the Group in future periods under non-cancellable operating leases are not material.

21 OTHER NON-CURRENT LIABILITIES

	31 December 2020	31 December 2019 (Restated)
Financial liabilities		
– Long-term payables for mining rights	**1,014,169**	1,108,075
– Other financial liabilities	**22,748**	45,412
	1,036,917	1,153,487
Obligations in relation to early retirement schemes *(Note (i))*	**217,864**	427,783
Deferred government grants	**182,221**	245,916
Deferred gain relating to sales and leaseback agreements	**58,844**	125,707
Contract liabilities	**182,859**	125,758
Provision for rehabilitation	**316,812**	131,248
Others	**152,041**	10,721
	1,110,641	1,067,133
	2,147,558	2,220,620

(Amounts expressed in thousands of RMB
unless otherwise stated)

21 OTHER NON-CURRENT LIABILITIES (CONTINUED)

Note:

(i) Obligations in relation to early retirement schemes

From 2014, certain subsidiaries and branches implemented early retirement benefit schemes which allow qualified employees to early retire on a voluntary basis. The Group undertakes the obligations to pay the early retired employees' living expenses for no more than five years in the future on a monthly basis according to the early retirement benefit schemes, together with social insurance and housing fund pursuant to the regulation of the local Social Security Office. Living expenses, social insurance and the housing fund are together referred to as "the payments". The payments are forecasted to increase by 3% per annum with reference to the inflation rate and adjusted based on the average death rate in China. The payments are discounted by the treasury bond rate of 31 December 2020. As at 31 December 2020, the current portion of the payments within one year was reclassified to "Other payables and accrued liabilities".

As at 31 December 2020, obligations in relation to retirement benefits under the Group's early retirement schemes are as follows:

	31 December 2020	31 December 2019 (Restated)
As at 1 January	**843,253**	1,295,453
Provision made during the year *(Note 30)*	**53,339**	210,428
Interest costs	**11,582**	18,260
Payment during the year	**(410,840)**	(680,888)
As at 31 December	**497,334**	843,253
Non-current	**217,864**	427,783
Current *(Note 22)*	**279,470**	415,470
	497,334	843,253

(Amounts expressed in thousands of RMB
unless otherwise stated)

22 OTHER PAYABLES AND ACCRUED LIABILITIES

	31 December 2020	31 December 2019 (Restated)
Financial liabilities		
– Payable for capital expenditures	**4,677,705**	6,832,365
– Interest payable	**533,382**	494,341
– Payables withheld as guarantees and deposits	**1,748,356**	1,346,361
– Dividends payable by subsidiaries to non-controlling shareholders	**289,791**	518,360
– Consideration payable for investment projects	**23,740**	141,740
– Current portion of payables for mining rights	**460,101**	372,824
– Others	**1,254,375**	1,085,516
	8,987,450	10,791,507
Output value-added tax on pending	**271,963**	210,283
Taxes other than income taxes payable*	**797,251**	696,407
Accrued payroll and bonus	**71,486**	21,902
Staff welfare payables	**323,180**	258,654
Current portion of obligations in relation to early retirement schemes *(Note 21)*	**279,470**	415,470
Contribution payable for pension insurance	**22,935**	20,386
Others	**273**	999
	1,766,558	1,624,101
	10,754,008	12,415,608

* Taxes other than income taxes payable mainly comprise accruals for value-added tax, resource tax, city construction tax and education surcharge.

As at 31 December 2020, except for other payables and accrued liabilities of the Group amounting to RMB92 million and RMB0.16 million which were denominated in USD and HKD, respectively (31 December 2019: RMB825 million and RMB0.25 million which were denominated in USD and HKD, respectively), all other payables and accrued liabilities were denominated in RMB.

(Amounts expressed in thousands of RMB
unless otherwise stated)

23 TRADE AND NOTES PAYABLES

	31 December 2020	31 December 2019 (Restated)
Trade payables	**9,972,937**	7,882,265
Notes payable	**5,467,922**	4,726,541
	15,440,859	12,608,806

As at 31 December 2020, except for trade and notes payables of the Group amounting to RMB35 million which were denominated in USD (31 December 2019: RMB52 million in USD), all trade and notes payables were denominated in RMB (31 December 2019: all denominated in RMB).

The ageing analysis of trade and notes payables is as follows:

	31 December 2020	31 December 2019 (Restated)
Within 1 year	**14,923,453**	12,170,016
Between 1 and 2 years	**210,587**	229,221
Between 2 and 3 years	**119,587**	30,718
Over 3 years	**187,232**	178,851
	15,440,859	12,608,806

The trade and notes payables are non-interest-bearing and are normally settled within one year.

(Amounts expressed in thousands of RMB unless otherwise stated)

24 PLEDGE OF ASSETS

The Group has pledged various assets as collateral against certain secured borrowings as set out in Note 19. As at 31 December 2020, a summary of these pledged assets was as follows:

	31 December 2020	31 December 2019
Property, plant and equipment *(Note 7)*	**5,191,185**	4,946,338
Right-of-use assets *(Note 20)*	**1,232,491**	373,048
Intangible assets *(Note 6)*	**960**	757,269
Notes receivable *(Note 14)*	**1,499,260**	667,190
Investments in associates *(Note 9)*	**395,610**	538,787
	8,319,506	7,282,632

As at 31 December 2020, in addition to the loans and borrowings which were secured by the above assets, the current portion of long-term loans and borrowings amounting to RMB912 million (31 December 2019: RMB1,209 million), and the non-current portion of long-term loans and borrowings amounting to RMB5,976 million (31 December 2019: RMB10,265 million) were secured by the contractual right to charge users for electricity generated in the future.

(Amounts expressed in thousands of RMB
unless otherwise stated)

25 EXPENSE BY NATURE

	For the year ended 31 December	
	2020	2019 (Restated)
Purchase of inventories in relation to trading activities	**102,515,791**	104,928,962
Raw materials and consumables used, and changes in work-in-progress and finished goods	**32,987,302**	35,573,467
Power and utilities	**16,766,950**	16,755,424
Depreciation of right-of-use assets (Note 20)	**767,553**	1,075,825
Depreciation and amortisation (other than depreciation of right-of-use assets) expenses	**7,910,802**	7,714,418
Employee benefit expenses *(Note 30)*	**7,872,005**	7,773,170
Repairs and maintenance	**1,595,880**	1,867,160
Transportation expenses and logistic cost	**4,079,157**	3,420,360
Inventory impairment loss	**1,321,387**	1,163,272
Taxes other than income tax expense *(Note (i))*	**1,600,996**	1,431,587
Packaging expenses	**294,359**	277,785
Auditors' remuneration		
– PricewaterhouseCoopers and PricewaterhouseCoopers Zhong Tian LLP/Ernst & Young and Ernst & Young Hua Ming LLP		
– Audit services	**18,170**	25,444
– Non-audit services	**700**	2,388
– Other auditors	**12,436**	5,505
Others	**1,875,928**	2,641,954
	179,619,416	184,656,721

Note:

(i) Taxes other than income tax expense mainly comprise surcharges, land use tax, property tax and stamp duty.

(Amounts expressed in thousands of RMB unless otherwise stated)

26 NET IMPAIRMENT LOSSES ON FINANCIAL ASSETS

	For the year ended 31 December	
	2020	2019 (Restated)
Impairment losses on trade and notes receivables *(Note 14)*	**338,972**	154,409
Impairment losses on other current assets *(Note 15)*	**639,862**	16,607
	978,834	171,016

27 OTHER INCOME

For the year ended 31 December 2020, government grants amounting to RMB140 million (2019: RMB85 million) were recognised as income for the year to facilitate the Group's development. There are no unfulfilled conditions or contingencies attached to the grants.

(Amounts expressed in thousands of RMB
unless otherwise stated)

28 OTHER GAINS, NET

	For the yea ended 31 December	
	31 December 2020	31 December 2019 (Restated)
Gain on disposal of subsidiaries *(Note 40)*	**11,305**	261,187
Realised and unrealised gains on futures, forward and option contracts, net *(Note (1))*	**512,984**	50,820
Gain on disposal of property, plant and equipment and intangible assets, net *(Note (2))*	**448,439**	259,684
Gain on acquisition of associates	**–**	557,965
Gain on disposal of investment in a joint venture	**–**	159,514
Others	**(68,856)**	(41,661)
	903,872	1,247,509

28 OTHER GAINS, NET (CONTINUED)

Notes:

(1) The Group does not apply hedge accounting for these futures, forward and option contracts.

(2) During the year, the transactions contributed to the gain on disposal of aluminum capacity quota and property, plant and equipment mainly include the following:

(a) The aluminium capacity quota of Shandong Huayu Alloy Materials Limited has been disposed of, and the Group recognised the disposal gain of RMB539 million from the difference between the transfer price and carrying amount of the assets, (Note 19).

(b) The fixed assets related to the aluminum production line of Fushun Aluminum Co., Ltd. have been disposed of, and the Group recognised the disposal loss of RMB66 million from the difference between the transfer price and carrying amount of the assets.

(Amounts expressed in thousands of RMB
unless otherwise stated)

29 FINANCE INCOME/FINANCE COSTS

An analysis of finance income/finance costs is as follows:

	For the year ended 31 December	
	2020	2019 (Restated)
Finance income-interest income	**(226,921)**	(261,193)
Interest expense	**3,986,264**	4,665,537
Less: Interest expense capitalised in property, plant and equipment *(Note 7)*	**(123,571)**	(289,499)
Interest expense, net of capitalised interest	**3,862,693**	4,376,038
Interest on lease liability and amortisation of unrecognised finance expenses	**481,512**	547,820
Exchange losses/(gains), net	**76,323**	(2,317)
Finance costs	**4,420,528**	4,921,541
Finance costs, net	**4,193,607**	4,660,348
Capitalisation rate during the year *(Note 7)*	**4.00% to 6.68%**	4.00% to 6.96%

(Amounts expressed in thousands of RMB unless otherwise stated)

30 EMPLOYEE BENEFIT EXPENSE

An analysis of employee benefit expenses is as follows:

	For the year ended 31 December	
	2020	2019 (Restated)
Salaries and bonuses	**5,322,387**	4,939,758
Pension costs	**437,806**	768,836
Housing fund	**532,842**	488,574
Staff welfare and other expenses*	**1,517,641**	1,267,095
Employment expense in relation to early retirement schemes *(Note 21)*	**53,339**	210,428
Employment expenses in relation to termination benefits	**7,990**	98,479
	7,872,005	7,773,170

* Staff welfare and other expenses include staff welfare, staff union expenses, staff education expenses and unemployment insurance expenses etc.

Employee benefit expenses include remuneration payables to directors, supervisors and senior management as set out in Note 31.

(Amounts expressed in thousands of RMB unless otherwise stated)

31 DIRECTORS' AND SUPERVISORS' REMUNERATION

(a) Directors' and supervisors' remuneration

Directors' and supervisors' remuneration for the year, disclosed pursuant to the Listing Rules, section 383(1) (a), (b), (c) and (f) of the Hong Kong Companies Ordinance and Part 2 of the Companies Regulation (Disclosure of Information about Benefits of Directors), is as follows:

	31 December 2020	31 December 2019
Fees	**683**	780
Basic salaries, housing fund, other allowances and benefits in kind	**4183**	4,665
Pension costs	**20**	513
	4,886	5,958

The remuneration of each director and supervisor of the Company for the year ended 31 December 2020 is set out below:

Names of directors and supervisors	**Fees**	**Salaries**	**Discretionary bonuses**	**Pension costs**	**total**
Executive Directors:					
Lu Dongliang *(Note (i))*	–	–	–	–	–
He Zhihui *(Note (ii))*	–	**866**	–	**37**	**903**
Jiang Yinggang *(Note (iii))*	–	**562**	–	**31**	**593**
Zhu Runzhou	–	**894**	–	**44**	**938**
	–	**2,322**	–	**112**	**2,434**

(Amounts expressed in thousands of RMB unless otherwise stated)

31 DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

Names of directors and supervisors	Fees	Salaries	Discretionary bonuses	Pension costs	total
Non-executive Directors:					
Ao Hong	–	–	–	–	–
Wang Jun *(Note (iv))*	50	–	–	–	50
Chen Lijie	211	–	–	–	211
Lie-A-Cheong Tai-Chong, David	211	–	–	–	211
Hu Shihai	211	–	–	–	211
	683	–	–	–	683
Supervisors:					
Ye Guohua	–	–	–	–	–
Ou Xiaowu *(Note (v))*	–	134	–	7	141
Shan shulan	–	–	–	–	–
Guan Xiaoguang	–	770	–	44	814
Yue Xuguang	–	770	–	44	814
Total	–	1,674	–	95	1,769

(Amounts expressed in thousands of RMB unless otherwise stated)

31 DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

The remuneration of each director and supervisor of the Company for the year ended 31 December 2019 is set out below:

Names of directors and supervisors	Fees	Salaries	Discretionary bonuses	Pension costs	total
Executive Directors:					
Lu Dongliang *(Note (i))*	–	–	–	–	–
He Zhihui *(Note (ii))*	–	885	–	73	958
Jiang Yinggang *(Note (iii))*	–	889	–	88	977
Zhu Runzhou	–	833	–	88	921
	–	2,607	–	249	2,856
Non-executive Directors:					
Ao Hong	–	–	–	–	–
Wang Jun *(Note (iv))*	150	–	–	–	150
Chen Lijie	210	–	–	–	210
Lie-A-Cheong Tai-Chong, David	210	–	–	–	210
Hu Shihai	210	–	–	–	210
	780	–	–	–	780

(Amounts expressed in thousands of RMB unless otherwise stated)

31 DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

The remuneration of each director and supervisor of the Company for the year ended 31 December 2019 is set out below: (Continued)

Names of directors and supervisors	Fees	Salaries	Discretionary bonuses	Pension costs	total
Supervisors:					
Ye Guohua	–	–	–	–	–
Ou Xiaowu *(Note (v))*	–	–	–	–	–
Shan shulan	–	–	–	–	–
Guan Xiaoguang	–	710	–	88	798
Yue Xuguang	–	770	–	88	858
Wu Zuoming	–	578	–	88	666
Total	–	2,058	–	264	2,322

Notes:

(i) On 14 May 2020, Mr. Lu Dongliang has resigned as chairman and executive director of the Company.

(ii) On 21 October 2020, Mr. He Zhihui has resigned as an executive director and president of the Company.

(iii) On 31 August 2020, Mr. Jiang Yinggang has passed away due to illness.

(iv) Since May 2020, Mr. Wang Jun has issued a voluntary waiver of director's remuneration to the Company who has voluntarily waived his remuneration as a result of his service as a director of the Board of the Company.

(v) On 22 October 2020, Mr. Ou Xiaowu resigned as a supervisor of the Company and was reassigned to the Company as the deputy secretary of the party committee and the secretary of the disciplinary committee.

(Amounts expressed in thousands of RMB
unless otherwise stated)

31 DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

The remuneration of the directors and supervisors of the Company fell within the following band:

	Number of individuals	
	31 December 2020	31 December 2019
Nil to RMB1,000,000	**14**	14

During the year, no options were granted to the directors or the supervisors of the Company (2019: Nil).

During the year, no emoluments were paid to the directors or the supervisors of the Company (among which included the five highest paid employees) as an inducement to join or upon joining the Company or as compensation for loss of office (2019: Nil).

Director Wang Jun waived his director's remuneration with effect from May 2020.

(Amounts expressed in thousands of RMB
unless otherwise stated)

31 DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(b) Five highest paid individuals

During the year ended 31 December 2020, the five highest paid employees of the Group include three directors (2019: three directors) whose remuneration is reflected in the analysis presented above. The remuneration payable to the remaining two individuals during 2020 (2019: two) is as follows:

	31 December 2020	31 December 2019
Basic salaries, housing fund, other allowances and benefits in kind	**1,620**	1,670
Discretionary bonuses	**–**	–
Pension costs	**8**	137
	1,628	1,807

The number of the remaining three highest paid individuals during 2020 (2019: two) whose remuneration fell within the following band is as follows:

	Number of employees	
	31 December 2020	31 December 2019
Nil to RMB1,000,000	**3**	2

(Amounts expressed in thousands of RMB
unless otherwise stated)

32 INCOME TAX EXPENSE

	31 December 2020	31 December 2019 (Restated)
Current income tax expense	**813,112**	723,062
Deferred tax benefit	**(230,924)**	(94,686)
	582,188	628,376

In general, the Group's PRC entities are subject to PRC corporate income tax at the standard rate of 25% (2019: 25%) on their respective estimated assessable profits for the year. Certain branches and subsidiaries of the Company located in the western regions of the PRC are granted tax concessions including a preferential tax rate of 15% (2019: 15%).

(Amounts expressed in thousands of RMB unless otherwise stated)

32 INCOME TAX EXPENSE (CONTINUED)

A reconciliation of the tax expense applicable to profit before tax at the statutory rates for the countries in which the Company and the majority of its subsidiaries are domiciled to the tax expense at the effective tax rates, and a reconciliation of the applicable rates to the effective tax rates, are as follows:

	31 December 2020	31 December 2019 (Restated)
Profit before income tax	**2,155,217**	2,118,961
Tax expense calculated at the statutory tax rate of 25%(2019: 25%)	**538,804**	529,740
Tax effects of:		
Preferential income tax rates applicable to certain branches and subsidiaries	**357,016**	(464,913)
Impact of change in income tax rate	**(52,177)**	4,594
Tax losses with no deferred tax assets recognised	**477,876**	518,621
Deductible temporary differences with no deferred tax assets recognised	**146,276**	41,695
Utilisation of previously unrecognised tax losses and deductible temporary differences	**(73,779)**	(18,105)
Tax incentive in relation to deduction of certain expenses	**(42,958)**	(50,921)
Expenses not deductible for tax purposes	**52,261**	56,448
Write-off of unrecoverable deferred tax assets previously recognised	**41,757**	83,393
Profits and losses attributable to joint ventures and associates	**(70,577)**	(79,720)
Recognition of deferred tax assets related to deductible temporary differences and tax losses previously not recognised	**(61,987)**	(3,868)
Adjustments in respect of current income tax of previous periods	**(16,292)**	11,412
Income tax expense	**582,188**	628,376
Effective tax rate	**27%**	30%

33 EARNINGS PER SHARE ATTRIBUTABLE TO OWNERS OF THE COMPANY

	For the year ended 31 December	
	2020	2019 (Restated)
Profit attributable to owners of the Company *(in thousands of RMB)*	**741,004**	853,102
Other equity instruments' distribution reserved *(in thousands of RMB)*	**(261,168)**	(219,249)
Profit attributable to ordinary shares holders of the Company	**479,836**	633,853
Number of ordinary shares in issue (thousands) as at 1 January	**17,022,673**	14,903,798
Issuance of share capital *(thousands) (Note 17)*	**–**	2,118,875
Weighted average number of ordinary shares in issuance	**17,022,673**	17,022,673
Basic earnings per share *(RMB)*	**0.028**	0.037

The Group had no potentially dilutive ordinary shares in issuance during the years ended 31 December 2020 and 2019, thus the diluted earnings per share were the same as basic earnings per share.

34 DIVIDENDS

According to the articles of association of the Company, the Company considers the maximum limit of profit appropriation to its shareholders is the lowest of:

(i) the sum of the net profit less statutory surplus reserve and the opening retained earnings for the current period in accordance with IFRSs;

(ii) the sum of the net profit less statutory surplus reserve and the opening retained earnings for the current period in accordance with the PRC Accounting Standards for Business Enterprises; and

(iii) the amount limited by the Company Law of the PRC.

According to the resolution of the Board of Directors dated 23 March 2021, the directors did not propose any final dividend for the year ended 31 December 2020.

(Amounts expressed in thousands of RMB
unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS

(a) Reconciliation of profit before taxation to cash generated from operations

	Notes	For the year ended 31 December 2020	2019 (Restated)
Cash flows generated from operating activities			
Profit before income tax		**2,155,217**	2,118,961
Adjustments for:			
Share of profits of joint ventures	9 (a)	**(180,502)**	(270,115)
Share of profits of associates	9 (b)	**(145,737)**	(48,767)
Depreciation of property, plant and equipment	7	**7,152,170**	7,100,776
Depreciation of investment properties	8	**24,405**	26,559
Depreciation of right-of-use assets	20	**767,553**	1,075,825
Amortisation of intangible assets	6	**459,482**	338,938
Amortisation of prepaid expenses included in other non-current assets		**274,745**	248,145
Gain on disposal of property, plant and equipment, land use rights, net		**(319,796)**	(243,622)
Impairment losses on property, plant and equipment		**416,841**	259,354
Impairment loss of investment properties		**–**	87
Impairment loss of intangible assets		**416**	–
Impairment loss of right-of-use assets	20	**15,790**	1,448
Impairment loss of inventory		**1,321,387**	1,163,272
Impairment loss of trade and notes receivables		**338,972**	154,409
Impairment loss of other current assets		**639,862**	16,607
Realised and unrealised gains on futures,option and forward contracts	28	**(512,984)**	(50,820)
Gain on disposal of subsidiaries	28	**(11,305)**	(261,187)
Gain on disposal of investment in a joint venture	28	**–**	(159,514)
Gain on acquisition of associates	28		557.965
Dividends from other financial assets measured at fair value	28	**(82,794)**	(97,775)
Government subsidies		**(29,233)**	(112,141)
Finance cost	29	**4,420,528**	4,921,541
Change in special reserve		**12,524**	(23,085)
Others		**21,342**	(11,558)

(Amounts expressed in thousands of RMB unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(a) Reconciliation of profit before taxation to cash generated from operations (Continued)

		For the year ended 31 December	
	Notes	**2020**	2019 (Restated)
Changes in working capital:			
Increase in inventories		**(1,668,260)**	(234,203)
Increase in trade and notes receivables		**(3,867,944)**	(1,169,339)
Increase in other current assets		**(414,247)**	(377,246)
Decrease in restricted cash		**249,744**	859,507
(Increase)/decrease in other non-current assets		**(70,637)**	547,856
(Increase)/decrease in trade and notes payables		**3,009,090**	(1,405,565)
(Increase)/decrease in other payables and accrued liabilities		**1,879,398**	(560,911)
Increase in other non-current liabilities		**(177,045)**	(206,354)
Cash generated from operations		**15,678,682**	13,043,118
PRC corporate income taxes paid		**(797,336)**	(551,446)
Net cash generated from operating activities		**14,881,346**	12,491,672

(Amounts expressed in thousands of RMB
unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(a) Reconciliation of profit before taxation to cash generated from operations (Continued)

	Notes	For the year ended 31 December **2020**	2019 (Restated)
Major non-cash transactions of investing activities and financing activities			
Investment in a joint venture used gallium business		**–**	352,848
Acquisition of minority interests for nil consideration		**–**	149,322
Endorsement of notes receivables accepted from sale of goods or services for purchase of property, plant and equipment		**2,276,782**	1,504,162
Acquisition of other financial assets measured at fair value through other comprehensive income by exchanging equity in a subsidiary		**–**	350,911
Acquisition of business		**42,230**	–
		2,319,012	2,357,243

(Amounts expressed in thousands of RMB unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities

The table below details changes in the Group's liabilities from financing activities, including both cash and non-cash changes. Liabilities arising from financing activities are liabilities for which cash flows was, or future cash flows will be, classified in the Group's consolidated statement of cash flows as cash flows from financing activities

	Financial liabilities included in other current payables and accrued expenses	Interest bearing loans and borrowings	Total
As at 1 January 2020 (Restated)	**10,791,507**	**101,530,167**	**112,321,674**
Net cash generated from operating activities	1,988	–	1,988
Net cash flows generated from/(used in) investing activities	(2,154,660)	546,995	(1,607,664)
Proceeds from issuance of short- term bonds and medium-term notes, net of issuance costs	–	25,870,716	25,870,716
Distribution of senior perpetual securities	–	(421,416)	(421,416)
Repayments of medium-term notes and short-term bonds	–	(30,638,813)	(30,638,813)
Repayments of gold leasing arrangement	–	(6,921,860)	(6,921,860)
Drawdown of short-term and long- term bank borrowings and other loans	–	46,021,403	46,021,403
Repayments of short-term and long-term bank borrowings and other loans	–	(43,111,460)	(43,111,460)
Principal portion of lease payment	–	(1,748,202)	(1,748,202)

(Amounts expressed in thousands of RMB
unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities (Continued)

	Financial liabilities included in other current payables and accrued expenses	Interest bearing loans and borrowings	Total
Dividends paid by subsidiaries to non-controlling shareholders	2,474	–	2,474
Amortisation of unrecognised finance expenses and interest expense	–	487,249	487,249
Interest paid	258,864	21,650	280,514
Reclassification	87,277	899,955	987,232
Net foreign exchange differences	–	(311,005)	(311,005)
Net cash (used in)/generated from financing activities	348,615	(9,851,783)	(9,503,168)
As at 31 December 2020	8,987,450	92,225,380	101,212,830

(Amounts expressed in thousands of RMB unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities (Continued)

	Financial liabilities included in other current payables and accrued expenses	Interest bearing loans and borrowings	Total
As at 1 January 2019 (Restated)	9,286,462	101,772,876	111,059,338
Net cash generated from operating activities	497,927	–	497,927
Net cash generated from investing activities	622,995	7,157,695	7,780,690
Proceeds from gold leasing arrangement	–	6,921,860	6,921,860
Proceeds from issuance of short- term bonds and medium-term notes, net of issuance costs	–	37,964,489	37,964,489
Repayments of senior perpetual securities	–	(352,648)	(352,648)
Repayments of medium-term notes and short-term bonds	–	(22,400,000)	(22,400,000)
Repayments of gold leasing arrangement	–	(1,607,905)	(1,607,905)
Drawdown of short-term and long- term bank borrowings and other loans	–	40,669,197	40,669,197
Repayments of short-term and long-term bank borrowings and other loans	–	(66,105,388)	(66,105,388)
Principal portion of lease payments	–	(3,032,106)	(3,032,106)

(Amounts expressed in thousands of RMB
unless otherwise stated)

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities (Continued)

	Financial liabilities included in other current payables and accrued expenses	Interest bearing loans and borrowings	Total
Dividends paid by subsidiaries to non-controlling shareholders	(23,715)	–	(23,715)
Amortisation of unrecognised finance expenses and interest expense	–	487,249	487,249
Interest paid	235,310	22,631	257,941
Reclassification	162,120	–	162,120
Net foreign exchange differences	10,408	32,217	42,625
Net cash (used in)/generated from financing activities	384,123	(7,400,404)	(7,016,281)
As at 31 December 2019 (Restated)	10,791,507	101,530,167	112,321,674

35 NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(c) Total cash outflow for leases

The total cash outflow for leases included in the statement of cash flows is as follows:

	For the year ended 31 December 2020
Within operating activities	**253,334**
Within financing activities	**1,748,202**
	2,001,536

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES

The Company is controlled by Chinalco, its parent company and a state-owned enterprise established in Mainland China. Chinalco itself is controlled by the PRC government, which also owns a significant portion of the productive assets in Mainland China. In accordance with IAS 24 Related Party Disclosures, government-related entities and their subsidiaries, directly or indirectly controlled, jointly controlled or significantly influenced by the PRC government are defined as related parties of the Group. On that basis, related parties include Chinalco and its subsidiaries (other than the Group), other government-related entities and their subsidiaries ("other state-owned enterprises"), other entities and corporations over which the Company exercise significant influence and key management personnel of the Company and Chinalco as well as their close family members.

For the purposes of the related party transaction disclosures, the directors of the Company consider that meaningful information in respect of related party transactions has been adequately disclosed.

In addition to the related party information and transactions disclosed elsewhere in the consolidated financial statements, the following is a summary of significant related party transactions in the ordinary course of business between the Group and its related parties during the year.

(Amounts expressed in thousands of RMB unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions

		For the year ended 31 December	
	Notes	**2020**	2019
Sales of goods and services rendered:			
Sales of materials and finished goods to:	(i)		
Chinalco and its subsidiaries	(ix)	**13,986,223**	13,612,817
Associates of Chinalco		**520,485**	514,414
Joint ventures		**6,694,824**	5,676,548
Associates		**9,232,432**	3,812,565
Non-controlling shareholder of a subsidiary and its subsidiaries		**42,298**	–
		30,476,262	23,616,344
Provision of utility services to:	(ii)		
Chinalco and its subsidiaries	(ix)	**1,104,542**	687,290
Associates of Chinalco		**3,268**	4,062
Joint ventures		**470,984**	263,436
Associates		**18,568**	35,650
		1,597,362	990,438

(Amounts expressed in thousands of RMB unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

		For the year ended 31 December	
	Notes	**2020**	2019
Sales of goods and services rendered (Continued)			
Rental revenue of land use rights and buildings from:	(vi)		
Chinalco and its subsidiaries	(ix)	**39,284**	52,571
Associates of Chinalco		**237**	65
Joint ventures		**1,426**	1,967
Associates		**365**	775
		41,312	55,378
Purchases of goods and services:			
Purchases of engineering, construction and supervisory services from:	(iii)		
Chinalco and its subsidiaries	(ix)	**1,755,092**	2,949,866
Associates of Chinalco		**265**	–
Joint ventures		**–**	69,332
Associates		**12,233**	218,616
		1,767,590	3,237,814
Provision of social services and logistics services by:	(v)		
Chinalco and its subsidiaries	(ix)	**475,532**	309,180
		475,532	309,180

(Amounts expressed in thousands of RMB unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

		For the year ended 31 December	
	Notes	**2020**	2019
Purchases of primary and auxiliary materials, equipment and finished goods from:			
Chinalco and its subsidiaries	(iv)	**6,266,563**	8,161,223
Associates of Chinalco	(ix)	**2,586**	18
Joint ventures		**5,501,158**	2,647,234
Associates		**10,576,907**	1,893,449
Non-controlling shareholder of a subsidiary and its subsidiaries		**30,101**	–
		22,377,315	12,701,924
Purchases of utility services from:	(ii)		
Chinalco and its subsidiaries	(ix)	**650,921**	763,812
Associates of Chinalco		**85,469**	100,835
Joint ventures		**443,290**	280,523
Associates		**–**	8,326
		1,179,680	1,153,496
Purchases of other services by:	(vii)		
Chinalco and its subsidiaries		**373,655**	272,220
		373,655	272,220

(Amounts expressed in thousands of RMB
unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

	Notes	For the year ended 31 December **2020**	2019
Rental expenses/lease liabilities payments for buildings and land use rights charged by:	(vi)		
Chinalco and its subsidiaries	(ix)	**661,888**	499,191
		661,888	499,191
Other significant related party transactions:	(vi)		
Borrowing from subsidiaries of Chinalco	(ix)	**1,925,000**	3,890,000
Interest expense on borrowings, discounted notes and factoring arrangement from subsidiaries of Chinalco		**87,985**	141,991
Investment in subsidiaries of Chinalco		**–**	2,137,608
Disposal of aluminum capacity quota to a subsidiary of Chinalco		**–**	800,000
Disposal of assets under a sale and leaseback contract to a subsidiary of Chinalco	(x)	**–**	500,000

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

		For the year ended 31 December	
	Notes	**2020**	2019
Finance lease under a sale and leaseback contract from a subsidiary of Chinalco	(x), (ix)	**–**	558,924
Trade receivable factoring arrangement from a subsidiary of Chinalco	(ix)	**–**	136,656
Discounted notes receivable to a subsidiary of Chinalco	(viii)	**36,750**	679,517
Provision of financial guarantees to: a joint venture		**–**	12,450

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

All transactions with related parties were conducted at prices and on terms mutually agreed by the parties involved, which are determined as follows:

(i) Sales of materials and finished goods comprised sales of alumina, primary aluminum, copper and scrap materials. Transactions entered into are covered by general agreements on a mutual provision of production supplies and ancillary services. The pricing policy is summarised below:

1. The price prescribed by the PRC government ("state-prescribed price") is adopted;

2. If there is no state-prescribed price, state-guidance price is adopted;

3. If there is neither state-prescribed price nor state-guidance price, then the market price (being price charged to and from independent third parties) is adopted; and

4. If none of the above is available, then the adoption of a contractual price (being reasonable costs incurred in providing the relevant services plus not more than 5% of such costs is adopted).

(ii) Utility services, including electricity, gas, heat and water, are provided at the state-prescribed price.

(iii) Engineering, project construction and supervisory services were provided for construction projects. The state-guidance price or prevailing market price (including the tender price where by way of tender) is adopted for pricing purposes.

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

(iv) The pricing policy for purchases of primary and auxiliary materials (including bauxite, limestone, carbon, cement and coal) is the same as that set out in (i) above.

(v) Social services and logistics services provided by Chinalco Group cover public security, fire services, education and training, school and hospital services, cultural and physical education, newspaper and magazines, broadcasting and printing as well as property management, environmental and hygiene, greenery, nurseries and kindergartens, sanatoriums, canteens and offices, public transport and retirement management and other services. Provisions of these services are covered by the Comprehensive Social and Logistics Services Agreement. The pricing policy is the same as that set out in (i) above.

(vi) Pursuant to the Land Use Right Lease Agreements entered into between the Group and Chinalco Group, operating leases for industrial or commercial land are charged at the market rent rate. The Group also entered into a building rental agreement with Chinalco Group and paid rents based on the market rate for its lease of buildings owned by Chinalco.

(vii) Other services are environmental protection operation services. The prevailing market price is adopted for pricing purposes.

(viii) Chinalco Finance Company Limited ("Chinalco Finance") (中鋁財務有限責任公司), a wholly-owned subsidiary of Chinalco and a non-bank financial institution established in the PRC, provides deposit services, credit services and miscellaneous financial services to the Group. The terms for the provision of financial services to the Group are no less favourable than those of the same type of financial services provided by Chinalco Finance to Chinalco and other members of its group or those of the same type of financial services that may be provided to the Group by other financial institutions.

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(a) Significant related party transactions (Continued)

(ix) These related party transactions also constitute connected transactions or continuing connected transactions as defined in Chapter 14A of the Listing Rules.

(x) As disclosed in Note 20, the Group has entered into several sale and leaseback contracts with Chalco Financial Leasing Co., Ltd..

(xi) As disclosed in Note 39, the Group acquired Zhongzhou Logistics and Chongqing Xinan Transportation from Chinalco's subsidiaries.

(xii) As disclosed in Note 28, in May 2019, the Group entered into transactions with its fellow subsidiaries including the disposals of subsidiaries and disposal of aluminium capacity quota. These transactions constituted related party transactions.

* The English names represent the best effort made by management of the Group in translating the Chinese names of the Companies as they do not have any official English names.

(Amounts expressed in thousands of RMB
unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(b) Balances with related parties

Other than those disclosed elsewhere in the consolidated financial statements, the outstanding balances with related parties at the year end are as follows:

	31 December 2020	31 December 2019
Cash and cash equivalents deposited with		
A subsidiary of Chinalco*	**3,561,997**	3,285,093
Trade and notes receivables		
Chinalco and its subsidiaries	**760,138**	1,054,168
Associates of Chinalco	**56,107**	6,034
Joint ventures	**743,369**	788,183
Associates	**107**	25
	1,559,721	1,848,410
Provision for impairment of receivables	**(74,668)**	(17,815)
	1,485,053	1,830,595

* On 26 August 2011, the Company entered into an agreement with Chinalco Finance, pursuant to which, Chinalco Finance agreed to provide deposit services, credit services and other financial services to the Group. On 24 August 2012, 28 April 2015, 26 October 2017 and 27 April 2020, the Company renewed the financial service agreement with Chinalco Finance with a validation term of three years ending on 25 October 2023.

(Amounts expressed in thousands of RMB
unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(b) Balances with related parties (Continued)

	31 December 2020	31 December 2019 (Restated)
Other current assets		
Chinalco and its subsidiaries	**268,321**	421,805
Joint ventures	**1,416,094**	1,503,505
Associates	**433,453**	47,743
Non-controlling shareholder of a subsidiary and its subsidiaries	**1,200**	–
Provision for impairment of other current assets	**(422,089)**	(30,509)
	1,696,979	2,002,934
Other non-current assets		
Associates	**111,845**	111,845
Interest-bearing loans and borrowings:		
Subsidiaries of Chinalco (including lease liabilities)	**8,887,422**	9,857,187
Trade and notes payables		
Chinalco and its subsidiaries	**437,732**	334,840
Associates of Chinalco	**1,511**	917
Joint ventures	**561,508**	9,789
Associates	**10,562**	527,744
	1,011,313	873,290

(Amounts expressed in thousands of RMB unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(b) Balances with related parties (Continued)

	31 December 2020	31 December 2019
Other payables and accrued liabilities		
Chinalco and its subsidiaries	**2,193,782**	1,810,514
Associates of Chinalco	**1,019**	17,056
Associates	**28,424**	80,012
Joint ventures	**3,940**	73,823
	2,227,165	1,981,405
Contract liabilities:		
Chinalco and its subsidiaries	**17,460**	29,210
Associates of Chinalco	**13,453**	–
Associates	**79**	223
Joint ventures	**519**	56,010
Non-controlling shareholder of subsidiary and its subsidiaries	**656**	–
	32,167	85,443

As at 31 December 2020, included in long-term loans and borrowings and short- term loans and borrowings were from other state-owned enterprises amounting to and RMB31,245 million (31 December 2019: RMB42,553 million) and RMB18,543 million (31 December 2019: RMB29,781 million), respectively.

The terms of all balances with the exception of the entrusted loans were unsecured and were in accordance with terms as set out in the respective agreements or as mutually agreed between the parties concerned.

(Amounts expressed in thousands of RMB unless otherwise stated)

36 SIGNIFICANT RELATED PARTY TRANSACTIONS AND BALANCES (CONTINUED)

(c) Compensation of key management personnel

	31 December 2020	31 December 2019 (Restated)
Fees	**683**	780
Basic salaries, housing fund, other allowances and benefits in kind	**4,183**	4,665
Pension costs	**20**	513
	4,886	5,958

* The year-on-year increase in the salaries of key management personnel was mainly due to the Company's addition of a salaried supervisor this year and changes in the positions of some key management personnel, which caused the year-on-year changes in the scope and duration of salaries paid by the Company.

(d) Commitments with related parties

As at 31 December 2020 and 2019, except for the other capital commitments disclosed in Note 43(b) to these financial statements, the Group had no significant commitments with related parties.

37 FINANCIAL AND CAPITAL RISK MANAGEMENT

37.1 Financial risk management

The Group's activities expose it to a variety of financial risks, including market risk (including foreign currency risk, interest rate risk and commodity price risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimise the potential adverse effects on the Group's financial performance.

Risk management is carried out by the treasury management department (the "Group Treasury") under policies approved by the Board of Directors of the Company. The Group Treasury identifies, evaluates and hedges financial risks through close co-operation with the Group's operating units.

(a) Market risk

(i) Foreign currency risk

The Group's foreign currency risk arose from transaction conducted in currency other than the functional currency of the group entities. The Group's foreign currency risk primarily arises from foreign currency deposits, trade receivables, trade payables, advances paid to suppliers, and short-term and long-term loans denominated in United States dollars ("USD"), Euro ("EUR"), Japanese yen ("JPY"), and Hong Kong dollars ("HKD"). Related exposures are disclosed in Notes 16, 14, 23, 15 and 19 to the financial statements, respectively. The Group Treasury closely monitors the international foreign currency market on the change of exchange rates and takes these into consideration when investing in foreign currency deposits and borrowing loans. As at 31 December 2020, the Group only had significant exposure to USD.

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(a) Market risk (Continued)

(i) Foreign currency risk (Continued)

As at 31 December 2020, if RMB had strengthened/weakened by 5% against USD with all other variables held constant, the profit for the year would have been approximately RMB82 million higher/lower (2019: RMB95 million lower/higher), mainly as a result of foreign exchange gains and losses arising from translation of USD denominated borrowings, other payables and medium/term notes. Profit was less sensitive to the fluctuation in the RMB/USD exchange rates in 2020 than in 2019, mainly due to the decrease in the USD denominated other payables and medium/term notes.

As the assets and liabilities denominated in other foreign currencies other than USD were relatively minimal to the total assets and liabilities of the Group, the directors of the Company are of the opinion that the Group was not exposed to significant foreign currency risk arising from other assets and liabilities denominated in currency other than the functional currency of the group entities as at 31 December 2020 and 2019.

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(a) Market risk (Continued)

(ii) Interest rate risk

As at 31 December 2020, as the Group had no significant interest-bearing assets except for bank deposits (Note 16) and entrusted loans (Note 19).

Most of the bank deposits are maintained in savings and time deposit accounts in the PRC. The interest rates are regulated by the People's Bank of China and the Group Treasury closely monitors the fluctuation on such rates periodically. The interest rates of entrusted loans are fixed. As the interest rates applied to the entrusted loans were fixed, the directors of the Company are of the opinion that the Group was not exposed to any significant interest rate risk for its financial assets held as at 31 December 2020 and 2019.

The interest rate risk for the Group's financial liabilities primarily arises from interest-bearing loans. Loans borrowed at floating interest rates expose the Group to cash flow interest rate risk. The Group enters into debt obligations to support general corporate purposes including capital expenditures and working capital needs. The Group Treasury closely monitors market interest rates and maintains a balance between variable rate and fixed rate borrowings in order to reduce the exposures to the interest rate risk described above.

As at 31 December 2020, if interest rates had been 100 basis points (31 December 2019: 100 basis points) higher/lower for bank and other loans borrowed at floating interest rates with all other variables held constant, net profit for the year would have been RMB430 million lower/higher (2019: RMB451 million (restated)), respectively, mainly as a result of the higher/lower interest expense on floating rate borrowings.

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(a) Market risk (Continued)

(ii) Interest rate risk (Continued)

The fair value interest rate risk of the Group mainly arises from medium/term notes and short/term bonds issued at fixed rates. As the fluctuation of comparable interest rates of corporate bonds with similar terms was relatively low, the directors of the Company are of the opinion that the Group was not exposed to any significant fair value interest rate risk for its fixed interest rate borrowings held as at 31 December 2020 and 2019.

(iii) Commodity price risk

The Group uses futures and option contracts to reduce its exposure to fluctuations in the price of primary aluminum and other products. The Group uses the futures contract for offsetting other than speculation. With reference to the hedging of primary aluminum, production company hedges the output of primary aluminum and trading company hedges the quantities of buyout and self-supporting.

The Group uses mainly futures contracts and option contracts traded on the Shanghai Futures Exchange and London Metal Exchange ("LME") to hedge against fluctuations in primary aluminum prices. As at 31 December 2020, the fair values of the outstanding futures contracts amounting to RMB17 million (31 December 2019: RMB3 million) and RMB27 million (31 December 2019: RMB1 million) were recognised in financial assets and financial liabilities at fair value through profit or loss, respectively. As at 31 December 2020, the Company did not hold any option contracts (31 December 2019: the Company did not hold any option contracts).

(Amounts expressed in thousands of RMB unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(a) Market risk (Continued)

(iii) Commodity price risk (Continued)

As at 31 December 2020, if the commodity futures prices had increased/decreased by 3% (31 December 2019: 3%) and all other variables held constant, profit for the year would have changed by the amounts shown below:

	31 December 2020	31 December 2019
Primary aluminum	**Decrease/increase RMB5 million**	Decrease/increase RMB40 million

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(b) Credit risk

Credit risk arises from balances with banks and financial institutions, trade and notes receivables, other current and non-current receivables as well as credit exposures of customers, including outstanding receivables and committed transactions.

The Group maintains substantially all of its bank balances and cash and short-term investments in several major state-owned banks in the PRC. With strong support from the PRC government to these state-owned banks, the directors of the Company are of the opinion that there is no significant credit risk on such assets being exposed to losses.

The Group applies the simplified approach to most of its trade receivables to provide for expected credit losses prescribed by IFRS 9, which permits the use of the lifetime expected loss provision for trade receivables. The Group has made individual assessment for trade receivables from clients with top rating and those receivables with pledged assets separately and impairment provisions are made.

To measure the expected credit losses of trade receivables other than those assessed individually as mentioned above, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The expected credit loss model also incorporates forward-looking information.

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(b) Credit risk (Continued)

For other current and non-current receivables, the Group considers the probability of default upon initial recognition of an asset and whether there has been a significant increase in credit risk on an ongoing basis throughout each reporting period. To assess whether there is a significant increase in credit risk the company compares the risk of a default occurring on the asset as at the reporting date with the risk of default as at the date of initial recognition. It considers available reasonable and supportive forwarding-looking information. Especially the following indicators are incorporated:

- internal credit rating
- external credit rating
- actual or expected significant adverse changes in business, financial or economic conditions that are expected to cause a significant change to the borrower's ability to meet its obligations
- actual or expected significant changes in the operating results of individual clients
- significant changes in the expected performance and behaviour of the clients

The Group measures expected credit loss rates on the basis of a loss rate approach by segmenting its portfolio into appropriate groupings based on shared credit risk characteristics. At the end of each year, the Group updates its historical loss information with forward-looking information. As the historical credit loss rates were comparatively stable and no significant changes were expected to the forward-looking information after the consideration of reasonable and supportable forecasts of comparatively stable customer relationship and customers' credit ratings, the expected credit loss rates remained consistent during 2020.

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(b) Credit risk (Continued)

The table below shows the credit quality and the maximum exposure to credit risk based on the Group's credit policy, which is mainly based on past due information unless other information is available without undue cost or effort, and year-end staging classification as at 31 December 2020. The amounts presented are carrying amounts for financial assets and the exposure to credit risk for the financial guarantee contracts.

	Stage 1	Stage 2	Stage 3	Simplified	Total
Trade receivables	–	–	–	4,746,995	4,746,995
Financial assets in other current assets	2,212,930	563,247	1,206,950	–	3,983,127
Restricted cash	1,056,037	–	–	–	1,056,037
Notes receivables	–	–	–	4,546,223	4,546,223
Cash and cash equivalents	9,631,152	–	–	–	9,631,152
Financial assets in other non-current assets	127,754	–	–	–	127,754
Total	13,027,873	563,247	1,206,950	9,293,218	24,091,288

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(b) Credit risk (Continued)

The carrying amounts of short-term investments and these receivables included in Notes 12, 14, 15 and 16 represent the Group's maximum exposure to credit risk in relation to its financial assets. The directors of the Company are of the opinion that the Group was not exposed to any significant concentration of credit risk as at 31 December 2020 and 2019.

(c) Liquidity risk

Cash flow forecast is performed in the operating entities of the Group and aggregated by the Group Treasury. The Group Treasury monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. This forecast takes into consideration of the Group's debt financing plans, covenant compliance, compliance with internal balance sheet ratio targets and, if applicable, external regulatory or legal requirements, for example, currency restrictions.

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(c) Liquidity risk (Continued)

Management also monitors rolling forecasts of the Group's liquidity reserve on the basis of expected cash flows.

The table below analyses the maturity profile of the Group's financial liabilities as at the end of the reporting period. The amounts disclosed in the table are the contractual undiscounted cash flows.

	Within 1 year	1 to 2years	2 to 5 years	Over 5 years	Total
As at 31 December 2020					
Lease liabilities, including current portion	1,151,332	473,410	1,263,824	9,708,710	12,597,276
Long-term bank and other loans, including current portion	3,629,014	6,702,687	15,638,089	17,044,774	43,014,564
Medium-term notes and bonds, including current portion	7,109,960	3,000,000	6,900,000	2,000,000	19,009,960
Short-term bonds	2,400,000	–	–	–	2,400,000
Gold leasing arrangement	–	–	–	–	–
Short-term bank and other loans	20,738,030	–	–	–	20,738,030
Interest payables for loans and borrowings	2,935,356	2,105,844	4,046,106	2,039,075	11,126,381
Financial liabilities at fair value through profit or loss	26,684	–	–	–	26,684
Financial liabilities included in other payables and accrued liabilities, excluding accrued interest	8,454,068	–	–	–	8,454,068
Financial liabilities included in other non-current liabilities	460,101	194,609	74,367	767,941	1,497,018
Trade and notes payables	15,440,859	–	–	–	15,440,859
	62,345,404	12,476,550	27,922,386	31,560,500	134,304,840

(Amounts expressed in thousands of RMB unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.1 Financial risk management (Continued)

(c) Liquidity risk (Continued)

	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
As at 31 December 2019 (Restated)					
Finance lease payables, including current portion	1,729,933	1,106,701	1,333,762	10,377,143	14,547,539
Long-term bank and other loans, including current portion	3,339,687	7,525,775	9,159,028	18,811,397	38,835,887
Medium-term notes and bonds, including current portion	–	7,285,840	9,500,000	–	16,785,840
Short-term bonds	9,300,000	–	–	–	9,300,000
Gold leasing arrangement	6,921,860	–	–	–	6,921,860
Short-term bank and other loans	21,238,166	–	–	–	21,238,166
Interest payables for borrowings	4,955,925	2,289,092	4,220,111	978,041	12,443,169
Financial liabilities at fair value through profit or loss	805	–	–	–	805
Financial liabilities included other payables and accrued liabilities, excluding accrued interest	10,297,166	–	–	–	10,297,166
Financial liabilities included in other non-current liabilities *(note)*	372,824	176,232	182,006	724,959	1,456,021
Trade and notes payables	12,608,806	–	–	–	12,608,806
	70,765,172	18,383,640	24,394,907	30,891,540	144,435,259

Note: As disclosed in Note 21, as at 31 December 2020, the carrying value of financial liabilities included in other non-current liabilities was RMB1,037 million (31 December 2019: RMB1,153 million).

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments

(a) Financial instruments by category

The carrying amounts of each of the categories of financial instruments of the Group as at the end of the reporting period are as follows:

Financial assets

	Group 31 December 2020				
	Financial assets at fair value through profit or loss- held for trading	Financial assets at amortised cost	Equity instruments at fair value through other comprehensive income	Debt instruments at fair value through other comprehensive income	Total
Current					
Trade receivables	–	4,746,995	–	–	4,746,995
Notes receivable	–	–	–	4,546,223	4,546,223
Financial assets at fair value through profit or loss	17,311	–	–	–	17,311
Restricted cash and term deposits	–	1,056,037	–	–	1,056,037
Cash and cash equivalents	–	9,631,152	–	–	9,631,152
Financial assets included in other current assets	–	3,983,127	–	–	3,946,759
Subtotal	17,311	19,417,311	–	4,546,223	23,980,845
Non-current					
Other financial assets measured at fair value	–	–	1,526,703	–	1,526,703
Other non-current assets	–	127,754	–	–	127,754
Subtotal	–	127,754	1,526,703	–	1,654,457
Total	17,311	19,545,065	1,526,703	4,546,223	25,635,302

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(a) Financial instruments by category (Continued)

Financial liabilities

	Group 31 December 2020		
	Financial assets at fair value through profit or loss-held for trading	Financial liabilities at amortised cost	Total
Current			
Financial liabilities at fair value through profit or loss	26,684	–	26,684
Interest-bearing loans and borrowings	–	34,707,283	34,707,283
Payables and accrued liabilities *(Note 22)*	–	8,987,450	8,987,450
Trade and notes payables	–	15,440,859	15,440,859
Subtotal	26,684	59,135,592	59,162,276
Non-current			
Financial liabilities included in other non- current liabilities *(Note 21)*	–	1,036,917	1,036,917
Interest-bearing loans and borrowings	–	57,518,097	57,518,097
Subtotal	–	58,555,014	58,555,014
Total	26,684	117,690,606	117,717,290

(Amounts expressed in thousands of RMB unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(a) Financial instruments by category (Continued)

Financial Assets

	Group 31 December 2019 (Restated)				
	Financial assets at fair value through profit or loss- held for trading	Financial assets at amortised cost	Equity instruments at fair value through other comprehensive income	Debt instruments at fair value through other comprehensive income	Total
Current					
Trade receivables	–	4,574,581	–	–	4,574,581
Notes receivables	–	–	–	2,844,637	2,844,637
Financial assets at fair value through profit or loss	3,503,175	–	–	–	3,503,175
Restricted cash and term deposits	–	1,305,781	–	–	1,305,781
Cash and cash equivalents	–	7,778,853	–	–	7,778,853
Financial assets included in other current assets	–	5,663,779	–	–	5,663,779
Subtotal	3,503,175	19,322,994	–	2,844,637	25,670,806
Non-current					
Other financial assets measured at fair value	–	–	2,239,251	–	2,239,251
Other non-current assets	–	128,673	–	–	128,673
Subtotal	–	128,673	2,239,251	–	2,367,924
Total	3,503,175	19,451,667	2,239,251	2,844,637	28,038,730

(Amounts expressed in thousands of RMB unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(a) Financial instruments by category (Continued)

Financial Liabilities

	Group 31 December 2019 (Restated)		
	Financial assets at fair value through profit or loss- held for trading	Financial liabilities at amortised cost	Total
Current			
Financial liabilities at fair value through profit or loss	805	–	805
Interest-bearing loans and borrowings	–	42,286,604	42,286,604
Payables and accrued liabilities *(Note 22)*	–	10,791,507	10,791,507
Trade and notes payables	–	12,608,806	12,608,806
Subtotal	805	65,686,917	65,687,722
Non-current			
Financial liabilities included in other non-current liabilities *(Note 21)*	–	1,153,487	1,153,487
Interest-bearing loans and borrowings	–	59,243,563	59,243,563
Subtotal	–	60,397,050	60,397,050
Total	805	126,083,967	126,084,772

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy

Fair value

The carrying amounts and fair values of the Group's financial instruments at amortised cost, other than those with carrying amounts that reasonably approximate to fair values and those carried at fair value, are as follows:

	Carrying amounts		Fair values	
	31 December 2020	**31 December 2019**	**31 December 2020**	**31 December 2019**
Financial assets				
Other non-current assets *(Note 12)*	**127,754**	128,673	**117,537**	111,935

	Carrying amounts		Fair values	
	31 December 2020	**31 December 2019**	**31 December 2020**	**31 December 2019**
Financial liabilities				
Financial liabilities included in other non-current liabilities *(Note 21)*	**1,036,917**	1,153,487	**903,141**	1,137,939
Long-term interest-bearing loans and borrowings, excluding lease liability *(Note 19)*	**39,385,550**	35,496,200	**39,248,491**	34,831,841
	40,422,467	36,649,687	**40,151,632**	35,969,780

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value (Continued)

Except for financial assets and financial liabilities mentioned above, management has assessed that the fair values of cash and cash equivalents, restricted cash and time deposits, trade and notes receivables, financial assets included in other current assets, entrusted loans, trade and notes payables, financial liabilities included in other payables and accrued liabilities, short-term and the current portion of interest-bearing loans and borrowings, interest payable and the current portion of long-term payables approximate to their carrying amounts largely due to the short term maturities of these instruments.

The fair values of the financial assets and liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The fair values of the financial assets included in other non-current assets and financial liabilities included in other non-current liabilities and long-term interest-bearing loans and borrowings have been calculated by discounting the expected future cash flows using rates currently available for instruments on with similar terms, credit risk and remaining maturities.

The Group's own non-performance risk for financial liabilities included in other non-current liabilities and long-term interest-bearing loans and borrowings as at 31 December 2020 was assessed to be insignificant.

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy

The following tables illustrate the fair value measurement hierarchy of the Group's financial instruments:

Assets measured at fair value

As at 31 December 2020	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial assets at fair value through profit or loss:				
Futures contracts	17,311	–	–	17,311
Financial assets at fair value through other comprehensive income				
Notes receivable	–	–	4,546,223	4,546,223
Listed equity investments	8,812	–	–	8,812
Other unlisted investment	–	–	1,517,891	1,517,891
	26,123	–	6,064,114	6,090,237

(Amounts expressed in thousands of RMB unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Assets measured at fair value (Continued)

As at 31 December 2019
(Restated)

	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial assets at fair value through profit or loss:				
Futures contracts	3,175	–	–	3,175
Financial product	–	3,500,000	–	3,500,000
Financial assets at fair value through other comprehensive income	–	–		
Notes receivables			2,844,637	2,844,637
Listed equity investments	8,853	–	–	8,853
Other unlisted investment	–	–	2,230,398	2,230,398
	12,028	3,500,000	5,075,035	8,587,063

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Liabilities measured at fair value

As at 31 December 2020	Fair value measurement using			
	Quoted prices in active markets (Level 1)	**Significant observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Financial liabilities at fair value through profit or loss: futures contracts	**26,684**	**–**	**–**	**26,684**
	26,684	**–**	**–**	**26,684**

As at 31 December 2019	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial liabilities at fair value through profit or loss: futures contracts	805	–	–	805
	805	–	–	805

(Amounts expressed in thousands of RMB unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Assets for which fair values are disclosed:

As at 31 December 2020	Fair value measurement using			
	Quoted prices in active markets (Level 1)	**Significant observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Loans and receivables:				
Financial assets included in other non-current assets	**–**	**117,537**	**–**	**117,537**

As at 31 December 2019	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Loans and receivables:				
Financial assets included in other non-current assets	–	111,935	–	111,935

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Liabilities for which fair values are disclosed:

As at 31 December 2020	Fair value measurement using			
	Quoted prices in active markets (Level 1)	**Significant observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Financial liabilities at amortised cost:				
Financial liabilities included in other non-current liabilities	–	903,141	–	903,141
Long-term interest-bearing loans and borrowings	–	39,248,491	–	39,248,491
	–	40,151,632	–	40,151,632

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Liabilities for which fair values are disclosed:

As at 31 December 2019
(Restated)

	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial liabilities at amortised cost:				
Financial liabilities included in other non-current liabilities	–	1,137,939	–	1,137,939
Long-term interest-bearing loans and borrowings	–	34,831,841	–	34,831,841
	–	35,969,780	–	35,969,780

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

During the year ended 31 December 2020 the Group had no transfers of fair value measurements between Level 1 and Level 2 and no transfers into or out of Level 3 for both financial assets and financial liabilities (2019: Nil).

Below is a summary of significant unobservable inputs to the valuation of financial instruments as at 31 December 2020 and 2019:

	Valuation Technique	**Significant unobservable input**
Equity investments in Size Industry Investment Fund		
31 December 2020	Discounted Cashflow Model	Discounted rate
Chinalco Innovative		
31 December 2020	Market approach	Risk premium
Notes receivable		
31 December 2020	Discounted Cashflow model	Discounted rate

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.3 Capital risk management

The Group's capital management objectives 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.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, issue new shares or sell assets to reduce debts.

Consistent with other entities in the industry, the Group monitors capital on the basis of its gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is calculated as total liabilities (excluding deferred tax liabilities, income tax payable and deferred government grants) less restricted cash, time deposits and cash and cash equivalents. Total capital is calculated as equity, as shown in the consolidated statement of financial position, plus net debt less non-controlling interests.

(Amounts expressed in thousands of RMB
unless otherwise stated)

37 FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

37.3 Capital risk management (Continued)

The gearing ratio as at 31 December 2020 is as follows:

	31 December 2020	31 December 2019 (Restated)
Total liabilities (excluding deferred tax liabilities, income tax payable and deferred government grants)	**121,811,607**	130,168,916
Less: Restricted cash, term deposits and cash and cash equivalents	**10,687,189**	9,084,634
Net debt	**111,124,418**	121,084,282
Total equity	**71,171,716**	70,757,466
Add: Net debt	**111,124,418**	121,084,282
Less: Non-controlling interests	**16,839,706**	16,085,487
Total capital attributable to owners of the parent	**165,456,428**	175,756,261
Gearing ratio	**67%**	69%

(Amounts expressed in thousands of RMB unless otherwise stated)

38 NON-CONTROLLING INTERESTS

Other than the senior perpetual securities issued by a subsidiary of the Group that presented as non-controlling interests in the consolidated financial statements and, disclosed in Note 41, details of the Group's subsidiaries that have material non-controlling interests are set out below:

	31 December 2020	31 December 2019
Percentage of equity interest held by non-controlling interests		
Ningxia Energy	**29.18%**	29.18%
Shanxi Zhongrun	**60.00%**	56.61%
Guizhou Huaren	**60.00%**	60.00%
Profit for the year allocated to non-controlling interests		
Ningxia Energy	**48,040**	240,504
Shanxi Zhongrun	**147,747**	69,701
Guizhou Huaren	**420,737**	198,016
Dividends distributed to non-controlling interests		
Ningxia Energy	**–**	76,469
Shanxi Zhongrun	**–**	–
Guizhou Huaren	**–**	–
Accumulated balances of non-controlling interests at the Year ended		
Ningxia Energy	**5,178,314**	4,978,089
Shanxi Zhongrun	**1,277,602**	996,686
Guizhou Huaren	**1,359,716**	1,028,426

(Amounts expressed in thousands of RMB
unless otherwise stated)

38 NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations:

	Ningxia Energy	
	2020	2019
Revenue	**6,932,708**	6,695,724
Total expenses	**6,768,073**	6,314,098
Profit for the year	**164,635**	381,626
Total comprehensive income for the year	**164,635**	381,626
Current assets	**6,037,632**	5,081,743
Non-current assets	**31,242,070**	32,133,495
Current liabilities	**9,779,461**	8,688,475
Non-current liabilities	**16,256,073**	17,559,995
Net cash flows from operating activities	**2,617,463**	3,274,683
Net cash flows used in investing activities	**(652,297)**	(939,054)
Net cash flows from/financing activities	**(1,792,661)**	(2,611,597)
Effect of foreign exchange rate changes, net	**–**	–
Net increase/(decrease) in cash and cash equivalents	**172,505**	(275,968)

(Amounts expressed in thousands of RMB unless otherwise stated)

38 NON-CONTROLLING INTERESTS (CONTINUED)

	Shanxi Zhongrun	
	2020	2019
Revenue	**3,561,831**	2,204,800
Total expenses	**3,315,585**	2,081,700
Profit for the year	**246,246**	123,100
Total comprehensive income for the year	**246,246**	123,100
Current assets	**643,121**	783,700
Non-current assets	**4,138,211**	4,010,800
Current liabilities	**2,595,397**	1,084,900
Non-current liabilities	**45,365**	2,093,700
Net cash flows from operating activities	**418,528**	234,014
Net cash flows used in investing activities	**(188,504)**	(402,636)
Net cash flows from/financing activities	**(404,548)**	307,452
Effect of foreign exchange rate changes, net	**–**	–
Net (decrease)/increase in cash and cash equivalents	**(174,524)**	138,830

(Amounts expressed in thousands of RMB
unless otherwise stated)

38 NON-CONTROLLING INTERESTS (CONTINUED)

	Guizhou Huaren	
	2020	2019
Revenue	**6,094,811**	5,982,700
Total expenses	**5,393,582**	5,479,532
Profit for the year	**701,229**	503,168
Total comprehensive income for the year	**701,229**	503,168
Current assets	**1,610,363**	1,272,535
Non-current assets	**2,601,807**	2,804,555
Current liabilities	**1,003,650**	1,164,346
Non-current liabilities	**932,570**	1,006,360
Net cash flows from operating activities	**992,304**	565,027
Net cash flows used in investing activities	**(27,475)**	(91,319)
Net cash flows from/financing activities	**(612,892)**	(354,187)
Effect of foreign exchange rate changes, net	**–**	–
Net increase in cash and cash equivalents	**351,937**	119,521

39 BUSINESS COMBINATION UNDER COMMON CONTROL

(a) Acquisition of Henan Zhongzhou Logistics

In April 2020, Pursuant to the agreement entered into between Chalco Logistics Group Zhongzhou Co., Ltd. ("Chalco Logistics Zhongzhou", "中鋁物流集團中州有限公司", a subsidiary of Chalco Logistics), Henan Zhongzhou Logistics Co., Ltd. ("Henan Zhongzhou Logistics", "河南中州物流有限公司", a subsidiary of Zhongzhou Aluminum Factory prior of the transaction), Chalco Logistics Group Co., Ltd. ("Chalco Logistics", "中鋁物流集團有限公司", a subsidiary of the Company), Henan Zhongzhou Aluminum Factory Co., Ltd. ("Zhongzhou Aluminum Factory", "河南中州鋁廠有限公司", a subsidiary of Chinalco) and Chalco Zhongzhou Aluminum Industry Co., Ltd. ("Zhongzhou Aluminum Industry", "中鋁中州鋁業有限公司"), Chalco Logistics Zhongzhou merged Henan Zhongzhou Logistics, which was a 100% owned subsidiary of Zhongzhou Aluminum Factory prior to the transaction, by issuing new shares of Chalco Logistics Zhongzhou to Zhongzhou Aluminum Factory.

(b) Acquisition of Chongqing Xinan Transportation

Pursuant to the agreement entered into between Chalco Logistics, Southwest Aluminum Industry (Group) Co., Ltd. ("Southwest Aluminum Industry", "西南鋁業(集團)有限責任公司", a subsidiary of Chinalco) and Chongqing Southwest Aluminum Transportation Co., Ltd. ("Southwest Aluminum Transportation", "重慶西南鋁運輸有限公司", a subsidiary of Southwest Aluminum Industry prior to the transaction), Chalco Logistics acquired Chongqing Xinan Transportation on 30 June 2020 by subscription of its 51% newly issued shares for a cash consideration of RMB8.189 million.

40 DISPOSAL OF BUSINESSES

(a) Disposal of 75% equity of Shandong Shanlv Electronic Ltd.

In July 2020, the Group entered into a Capital Contribution Agreement with a third party on disposal of 75% equity interest of Shandong Shanlv Electronic Ltd.. A gain of RMB10.72 million from partial disposal of the subsidiary was recognised this year.

41 OTHER EQUITY INSTRUMENTS

On 27 October 2015, the Company issued RMB2,000 million perpetual medium-term notes with an initial distribution rate at 5.50% (the "2015 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2015 Perpetual Medium-term Notes were RMB2,000 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 5.50% per annum on the 2015 Perpetual Medium-term Notes have been made annually in arrears from 29 October 2015 and may be deferred at the discretion of the Company. The 2015 Perpetual Medium-term Notes have no fixed maturity date and the Group repaid the principal amounts together with any accrued, unpaid or deferred coupon distribution payments on 29 October 2020.

On 31 October 2016, Chalco Hong Kong Investment issued USD500 million senior perpetual securities with an initial distribution rate at 4.25% (the "2016 Senior Perpetual Securities"). The proceeds from the issuance of the 2016 Senior Perpetual Securities after the issuance costs were USD498 million (equivalent to RMB3,374 million). The proceeds were on-lent to the Company and any of its subsidiaries for general corporate use. Coupon payments of 4.25% per annum on the 2016 Senior Perpetual Securities have been made semi-annually on 29 April and 29 October in arrears from 7 November 2016 and may be deferred at the discretion of the Group. The first coupon payment date was 29 April 2017. The 2016 Senior Perpetual Securities have no fixed maturity date and are callable only at the Group's option on or after 7 November 2021 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. After 7 November 2021, the coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 2.931 percent, (b) the U.S. Treasury Rate, and (c) a margin of 5.00 percent per annum. While any coupon distribution payments are unpaid or deferred, the Group, the wholly-owned subsidiaries of Chalco Hong Kong as guarantors, and the Issuer cannot declare or pay dividends or make distributions or similar discretionary payments in respect of, or repurchase, redeem or otherwise acquire any securities of lower or equal rank.

41 OTHER EQUITY INSTRUMENTS (CONTINUED)

On 19 October 2018, the Company issued RMB2,000 million perpetual medium-term notes with an initial distribution rate at 5.10% (the "2018 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2018 Perpetual Medium-term Notes were RMB2,000 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 5.10% per annum on the 2018 Perpetual Medium-term Notes have been made annually in arrears from 19 October 2018 and may be deferred at the discretion of the Company. The 2018 Perpetual Medium-term Notes have no fixed maturity date and are callable only at the Group's option on 23 October 2021 or any coupon distribution date after 23 October 2021 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. The coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 2.61 percent, (b) the China Treasury Rate, and (c) a margin of maximum 500 Bps every five years after 23 October 2021. While any coupon distribution payments are unpaid or deferred, the Company cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments.

On 19 November 2019, the Company issued RMB1,500 million perpetual medium-term notes with an initial distribution rate at 4.20% (the "2019 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2019 Perpetual Medium-term Notes were RMB1,499 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 4.20% per annum on the 2019 Perpetual Medium-term Notes have been made annually in arrears from 19 November 2019 and may be deferred at the discretion of the Company. The 2019 Perpetual Medium-term Notes have no fixed maturity date and are callable only at the Group's option on 20 November 2022 or any coupon distribution date after 20 November 2022 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. The coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 1.31 percent, (b) the China Treasury Rate, and (c) a margin of maximum 300 Bps every five years after 20 November 2022. While any coupon distribution payments are unpaid or deferred, the Company cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments.

41 OTHER EQUITY INSTRUMENTS (CONTINUED)

On 2 December 2020, the Company issued RMB1,000 million perpetual medium-term notes with an initial distribution rate at 4.45% (the "2020 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2020 Perpetual Medium-term Notes were RMB1,000 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 4.45% per annum on the 2020 Perpetual Medium-term Notes have been made annually in arrears from 2 December 2020 and may be deferred at the discretion of the Company. The 2020 Perpetual Medium-term Notes have no fixed maturity date and are callable only at the Group's option on 3 December 2022 or any coupon distribution date after 3 December 2022 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. The coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 1.42 percent, (b) the China Treasury Rate, and (c) a margin of maximum 300 Bps every two years after 3 December 2022. While any coupon distribution payments are unpaid or deferred, the Company cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments.

According to the terms and conditions of the 2016 Senior Perpetual Securities, the 2018 Perpetual Medium-term Notes, the 2019 Perpetual Medium-term Notes and the 2020 Perpetual Medium-term Notes, the Group has no contractual obligations to repay their principal or to pay any coupon distributions. Thus in the opinion of the directors of the Company, they do not meet the definition of financial liabilities according to IAS 32 Financial Instruments: Presentation, and are classified as equity and subsequent distributions declared will be treated as distributions to equity owners.

42 CONTINGENT LIABILITIES

The Group is a defendant in a number of lawsuits arising in the ordinary course of business. While the outcomes of such lawsuits cannot be determined at present, management believes that any resulting liabilities will not have a material adverse effect on the financial position or operating results the Group.

(Amounts expressed in thousands of RMB unless otherwise stated)

43 COMMITMENTS

(a) Capital commitments

	31 December 2020	31 December 2019
Property, plant and equipment	**1,437,354**	3,408,174

(b) Other capital commitments

As at 31 December 2020, the commitments to make capital contributions to the Group's joint ventures and associates were as follows:

	31 December 2020	31 December 2019
Associates	**351,800**	33,800
Joint ventures	**410,000**	410,000
	761,800	443,800

44 EVENTS AFTER THE REPORTING PERIOD

(a) On 22 January 2021, the Group completed an issuance of short-term bonds with a total face value of RMB2 billion at par value of RMB100.00 per unit which will mature in July 2021 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.75%.

(b) On 9 March 2021, the Group completed an issuance of short-term bonds with a total face value of RMB2 billion at par value of RMB100.00 per unit which will mature in March 2021 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.45%.

(c) On 11 March 2021, the Group completed an issuance of short-term bonds with a total face value of RMB2 billion at par value of RMB100.00 per unit which will mature in June 2021 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.65%.

(d) On 15 March 2021, the Group completed an issuance of short-term bonds with a total face value of RMB2 billion at par value of RMB100.00 per unit which will mature in June 2021 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.75%.

(e) On 23 March 2021, the Board of Directors of the Company approved a proposal to make up the accumulated loss of the Company with appropriation of statutory surplus reserve amounting to RMB4.23 billion. This proposal is subject to further approval in the 2020 annual general meeting of the Company.

45 COMPARATIVE AMOUNT

Certain comparative amounts have been restated as a result of the business combinations under common control as disclosed in Note 39.

(Amounts expressed in thousands of RMB unless otherwise stated)

46 STATEMENT OF FINANCIAL POSITION OF THE COMPANY

Information about the statement of financial position of the Company at the end of the reporting period is as follows:

	31 December 2020	31 December 2019
ASSETS		
Non-current assets		
Intangible assets	**1,011,636**	922,741
Property, plant and equipment	**10,583,996**	12,852,420
Investment properties	**39,914**	21,069
Right-of-use assets	**1,857,459**	1,816,982
Investments in subsidiaries	**61,575,254**	61,956,887
Investments in joint ventures	**1,471,924**	1,471,924
Investments in associates	**5,974,205**	5,968,055
Other financial assets measured at fair value	**1,325,181**	2,034,398
Deferred tax assets	**510,804**	576,254
Other non-current assets	**4,017,574**	7,008,769
Total non-current assets	**88,367,947**	94,629,499
Current assets		
Inventories	**1,958,966**	2,202,255
Trade and notes receivables	**901,927**	912,872
Other current assets	**24,778,036**	22,428,349
Financial assets at fair value through profit or loss	**17,311**	3,500,000
Restricted cash and time deposits	**149,169**	148,908
Cash and cash equivalents (excluding bank overdrafts)	**4,847,057**	3,385,377
Total current assets	**32,652,466**	32,577,761
Total assets	**121,020,413**	127,207,260

(Amounts expressed in thousands of RMB
unless otherwise stated)

46 STATEMENT OF FINANCIAL POSITION OF THE COMPANY (CONTINUED)

	31 December 2020	31 December 2019
EQUITY AND LIABILITIES		
EQUITY		
Equity attributable to owners of the parent		
Share capital	**17,022,673**	17,022,673
Other reserves	**41,050,321**	42,015,946
Accumulated losses	**(6,170,655)**	(6,593,433)
Total equity	**51,902,339**	52,445,186
LIABILITIES		
Non-current liabilities		
Interest-bearing loans and borrowings	**31,549,165**	28,597,132
Other non-current liabilities	**185,255**	335,592
Total non-current liabilities	**31,734,420**	28,932,724
Current liabilities		
Interest-bearing loans and borrowings	**17,853,062**	29,637,697
Other payables and accrued liabilities	**18,669,584**	15,322,156
Contract liabilities	**108,895**	73,991
Trade and notes payables	**752,113**	795,506
Total current liabilities	**37,383,654**	45,829,350
Total liabilities	**69,118,074**	74,762,074
Total equity and liabilities	**121,020,413**	127,207,260
Net current liabilities	**(4,731,188)**	(13,251,589)
Total assets less current liabilities	**83,636,759**	81,377,910

The statement of financial position of the Company was approved by the Board of Directors on 23 March 2021 and was signed on its behalf.

Ao Hong
Director

Wang Jun
Chief Financial Officer

(Amounts expressed in thousands of RMB unless otherwise stated)

46 STATEMENT OF FINANCIAL POSITION OF THE COMPANY (CONTINUED)

Note:

A summary of the Company's reserves is as follows:

	Share premium	Other capital reserves	Statutory surplus reserve	Special reserve	Fair value Reserve	Other equity instruments	Accumulated losses	Total
Balance at 31 December 2018	19,203,139	13,588,663	5,867,557	25,269	7,425	3,988,000	(7,176,832)	35,503,221
At 1 January 2019 (Restated)	19,203,139	13,588,663	5,867,557	25,269	7,425	3,988,000	(7,176,832)	35,503,221
Profit for the year	–	–	–	–	–	–	795,399	795,399
Issuance of senior perpetual securities	–	–	–	–	–	1,499,104	–	1,499,104
Business combinations under common control	1,020	–	–	–	–	–	–	1,020
Release of deferred government subsidies	–	–	–	–	–	–	–	–
Changes in fair value of available-for-sale financial assets, net of tax	–	–	–	–	13,352	–	–	13,352
Other appropriation	–	–	–	(7,030)	–	–	–	(7,030)
Other equity instruments' distribution	–	–	–	–	–	–	(212,000)	(212,000)
Equity exchange arrangement	8,564,661	(10,735,214)	–	–	–	–	–	(2,170,553)
Balance at 31 December 2019	27,768,820	2,853,449	5,867,557	18,239	20,777	5,487,104	(6,593,433)	35,422,513
Profit for the year	**–**	**–**	**–**	**–**	**–**	**–**	**697,778**	**697,778**
Issuance of senior perpetual securities	**–**	**–**	**–**	**–**	**–**	**1,000,000**	**–**	**1,000,000**
Payment of senior perpetual securities	**–**	**–**				**(2,000,000)**	**–**	**(2,000,000)**
Changes in fair value of equity investments at fair value through other comprehensive income, net of tax	**–**	**–**	**–**	**–**	**(17,609)**	**–**	**–**	**(17,609)**
Other appropriation	**–**	**–**	**–**	**3,417**	**–**	**–**	**–**	**3,417**
Share of reserves of joint ventures and associates	**–**	**(48)**	**–**	**–**	**–**	**–**	**–**	**(48)**
Other equity instruments' distribution	**–**	**–**	**–**	**–**	**–**	**(675)**	**(275,000)**	**(275,675)**
Release of deferred government subsidies	**49,290**	**–**	**–**	**–**	**–**	**–**	**–**	**49,290**
At 31 December 2020	**27,818,110**	**2,853,401**	**5,867,557**	**21,656**	**3,168**	**4,486,429**	**(6,170,655)**	**34,879,666**

47 APPROVAL OF THE FINANCIAL STATEMENT

The financial statements were approved and authorised for issue by the Board of Directors on 23 March 2021.

EY 安永

To the shareholders of Aluminum Corporation of China Limited
(Established in the People's Republic of China with limited liability)

OPINION

We have audited the consolidated financial statements of Aluminum Corporation of China Limited (the "Company") and its subsidiaries (the "Group") set out on pages 185 to 426, which comprise the consolidated statement of financial position as at 31 December 2019, and the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2019, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRSs") issued by the International Accounting Standards Board ("IASB") and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing ("ISAs") issued by the International Auditing and Assurance Standards Board ("IAASB"). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report. We are independent of the Group in accordance with the Code of Ethics for Professional Accountants (the "Code"), issued by the Hong Kong Institute of Certified Public Accountants, and we have fulfilled our other ethical responsibilities in accordance with the 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 judgement, 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. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

INDEPENDENT AUDITOR'S REPORT (CONTINUED)

Key audit matter	How our audit addressed the key audit matter
Impairment of property, plant and equipment	
At 31 December 2019, the Group's property, plant and equipment ("PPE") was RMB103,331 million. As described in Notes 2.8, 3 and 6 to the consolidated financial statements, the Group is required to review PPE for impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. Management performed an impairment assessment on such PPE by determining the recoverable amounts of the cash generating units ("CGUs") that the PPE are allocated to. As a result of the impairment assessment, impairment losses of RMB259 million were recognised during the year ended 31 December 2019. Auditing management's impairment assessment of PPE was complex due to the significant estimates and judgments involved in the projections of future cash flows, including the future prices of aluminum and alumina, expected production and sales volumes, production costs, operating expenses and discount rates applied to these forecasted future cash flows. These estimates and judgments may be affected by unexpected changes in the future market or economic conditions.	We obtained an understanding, evaluated the design, and tested the operating effectiveness of controls over the PPE impairment assessment process including tests of controls over management's review of the significant assumptions used in the impairment assessment. Amongst other audit procedures performed, we compared the methodology used by the Group, that is, recoverable amount calculations based on future discounted cash flows, to industry practice and tested the completeness and accuracy of the underlying data used in the projection. We also assessed the reasonableness of the significant assumptions used in the calculations which comprised of, amongst others, future prices of aluminum and alumina, expected production and sales volumes, production costs, operating expenses and discount rates, by comparing them to external industry outlook reports from a number of sources and by analysing the historical accuracy of management's estimates. In addition, we involved our valuation specialist to assist us with assessing the appropriateness of the valuation methodologies and the reasonableness of assumptions used, including the discount rates. We performed a sensitivity analysis around the significant assumptions described above to assess the changes to the recoverable amounts of the CGUs resulting from changes in these assumptions, both individually and in aggregate. We also assessed the adequacy of the Group's disclosures included in Note 6 to the consolidated financial statements regarding the significant assumptions of impairment testing.

KEY AUDIT MATTERS (CONTINUED)

Key audit matter	How our audit addressed the key audit matter
Impairment of goodwill	
At 31 December 2019, the Group's goodwill was RMB3,511 million. As described in Notes 2.1, 2.8, 3 and 5 to the consolidated financial statements, the Group is required to, at least annually, perform impairment assessments of goodwill. For the purpose of performing impairment assessments, goodwill was allocated to CGUs. Management performed the impairment testing by comparing the recoverable amount of the CGUs and the carrying amount of the CGUs. Auditing management's annual goodwill impairment assessment was complex because the determination of the recoverable amount of the underlying CGUs involved estimates and judgments, including future prices of aluminum and alumina, expected production and sales volumes, production costs, operating expenses, terminal growth rates used to estimate future cash flows and discount rates applied to these forecasted future cash flows of the underlying CGUs. These estimates and judgments may be affected by unexpected changes in future market or economic conditions.	We obtained an understanding, evaluated the design, and tested the operating effectiveness of controls over the impairment assessment process including testing controls over management's review of the key assumptions used in the goodwill impairment assessment. Amongst other audit procedures performed, we compared the methodology used (recoverable amount calculations based on future discounted cash flows) by the Group to industry guidelines, and tested the completeness and accuracy of the underlying data used in the forecast. We evaluated the reasonableness of management's key assumptions used in the calculations, which comprised of, among others, future prices of aluminum and alumina, expected production and sales volumes, production costs, operating expenses, growth rate and discount rate, by comparing them to external industry outlook reports from a number of sources and analysing the historical accuracy of management's estimates. In addition, we involved our valuation specialist to assist us with assessing the appropriateness of the valuation methodologies and the reasonableness of assumptions used, including the discount rates. We performed a sensitivity analysis around the key assumptions described above to evaluate the changes to the recoverable amounts of the CGUs resulting from changes in these assumptions, both individually and in aggregate. We also assessed the adequacy of the Group's disclosures included in Note 5 to the consolidated financial statements regarding the key assumptions of impairment testing.

KEY AUDIT MATTERS (CONTINUED)

Key audit matter	How our audit addressed the key audit matter
Recognition of deferred tax assets	
At 31 December 2019, the Group had deferred tax assets on deductible temporary differences and tax losses carried forward of RMB1,522 million. As described in Notes 2.26, 3 and 10 to the consolidated financial statements, the Group recognised these deferred tax assets to the extent that it is probable that future taxable profits will be available to utilise the deferred tax assets. Auditing management's recoverability assessment of deferred tax assets involved subjective estimation and complex auditor judgment because the forecast of future taxable profits is complex and judgmental and is based on significant assumptions, including future tax rates, the possible utilisation of loss carry forwards and future taxable profits that are affected by unexpected changes in the tax law framework and future market or economic conditions.	We obtained an understanding, evaluated the design, and tested the operating effectiveness of controls over the recoverability assessment of deferred tax assets including testing controls over management's review of the significant assumptions used in the forecast. Among other audit procedures performed, we compared the tax rates and the possible utilisation of loss carry forwards with the tax law framework and tested the completeness and accuracy of the underlying data used in the forecast. We tested the Group's scheduling of the timing and amount of reversal of taxable temporary differences. We also evaluated management's significant assumptions in determining the future available taxable profits, for example, the future prices of aluminum and alumina, expected production and sales volumes, production costs and operating expenses by comparing them with the market trend forecasted by external industry analysts and analysing the historical accuracy of management's estimates. In addition, we involved our tax professionals to assist us in evaluating the technical merits from a tax perspective of management's analysis. We also assessed the adequacy of the Group's disclosures included in Note 10 to the consolidated financial statements regarding deferred tax assets.

OTHER INFORMATION INCLUDED IN THE ANNUAL REPORT

The directors of the Company are responsible for the other information. The other information comprises the information included in the Annual Report, other than the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do 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 and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

RESPONSIBILITIES OF THE DIRECTORS FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRSs issued by the IASB and the disclosure requirements of the Hong Kong Companies Ordinance, 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 of the Company 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 of the Company either intend to liquidate the Group or to cease operations or have no realistic alternative but to do so.

The directors of the Company are assisted by the Audit Committee in discharging their responsibilities for overseeing the Group's financial reporting process.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Our report is made solely to you, as a body, and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report.

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 judgement 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.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

- 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 auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

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

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Mr. Cheong Ming Yik.

Ernst & Young
Certified Public Accountants
22/F CITIC Tower
1 Tim Mei Avenue
Central, Hong Kong

26 March 2020

(Amounts expressed in thousands of RMB
unless otherwise stated)

Consolidated Statement of Financial Position

	Notes	**31 December 2019**	31 December 2018 (Restated)
ASSETS			
Non-current assets			
Intangible assets	5	**13,764,460**	12,879,365
Property, plant and equipment	6	**103,331,456**	106,249,116
Investment properties	7	**1,503,266**	1,156,006
Land use rights	19 (a)	**–**	4,306,865
Right-of-use assets	19 (b)	**15,890,437**	–
Investments in joint ventures	8 (a)	**3,385,582**	3,393,349
Investments in associates	8 (b)	**9,512,401**	6,363,462
Equity investments designated at fair value through other comprehensive income	9	**2,239,251**	1,729,825
Deferred tax assets	10	**1,522,216**	1,542,655
Other non-current assets	11	**3,207,843**	4,442,645
Total non-current assets		**154,356,912**	142,063,288
Current assets			
Inventories	12	**19,515,420**	20,459,668
Trade and notes receivables	13	**7,393,123**	8,104,017
Other current assets	14	**9,237,063**	9,025,514
Financial assets at fair value through profit or loss	36.2	**3,503,175**	16,141
Restricted cash and time deposits	15	**1,305,781**	2,165,288
Cash and cash equivalents	15	**7,759,190**	19,130,835
Total current assets		**48,713,752**	58,901,463
Total assets		**203,070,664**	200,964,751

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	31 December 2019	31 December 2018 (Restated)
EQUITY AND LIABILITIES			
EQUITY			
Equity attributable to owners of the parent			
Share capital	16	**17,022,673**	14,903,798
Other reserves	17	**39,853,906**	40,367,573
Accumulated losses		**(2,216,946)**	(2,856,064)
		54,659,633	52,415,307
Non-controlling interests		**16,065,427**	15,254,312
Total equity		**70,725,060**	67,669,619
LIABILITIES			
Non-current liabilities			
Interest-bearing loans and borrowings	18	**59,243,563**	54,207,386
Other non-current liabilities	21	**2,219,574**	2,438,164
Deferred tax liabilities	10	**1,712,739**	1,812,805
Total non-current liabilities		**63,175,876**	58,458,355

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	**31 December 2019**	31 December 2018 (Restated)
Current liabilities			
Trade and notes payables	23	**12,584,755**	14,009,264
Other payables and accrued liabilities	22	**12,442,184**	11,567,152
Contract liabilities	4	**1,638,826**	1,579,322
Financial liabilities at fair value through profit or loss	36.2	**805**	1,766
Income tax payable		**216,554**	113,783
Interest-bearing loans and borrowings	18	**42,286,604**	47,565,490
Total current liabilities		**69,169,728**	74,836,777
Total liabilities		**132,345,604**	133,295,132
Total equity and liabilities		**203,070,664**	200,964,751
Net current liabilities		**20,455,976**	15,935,314
Total assets less current liabilities		**133,900,936**	126,127,974

The accompanying notes are an integral part of these financial statements.

Lu Dongliang
Director

Wang Jun
Chief Financial Officer

Consolidated Statement of Profit or Loss and Other Comprehensive Income

Year ended 31 December 2019
(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	**2019**	2018 (Restated)
Revenue	4	**190,074,161**	180,241,414
Cost of sales		**(177,946,276)**	(167,029,416)
Gross profit		**12,127,885**	13,211,998
Selling and distribution expenses		**(1,673,139)**	(2,496,933)
General and administrative expenses		**(3,956,604)**	(3,959,177)
Research and development expenses		**(940,828)**	(626,873)
Impairment losses on property, plant and equipment	6	**(259,354)**	(46,484)
Impairment losses on financial assets		**(169,751)**	(107,956)
Impairment losses on investments in joint ventures		**–**	(216,953)
Other income	26	**79,469**	135,367
Other gains, net	27	**1,247,269**	921,904
Finance income	28	**261,151**	492,234
Finance costs	28	**(4,921,179)**	(4,882,496)
Share of profits and losses of:			
Joint ventures	8 (a)	**270,115**	(199,452)
Associates	8 (b)	**48,767**	39,335
Profit before income tax	25	**2,113,801**	2,264,514
Income tax expense	31	**(625,720)**	(822, 519)
Profit for the year		**1,488,081**	1,441,995
Profit attributable to:			
Owners of the parent		**850,999**	707,460
Non-controlling interests		**637,082**	734,535
		1,488,081	1,441,995

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	**2019**	2018 (Restated)
Profit for the year		**1,488,081**	1,441,995
Other comprehensive income that will not be reclassified to profit or loss in subsequent periods, net of tax:			
Equity investments designated at fair value through other comprehensive income:			
Changes in fair value		**57,815**	(15,491)
Income tax effect		**(14,642)**	3,769
		43,173	(11,722)
Other comprehensive income that may be reclassified to profit or loss in subsequent periods, net of tax:			
Exchange differences on translation of foreign operations		**(32,323)**	(120,756)
Other comprehensive income/(loss) for the period, net of tax		**10,850**	(132,478)
Total comprehensive income for the year		**1,498,931**	1,309,517

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	**2019**	2018 (Restated)
Attributable to:			
Owners of the parent		**861,599**	575,621
Non-controlling interests		**637,332**	733,896
		1,498,931	1,309,517
Basic and diluted earnings per share attributable to ordinary equity holders of the parent (expressed in RMB per share)	32	**0.037**	0.034

Details of the dividends payable and proposed for the year are disclosed in Note 33 to the financial statements.

The accompanying notes are an integral part of these financial statements.

(Amounts expressed in thousands of RMB
unless otherwise stated)

Consolidated Statement of Changes in Equity

	Attributable to owners of the parent											
		Capital reserves										
	Share capital (Note 16)	Share premium	Other capital reserves	Statutory surplus reserve	Special reserve	Fair value reserve	Other equity instruments	Foreign currency translation reserve	Accumulated losses	Total	Non-controlling interests	Total equity
At 31 December 2018	14,903,798	18,414,678	11,690,292	5,867,557	145,938	6,588	3,988,000	214,520	(2,816,481)	52,414,890	15,254,312	67,669,202
Adjustment due to business combinations under common control *(Note 38)*	–	40,000	–	–	–	–	–	–	(39,583)	417	–	417
At 31 December 2018 (Restated)	14,903,798	18,454,678	11,690,292	5,867,557	145,938	6,588	3,988,000	214,520	(2,856,064)	52,415,307	15,254,312	67,669,619
Profit for the year	–	–	–	–	–	–	–	–	850,999	850,999	637,082	1,488,081
Other comprehensive income for the year												
Changes in fair value of equity investments at fair value through other comprehensive income, net of tax	–	–	–	–	–	42,923	–	–	–	42,923	250	43,173
Exchange differences on translation of foreign operations	–	–	–	–	–	–	–	(32,323)	–	(32,323)	–	(32,323)
Total comprehensive income for the year	–	–	–	–	–	42,923	–	(32,323)	850,999	861,599	637,332	1,498,931
Business combinations under common control *(Note 38)*	–	(237)	–	–	–	–	–	–	–	(237)	–	(237)
Capital injection from non-controlling shareholders	–	–	4,144	–	–	–	–	–	–	4,144	706,970	711,114
Acquisition of non-controlling interests	–	–	149,322	–	–	–	–	–	–	149,322	(149,322)	–
Disposal of subsidiaries	–	–	–	–	(1,666)	–	–	–	119	(1,547)	(26,234)	(27,781)
Issuance of senior perpetual securities *(Note 40)*	–	–	–	–	–	–	1,499,104	–	–	1,499,104	–	1,499,104
Issuance of share capital *(Note 16)*	2,118,875	8,564,661	(10,735,214)	–	–	–	–	–	–	(51,678)	–	(51,678)
Other appropriations	–	–	–	–	(5,317)	–	–	–	–	(5,317)	(17,768)	(23,085)
Share of reserves of joint ventures and associates	–	–	–	–	936	–	–	–	–	936	–	936
Dividends distribution of subsidiaries to non-controlling shareholders	–	–	–	–	–	–	–	–	–	–	(199,215)	(199,215)
Distribution of other equity instruments	–	–	–	–	–	–	–	–	(212,000)	(212,000)	(140,648)	(352,648)
At 31 December 2019	17,022,673	27,019,102*	1,108,544*	5,867,557*	139,891*	49,511*	5,487,104*	182,197*	(2,216,946)	54,659,633	16,065,427	70,725,060

(Amounts expressed in thousands of RMB unless otherwise stated)

	Attributable to owners of the parent											
		Capital reserves										
	Share capital (Note 16)	Share premium	Other capital reserves	Statutory surplus reserve	Special reserve	Fair value reserve	Other equity instruments	Foreign currency translation reserve	Accumulated losses	Total	Non-controlling interests	Total equity
At 31 December 2017	14,903,798	18,787,833	952,878	5,867,557	146,934	17,671	2,019,288	335,276	(3,465,717)	39,565,518	26,037,642	65,603,160
Adjustment due to business combinations under common control	–	40,000	–	–	–	–	–	–	(566)	39,434	–	39,434
At 1 January 2018 (Restated)	14,903,798	18,827,833	952,878	5,867,557	146,934	17,671	2,019,288	335,276	(3,466,283)	39,604,952	26,037,642	65,642,594
Profit for the year	–	–	–	–	–	–	–	–	707,460	707,460	734,535	1,441,995
Other comprehensive income for the year												
Changes in fair value of equity investments at fair value through other comprehensive income, net of tax	–	–	–	–	–	(11,083)	–	–	–	(11,083)	(639)	(11,722)
Exchange differences on translation of foreign operations	–	–	–	–	–	–	–	(120,756)	–	(120,756)	–	(120,756)
Total comprehensive income for the year	–	–	–	–	–	(11,083)	–	(120,756)	707,460	575,621	733,896	1,309,517
Business combinations under common control	–	(443,582)	–	–	–	–	–	–	–	(443,582)	–	(443,582)
Capital injection from non-controlling shareholders	–	78,271	–	–	–	–	–	–	–	78,271	759,350	837,621
Capital injection before business combinations under common control	–	69,885	–	–	–	–	–	–	–	69,885	–	69,885
Acquisition of non-controlling interests	–	(218)	–	–	–	–	–	–	–	(218)	(3,547)	(3,765)
Restructure of subsidiaries	–	(77,511)	–	–	–	–	–	–	–	(77,511)	77,511	–
Disposal of subsidiaries	–	–	–	–	–	–	–	–	–	–	(1,160)	(1,160)
Issuance of senior perpetual securities	–	–	–	–	–	–	1,988,000	–	–	1,988,000	–	1,988,000
Release of deferred government subsidies	–	–	2,200	–	–	–	–	–	–	2,200	–	2,200
Equity exchange arrangement *(note 16 (c))*	–	–	10,735,214	–	–	–	–	–	–	10,735,214	(10,735,214)	–
Other appropriations	–	–	–	–	8,119	–	–	–	–	8,119	(1,514)	6,605
Share of reserves of joint ventures and associates	–	–	–	–	2,051	–	–	–	–	2,051	–	2,051
Step acquisition of a subsidiary	–	–	–	–	(11,166)	–	–	–	–	(11,166)	–	(11,166)
Distribution of other equity instruments*	–	–	–	–	–	–	(19,288)	–	(90,722)	(110,010)	(300,538)	(410,548)
Dividends distribution before business combinations under common control	–	–	–	–	–	–	–	–	(6,519)	(6,519)	–	(6,519)
Dividends distribution of subsidiaries to non-controlling shareholders	–	–	–	–	–	–	–	–	–	–	(605,416)	(605,416)
Acquisition of subsidiaries	–	–	–	–	–	–	–	–	–	–	1,468,435	1,468,435
Repayment of senior perpetual securities	–	–	–	–	–	–	–	–	–	–	(2,175,133)	(2,175,133)
At 31 December 2018 (Restated)	14,903,798	18,454,678	11,690,292	5,867,557	145,938	6,588	3,988,000	214,520	(2,856,064)	52,415,307	15,254,312	67,669,619

* These reserves accounts comprise the consolidated other reserves of RMB39,854 million (31 December 2018 (Restated): RMB40,368 million) in the consolidated statement of financial position.

The accompanying notes are an integral part of these financial statement.

(Amounts expressed in thousands of RMB unless otherwise stated)

Consolidated Statement of Cash Flow

	Notes	2019	2018 (restated)
Net cash flows from operating activities	34	**12,473,489**	13,032,076
Investing activities			
Purchases of intangible assets		**(149,756)**	(103,304)
Purchases of property, plant and equipment		**(8,891,529)**	(6,746,616)
Purchases of investment properties		**(44,063)**	–
Purchases of land use rights		**–**	(2,838)
Prepaid land lease payments		**(6,034)**	–
Proceeds from disposal of property, plant and equipment		**1,132,839**	564,791
Proceeds from disposal of intangible assets		**5,764**	–
Proceeds from disposal of a joint venture and an associate		**367,867**	30,816
Purchase of financial products		**(3,500,000)**	–
Acquisition of a subsidiary		**–**	255,650
Proceeds from disposal and deemed disposal of subsidiaries and business, net of cash		**23,797**	6,558
Investments in joint ventures		**(50,000)**	(90,000)
Investments in associates		**(2,653,244)**	(266,300)
(Purchase of)/Proceeds from equity investments designated at fair value through other comprehensive income		**(700)**	198,000
Dividend from equity investments designated at fair value through other comprehensive income		**97,775**	109,914
Dividend received		**236,708**	327,983
Cash paid for settlement of futures, options and forward foreign exchange contracts		**(67,253)**	(13,288)
Loans repaid by related parties		**–**	32,215
Proceeds from disposal of financial assets at fair value through profit or loss		**2,155**	–
Asset-related government grants received		**103,373**	167,314
Net cash flows used in investing activities		**(13,392,301)**	(5,529,105)

(Amounts expressed in thousands of RMB unless otherwise stated)

	Notes	2019	2018 (restated)
Financing activities			
Proceeds from a gold leasing arrangement		**6,921,860**	2,323,105
Share issue expense		**(51,678)**	–
Repayments of gold leasing arrangement		**(1,607,905)**	(7,519,283)
Proceeds from issuance of bonds and notes, net of issuance costs		**37,965,385**	13,185,034
Repayments of senior perpetual securities		**–**	(2,417,758)
Proceeds from issuance of perpetual securities, net of issuance costs		**1,499,104**	1,988,000
Repayments of bonds and notes		**(22,400,000)**	(21,815,000)
Cash consideration paid for business combinations under common control		**(237)**	(373,495)
Drawdown of short-term and long-term loans		**40,669,197**	76,899,591
Repayments of short-term and long-term loans		**(66,105,388)**	(70,560,667)
Senior Perpetual securities' distribution paid		**(352,648)**	(410,548)
Proceeds from sale and leaseback finance leases, net of deposit and transaction costs		**–**	1,204,843
Purchase of non-controlling interests		**–**	(3,765)
Capital injection from the parent company to the entity acquired under common control		**–**	69,885
Principal portion of lease payment		**(3,032,106)**	–
Finance lease instalment paid		**–**	(3,915,404)
Capital injection from non-controlling shareholders		**711,114**	837,621
Dividends paid by subsidiaries to non-controlling shareholders		**(222,930)**	(327,645)
Interest paid		**(4,467,803)**	(5,445,120)
Net cash flows used in financing activities		**(10,474,035)**	(16,280,606)

(Amounts expressed in thousands of RMB
unless otherwise stated)

	Notes	2019	2018 (restated)
Net decrease in cash and cash equivalents		**(11,392,847)**	(8,777,635)
Cash and cash equivalents at beginning of year		**19,130,835**	27,851,106
Effect of foreign exchange rate changes, net		**21,202**	57,364
Cash and cash equivalents at 31 December	15	**7,759,190**	19,130,835

The accompanying notes are an integral part of these financial statements.

1. GENERAL INFORMATION

Aluminum Corporation of China Limited (the "Company") (中國鋁業股份有限公司) and its subsidiaries (together the "Group") are principally engaged in the manufacture and distribution of alumina, primary aluminum and energy products. The Group is also engaged in the development of bauxite related resources, the production, fabrication and distribution of bauxite, carbon and relevant non-ferrous metal products and the trading and logistics and transport services of non-ferrous metal products and coal products.

The Company is a joint stock company which was established on 10 September 2001 and is domiciled in the People's Republic of China (the "PRC") with limited liability. The address of its registered office is No. 62 North Xizhimen Street, Haidian District, Beijing, the PRC.

The Company's shares have been listed on the Main Board of the Hong Kong Stock Exchange and the New York Stock Exchange since 2001. The Company also listed its A shares on the Shanghai Stock Exchange in 2007.

In the opinion of the directors, the ultimate holding company and parent of the Company is Aluminum Corporation of China ("Chinalco") (中國鋁業集団有限公司), a company incorporated and domiciled in the PRC and wholly owned by the State-owned Assets Supervision and Administration Commission of the State Council.

(Amounts expressed in thousands of RMB unless otherwise stated)

1. GENERAL INFORMATION (CONTINUED)

Information about subsidiaries

Particulars of the Company's principal subsidiaries are as follows:

Name	Place of registration and business	Registered capital	Principal activities	Percentage of equity attributable to the Company Direct	Indirect
Shanxi Huaxing Aluminum Co. Ltd. ("Shanxi Huaxing") (山西華興鋁業有限公司)	PRC/Mainland China	1,850,000	Manufacture and distribution of alumina	60.00%	40.00%
Baotou Aluminum Co., Ltd. ("Baotou Aluminum") (包頭鋁業有限公司)	PRC/Mainland China	2,245,510	Manufacture and distribution of primary aluminum, aluminum alloy and related fabricated products and carbon products	100.00%	–
China Aluminum International Trading Co., Ltd. ("Chalco Trading") (中鋁國際貿易有限公司)	PRC/Mainland China	1,731,111	Import and export activities	100.00%	–
Chalco Shanxi New Material Co., Ltd. ("Shanxi New Material") (中鋁山西新材料有限公司)	PRC/Mainland China	4,279,601	Manufacture and distribution of alumina, primary aluminum and anode carbon products and electricity generation and supply	85.98%	–
China Aluminum International Trading Group Co., Ltd. ("Trading Group") (中鋁國際貿易集團有限公司)	PRC/Mainland China	1,030,000	Import and export activities	100.00%	
Zunyi Aluminum Co., Ltd. (遵義鋁業股份有限公司)	PRC/Mainland China	3,204,900	Manufacture and distribution of primary aluminum and alumina	67.45%	–
Chalco Hong Kong Ltd. ("Chalco Hong Kong") (中國鋁業香港有限公司)	Hong Kong	HKD849,940 in thousand	Overseas investments and alumina import and export activities	100.00%	–
Chalco Mining Co., Ltd. ("Chalco Mining") (中鋁礦業有限公司)	PRC/Mainland China	4,028,859	Manufacture, acquisition and distribution of bauxite mines, limestone ore, manufacturing and distribution of alumina	100.00%	–
Chalco Energy Co., Ltd. (中鋁能源有限公司)	PRC/Mainland China	1,384,398	Thermoelectric supply and investment management	100.00%	–
China Aluminum Ningxia Energy Group Co., Ltd. ("Ningxia Energy") (中鋁寧夏能源集團)	PRC/Mainland China	5,025,800	Thermal power, wind power and solar power generation, coal mining, and power-related equipment manufacturing	70.82%	–

(Amounts expressed in thousands of RMB unless otherwise stated)

1. GENERAL INFORMATION (CONTINUED)

Information about subsidiaries (Continued)

Name	Place of registration and business	Registered capital	Principal activities	Percentage of equity attributable to the Company Direct	Indirect
Guizhou Huajin Aluminum Co., Ltd. ("Guizhou Huajin") (貴州華錦鋁業有限公司)	PRC/Mainland China	1,000,000	Manufacture and distribution of alumina	60.00%	–
Chalco Zhengzhou Research Institute of Non-ferrous Metal Co., Ltd. (中國鋁業鄭州有色金屬研究院有限公司)	PRC/Mainland China	214,858	Research and development services	100.00%	–
Chalco Shandong Co., Ltd. ("Chalco Shandong") (中鋁山東有限公司)	PRC/Mainland China	4,052,847	Manufacture and distribution of alumina	100.00%	–
Chalco Zhongzhou Aluminum Co., Ltd. ("Zhongzhou Aluminum") (中鋁中州鋁業有限公司)	PRC/Mainland China	5,071,235	Manufacture and distribution of alumina	100.00%	–
China Aluminum Logistics Group Corporation Co., Ltd. (中鋁物流集團有限公司)	PRC/Mainland China	964,291	Logistics transportation	100.00%	–
Chinalco Shanxi Jiaokou Xinghua Technology Ltd. ("Xinghua Technology") (中鋁集團山西交口興華科技股份有限公司)	PRC/Mainland China	588,182	Manufacture and distribution of primary aluminum	33.00%	33.00%
Chinalco Shanghai Company Limited ("Chinalco Shanghai") (中鋁(上海)有限公司)	PRC/Mainland China	968,300	Trading and engineering project management	100.00%	–
Shanxi China Huarun Co., Ltd. ("Shanxi Huarun") (山西中鋁華潤有限公司)	PRC/Mainland China	1,641,750	Manufacture and distribution of primary aluminum	43.39%	–
Guizhou Huaren New Material Co., Ltd. ("Guizhou Huaren") (貴州華仁新材料有限公司)	PRC/Mainland China	1,200,000	Manufacture and distribution of primary aluminum	40.00%	–
Chinalco Materials Co., Ltd. (中鋁物資有限公司)	PRC/Mainland China	1,000,000	Import and export activities	100.00%	

1. GENERAL INFORMATION (CONTINUED)

Information about subsidiaries (Continued)

The above table lists the subsidiaries of the Company which, in the opinion of the directors, principally affected the results of the year or formed a substantial part of the net assets of the Group. To give details of the other subsidiaries would, in the opinion of the directors, result in particulars of excessive of length.

The English name represents the best effort made by management of the Group in translating its Chinese name as it does not have any official English names.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of preparation

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRSs") issued by the International Accounting Standards Board (the "IASB") and the disclosure requirements of the Hong Kong Companies Ordinance. They have been prepared on a historical cost basis, except for equity investments at fair value through other comprehensive income, financial assets and liabilities at fair value through profit or loss and debt instruments at fair value through other comprehensive income which have been measured at fair value.

These financial statements are presented in thousands of Renminbi ("RMB") unless otherwise stated.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Going concern

As at 31 December 2019, the Group's current liabilities exceeded its current assets by approximately RMB20,456 million (31 December 2018 (Restated): RMB15,935 million). The directors of the Company have considered the Group's available sources of funds as follows:

- The Group's expected net cash inflows from operating activities in 2020;

- Unutilised banking facilities of approximately RMB118,084 million as at 31 December 2019, of which amounts totalling RMB108,360 million will be subject to renewal during the next 12 months. The directors of the Company are confident that these banking facilities could be renewed upon expiration based on the Group's past experience and good credit standing; and

- Other available sources of financing from banks and other financial institutions given the Group's credit history.

The directors of the Company believe that the Group has adequate resources to continue operations for the foreseeable future of not less than 12 months from 31 December 2019. The directors of the Company therefore are of the opinion that it is appropriate to adopt the going concern basis in preparing the consolidated financial statements.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation

The consolidated financial statements comprise the financial statements of the Company and all of its subsidiaries for the year ended 31 December 2019. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if and only if the Group has:

- Power over the investee (i.e, existing rights that give it the current ability to direct the relevant activities of the investee);
- Exposure, or rights, to variable returns from its involvement with the investee; and
- The ability to use its power over the investee to affect its returns.

Generally, there is a presumption that a majority of voting rights result in control. To support this presumption and when the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- The contractual arrangement with the other vote holders of the investee;
- Rights arising from other contractual arrangements; and
- The Group’s voting rights and potential voting rights.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of financial position and consolidated statement of profit and loss and other comprehensive income from the date the Group gains control until the date the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income ("OCI") are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction. If the Group loses control over a subsidiary, it:

- Derecognises the assets (including goodwill) and liabilities of the subsidiary;
- Derecognises the carrying amount of any non-controlling interests;
- Derecognises the cumulative translation differences recorded in equity;
- Recognises the fair value of the consideration received;
- Recognises the fair value of any investment retained;
- Recognises any surplus or deficit in profit or loss; and
- Reclassifies the parent's share of components previously recognised in OCI to profit or loss or retained earnings, as appropriate, as would be required if the Group had directly disposed of the related assets or liabilities.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

(a) Merger accounting for business combinations under common control

The consolidated financial statements incorporate the financial statements of the combining entities or businesses in business combination under common control as if they had been combined from the date when the combining entities or businesses first came under the control of the ultimate holding company.

The net assets of the combining entities or businesses are consolidated using the carrying amount from the ultimate holding company's perspective. No amount is recognised for goodwill or excess of the Group's interest in the book value of the net assets over cost at the time of the common control combination, to the extent of the continuation of the ultimate holding company's interest.

The consolidated statement of comprehensive income includes the results of each of the combining entities or businesses from the earliest date presented or since the date when the combining entities or businesses first came under common control, where this is a shorter period, regardless of the date of the common control combination.

The comparative financial data have been restated to reflect the business combinations under common control occurred during this year as disclosed in Note 38.

Transaction costs, including professional fees, registration fees, costs of furnishing information to shareholders, costs or losses incurred in combining operations of the previously separate businesses and other costs incurred in relation to the common control combination that is to be accounted for by using the merger accounting method are recognised as expenses in the period in which they are incurred.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

(b) Acquisition method of accounting for other business combinations and goodwill

The acquisition method of accounting is used to account for the acquisition of subsidiaries by the Group, other than common control combinations. The consideration transferred is measured at the acquisition date fair value which is the sum of acquisition date fair value of assets transferred by the Group, liabilities assumed by the Group to the former owner of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. The consideration transferred included the fair value of any assets and liabilities resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at fair value at the acquisition date. All other components of non-controlling interests are measured at fair value. For each business combination, the Group elects whether to measure the non-controlling interests in the acquiree that are present ownership interests and entitle their holders to a proportional share of net assets in the event of liquidation at fair value or at the proportional share of the acquiree's identifiable net assets.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date. This includes the separation of embedded derivatives in host contracts of the acquiree.

If the business combination is achieved in stages, the previously held equity interest is remeasured at its acquisition date fair value and any resulting gain or loss is recognised in profit or loss.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

(b) Acquisition method of accounting for other business combinations and goodwill (Continued)

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred, the amount recognised for non-controlling interests and any fair value of the Group's previously held equity interests in the acquiree over the identifiable net assets acquired and liabilities assumed. If the sum of this consideration and other items is lower than the fair value of the net assets acquired, the difference is, after reassessment, recognised in profit or loss as a gain on bargain purchase.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. Goodwill is tested for impairment at least annually or more frequently if events or changes in circumstances indicate that the carrying value may be impaired. The Group performs its annual impairment test of goodwill as at 31 December. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units, or groups of cash-generating units, that are expected to benefit from the synergies of the combination, irrespective of whether other assets or liabilities of the Group are assigned to those units or groups of units.

Impairment is determined by assessing the recoverable amount of the cash-generating unit (group of cash- generating units) to which the goodwill relates. Where the recoverable amount of the cash-generating unit (group of cash-generating units) is less than the carrying amount, an impairment loss is recognised. An impairment loss recognised for goodwill is not reversed in a subsequent period.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

(b) Acquisition method of accounting for other business combinations and goodwill (Continued)

Where goodwill has been allocated to a cash-generating unit (or group of cash-generating units) and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on the disposal. Goodwill disposed of in these circumstances is measured based on the relative value of the operation disposed of and the portion of the cash-generating unit retained.

(c) Subsidiaries

A subsidiary is an entity, directly or indirectly, controlled by the Company. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee (i.e., existing rights that give the Group the current ability to direct the relevant activities of the investee).

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.1 Basis of preparation (Continued)

Consolidation (Continued)

(c) Subsidiaries (Continued)

When the Company has, directly or indirectly, less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

(a) the contractual arrangement with the other vote holders of the investee;

(b) rights arising from other contractual arrangements; and

(c) the Group's voting rights and potential voting rights.

Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are de-consolidated from the date that control ceases.

Inter-company transactions, balances, income and expenses on transactions between group companies are eliminated. Profits and losses resulting from inter-company transactions that are recognised in assets are also eliminated. Amounts reported by subsidiaries have been adjusted where necessary in the consolidated financial statements to conform with the policies adopted by the Group.

In the Company's statement of financial position, as permitted under IFRS 1, the investments in subsidiaries acquired prior to 1 January 2008, being the date of transition to IFRS, are stated at deemed cost as required under the previously adopted accounting standards. Subsidiaries acquired after that date that are not classified as held for sale in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations are stated at cost less provision for impairment losses. The results of subsidiaries are accounted for by the Company on the basis of dividends received and receivable.

(Amounts expressed in thousands of RMB
unless otherwise stated)

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures

The Group has adopted the following new and revised IFRSs for the first time for the current year's financial statements.

Amendments to IFRS 9	*Prepayment Features with Negative Compensation*
IFRS 16	*Leases*
Amendments to IAS 19	*Plan Amendment, Curtailment or Settlement*
Amendments to IAS 28	*Long-term Interests in Associates and Joint Ventures*
Amendments to IFRS 10 and IAS 28 (2011)	*Sale or Contribution of Assets between an Investors and its Associate or Joint Venture*
IFRIC Interpretation 23	*Uncertainty over Income Tax Treatments*
Annual Improvements 2015–2017 Cycle	*Amendments to IFRS 3, IFRS 11, IAS 12 and IAS 23*

Except for the amendments to IFRS 9 and IFRS 19 and Annual Improvements to IFRS 2015–2017 Cycle, which are not relevant to the preparation of the Group's financial statements, the nature and the impact of the new and revised IFRSs are described below:

IFRS 16 Leases

IFRS 16 replaces 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 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model to recognise and measure right-of-use assets and lease liabilities, except for certain recognition exemptions. Lessor accounting under IFRS 16 is substantially unchanged from IAS 17. Lessors continue to classify leases as either operating or finance leases using similar principles as in IAS 17. Therefore, IFRS 16 did not have any financial impact on leases where the Group is the lessor.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

IFRS 16 Leases (Continued)

The Group has adopted IFRS 16 using the modified retrospective method of adoption with the date of initial application of 1 January 2019. Under this method, the standard has been applied retrospectively with the cumulative effect of initial adoption recognised as an adjustment to the opening balance of retained earnings at 1 January 2019, and the comparative information for 2018 was not restated and continues to be reported under IAS 17 and related interpretations.

New definition of a lease

Under IFRS 16, a contract is, or contains, a lease if the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration. Control is conveyed where the customer has both the right to obtain substantially all of the economic benefits from use of the identified asset and the right to direct the use of the identified asset. The Group elected to use the transition practical expedient allowing the standard to be applied only to contracts that were previously identified as leases applying IAS 17 and IFRIC 4 at the date of initial application. Contracts that were not identified as leases under IAS 17 and IFRIC 4 were not reassessed. Therefore, the definition of a lease under IFRS 16 has been applied only to contracts entered into or changed on or after 1 January 2019.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

IFRS 16 Leases (Continued)

As a lessee- Leases previously classified as operating leases

Nature of the effect of adoption of IFRS 16

The Group has lease contracts for various items of property, machinery, vehicles and other equipment. As a lessee, the Group previously classified leases as either finance leases or operating leases based on the assessment of whether the lease transferred substantially all the rewards and risks of ownership of assets to the Group. Under IFRS 16, the Group applies a single approach to recognise and measure right-of-use assets and lease liabilities for all leases, except for two elective exemptions for leases of low-value assets (elected on a lease-by-lease basis) and leases with a lease term of 12 months or less ("short-term leases") (elected by class of underlying asset). Instead of recognising rental expenses under operating leases on a straight-line basis over the lease term commencing from 1 January 2019, the Group recognises depreciation (and impairment, if any) of the right-of-use assets and interest accrued on the outstanding lease liabilities (as finance costs).

Impacts on transition

Lease liabilities at 1 January 2019 were recognised based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at 1 January 2019 and included in interest-bearing loans and borrowings. The right-of-use assets were measured at the amount of the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to the lease recognised in the consolidated statement of financial position immediately before 1 January 2019.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

IFRS 16 Leases (Continued)

As a lessee- Leases previously classified as operating leases (Continued)

Impacts on transition (Continued)

All these assets were assessed for any impairment based on IAS 36 on that date. The Group elected to present the right-of-use assets separately in the statement of financial position. This includes the lease assets recognised previously under finance leases of RMB6,721 million that were reclassified from property, plant and equipment, land use right of RMB4,307 million that were disclosed separately in the statement of financial position, and prepaid rental of RMB20 million that were included in other non-current assets.

The Group has used the following elective practical expedients when applying IFRS16 at 1 January 2019:

- Applied the short-term leases exemptions to leases with a lease term that ends within 12 months from the date of initial application

- Applying a single discount rate to a portfolio of leases with reasonably similar characteristics when measuring the lease liabilities at 1 January 2019

- Using hindsight in determining the lease term where the contract contains options to extend or terminate the lease

- and excluding initial direct costs from the measurement of the right-of-use assets at the date of initial application

(Amounts expressed in thousands of RMB
unless otherwise stated)

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

IFRS 16 Leases (Continued)

As a lessee- Leases previously classified as operating leases (Continued)

Impacts on transition (Continued)

The Group did not change the initial carrying amounts of recognised assets and liabilities at the date of initial application for leases previously classified as finance leases. Accordingly, the carrying amounts of the right-of-use assets and the lease liabilities at 1 January 2019 were the carrying amounts of the recognised assets and liabilities (i.e., finance lease payables) measured under IAS 17.

The impact arising from the adoption of IFRS16 at 1 January 2019 is as follows:

Assets	**Increase/ (decrease)**
Increase in right-of-use assets	17,976,851
Decrease in property, plant and equipment	(6,720,610)
Decrease in land use rights	(4,306,865)
Decrease in other non-current assets	(20,323)
Increase in total assets	6,929,053
Liabilities	
Increase in Interest-bearing loans and borrowings	11,010,323
Decrease in finance lease payables	(4,081,270)
Increase in total liabilities	6,929,053
Decrease in retained earnings	–
Decrease in non-controlling interests	–

(Amounts expressed in thousands of RMB
unless otherwise stated)

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

IFRS 16 Leases (Continued)

As a lessee- Leases previously classified as operating leases (Continued)

Impacts on transition (Continued)

The lease liabilities as at 1 January 2019 reconciled to the operating lease commitments as at 31 December 2018 is as follows:

Operating lease commitments as at 31 December 2018	12,989,524
Less: Commitments relating to short-term leases, low-value assets leases and those leases with a remaining lease term ending on or before 31 December 2019	59,819
Undiscounted Operating lease commitments as at 1 January 2019 under IFRS 16	12,929,705
Weighted average incremental borrowing rate as at 1 January 2019	4.97%
Discounted operating lease commitments as at 1 January 2019 under IFRS 16	6,929,053
Add: Recognised Finance leases as at 31 December 2018	4,081,270
Lease liabilities as at 1 January 2019	11,010,323

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

Amendments to IAS 28

Amendments to IAS 28 clarify that the scope exclusion of IFRS 9 only includes interests in an associate or joint venture to which the equity method is applied and does not include long-term interests that in substance form part of the net investment in the associate or joint venture, to which the equity method has not been applied. Therefore, an entity applies IFRS 9, rather than IAS 28, including the impairment requirements under IFRS 9, in accounting for such long-term interests. IAS 28 is then applied to the net investment, which includes the long-term interests, only in the context of recognising losses of an associate or joint venture and impairment of the net investment in the associate or joint venture. The Group assessed its business model for its long-term interests in associates and joint ventures upon adoption of the amendments on 1 January 2019 and concluded that the long-term interests in associates and joint ventures continue to be measured at amortised cost in accordance with IFRS 9. Accordingly, the amendments did not have any impact on financial position or performance of the Group.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

IFRIC 23

IFRIC 23 addresses the accounting for income taxes (current and deferred) when tax treatments involve uncertainty that affects the application of IAS 12 (often referred to as "uncertain tax positions"). The interpretation does not apply to taxes or levies outside the scope of IAS 12, nor does it specifically include requirements relating to interest and penalties associated with uncertain tax treatments. The interpretation specifically addresses (i) whether an entity considers uncertain tax treatments separately; (ii) the assumptions an entity makes about the examination of tax treatments by taxation authorities; (iii) how an entity determines taxable profits or tax losses, tax bases, unused tax losses, unused tax credits and tax rates; and (iv) how an entity considers changes in facts and circumstances. Upon adoption of the interpretation, the Group assessed whether it has any uncertain tax positions arising from transactions during the year. Based on the Group's assessment, the directors are of opinion that the eventual outcome of the uncertainty position shall not have a material adverse financial effect.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.2 Changes in accounting policies and disclosures (Continued)

Amendments to IFRS 10 and IAS 28

Amendments to IFRS 10 and IAS 28 (2011) address an inconsistency between the requirements in IFRS 10 and in IAS 28 (2011) in dealing with the sale or contribution of assets between an investor and its associate or joint venture. The amendments require a full recognition of a gain or loss when the sale or contribution of assets between an investor and its associate or joint venture constitutes a business. For a transaction involving assets that do not constitute a business, a gain or loss resulting from the transaction is recognised in the investor's profit or loss only to the extent of the unrelated investor's interest in that associate or joint venture. The amendments are to be applied prospectively.

The Group adopted the amendments on 1 January 2019, and assessed the sale or contribution of assets transaction with its associate or joint venture. The amendments did not have any significant impact on the Group's financial statements.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.3 Issued but not yet effective International Financial Reporting Standards

The Group has not applied the following new and revised IFRSs that have been issued but are not yet effective, in these financial statements.

Amendments to IFRS 3	*Definition of a Business*[1]
Amendments to IFRS 9, IAS 39 and IFRS 7	*Interest Rate Benchmark Reform*[1]
IFRS 17	*Insurance Contracts*[2]
Amendments to IAS 1 and IAS 8	*Definition of Material*[1]

1 Effective for annual periods beginning on or after 1 January 2020
2 Effective for annual periods beginning on or after 1 January 2021

Further information about those IFRSs that are expected to be applicable to the Group is described below.

Amendments to IAS 1 and IAS 8 provide a new definition of material. The new definition states that information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements. The amendments clarify that materiality will depend on the nature or magnitude of information. A misstatement of information is material if it could reasonably be expected to influence decisions made by the primary users. The Group expects to adopt the amendments prospectively from 1 January 2020. The amendments are not expected to have any significant impact on the Group's financial statements.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.3 Issued but not yet effective International Financial Reporting Standards (Continued)

Amendments to IFRS 3 clarify and provide additional guidance on the definition of a business. The amendments clarify that for an integrated set of activities and assets to be considered a business, it must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create output. A business can exist without including all of the inputs and processes needed to create outputs. The amendments remove the assessment of whether market participants are capable of acquiring the business and continue to produce outputs. Instead, the focus is on whether acquired inputs and acquired substantive processes together significantly contribute to the ability to create outputs. The amendments have also narrowed the definition of outputs to focus on goods or services provided to customers, investment income or other income from ordinary activities. Furthermore, the amendments provide guidance to assess whether an acquired process is substantive and introduce an optional fair value concentration test to permit a simplified assessment of whether an acquired set of activities and assets is not a business. The Group expects to adopt the amendments prospectively from 1 January 2020. Since the amendments apply prospectively to transactions or other events that occur on or after the date of first application, the Group will not be affected by these amendments on the date of transition.

Amendments to IFRS 9, IAS 39 and IFRS 7 address the effects of interbank offered rate reform on financial reporting. The amendments provide temporary reliefs which enable hedge accounting to continue during the period of uncertainty before the replacement of an existing interest rate benchmark. In addition, the amendments require companies to provide additional information to investors about their hedging relationships which are directly affected by these uncertainties. The amendments are effective for annual periods beginning on or after 1 January 2020. Early application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.4 Investments in associates and joint ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

The Group's investments in associates and joint ventures are stated in the consolidated statement of financial position at the Group's share of net assets under the equity method of accounting, less any impairment losses. Adjustments are made to bring into line any dissimilar accounting policies that may exist. The Group's share of the post-acquisition results and other comprehensive income of associates and joint ventures is included in the consolidated statement of profit or loss and other comprehensive income. In addition, when there has been a change recognised directly in the equity of the associate or joint venture, the Group recognises its share of any changes, when applicable, in the consolidated statement of changes in equity. Unrealised gains and losses resulting from transactions between the Group and its associates or joint ventures are eliminated to the extent of the Group's investments in the associates or joint ventures, except where unrealised losses provide evidence of an impairment of the assets transferred. Goodwill arising from the acquisition of associates or joint ventures is included as part of the Group's investments in associates or joint ventures.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.4 Investments in associates and joint ventures (Continued)

After application of the equity method, the Group determine whether it is necessary to recognise an impairment loss on its investment in its associate and joint venture in the profit or loss. At each reporting date, the Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, then recognises the loss in the profit or loss.

If an investment in an associate becomes an investment in a joint venture or vice versa, the retained interest is not remeasured. Instead, the investment continues to be accounted for under the equity method. In all other cases, upon loss of significant influence over the associate or joint control over the joint venture, the Group measures and recognises any retained investment at its fair value. Any difference between the carrying amount of the associate or joint venture upon loss of significant influence or joint control and the fair value of the retained investment and proceeds from disposal is recognised in profit or loss.

When an investment in an associate or a joint venture is classified as held for sale, it is accounted for in accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*.

2.5 Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-makers. The chief operating decision-makers, who are responsible for allocating resources and assessing the performance of the operating segments, have been identified as the presidents of the Company that make strategic decisions.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.6 Related parties

A party is considered to be related to the Group if:

(a) the party is a person or a close member of that person's family and that person:

(i) has control or joint control over the Group;

(ii) has a significant influence over the Group; or

(iii) is a member of the key management personnel of the Group or of a parent of the Group;

or

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.6 Related parties (Continued)

(b) the party is an entity where any of the following conditions applies:

(iv) the entity and the Group are members of the same group;

(v) one entity is an associate or joint venture of the other entity (or of a parent, subsidiary or fellow subsidiary of the other entity);

(vi) the entity and the Group are joint ventures of the same third party;

(vii) one entity is a joint venture of a third entity and the other entity is an associate of the third entity;

(viii) the entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group; (If the Group is itself a plan) and the sponsoring employers of the post-employment benefit plan;

(ix) 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); and

(x) 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 parent of the Group.

(xi) 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 parent of the Group.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.7 Fair value measurement

The Group measures its derivative financial instruments and equity investments at fair value at the end of each reporting period. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either in the principal market for the asset or liability, or in the absence of a principal market, in the most advantageous market for the asset or liability. The principal or the most advantageous market must be accessible by the Group. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.7 Fair value measurement (Continued)

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

Level 1	–	Based on quoted (unadjusted) prices in active markets for identical assets or liabilities
Level 2	–	Based on valuation techniques for which the lowest level input that is significant to the fair value measurement is observable，either directly or indirectly
Level 3	–	Based on valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognised in the financial statements on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.8 Impairment of non-financial assets

Where an indication of impairment exists, or when annual impairment testing for an asset is required (other than inventories, deferred tax assets, non-current assets classified as held for sales and goodwill or intangible assets with indefinite useful life), the asset's recoverable amount is estimated. An asset's recoverable amount is the higher of the asset's or cash-generating unit's value in use and its fair value less costs of disposal, and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case the recoverable amount is determined for the cash-generating unit to which the asset belongs.

An impairment loss is recognised only if the carrying amount of an asset exceeds its recoverable amount. 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 is charged to the statement of profit or loss in the period in which it arises in those expense categories consistent with the function of the impaired asset.

An assessment is made at the end of each reporting period as to whether there is an indication that previously recognised impairment losses may no longer exist or may have decreased. If such an indication exists, the recoverable amount is estimated. A previously recognised impairment loss of an asset other than goodwill is reversed only if there has been a change in the estimates used to determine the recoverable amount of that asset, but not to an amount higher than the carrying amount that would have been determined (net of any depreciation/amortisation) had no impairment loss been recognised for the asset in prior years. A reversal of such an impairment loss is credited to profit or loss in the period in which it arises.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.9 Foreign currency translation

Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). The consolidated financial statements are presented in RMB, which is the Company's functional currency and the Group's presentation currency.

Transactions and balances

Foreign currency transactions recorded by the entities in the Group are initially recorded using their respective functional currency rates prevailing at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency rates of exchange ruling at the end of the reporting period. Differences arising on settlement or translation of monetary items are recognised in profit or loss.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was measured. The gain or loss arising on translation of a non-monetary item measured at fair value is treated in line with the recognition of the gain or loss on change in fair value of the item.

In determining the exchange rate on initial recognition of the related asset, expense or income on the derecognition of a non-monetary asset or non-monetary liability relating to an advance consideration, the date of initial transaction is the date on which the Group initially recognises the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Group determines the transaction date for each payment or receipt of the advance consideration.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.9 Foreign currency translation (Continued)

Group companies

The results and financial positions of all the group entities (none of which has the currency of a hyper-inflationary economy) that has a functional currency different from the presentation currency are translated into the presentation currency as follows:

(i) assets and liabilities in each statement of financial position presented are translated at the closing rates at the end of the reporting period;

(ii) income and expenses in each statement of profit and loss and other comprehensive income are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rates at the dates of the transactions); and

(iii) all resulting exchange differences are recognised in other comprehensive income. Upon disposal of a foreign operation, the other comprehensive income related to the foreign operation is reclassified to profit or loss.

Goodwill and fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate. Exchange differences arising are recognised in other comprehensive income.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.10 Property, plant and equipment

Property, plant and equipment, other than construction in progress, are stated at cost less accumulated depreciation and any impairment losses. When an item of property, plant and equipment is classified as held for sale or when it is part of a disposal group classified as held for sale, it is not depreciated and is accounted for in accordance with IFRS 5. The cost of an item of property, plant and equipment comprises its purchase price and any directly attributable costs of bringing the asset to its working condition and location for its intended use.

Expenditure incurred after items of property, plant and equipment have been put into operation, such as repairs and maintenance, is normally charged to profit or loss in the period in which it is incurred. In situations where the recognition criteria are satisfied, the expenditure for a major inspection is capitalised in the carrying amount of the asset as a replacement. Where significant parts of property, plant and equipment are required to be replaced at intervals, the Group recognises such parts as individual assets with specific useful lives and depreciates them accordingly.

Depreciation is calculated on the straight-line basis to write off the cost of each item of property, plant and equipment to its residual value over its estimated useful life. The principal annual rates used for this purpose are as follows:

Buildings	8–45 years
Machinery	3–30 years
Transportation facilities	6–10 years
Office and other equipment	3–10 years

Where parts of an item of property, plant and equipment have different useful lives, the cost of that item is allocated on a reasonable basis among the parts and each part is depreciated separately. Residual values, useful lives and the depreciation method are reviewed, and adjusted if appropriate, at least at each financial year end.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.10 Property, plant and equipment (Continued)

An item of property, plant and equipment including any significant part initially recognised is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss on disposal or retirement recognised in profit or loss in the year the asset is derecognised is the difference between the net sales proceeds and the carrying amount of the relevant asset.

Construction in progress ("CIP") represents buildings under construction, which is stated at cost less any impairment losses, and is not depreciated. Cost comprises the direct costs of construction and capitalised borrowing costs on related borrowed funds during the period of construction. CIP is reclassified to the appropriate category of property, plant and equipment when completed and ready for use.

2.11 Investment properties

Investment properties are interests in land and buildings (including the leasehold property held as a right-of-use asset (2018: leasehold property under an operating lease) which would otherwise meet the definition of an investment property) held to earn rental income and/or for capital appreciation, rather than for use in the production or supply of goods or services or for administrative purposes; or for sale in the ordinary course of business. Such properties are measured initially at cost, including transaction costs. After initial recognition, the Group uses the cost methods to measure all of its investment properties.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.11 Investment properties (Continued)

Depreciation is calculated on the straight-line basis to write off the cost to investment property's residual value over its estimated useful life. The estimated useful lives are as follows:

Buildings	50 years
Land use rights	40–70 years

The carrying amounts of investment properties measured using the cost method are reviewed for impairment when events or changes in circumstances indicate that the carrying amounts may not be recoverable.

Any gains or losses on the retirement or disposal of an investment property are recognised in profit or loss in the year of the retirement or disposal.

2.12 Non-current assets and disposal groups held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amounts will be recovered principally through a sales transaction rather than through continuing use. For this to be the case, the asset or disposal group must be available for immediate sale in its present condition subject only to terms that are usual and customary for the sale of such assets or disposal groups and its sale must be highly probable. All assets and liabilities of a subsidiary classified as a disposal group are reclassified as held for sale regardless of whether the Group retains a non-controlling interest in its former subsidiary after the sale.

Non-current assets and disposal groups (other than financial assets) classified as held for sale are measured at the lower of their carrying amounts and fair values less costs to sell. Property, plant and equipment and intangible assets classified as held for sale are not depreciated or amortised.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Intangible assets (other than goodwill)

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is the fair value at the date of acquisition. The useful lives of intangible assets are assessed to be either finite or indefinite. Intangible assets with finite lives are subsequently amortised over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method for an intangible asset with a finite useful life are reviewed at least at each financial year end.

(a) Mining rights and mineral exploration rights

The Group's mineral exploration rights and mining rights relate to coal, bauxite and other mines.

(i) Recognition

Except for mineral exploration rights and mining rights acquired in a business combination, mineral exploration rights and mining rights are initially recorded at cost which includes the acquisition consideration, qualifying exploration and other direct costs. The mineral exploration rights are stated at cost less any impairment, and the mining rights are stated at cost less any amortisation and impairment.

(ii) Reclassification

Mineral exploration rights are converted to mining rights when technical feasibility and commercial viability of extracting a mineral resource are demonstrable, and are subject to amortisation when commercial production has commenced.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Intangible assets (other than goodwill) (Continued)

(a) Mining rights and mineral exploration rights (Continued)

(ii) Reclassification (Continued)

The Group assesses the stage of each mine under construction to determine when a mine moves into the production stage. The criteria used to assess the start date are determined based on the unique nature of each mine construction project. The Group considers various relevant criteria, such as completion of a reasonable period of testing of the mine and equipment, ability to produce in saleable form (within specifications) and ability to sustain ongoing production to assess when a mine is substantially complete and ready for its intended use.

(iii) Amortisation

Amortisation of bauxite and other mining rights (except for coal mining rights) is provided on a straight-line basis according to the shorter of the expiration date of the mining certificate and the mineable period of natural resources. Estimated mineable periods of the majority of the mining rights range from 3 to 30 years.

Coal mining rights are amortised on a unit-of-production basis over the economically recoverable reserves evaluated based on the reserves estimated in accordance with the standards in the Solid Mineral Resource/Reserve Classification of the PRC (GB/T17766–1999) of the mine concerned.

(iv) Impairment

An impairment review is performed when there are indicators that the carrying amount of the mineral exploration rights and mining rights may exceed their recoverable amounts. To the extent that this occurs, the excess is fully provided as an impairment loss.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.13 Intangible assets (other than goodwill) (Continued)

(b) Computer software

Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use specific software. These costs are amortised over their estimated useful lives, which do not exceed 10 years. Costs associated with maintaining computer software programmes are recognised as an expense as incurred.

(c) Electrolytic aluminum production quota

Electrolytic aluminum production quota are initially recorded at cost and subsequently states at cost less any amortisation and impairment. Amortisation is provided on a straight-line basis according to expected production period.

(d) Other intangible assets

Other intangible assets mainly include profit-sharing rights of Maochang mine, which are initially recorded at costs incurred to acquire the specific right. Amortisation is calculated on the straight-line basis over its estimated useful life. The estimated useful live of profit-sharing rights of Maochang mine is 22.5 years.

For intangible assets with finite useful life, the estimated useful lives and amortisation method are reviewed annually at the end of each reporting period and adjusted when necessary.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.14 Research and development costs

Research and development expenditures are classified as research expenditures and development expenditures according to the nature of the expenditures and whether there is significant uncertainty of development activities transforming to assets.

Research expenditures are recognised in profit or loss for the current period. Development expenditures are recognised as assets when all of the following criteria are met:

(i) it is technically feasible to complete the asset so that it will be available for use or sale;

(ii) management intends to complete the asset and intends and has the ability to use or sell it;

(iii) it can be demonstrated that the asset will generate probable future economic benefits;

(iv) there are adequate technical, financial and other resources to complete the development of the asset and management has the ability to use or sell the asset; and

(v) the expenditure attributable to the asset during its development phase can be reliably measured.

Development expenditures that do not meet the criteria above are recorded in profit or loss for the current period as incurred. Development expenditures that have been recorded in profit or loss in previous periods will be not recognised as assets in subsequent periods. The Group has not had any development expenditure capitalised.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.15 Leases (applicable from 1 January 2019)

The Group assesses at contract inception whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Group as a lessee

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.15 Leases (applicable from 1 January 2019) (Continued)

Group as a lessee (Continued)

(a) Right-of-use assets

Right-of-use assets are recognised at the commencement date of the lease (that is the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and any impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-us assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payment made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease terms and the estimated useful lives of the assets as follows:

Buildings	2–20 years
Machinery	2–10 years
Land use rights	10–50 years

If ownership of the leased asset transfers to the Group by the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.15 Leases (applicable from 1 January 2019) (Continued)

Group as a lessee (Continued)

(b) Lease liabilities

Lease liabilities are recognised at the commencement date of the lease at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for termination of a lease, if the lease term reflects the Group exercising the option to terminate. The variable lease payments that do not depend on an index or a rate are recognised as an expense in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in lease payments (e.g., a change to future lease payments resulting from a change in an index or rate) or a change in assessment of an option to purchase the underlying asset.

The Group's lease liabilities are included in interest-bearing bank and other borrowings.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.15 Leases (applicable from 1 January 2019) (Continued)

Group as a lessee (Continued)

(c) Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (that is those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the recognition exemption for leases of low-value assets to leases of office equipment that are considered to be of low value (i.e. below RMB30,000).

Lease payments on short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the lease term.

Group as a lessor

When the Group acts as a lessor, it classifies at lease inception (or when there is a lease modification) each of its leases as either an operating lease or a finance lease.

Leases in which the Group does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. When a contract contains lease and non-lease components, the Group allocates the consideration in the contract to each component on a relative stand-alone selling price basis. Rental income is accounted for on a straight-line basis over the lease terms and is included in revenue in profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as revenue in the period in which they are earned.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.15 Leases (applicable from 1 January 2019) (Continued)

Group as a lessor (Continued)

Leases that transfer substantially all the risks and rewards incidental to ownership of an underlying assets to the lessee, are accounted for as finance leases. At the commencement date, the cost of the leased asset is capitalised at the present value of the minimum lease payments and related payments (including the initial direct costs), and presented as a receivable at an amount equal to the net investment in the lease. The finance costs of such leases are charged to profit or loss so as to provide a constant periodic rate of charge over the lease terms.

2.16 Leases (applicable before 1 January 2019)

Leases that transfer substantially all the rewards and risks of ownership of assets to the Group, other than legal title, are accounted for as finance leases. At the inception of a finance lease, the cost of the leased asset is capitalised at the present value of the minimum lease payments and recorded together with the obligation, excluding the interest element, to reflect the purchase and financing. Assets held under capitalised finance leases, including prepaid land lease payments under finance leases, are included in property, plant and equipment, and depreciated over the shorter of the lease terms and the estimated useful lives of the assets. The finance costs of such leases are charged to profit or loss so as to provide a constant periodic rate of charge over the lease terms.

Assets acquired through hire purchase contracts of a financing nature are accounted for as finance leases, but are depreciated over their estimated useful lives.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.16 Leases (applicable before 1 January 2019) (Continued)

Leases where substantially all the rewards and risks of ownership of assets remain with the lessor are accounted for as operating leases. Where the Group is the lessor, assets leased by the Group under operating leases are included in non-current assets, and rentals receivable under the operating leases are credited to profit or loss on the straight-line basis over the lease terms. Where the Group is the lessee, rentals payable under operating leases net of any incentives received from the lessor are charged to profit or loss on the straight-line basis over the lease terms.

Prepaid land lease payments under operating leases are initially stated at cost and subsequently recognised on the straight-line basis over the lease terms.

2.17 Investments and other financial assets

Initial recognition and measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortised cost, fair value through other comprehensive income, and fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient of not adjusting the effect of a significant financing component, the Group initially measures a financial asset at its fair value, plus in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under IFRS 15 in accordance with the policies set out for "Revenue recognition" below.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Initial recognition and measurement (Continued)

In order for a financial asset to be classified and measured at amortised cost or fair value through other comprehensive income, it needs to give rise to cash flows that are solely payments of principal and interest ("SPPI") on the principal amount outstanding. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Financial assets classified and measured at amortised cost are held within a business model with the objective to hold financial assets in order to collect contractual cash flows, while financial assets classified and measured at fair value through other comprehensive income are held within a business model with the objective of both holding to collect contractual cash flows and selling. Financial assets which are not held within the aforementioned business models are classified and measured at fair value through profit or loss.

All regular way purchases and sales of financial assets are recognised on the trade date, that is, the date that the Group commits to purchase or sell the asset. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the period generally established by regulation or convention in the marketplace.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Subsequent measurement

The subsequent measurement of financial assets depends on their classification as follows:

Financial assets at amortised cost (debt instruments)

Financial assets at amortised cost are subsequently measured using the effective interest method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

Financial assets at fair value through other comprehensive income (debt instruments)

For debt investments at fair value through other comprehensive income, interest income, foreign exchange revaluation and impairment losses or reversals are recognised in profit or loss and computed in the same manner as for financial assets measured at amortised cost. The remaining fair value changes are recognised in other comprehensive income. Upon derecognition, the cumulative fair value change recognised in other comprehensive income is recycled to profit or loss.

Financial assets designated at fair value through other comprehensive income (equity investments)

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity investments designated at fair value through other comprehensive income when they meet the definition of equity under IAS 32 Financial Instruments: Presentation and are not held for trading. The classification is determined on an instrument-by-instrument basis.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Subsequent measurement (Continued)

Financial assets designated at fair value through other comprehensive income (equity investments) (Continued)

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognised as other income in profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in other comprehensive income. Equity investments designated at fair value through other comprehensive income are not subject to impairment assessment.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognised in profit or loss.

This category includes derivative instruments, wealth management products and equity investments which the Group had not irrevocably elected to classify at fair value through other comprehensive income. Dividends on equity investments classified as financial assets at fair value through profit or loss are also recognised as other gains in profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Subsequent measurement (Continued)

Financial assets at fair value through profit or loss (Continued)

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if the economic characteristics and risks are not closely related to the host; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the hybrid contract is not measured at fair value through profit or loss. Embedded derivatives are measured at fair value with changes in fair value recognised in profit or loss. Reassessment only occurs if there is either a change in the terms of the contract that significantly modifies the cash flows that would otherwise be required or a reclassification of a financial asset out of the fair value through profit or loss category.

A derivative embedded within a hybrid contract containing a financial asset host is not accounted for separately. The financial asset host together with the embedded derivative is required to be classified in its entirety as a financial asset at fair value through profit or loss.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Derecognition of financial assets

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognised (i.e., removed from the Group's consolidated statement of financial position) when:

- the rights to receive cash flows from the asset have expired; or

- the Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a "pass-through" arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risk and rewards of ownership of the asset. When it has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the Group continues to recognise the transferred asset to the extent of the Group's continuing involvement. In that case, the Group also recognises an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Impairment of financial assets

The Group recognises an allowance for expected credit losses ("ECLs") for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The ECL at 31 December 2019 was estimated based on a range of forecast economic conditions as at that date. Since early January 2020, the coronavirus outbreak has spread across mainland China and beyond, causing disruption to business and economic activity. The impact on GDP and other key indicators have been considered when determining the severity and likelihood of downside economic scenarios that are used to estimate ECL under IFRS 9 in 2020.

General approach

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12 months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

At each reporting date, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and considers reasonable and supportable information that is available without undue cost or effort, including historical and forward-looking information.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Impairment of financial assets (Continued)

General approach (Continued)

The Group considers a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Debt investments at fair value through other comprehensive income and financial assets at amortised cost are subject to impairment under the general approach and they are classified within the following stages for measurement of ECLs except for trade receivables and contract assets which apply the simplified approach as detailed below.

Stage 1 – Financial instruments for which credit risk has not increased significantly since initial recognition and for which the loss allowance is measured at an amount equal to 12-month ECLs

Stage 2 – Financial instruments for which credit risk has increased significantly since initial recognition but that are not credit-impaired financial assets and for which the loss allowance is measured at an amount equal to lifetime ECLs

Stage 3 – Financial assets that are credit-impaired at the reporting date (but that are not purchased or originated credit-impaired) and for which the loss allowance is measured at an amount equal to lifetime ECLs

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.17 Investments and other financial assets (Continued)

Impairment of financial assets (Continued)

Simplified approach

For trade receivables and contract assets that do not contain a significant financing component or when the Group applies the practical expedient of not adjusting the effect of a significant financing component, the Group applies the simplified approach in calculating ECLs. Under the simplified approach, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

For trade receivables and contract assets that contain a significant financial component and lease receivables, the Group chooses as its accounting policy to adopt the simplified approach in calculating ECLs with policies as described above.

2.18 Financial liabilities

Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognised initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, derivative financial instruments and interest-bearing bank and other borrowings.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.18 Financial liabilities (Continued)

Subsequent measurement

The subsequent measurement of financial liabilities depends on their classification as follows:

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. This category also includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by IFRS 9. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments. Gains or losses on liabilities held for trading are recognised in profit or loss. The net fair value gain or loss recognised in profit or loss does not include any interest charged on these financial liabilities.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.18 Financial liabilities (Continued)

Subsequent measurement (Continued)

Financial liabilities at amortised cost (loans and borrowings)

After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortised cost, using the effective interest rate method unless the effect of discounting would be immaterial, in which case they are stated at cost. Gains and losses are recognised in profit or loss when the liabilities are derecognised as well as through the effective interest rate amortisation process.

Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the effective interest rate. The effective interest rate amortisation is included in finance costs in profit or loss.

Financial guarantee contracts

Financial guarantee contracts issued by the Group are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. A financial guarantee contract is recognised initially as a liability at its fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequent to initial recognition, the Group measures the financial guarantee contracts at the higher of: (i) the ECL allowance determined in accordance with the policy as set out in "Impairment of financial assets"; and (ii) the amount initially recognised less, when appropriate, the cumulative amount of income recognised.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.18 Financial liabilities (Continued)

Derecognition of financial liabilities

A financial liability is derecognised when the obligation under the liability is discharged or cancelled, or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and a recognition of a new liability, and the difference between the respective carrying amounts is recognised in profit or loss.

2.19 Offsetting financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated statement of financial position when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

2.20 Derivative financial instruments

Initial recognition and subsequent measurement

The Group uses derivative financial instruments, such as futures and option contracts, to reduce its exposure to fluctuation in the price of primary aluminium and other products, to hedge its foreign currency risk and interest rate risk, respectively. Such derivative financial instruments are initially recognised at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as assets when the fair value is positive and as liabilities when the fair value is negative.

Any gains or losses arising from changes in fair value of derivatives are taken directly to profit or loss.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.21 Inventories

Inventories comprise raw materials, work-in-progress, finished goods, spare parts and packaging materials and others, and are stated at the lower of cost and net realisable amount. Cost is determined using the weighted average method. Work-in-progress and finished goods comprise materials, direct labour and an appropriate proportion of all production overhead expenditure (based on the normal operating capacity). Borrowing costs are excluded.

Provision for impairment of inventories is usually determined by the excess of cost over the net realisable amount and recorded in profit or loss. Net realisable amounts are determined based on the estimated selling price less estimated conversion costs, selling expenses and related taxes in the ordinary course of business. The provision for or the reversal of provision for impairment of inventories is recognised within "Cost of sales" in profit or loss.

2.22 Cash and cash equivalents

For the purpose of the consolidated statement of cash flows, cash and cash equivalents comprise cash on hand and demand deposits, and short term highly liquid investments that are readily convertible into known amounts of cash, are subject to an insignificant risk of changes in value, and have a short maturity of generally within three months when acquired, less bank overdrafts which are repayable on demand and form an integral part of the Group's cash management.

For the purpose of the consolidated statement of financial position, cash and cash equivalents comprise cash on hand and at banks, including term deposits, and assets similar in nature to cash, which are not restricted as to use.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.23 Provisions

A provision is recognised when a present obligation (legal or constructive) has arisen as a result of a past event and it is probable that a future outflow of resources will be required to settle the obligation, provided that a reliable estimate can be made of the amount of the obligation.

When the effect of discounting is material, the amount recognised for a provision is the present value at the end of the reporting period of the future expenditures expected to be required to settle the obligation. The increase in the discounted present value amount arising from the passage of time is included in finance costs in profit or loss.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.24 Government grants

Government grants are recognised at their fair value where there is reasonable assurance that the grant will be received and all attaching conditions will be complied with. When the grant relates to an expense item, it is recognised as income on a systematic basis over the periods that the costs, which it is intended to compensate, are expensed.

Asset-related government grants are recognised when the government document designates that the government grants are used for constructing or forming long-term assets. If the government document is inexplicit, the Group should make a judgement based on the basic conditions to obtain the government grants, and recognises them as asset-related government grants if the conditions are to construct or to form long-term assets. Otherwise, the government grants should be income-related.

For asset-related government grants that is related to long lived assets that already exist at the time of recognising the government grant, the grant is deducted in calculating the carrying amount of the asset. The grant is recognised in profit or loss over the life of a depreciable asset as a reduced depreciation expense. If the asset is not yet purchased or constructed at the time of recognising the government grant, the grant is recognised as deferred income and will be deducted from the cost of the asset once the asset is recognised.

Income-related government grants that are specific to compensate expenses or costs that have already incurred, they are directly recognised in profit or loss for the current period as deduction of the related expenses or costs. If the income-related government grants are specific to compensate future expenses or costs of the Group, they are recognised as deferred income and will be released to profit or loss when the related expenses or costs are incurred.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.25 Employee benefits

Employee benefits mainly include salaries, bonuses, allowances and subsidies, pension insurance, social insurance and housing funds, labour union fees, employees' education fees and other expenses related to the employees for their services. The Group recognises employee benefits as liabilities during the accounting period when employees rendered the services and allocates the related cost of assets and expenses based on different beneficiaries.

(a) Bonus plans

The expected cost of bonus plans is recognised as a liability when the Group has a present legal or constructive obligation as a result of services rendered by employees and a reliable estimate of the obligation can be made.

(b) Retirement benefit obligations

The Group primarily pays contributions on a monthly basis to participate in a pension plan organised by the relevant municipal and provincial governments in the PRC. In 2019, the Group made monthly contributions at the rate of 17% (2018: 20%) of the qualified employees' salaries. The municipal and provincial governments undertake to assume the retirement benefit obligations of all existing and future retired employees payable under these plans. The Group has no legal or constructive obligations for further contributions if the fund does not hold sufficient assets to pay all employees the benefit relating to their current and past services.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.25 Employee benefits (Continued)

(c) Other social insurance and housing funds

The Group provides other social insurance and housing funds to the qualified employees in the PRC based on certain percentages of their salaries. These percentages are not to exceed the upper limits of the percentages prescribed by the Ministry of Human Resources and Social Security of the PRC. These benefits are paid to social security organisations and the amounts are expensed as incurred. The Group has no legal or constructive obligations for further contributions if the fund does not hold sufficient assets to pay all employees the benefit relating to their current and past services.

(d) Termination benefit obligations and early retirement benefit obligations

Termination and early retirement benefit obligations are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary redundancy and/or early retirement in exchange for these benefits. The Group recognises termination and early retirement benefit obligations when it is demonstrably committed to either: terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal; or providing termination benefits as a result of an offer made to encourage voluntary redundancy and/or early retirement. The specific terms vary among the terminated and early retired employees depending on various factors including position, length of service and district of the employees concerned. Benefits falling due for more than 12 months after the end of the reporting period are discounted to their present values.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.26 Income tax

Income tax comprises current and deferred tax. Income tax relating to items recognised outside profit or loss is recognised outside profit or loss, either in other comprehensive income or directly in equity.

Current tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period, taking into consideration interpretations and practices prevailing in the countries in which the Group operates.

Deferred tax is provided, using the liability method, on all temporary differences at the end of the reporting period between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred tax liabilities are recognised for all taxable temporary differences, except:

- when the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and

- in respect of taxable temporary differences associated with investments in subsidiaries, associates and joint ventures, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.26 Income tax (Continued)

Deferred tax assets are recognised for all deductible temporary differences, and the carryforward of unused tax credits and any unused tax losses. Deferred tax assets are recognised to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, the carryforward of unused tax credits and unused tax losses can be utilised, except:

- when the deferred tax asset relating to the deductible temporary differences arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and

- in respect of deductible temporary differences associated with investments in subsidiaries, associates and joint ventures, deferred tax assets are only recognised to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilised.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised. Unrecognised deferred tax assets are reassessed at the end of each reporting period and are recognised to the extent that it has become probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.26 Income tax (Continued)

Deferred tax assets and deferred tax liabilities are offset if and only if the Group has a legally enforceable right to set off current tax assets and current tax liabilities and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or to realise the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

2.27 Perpetual securities

Perpetual securities are classified as equity if they are non-redeemable, or redeemable only at the issuer's option, and any interest and distributions are discretionary. Interest and distributions on perpetual securities classified as equity are recognised as distributions within equity.

The perpetual securities issued by the Company are recognised as other equity instruments, and the perpetual securities issued by a subsidiary of the Company are recognised as non-controlling interests.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.28 Revenue recognition

Revenue from contracts with customers

Revenue from contracts with customers is recognised when control of goods or services is transferred to the customers at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

When the consideration in a contract includes a variable amount, the amount of consideration is estimated to which the Group will be entitled in exchange for transferring the goods or services to the customer. The variable consideration is estimated at contract inception and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognised will not occur when the associated uncertainty with the variable consideration is subsequently resolved.

When the contract contains a financing component which provides the customer with a significant benefit of financing the transfer of goods or services to the customer for more than one year, revenue is measured at the present value of the amount receivable, discounted using the discount rate that would be reflected in a separate financing transaction between the Group and the customer at contract inception. When the contract contains a financing component which provides the Group a significant financial benefit for more than one year, revenue recognised under the contract includes the interest expense accreted on the contract liability under the effective interest method. For a contract where the period between the payment by the customer and the transfer of the promised goods or services is one year or less, the transaction price is not adjusted for the effects of a significant financing component, using the practical expedient in IFRS 15.

(a) Sale of industrial products

Revenue from the sale of industrial products (including sales of scrap and other materials) is recognised at the point in time when control of the asset is transferred to the customer, generally on delivery of the industrial products.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.29 Revenue recognition (Continued)

Revenue from contracts with customers (Continued)

(b) Rendering of services

Revenue from services is recognised over time, using an input method to measure progress towards complete satisfaction of the service, because the customer simultaneously receives and consumes the benefits provided by the Group. Revenue is recognised on a straight-line basis because the entity's inputs are expended evenly throughout the performance period.

Revenue from other sources

Rental income

Rental income is recognised on a time proportion basis over the lease terms. Variable lease payments that do not depend on an index or a rate are recognised as income in the accounting period in which they are incurred.

Other income

Interest income is recognised on an accrual basis using the effective interest method by applying the rate that exactly discounts the estimated future cash receipts over the expected life of the financial instrument or a shorter period, when appropriate, to the net carrying amount of the financial asset.

Dividend income is recognised when the shareholders' right to receive payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2.30 Contract liabilities

A contract liability is recognised when a payment is received or a payment is due (whichever is earlier) from a custom before the Group transfers the related goods or services. Contract liabilities are recognised as revenue when the Group performs under the contract (i.e., transfers control of the related goods or services to the customer).

2.31 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, i.e., assets that necessarily take a substantial period of time to get ready for their intended use or sale, are capitalised as part of the cost of those assets. The capitalisation of such borrowing costs ceases when the assets are substantially ready for their intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs capitalised. All other borrowing costs are expensed in the period in which they are incurred. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

2.31 Dividend distribution

Dividend distribution to the Company's shareholders is recognised as a liability in the Group's and Company's financial statements in the period in which the dividends are approved by the Company's shareholders in a general meeting.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS

The preparation of the Group's consolidated financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these judgements, assumptions and estimates could result in outcomes that require a material adjustment to the carrying amounts of assets or liabilities affected in future periods.

Judgements

In the process of applying the Group's accounting policies and preparing the Group's consolidated financial statements, management has made the following judgements, apart from those involving estimates, which have a significant effect on the amounts recognised in the consolidated financial statements.

(a) Significant influence over an entity in which the Group holds less than 20% of voting rights

As disclosed in Note 8, the Group owned a 10.04% equity interest in Yunnan Aluminium Co., Ltd.* ("Yunnan Aluminum") (雲南鋁業股份有限公司). The Group considers that it has significant influence over Yunnan Aluminum even though it owns less than 20% of the voting rights, on the grounds that the Group is the second largest shareholders of Yunnan Aluminum and one out of the eleven directors of the board of directors of Yunnan Aluminum exercises director's rights on behalf of the Group.

At 31 December 2019, the Group owned a 6.68% equity interest in Chalco Mineral Resources Co.,Ltd.* ("Chalco Resources") (中鋁礦產資源有限公司). The Group considers that it has significant influence over Chalco Resources even though it owns less than 20% of the voting rights, on the grounds that the Group can appoint one out of the five directors of the board of directors of Chalco Resources.

At 31 December 2019, the Group owned 14.71% of the voting right of Chinalco Capital Holdings Co., Ltd.* ("Chinalco Capital") (中鋁資本控股有限公司). The Group considers that it has significant influence over Chinalco Capital since it can appoint one out of three directors of the board of directors of Chinalco Capital.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Judgements (Continued)

(a) Significant influence over an entity in which the Group holds less than 20% of voting rights (Continued)

At 31 December 2019, the Group owned a 16% equity interest in Baise New Aluminum Power Co., Ltd. * ("New Aluminum Power") (百色新鋁電力有限公司). The Group considers that the Group has significant influence over New Aluminum Power even though it owns less than 20% of the voting rights, on the grounds that the Group can appoint one out of the nine directors of the board of directors of New Aluminum Power.

At 31 December 2019, the Group owned a 14.29% equity interest in Inner Mongolia Geliugou Co., Ltd.* ("Inner Mongolia Qiliugou") (內蒙古圪柳溝能源有限公司). The Group considers that it has significant influence over Inner Mongolia Qiliugou even though it owns less than 20% of the voting rights, on the grounds that the Group can appoint one out of the seven directors of the board of directors of Inner Mongolia Qiliugou.

(b) Consolidation of entities in which the Group holds less than a majority of voting rights

At 31 December 2019, the Group owned a 40.23% equity interest in Ningxia Yinxing Energy Co., Ltd. * ("Yinxing Energy") (寧夏銀星能源股份有限公司). Since the remaining 59.77% of the equity shares in Yinxing Energy are held by a large number of individual shareholders, in opinion of the directors of the Company, the Group has control over Yinxing Energy, and Yinxing Energy continues to be included in the consolidation scope.

At 31 December 2019, the Company owned a 40% equity interest in Guizhou Huaren New Materials Co., Ltd.* ("Guizhou Huaren")(貴州華仁新材料有限公司). In accordance with the acting-in-concert agreement signed between the Company and Hangzhou Jinjiang Group Co., Ltd.* ("Hangzhou Jinjiang")(杭州錦江集團有限公司), Hangzhou Jinjiang would exercise the shareholders' and board of directors' votes in concert with the Group. Therefore, the directors of the Company believe that the Company has control over Guizhou Huaren and consolidated Guizhou Huaren's financial statements from the date the Group obtained control.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Judgements (Continued)

(b) Consolidation of entities in which the Group holds less than a majority of voting rights (Continued)

At 31 December 2019, the Company owned 43.39% of the shares of Shanxi China Aluminum China Resources Co., Ltd.* ("Shanxi Zhongrun")(山西中鋁華潤有限公司). In accordance with the acting-in-concert agreement signed between the Company and China Resources Coal Industry Group Co., Ltd. ("China Resources Coal Industry"), China Resources Coal Industry would exercise the shareholders' and board of directors' votes in concert with the Group. Therefore, the directors of the Company believe that the Company has control over Shanxi Zhongrun and consolidated Shanxi Zhongrun's financial statements from the date the Group obtained control.

(c) Determination of control over structured entities

As disclosed in Note 9, in 2017, the Company initiated the establishment of Beijing Chalco Bocom Size Industry Investment Fund Management Partnership (Limited Partnership)* ("Size Industry Investment Fund") (北京中鋁交銀四則產業投資基金管理合夥企業(有限合夥)). Pursuant to the Investment Agreements, the directors of the Company are of the opinion that as a limited partner, the Company neither had control over or joint control over nor significant influence over Size Industry Investment Fund. Therefore, the Company's investment in Size Industry Investment Fund was accounted for as equity investment designated at fair value through other comprehensive income.

* The English name represents the best effort made by management of the Group in translating its Chinese name as it does not have any official English names.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below. The Group's assumptions and estimates are based on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Group. Such changes are reflected in the assumptions when they occur.

(a) Property, plant and equipment and intangible assets – recoverable amount (excluding goodwill)

In accordance with the Group's accounting policy, each asset or cash-generating unit is evaluated in every reporting period to determine whether there are any indications of impairment. If any such indication exists, an estimate of the net recoverable amount is performed and an impairment loss is recognised to the extent that the carrying amount exceeds the recoverable amount. The recoverable amount of an asset or cash-generating unit of assets is measured at the higher of fair value less costs of disposal and value in use.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions (Continued)

(a) Property, plant and equipment and intangible assets – recoverable amount (excluding goodwill) (Continued)

Value in use is generally determined as the present value of the estimated future cash flows of 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 significant estimates and judgments involved in the projections of the future prices of aluminum and alumina, expected production and sales volumes, production costs, operating expenses, and discount rates applied to these forecasted future cash flows. These estimates and judgments may be affected by unexpected changes in the future market or economic conditions; hence, there is a possibility that changes in circumstances will alter these projections, which may impact on the recoverable amounts 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 profit or loss.

(b) Property, plant and equipment and intangible assets (excluding goodwill) – estimated useful lives and residual values

The Group's management determines the estimated useful lives and residual values (if applicable) and consequently the related depreciation/amortisation charges for its property, plant and equipment and intangible assets (excluding goodwill). These estimates are based on the historical experience of the actual useful lives of property, plant and equipment of similar nature and functions, or based on value-in-use calculations or market valuations according to the estimated periods that the Group intends to derive future economic benefits from the use of intangible assets. Management will increase the depreciation/amortisation charge where useful lives are less than previously estimated, and it will write off or write down technically obsolete or non-strategic assets that have been abandoned or sold.

Actual economic lives may differ from estimated useful lives and actual residual values may differ from estimated residual values. Periodic review could result in change in depreciable lives and residual values and therefore change in depreciation/amortisation expense in future periods.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions (Continued)

(c) Goodwill – recoverable amount

In accordance with the Group's accounting policy, goodwill is allocated to the Group's cash generating units ("CGU") as it represents the lowest level within the Group at which the goodwill is monitored for internal management purposes and is tested for impairment annually or more frequently if events or changes in circumstance indicated that the carrying amount may be impaired, by comparing the recoverable amount of the CGU and the carrying amount of the CGU. The recoverable amount is the higher of value in use and the fair value less costs of disposal. The recoverable amount of the underlying CGUs involved estimates and judgments, including future prices of aluminum and alumina, expected production and sales volumes, production costs, operating expenses, terminal growth rates used to estimate future cash flows and discount rates applied to these forecasted future cash flows of the underlying CGUs. These estimates and judgments may be affected by unexpected changes in future market or economic conditions.

(d) Provision for expected credit losses on trade receivables

The Group uses a provision matrix to calculate ECLs for trade receivables. The provision rates are based on days past due for groupings of various customer segments that have similar loss patterns (i.e., by product type, customer type, and coverage by letters of credit and other forms of credit insurance).

The provision matrix is initially based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. For instance, if forecast economic conditions (i.e., gross domestic products) are expected to deteriorate over the next year which can lead to an increased number of defaults in the manufacturing sector, the historical default rates are adjusted. At each reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analysed.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions (Continued)

(d) Provision for expected credit losses on trade receivables (Continued)

The assessment of the correlation among historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions may also not be presentative of customer's actual default in the future. The information about the ECLs on the Group's trade receivables is disclosed in Note 13 to the financial statements.

(e) Estimated impairment of inventories

In accordance with the Group's accounting policy, the Group's management tests whether inventories suffered any impairment based on estimates of the net realisable amount of the inventories. For different types of inventories, it requires the estimation on selling prices, costs of conversion, selling expenses and the related tax expense to calculate the net realisable amount of inventories. For inventories held for executed sales contracts, management estimates the net realisable amount based on the contracted price. For raw materials and work-in-progress, management has established a model in estimating the net realisable amount at which the inventories can be realised in the normal course of business after considering the Group's manufacturing cycles, production capacity and forecasts, estimated future conversion costs and selling prices. Management also takes into account the price or cost fluctuations and other related matters occurring after the end of the reporting period which reflect conditions that existed at the end of the reporting period.

It is reasonably possible that if there is a significant change in circumstances including the Group's business and the external environment, outcomes within the next financial year would be significantly affected.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions (Continued)

(f) Coal reserve estimates and units-of-production amortisation for coal mining rights

External qualified valuation professionals evaluate "economically recoverable reserves" based on the reserves estimated by external qualified exploration engineers in accordance with the PRC standards. The estimates of coal reserves are inherently imprecise and represent only the approximate amounts of the coal reserves because of the subjective judgements involved in developing such information. Economically recoverable reserve estimates are evaluated on a regular basis and have taken into account recent production and technical information about each mine.

(g) Income tax

The Group estimates its income tax provision and deferred taxation in accordance with the prevailing tax rules and regulations, taking into account any special approvals obtained from the relevant tax authorities and any preferential tax treatment to which it is entitled in each location or jurisdiction in which the Group operates. There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. The Group recognises liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, the differences will impact on the income tax and deferred tax provisions in the period in which the determination is made.

Deferred tax assets are recognised for unused tax losses and deductible temporary differences, such as the provision for impairment of receivables, inventories and property, plant and equipment and accruals of expenses not yet deductible for tax purposes, to the extent that it is probable that taxable profits will be available against which the losses deductible temporary difference can be utilised. Significant management judgement is required to determine the amount of deferred tax assets that can be recognised, based upon forecast of future taxable profits which was complex and judgmental and was based on significant assumptions, including future tax rates, the possible utilisation of loss carry forwards and future taxable profits that are affected by unexpected changes in the tax law framework and future market or economic conditions.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions (Continued)

(g) Income tax (Continued)

An entity shall recognise a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates and joint ventures, except to the extent that both of the following conditions are satisfied:

- the parent, investor or joint venturer is able to control the timing of the reversal of the temporary difference; and
- it is probable that the temporary difference will not reverse in the foreseeable future.

The Group considers it has recorded adequate current tax provision and deferred taxes based on the prevailing tax rules and regulations and its current best estimates and assumptions. In the event that future tax rules and regulations or related circumstances change, adjustments to current and deferred taxation may be necessary which would impact on the Group's results or financial position.

(h) Investments in joint ventures and associates – recoverable amount

In accordance with the Group's accounting policy, each investment in a joint venture and an associate is evaluated in every reporting period to determine whether there are any indicators of impairment. If any such indicators exists, an estimate of the recoverable amount is performed and an impairment loss is recognised to the extent that the carrying amount exceeds the recoverable amount. The recoverable amount of the investment in a joint venture and an associate is measured at the higher of fair value less costs of disposal and value in use.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS (CONTINUED)

Estimates and assumptions (Continued)

(h) Investments in joint ventures and associates – recoverable amount (Continued)

Value in use is also generally determined as the present value of the estimated future cash flows of 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) and operating costs. 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 on the recoverable amounts of the investments. In such circumstances, some or all of the carrying value of the investments may be impaired and the impairment would be charged against profit or loss.

(i) Leases – Estimating the incremental borrowing rate

The Group cannot readily determine the interest rate implicit in a lease, and therefore, it uses an incremental borrowing rate ("IBR") to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Group "would have to pay", which requires estimation when no observable rates are available (such as for subsidiaries that do not enter into financing transactions) or when it needs to be adjusted to reflect the terms and conditions of the lease. The Group estimates the IBR using observable inputs (such as market interest rates) when available and is required to make certain entity-specific estimates (such as the subsidiary's stand-alone credit rating).

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION

(a) Revenue

Revenue recognised during the year is as follows:

	2019	2018 (Restated)
Revenue from contracts with customers (net of value-added tax)		
Sale of goods	**189,569,543**	179,785,704
Rendering of services	**186,703**	215,557
Revenue from other sources		
Rental income	**317,915**	240,153
	190,074,161	180,241,414

Revenue from the rendering of services includes revenue from the supply of heat and water and the provision of machinery processing, transportation, packaging and other services.

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

(i) Disaggregated revenue information

	For the year ended 31 December 2019						
	Alumina segment	Primary Aluminum segment	Energy Segment	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Type of goods or services							
Sales of goods	43,690,995	49,043,864	7,148,644	158,633,447	492,624	(69,440,031)	189,569,543
Rendering of services	–	–	186,703	–	–	–	186,703
Total revenue	43,690,995	49,043,864	7,335,347	158,633,447	492,624	(69,440,031)	189,756,246
Geographical markets							
Mainland China	43,690,995	49,043,864	7,335,347	152,857,432	492,624	(69,440,031)	183,980,231
Outside of mainland China	–	–	–	5,776,015	–	–	5,776,015
Total revenue from contracts with customers	43,690,995	49,043,864	7,335,347	158,633,447	492,624	(69,440,031)	189,756,246
Timing of revenue recognition							
Goods transferred at a point in time	43,690,995	49,043,864	7,148,644	158,633,447	492,624	(69,440,031)	189,569,543
Services transferred over time	–	–	186,703	–	–	–	186,703
Total revenue from contracts with customers	43,690,995	49,043,864	7,335,347	158,633,447	492,624	(69,440,031)	189,756,246

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

(i) Disaggregated revenue information (Continued)

	For the year ended 31 December 2019						
	Alumina segment	Primary Aluminum segment	Energy Segment	Trading	Corporate and other operating segments	Inter-segment elimination	Total
Revenue from contracts with customers							
External customers	14,117,594	37,349,482	7,099,211	130,864,398	325,561	–	189,756,246
Intersegment sales	29,573,401	11,694,382	236,136	27,769,049	167,063	–	69,440,031
	43,690,995	49,043,864	7,335,347	158,633,447	492,624	–	259,196,277
Intersegment adjustments and eliminations	(29,573,401)	(11,694,382)	(236,136)	(27,769,049)	(167,063)	–	(69,440,031)
Total revenue from contracts with customers	14,117,594	37,349,482	7,099,211	130,864,398	325,561	–	189,756,246

(Amounts expressed in thousands of RMB
unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

(i) Disaggregated revenue information (Continued)

The following table shows the amounts of revenue recognised in the current reporting period that were included in the contract liabilities at the beginning of the reporting period:

	2019	2018
Revenue recognised that was included in contract liabilities at the beginning of the reporting period:		
– Sale of goods	**1,543,164**	1,277,125
– Others	**36,158**	32,947
	1,579,322	1,310,072

(ii) Performance obligations

Information about the Group's performance obligations is summarised below:

Revenue from sales of products (including sales of the other materials)

The performance obligation is satisfied upon delivery of the industrial products and payment is generally due within 30 to 90 days from delivery, except for new customers, where payment in advance is normally required.

Sales of goods were made in a short period of time and the performance obligation was mostly satisfied in one year or less at the end of each year.

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(a) Revenue (Continued)

(ii) Performance obligations (Continued)

Rendering of services

The performance obligation is satisfied over time as services are rendered and payment is generally due upon completion of the relevant services.

Amounts expected to be recognised as revenue:

	2019	2018
Within one year	**1,638,826**	1,579,322
After one year	**125,758**	132,844
	1,764,584	1,712,166

The remaining performance obligations expected to be recognised in more than one year relate to rendering of services that are to be satisfied within 1–10 years. All the other remaining performance obligations are satisfied in one year or less at the end of each year.

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information

The presidents of the Company have been identified as the chief operating decision-makers. They are responsible for the review of internal reports in order to allocate resources to operating segments and assess their performance of these operating segments.

The presidents monitor the business from a product perspective comprising alumina, primary aluminum and energy products which are identified as separate reportable operating segments. In addition, the Group's trading business is identified as a separate reportable operating segment. The Group's operating segments also include corporate and other operating activities.

The presidents assess the performance of operating segments based on profit or loss before income tax in related periods. Unless otherwise stated below, the manner of assessment used by the presidents is consistent with that applied in these financial statements. Management has determined the operating segments based on the reports reviewed by the presidents that are used to make strategic decisions.

The Group's five reportable operating segments are summarised as follows:

- The alumina segment, which consists of the mining and purchase of bauxite and other raw materials, the refining of bauxite into alumina, and the sale of alumina both internally to the Group's aluminum enterprises and trading enterprises and externally to customers outside the Group. This segment also includes the production and sale of chemical alumina and metal gallium.

- The primary aluminum segment, which consists of the procurement of alumina and other raw materials, supplemental materials and electricity power, and the smelting of alumina to produce primary aluminum which is sold to internal trading enterprises and external customers, including Chinalco and its subsidiaries. This segment also includes the production and sale of carbon products and aluminum alloy and other aluminum products.

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

- The energy segment, which consists of the research and development, production and operation of energy products, mainly includes coal mining, electricity generation by thermal power, wind power and solar power, and new energy related equipment manufacturing business. Sales of coals are mainly made to the Group's internal and external coals consuming customers, electricity is sold to regional power grid corporations.

- The trading segment, which consists of the trading of alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products, coal products, raw materials and supplemental materials and logistics and transport services to internal manufacturing plants and external customers in the PRC. The products are sourced from fellow subsidiaries of the Group, and international and domestic suppliers of the Group. Sales of products manufactured by the Group's manufacturing business are included in the total revenue of the trading segment and are eliminated with the segment revenue of the respective segments which supply the products to the trading segment.

- Corporate and other operating segments, which mainly include corporate management, research and development activities and others.

Prepaid current income tax and deferred tax assets are excluded from segment assets, and income tax payable and deferred tax liabilities are excluded from segment liabilities. All sales among the operating segments were conducted on terms mutually agreed among group companies, and have been eliminated on consolidation.

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2019						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment eliminations	Total
Total revenue	**43,899,982**	**49,089,019**	**7,345,971**	**158,686,280**	**492,940**	**(69,440,031)**	**190,074,161**
Inter-segment revenue	(29,573,401)	(11,694,382)	(236,136)	(27,769,049)	(167,063)	69,440,031	–
Sales of self-produced products *(Note (i))*				24,374,356			
Sales of products sourced from external suppliers				106,542,875			
Revenue from external customers	**14,326,581**	**37,394,637**	**7,109,835**	**130,917,231**	**325,877**	**–**	**190,074,161**
Segment profit/(loss) before income tax	**844,848**	**687,246**	**403,479**	**952,848**	**(987,704)**	**213,084**	**2,113,801**
Income tax expense							(625,720)
Profit for the year							**1,488,081**

(Amounts expressed in thousands of RMB
unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2019						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment eliminations	Total
Other items							
Finance income	61,644	53,252	35,093	105,622	5,540	–	261,151
Finance costs	(651,238)	(1,328,730)	(1,064,769)	(223,928)	(1,652,514)	–	(4,921,179)
Share of profits and losses of joint ventures	86,245	–	(22,272)	3,767	202,375	–	270,115
Share of profits and losses of associates	(6,319)	11,621	(32,660)	36,579	39,546	–	48,767
Amortisation of right-of-use assets	(495,693)	(338,975)	(146,139)	(45,541)	(49,477)	–	(1,075,825)
Depreciation and amortisation (excluding the amortisation of right-of-use assets)	(2,830,152)	(3,235,356)	(1,488,077)	(79,366)	(81,467)	–	(7,714,418)
(Loss)/gain on disposal of property, plant and equipment and land use rights	(587,503)	830,205	(1,010)	(7,216)	(5,948)	–	242,960
Gain on disposal of business	262,677	–	–	–	–	–	262,677
Realised loss on futures, forward and option contracts, net	–	–	–	60,671	–	–	60,671
Other income	21,252	716	47,666	6,241	2,757	–	78,632
Impairment loss on property, plant and equipment	(8,743)	(247,112)	(3,499)	–	–	–	(259,354)
Unrealised loss on futures, forward and option contracts,net	–	–	–	(9,851)	–	–	(9,851)

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2019						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment eliminations	Total
Gain on share of associates' net assets	–	–	–	–	295,288		295,288
Gain on disposal of a subsidiary	118	–	3,014	2,738	255,317	–	261,187
Gain on disposal of associates	–	–	159,514	–	–	–	159,514
Changes for impairment of inventories	69,740	166,331	(19,076)	34,136	–	–	251,131
Reversal of/(provision for) impairment of receivables, net of bad debts recovered	6,837	1,088	(53,227)	(121,154)	(3,295)	–	(169,751)
Dividends of equity investments at fair value through other comprehensive income	–	–	1,000	–	96,775	–	97,775
Investments in associates	83,424	574,385	2,021,964	362,757	6,469,871	–	9,512,401
Investments in joint ventures	1,076,085	–	298,991	79,199	1,931,307	–	3,385,582
Additions during the period:							
Intangible assets	209,365	949,013	(5,062)	1,869	201	–	1,155,386
Right-of-use assets	1,080,285	131,797	8,411	27,365	–	–	1,247,858
Property, plant and equipment	6,486,248	2,381,644	1,454,659	132,841	165,832	–	10,621,224

(Amounts expressed in thousands of RMB
unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2018 (Restated)						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment eliminations	Total
Total revenue	44,150,937	53,802,172	7,235,273	142,017,821	667,235	(67,632,024)	180,241,414
Inter-segment revenue	(29,392,495)	(12,457,863)	(198,337)	(25,370,303)	(213,026)	67,632,024	–
Sales of self-produced products *(Note (i))*				34,454,943			
Sales of products sourced from external suppliers				82,192,575			
Revenue from external customers	14,758,442	41,344,309	7,036,936	116,647,518	454,209	–	180,241,414
Segment profit/(loss) before income tax	3,496,381	(929,298)	26,020	740,454	(1,267,146)	198,103	2,264,514
Income tax expense							(822,519)
Profit for the year							1,441,995

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2018 (Restated)						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment eliminations	Total
Other items							
Finance income	100,125	54,458	15,744	136,515	185,392	–	492,234
Finance costs	(399,344)	(1,131,622)	(1,047,285)	(366,807)	(1,937,438)	–	(4,882,496)
Share of profits and losses of joint ventures	37,377	8	(225,377)	9,010	(20,470)	–	(199,452)
Share of profits and losses of associates	(1,141)	17,102	(52,368)	19,375	56,367	–	39,335
Amortisation of land use rights	(39,027)	(41,175)	(9,335)	(18,615)	–	–	(108,152)
Depreciation and amortisation (excluding the amortisation of land use rights)	(2,846,051)	(2,954,801)	(1,962,081)	(101,705)	(82,963)	–	(7,947,601)
Gain/(loss) on disposal of property, plant and equipment and land use right	53,116	15,211	24,780	20,036	(12,045)	–	101,098
Realised (loss)/gain on futures, forward and option contracts, net	(716)	–	2,855	47,601	(9,248)	–	40,492
Other income	57,777	38,220	29,858	6,718	2,794	–	135,367
Impairment of property, plant and equipment	–	–	(7,450)	(39,034)	–	–	(46,484)
Unrealised gain on futures,forward and option contracts, net	–	–	–	100,967	–	–	100,967
Gain/(loss) on disposal of subsidiaries	7,671	–	–	–	(4,154)	–	3,517

(Amounts expressed in thousands of RMB
unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Year ended 31 December 2018 (Restated)						
	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Inter-segment eliminations	Total
Changes for impairment of inventories	(54,463)	(273,796)	(7,884)	(17,802)	–	–	(353,945)
Reversal of/(provision for) impairment of receivables, net of bad debts recovered	19,320	(9,406)	(23,327)	(84,922)	(9,621)	–	(107,956)
Dividends of equity investments at fair value through other comprehensive income	–	–	1,000	–	108,914	–	109,914
Gain/(loss) on disposal of associates	–	–	(1,904)	–	–	–	(1,904)
Gain on previously held equity interest remeasured at a acquisition-date fair value	–	–	(3,177)	–	751,263	–	748,086
Investments in associates	89,734	558,759	2,064,425	131,691	3,518,853	–	6,363,462
Investments in joint ventures	989,840	–	435,867	77,211	1,890,431	–	3,393,349
Additions during the period:							
Intangible assets	99,089	753	2,754	514	194	–	103,304
Land use rights	2,786	–	–	52	–	–	2,838
Property, plant and equipment *(Note (ii))*	2,564,003	4,602,580	1,610,442	101,360	143,839	–	9,022,224

Notes:

(i) The sales of self-produced products include sales of self-produced alumina amounting to RMB13,329 million (2018: RMB16,561 million), sales of self-produced primary aluminium amounting to RMB10,689 million (2018: RMB13,517 million), and sales of self-produced other products amounting to RMB356 million (2018: RMB4,376 million).

(ii) The additions to property, plant and equipment under sale and leaseback contracts (Note 20) are not included.

(Amounts expressed in thousands of RMB unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Total
As at 31 December 2019						
Segment assets	**90,584,165**	**63,155,573**	**38,886,172**	**17,360,278**	**49,658,116**	**259,644,304**
Reconciliation:						
Elimination of inter-segment receivables						**(58,081,964)**
Other eliminations						**(106,985)**
Corporate and other unallocated assets:						
Deferred tax assets						**1,522,216**
Prepaid income tax						**93,093**
Total assets						**203,070,664**
Segment liabilities	**47,247,335**	**38,588,473**	**26,582,436**	**9,308,667**	**66,771,364**	**188,498,275**
Reconciliation:						
Elimination of inter-segment payables						**(58,081,964)**
Corporate and other unallocated liabilities:						
Deferred tax liabilities						**1,712,739**
Income tax payable						**216,554**
Total liabilities						**132,345,604**

(Amounts expressed in thousands of RMB
unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

	Alumina	Primary aluminum	Energy	Trading	Corporate and other operating segments	Total
As at 31 December 2018 (Restated)						
Segment assets	82,677,250	57,712,842	39,458,086	20,217,906	33,577,526	233,643,610
Reconciliation:						
Elimination of inter-segment receivables						(34,228,334)
Other eliminations						(155,283)
Corporate and other unallocated assets:						
Deferred tax assets						1,542,655
Prepaid income tax						162,103
Total assets						200,964,751
Segment liabilities	38,817,030	34,492,538	27,265,031	14,530,230	50,492,049	165,596,878
Reconciliation:						
Elimination of inter-segment payables						(34,228,334)
Corporate and other unallocated liabilities:						
Deferred tax liabilities						1,812,805
Income tax payable						113,783
Total liabilities						133,295,132

(Amounts expressed in thousands of RMB
unless otherwise stated)

4. REVENUE AND SEGMENT INFORMATION (CONTINUED)

(b) Segment information (Continued)

The Group mainly operates in Mainland China. Operating segment information by geographical location is as follows:

	2019	2018 (Restated)
Segment revenue from external customers		
– Mainland China	**184,298,146**	171,024,855
– Outside Mainland China	**5,776,015**	9,216,559
	190,074,161	180,241,414

	2019	2018 (Restated)
Non-current assets (excluding financial assets and deferred tax assets)		
– Mainland China	**147,798,239**	137,939,763
– Outside Mainland China	**2,668,533**	646,327
	150,466,772	138,586,090

For the year ended 31 December 2019, revenues of approximately RMB40,567 million (2018: RMB32,852 million) were derived from entities directly or indirectly owned or controlled by the PRC government including Chinalco. These revenues are mainly attributable to the alumina, primary aluminum, energy and trading segments. There were no other individual customers from which the Group has derived revenue of 10% or more of the Group's revenue during the years ended 31 December 2019 and 2018.

(Amounts expressed in thousands of RMB unless otherwise stated)

5. INTANGIBLE ASSETS

	Goodwill	Mining rights and others	Mineral exploration rights	Computer software, Electrolytic aluminum production quota and others	Total
Year ended 31 December 2019					
Opening net carrying amount	3,510,633	7,682,383	1,113,959	572,390	12,879,365
Additions	–	467,640	–	687,746	1,155,386
Reclassification	–	115,871	(115,871)	–	–
Disposals	–	–	–	(9)	(9)
Amortisation	–	(294,766)	–	(44,172)	(338,938)
Transfer from property, plant and equipment *(Note 6)*	–	–	–	63,370	63,370
Currency translation differences	259	1,783	3,244	–	5,286
Closing net carrying amount	3,510,892	7,972,911	1,001,332	1,279,325	13,764,460
As at 31 December 2019					
Cost	3,510,892	10,016,634	1,001,332	1,640,081	16,168,939
Accumulated amortisation and impairment	–	(2,043,723)	–	(360,756)	(2,404,479)
Net carrying amount	3,510,892	7,972,911	1,001,332	1,279,325	13,764,460

(Amounts expressed in thousands of RMB unless otherwise stated)

5. INTANGIBLE ASSETS (CONTINUED)

	Goodwill	Mining rights and others	Mineral exploration rights	Computer software, Electrolytic aluminum production quota and others	Total
Year ended 31 December 2018					
Opening net carrying amount	2,345,930	7,066,428	1,111,586	113,689	10,637,633
Additions	–	98,995	–	4,309	103,304
Acquisition of a subsidiary	1,163,949	728,066	–	1,285	1,893,300
Reclassification	–	7,072	(7,072)	–	–
Disposals	–	–	–	(168)	(168)
Amortisation	–	(265,108)	–	(30,793)	(295,901)
Transfer from property, plant and equipment *(Note 6)*	–	41,148	–	484,068	525,216
Currency translation differences	754	5,782	9,445	–	15,981
Closing net carrying amount	3,510,633	7,682,383	1,113,959	572,390	12,879,365
As at 31 December 2018					
Cost	3,510,633	9,430,183	1,113,959	888,975	14,943,750
Accumulated amortisation and impairment	–	(1,747,800)	–	(316,585)	(2,064,385)
Net carrying amount	3,510,633	7,682,383	1,113,959	572,390	12,879,365

(Amounts expressed in thousands of RMB unless otherwise stated)

5. INTANGIBLE ASSETS (CONTINUED)

For the year ended 31 December 2019, the amortisation expenses of intangible assets recognised in profit or loss were analysed as follows:

	2019	2018
Cost of sales	**294,766**	265,108
General and administrative expenses	**44,172**	30,793
	338,938	295,901

As at 31 December 2019, the Group has pledged intangible asset with a net carrying value amounting to RMB757 million (31 December 2018: RMB773 million) for bank and other borrowings as set out in Note 24 to the financial statements.

As at 31 December 2019, the Group was in the process of applying for the certificates of mining rights with a carrying value amounting to RMB39 million (31 December 2018 (Restated): RMB21 million). There have been no litigations, claims or assessments against the Group for compensation with respect to the use of these rights to date. As at 31 December 2019, the carrying value of these rights only represented approximately 0.02% of the total asset value of the Group (31 December 2018 (Restated): approximately 0.01%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group legally owns and has the rights to use the above mining rights, and that there is no material adverse impact on the overall financial position of the Group.

(Amounts expressed in thousands of RMB
unless otherwise stated)

5. INTANGIBLE ASSETS (CONTINUED)

Impairment testing of goodwill

The lowest level within the Group at which goodwill is monitored for internal management purposes is the operating segment level. Therefore, goodwill is allocated to the Group's cash-generating units ("CGUs") and groups of CGUs according to operating segments. A summary of goodwill allocated to each segment is presented below:

	31 December 2019		31 December 2018	
	Alumina	**Primary aluminum**	Alumina	Primary aluminum
Qinghai Branch	**–**	**217,267**	–	217,267
Guangxi Branch	**189,419**	**–**	189,419	–
Lanzhou Branch	**–**	**1,924,259**	–	1,924,259
PT. Nusapati Prima ("PTNP")	**15,998**	**–**	15,739	–
Shanxi Huaxing	**1,163,949**	**–**	1,163,949	–
	1,369,366	**2,141,526**	1,369,107	2,141,526

The recoverable amount of a CGU is determined based on value-in-use calculations. These calculation of VIU use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the 5-year period are extrapolated using the estimated growth rate of 2% (2018: 2%) not exceeding the long-term average growth rate for the businesses in which the CGU operates. Other key assumptions applied in the impairment testing include future prices of aluminum and alumina, expected production and sales volumes, production costs and operating expenses. Management determined these key assumptions based on past performance and their expectations on market development. Furthermore, the Group adopts a pre-tax rate of 12.62% (2018: 12.62%) that reflects specific risks related to CGUs and groups of CGUs as the discount rate. The assumptions above are used in analysing the recoverable amounts of CGUs and groups of CGUs within operating segments. These estimates and judgments may be affected by unexpected changes in the future market or economic conditions.

The directors of the Company are of the view that, based on their assessment, there was no impairment of goodwill as at 31 December 2019 and 31 December 2018.

(Amounts expressed in thousands of RMB
unless otherwise stated)

6. PROPERTY, PLANT AND EQUIPMENT

	Buildings	Machinery	Transportation facilities	Office and other equipment	Construction in progress	Total
Year ended 31 December 2019						
Opening net carrying amount (Restated)	38,849,351	53,695,930	509,595	158,237	13,036,003	106,249,116
Impact on initial application of IFRS 16 *(Note 2.2)*	(148,673)	(5,851,498)	–	–	(720,439)	(6,720,610)
Opening net book amount at 1 January 2019 (Restated)	38,700,678	47,844,432	509,595	158,237	12,315,564	99,528,506
Currency translation differences	89	103	17	46	–	255
Reclassifications and internal transfers	3,869,147	5,125,998	(29,181)	207,546	(9,173,510)	–
Transfer to intangible assets *(Note 5)*	–	–	–	–	(63,370)	(63,370)
Transfer to right-of-use assets *(Note 19)*	(107,368)	(495)	–	–	–	(107,863)
Transfer to investment properties *(Note 7)*	(179,564)	–	–	–	–	(179,564)
Additions	576,035	635,678	44,122	13,506	9,351,883	10,621,224
Transfer from right-of-use assets *(Note 19)* *	–	1,674,260	–	–	–	1,674,260
Government grants	(7,211)	(69,012)	–	–	–	(76,223)
Disposals	(79,280)	(378,816)	(19,672)	(938)	(70,201)	(548,907)
Disposal of subsidiaries	(85,851)	(73,432)	(3,270)	(239)	–	(162,792)
Depreciation	(1,849,121)	(5,121,646)	(100,547)	(23,402)	–	(7,094,716)
Impairment loss	(105,347)	(153,394)	(14)	(185)	(414)	(259,354)
Closing net carrying amount	40,732,207	49,483,676	401,050	354,571	12,359,952	103,331,456
As at 31 December 2019						
Cost	60,153,059	101,624,509	2,238,818	829,575	2,511,787	177,357,748
Accumulated depreciation and impairment	(19,420,852)	(52,140,833)	(1,837,768)	(475,004)	(151,835)	(74,026,292)
Net carrying amount	40,732,207	49,483,676	401,050	354,571	12,359,952	103,331,456

* This includes the right-of-use assets recognised previously under sale and leaseback contracts of RMB1,674 million that were reclassified from property, plant and equipment, upon initial adoption of IFRS 16. After the expiration of those contracts, they were recognised as property, plant and equipment.

(Amounts expressed in thousands of RMB unless otherwise stated)

6. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

(Restated)	Buildings	Machinery	Transportation facilities	Office and other equipment	Construction in progress	Total
Year ended 31 December 2018						
Opening net carrying amount	32,288,223	52,784,696	541,908	129,630	9,987,437	95,731,894
Reclassifications and internal transfers	3,204,611	3,600,371	75,277	5,149	(6,885,408)	–
Government grants	(468)	(113,481)	–	–	–	(113,949)
Transfer to intangible assets *(Note 5)*	–	–	–	–	(525,216)	(525,216)
Transfer to prepaid land lease payments *(Note 19)*	–	–	–	–	(382,242)	(382,242)
Transfer to investment properties *(Note 7)*	(11,039)	–	–	–	–	(11,039)
Transfer from investment properties *(Note 7)*	21,773	–	–	–	–	21,773
Additions	230,243	1,998,717	31,668	48,912	8,016,079	10,325,619
Acquisition of subsidiaries	4,633,728	4,026,062	17,443	5,937	3,149,060	11,832,230
Disposal of subsidiaries	–	(472)	(101)	(53)	(8,893)	(9,519)
Disposals	(251,212)	(2,505,158)	(39,827)	(3,347)	(275,391)	(3,074,935)
Depreciation	(1,266,607)	(6,087,890)	(116,807)	(28,018)	–	(7,499,322)
Impairment losses	–	(7,061)	–	–	(39,423)	(46,484)
Currency translation differences	99	146	34	27	–	306
Closing net carrying amount	38,849,351	53,695,930	509,595	158,237	13,036,003	106,249,116
As at 31 December 2018						
Cost	56,620,994	103,608,492	2,538,835	603,665	13,187,424	176,559,410
Accumulated depreciation and impairment	(17,771,643)	(49,912,562)	(2,029,240)	(445,428)	(151,421)	(70,310,294)
Net carrying amount	38,849,351	53,695,930	509,595	158,237	13,036,003	106,249,116

(Amounts expressed in thousands of RMB
unless otherwise stated)

6. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

For the year ended 31 December 2019, depreciation expenses recognised in profit or loss are analysed as follows:

	2019	2018 (Restated)
Cost of sales	**6,926,580**	7,291,380
General and administrative expenses	**161,547**	201,337
Selling and distribution expenses	**6,589**	6,605
	7,094,716	7,499,322

As at 31 December 2019, the Group was in the process of applying for the ownership certificates of buildings with a net carrying value of RMB7,315 million (31 December 2018: RMB5,639 million). There has been no litigations, claims or assessments against the Group for compensation with respect to the use of these buildings as at the date of approval of these financial statements.

As at 31 December 2019, the carrying value of these buildings only represented approximately 3.60% of the Group's total asset value (31 December 2018: 2.81%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group legally owns and has the rights to use the above property, plant and equipment, and that there is no material adverse impact on the overall financial position of the Group.

For the year ended 31 December 2019, interest expenses of RMB292 million (2018: RMB518 million) (Note 28) arising from borrowings attributable to the construction of property, plant and equipment during the year were capitalised at an annual rate ranging from 4.00% to 6.96% (2018: 4.54% to 7.00%) (Note 28), and were included in additions to property, plant and equipment.

As at 31 December 2019, the Group has pledged property, plant and equipment at a net carrying value amounting to RMB4,946 million (31 December 2018: RMB4,168 million) for bank and other borrowings as set out in Note 24 to the financial statements.

6. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

As at 31 December 2019, the carrying value of temporarily idle property, plant and equipment of the Group was RMB952 million (31 December 2018: RMB675 million).

The net carrying amounting of the Group's fixed assets held under finance lease included in the total amounts of the buildings, machinery and construction in progress at 31 December 2018 were RMB10,678 million and RMB112 million, respectively. The accumulated depreciation of the Group's fixed asset held under finance lease amounted to RMB2,011 million.

Impairment testing for property, plant and equipment

When any indicators of impairment are identified, property, plant and equipment are reviewed for impairment based on each CGU. The CGU is an individual plant or entity. The carrying values of these individual plants or entities were compared to the recoverable amounts of the CGUs, which were based predominantly on value-in-use. Value-in-use calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the same cash flow projections of the fifth year. Other key assumptions applied in the impairment testing include the future prices of aluminum and alumina, expected production and sales volumes, production costs and operating expenses. Management determined these key assumptions based on past performance and their expectations on market development. Further, the Group adopts a pre-tax and non-inflation rate of 10.16% (2018: 10.16%) that reflects specific risks related to the CGUs as discount rate. The assumptions above are used in analysing the recoverable amounts of the CGUs within operating segments. These estimates and judgments may be affected by unexpected changes in the future market or economic conditions.

For the CGUs with indicators of impairment identified, the assets were not further impaired during the current year based on the impairment testing (2018: Nil).

In addition to the CGUs for which impairment was tested based on value-in-use, the Group also assessed the recoverable amounts for property, plant and equipment to be disposed or abandoned soon, and impairment losses of RMB259 million were provided during the year ended 31 December 2019 (2018: RMB46 million).

(Amounts expressed in thousands of RMB unless otherwise stated)

7. INVESTMENT PROPERTIES

	Buildings	Land use rights	Total
Year ended 31 December 2019			
Opening net carrying amount	**235,974**	**920,032**	**1,156,006**
Additions	**44,063**	**–**	**44,063**
Transfer from property, plant and equipment *(Note 6)*	**179,564**	**–**	**179,564**
Transfer from right-of-use assets *(Note 19)*	**–**	**239,765**	**239,765**
Disposal	**(36,949)**	**(52,537)**	**(89,486)**
Depreciation	**(8,484)**	**(18,075)**	**(26,559)**
Impairment	**–**	**(87)**	**(87)**
Closing net carrying amount	**414,168**	**1,089,098**	**1,503,266**
As at 31 December 2019			
Cost	**508,705**	**1,159,343**	**1,668,048**
Accumulated depreciation and impairment	**(94,537)**	**(70,245)**	**(164,782)**
Net carrying amount	**414,168**	**1,089,098**	**1,503,266**

(Amounts expressed in thousands of RMB unless otherwise stated)

7. INVESTMENT PROPERTIES(CONTINUED)

	Buildings	Land use right	Total
Year ended 31 December 2018			
Opening net carrying amount	254,061	1,078,309	1,332,370
Transfer from property, plant and equipment *(Note 6)*	11,039	–	11,039
Transfer to property, plant and equipment *(Note 6)*	(21,773)	–	(21,773)
Disposal	–	(143,401)	(143,401)
Depreciation	(7,353)	(14,876)	(22,229)
Closing net carrying amount	235,974	920,032	1,156,006
As at 31 December 2018			
Cost	251,626	939,015	1,190,641
Accumulated depreciation	(15,652)	(18,983)	(34,635)
Net carrying amount	235,974	920,032	1,156,006

The Group's investment properties consist of land use rights held for rental income and buildings leased to third parties under operating leases.

As at 31 December 2019, the Group was in the process of applying for the ownership certificates of investment properties with a net carrying value of RMB255 million (31 December 2018: RMB68 million). There have been no litigations, claims or assessments against the Group for compensation with respect to the use of these rights to date. As at 31 December 2019, the carrying value of these investment properties only represented approximately 0.13% of the total asset value of the Group (31 December 2018: 0.03%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group legally owns and has the rights to use the above investment properties, and that there is no material adverse impact on the overall financial position of the Group.

(Amounts expressed in thousands of RMB unless otherwise stated)

7. INVESTMENT PROPERTIES(CONTINUED)

As at 31 December 2019, the fair value of the buildings was approximately RMB1,071 million (31 December 2018: RMB781 million) which was estimated based on the market price of comparable buildings in the nearby area. The directors of the Company estimated that the fair value of the land use right is likely to be RMB1,269 million (31 December 2018: RMB1,287 million), which was determined based on the transaction prices for similar lands nearby.

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES

(a) Investments in joint ventures

Movements in investments in joint ventures are as follows:

	2019	2018
As at 1 January	**3,393,349**	6,007,624
Capital injections	**50,000**	90,000
A joint venture changed into a subsidiary	**–**	(2,048,780)
Disposal*	**(114,604)**	–
Share of profits and losses for the year	**270,115**	(199,452)
Share of changes in reserves	**8,746**	(2,837)
Cash dividends declared	**(222,024)**	(236,253)
Impairment	**–**	(216,953)
As at 31 December	**3,385,582**	3,393,349

* In March 2019, a subsidiary of the Group Ningxia Energy transferred, through an auction transaction, its 50% equity interest in Ningxia Zhongning Power Co.,Ltd.

As at 31 December 2019, all joint ventures of the Group were unlisted.

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

As at 31 December 2019, particulars of the Group's material joint venture is as follows:

Name	Place of establishment and operation	Registered and paid-in capital	Principal activities	Effective equity interest held		
				Ownership interest	Voting power	Profit sharing
Guangxi Huayin Aluminum Co.,Ltd. *("Guangxi Huayin") (廣西華銀鋁業有限公司)	PRC/Mainland China	2,441,987	Manufacturing	33%	33%	33%

Guangxi Huayin, which is considered a material joint venture of the Group, is accounted for using the equity method.

* The English names represent the best effort by management of the Group in translating the Chinese names of the Companies as they do not have any official English names.

(Amounts expressed in thousands of RMB unless otherwise stated)

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

The following table illustrates the summarised financial information in respect of Guangxi Huayin:

	2019	2018
Cash and cash equivalents	**261,447**	232,022
Other current assets	**1,222,290**	1,233,669
Current assets	**1,483,737**	1,465,691
Non-current assets	**5,249,101**	5,473,480
Financial liabilities	**1,106,593**	840,000
Other current liabilities	**960,077**	961,283
Current liabilities	**2,066,670**	1,801,283
Non-current liabilities	**414,299**	814,691
Net assets	**4,251,869**	4,323,197
Non-controlling interests	**–**	–

(Amounts expressed in thousands of RMB
unless otherwise stated)

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

	2019	2018
Reconciliation to the Group's interest in the joint venture:		
Proportion of the Group's ownership	**33%**	33%
Group's share of net assets of the joint venture	**1,403,117**	1,426,655
Carrying amount of the investment	**1,403,117**	1,426,655
Revenue	**5,226,893**	5,173,801
Gross profit	**1,303,254**	979,991
Interest income	**9,781**	6,365
Depreciation and amortisation	**525,109**	509,556
Interest expenses	**63,351**	77,438
Profit before income tax	**621,315**	504,875
Income tax	**79,300**	78,827
Other comprehensive income	**–**	–
Total comprehensive income for the year	**542,015**	426,048
Dividend received	**198,000**	132,000

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(a) Investments in joint ventures (Continued)

The following table illustrates the aggregate financial information of the Group's joint ventures that are not individually material:

	2019	2018
Share of the joint ventures' profits and losses for the year	**91,250**	(340,145)
Share of the joint ventures' total comprehensive income	**91,250**	(340,145)
Aggregate carrying amount of the Group's investments in joint ventures	**1,870,538**	1,858,386

There were no material contingent liabilities relating to the Group's interests in the joint ventures and the joint ventures themselves.

(Amounts expressed in thousands of RMB unless otherwise stated)

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates

Movements in investments in associates are as follows:

	2019	2018
As at 1 January	**6,363,462**	6,935,030
Investment to Yunnan Aluminum *(Note (1), (Note 27))*	**1,491,736**	–
Investment to Heqing Yixin Aluminum Industry Co., Ltd. (鶴慶溢鑫鋁業有限公司) ("Yixin Aluminum") *(Note (2), (Note 27))*	**941,160**	–
Capital injections, other than to Yunnan Aluminum and Yixin Aluminum	**729,368**	315,300
Subsidiaries changed into associates	**16,283**	–
Associates changed into subsidiaries	**–**	(862,214)
Capital reduction	**(20,250)**	(32,720)
Share of profits and losses for the year	**48,767**	39,335
Cash dividends declared	**(50,314)**	(36,157)
Share of changes in reserves	**(7,811)**	4,888
As at 31 December	**9,512,401**	6,363,462

Note (1): Investment to Yunnan Aluminium

On 19 December 2019, the Company and Yunnan Aluminum entered into a Share Subscription Agreements ("Subscription Agreements"), pursuant to which the Company subscribed for 314,050,688 shares of Yunnan Aluminum at a price of RMB4.10 per share with the total subscription amount of RMB1,288 million. Upon completion of the subscription, the Company obtained 10.04% equity interests in Yunnan Aluminum.

The Group considers that it has significant influence over Yunnan Aluminum even though it owns less than 20% of the voting rights, on the grounds that after the investment, the Group is the second largest shareholder of and one out of the eleven directors of the board of directors of Yunnan Aluminum exercises director's rights on the behalf of the Group.

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates (Continued)

Note (1): Investment to Yunnan Aluminium (Continued)

As at the date of this announcement, Chinalco is the controlling Shareholder of the Company, and Yunnan Aluminum is a subsidiary of Chinalco. Therefore, Yunnan Aluminum is a connected person of the Company under the Hong Kong Listing Rules. As such, the transaction contemplated under the Shares Subscription Agreement constitutes a connected transaction under Chapter 14A of the Hong Kong Listing Rules. The investment constitutes a related party transaction which was disclosed in Note 35 (a).

The investment to Yunnan Aluminium, which is a listed company, is conducive for resolving business competitions between the Company and Yunnan Aluminum and is in line with the development strategies and in the whole interests of the Company.

The excess of the fair value of identifiable net assets as at the acquisition date over the consideration transferred approximates to RMB204 million, which was mainly arising from the fair value adjustments for certain intangible assets according to a professional valuer's report, was recognised in other gains for the year ended 31 December 2019.

Note (2): Investment to Yixin Aluminum

On 10 December 2019, the Company entered into the Capital Contribution Agreement with shareholders of Yixin Aluminum, including Yunnan Aluminum, Wenshan Aluminum Co., Ltd. ("Wenshan Aluminum"), and three individual shareholders, pursuant to which the Company agreed to make a capital contribution of RMB850 million in cash to Yixin Aluminum. Upon completion of the capital contribution, the Company holds approximately 38.90% equity investments of Yixin Aluminum.

Chinalco is the controlling Shareholder of the Company, and Yunnan Aluminum, Wenshan Aluminum and Yixin Aluminum are subsidiaries of Chinalco. Therefore, Yunnan Aluminum, Wenshan Aluminum and Yixin Aluminum are connected persons of the Company under the Hong Kong Listing Rules. As such, the transaction contemplated under the Capital Contribution Agreement constitutes a connected transaction under Chapter 14A of the Hong Kong Listing Rules. The investment constitutes a related party transaction which was disclosed in Note 35 (a).

The investment to Yixin Aluminum is to facilitate the Company in participating in the green development layout on the integration of water, electricity and aluminum in Yunnan Province and obtaining competitive assets for its principal business.

The excess of the fair value of identifiable net assets as at the acquisition date over the consideration transferred approximated to RMB91 million, which was mainly arising from the fair value adjustments for constructions according to a professional valuer's report, was recognised in other gains for the year ended 31 December 2019.

(Amounts expressed in thousands of RMB
unless otherwise stated)

8. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES (CONTINUED)

(b) Investments in associates (Continued)

As at 31 December 2019, all associates, except for Yunnan Aluminium, of the Group were unlisted.

As at December 2019, no associate was individually material to the Group.

The following table illustrates the aggregate financial information of the Group's associates that are not individually material:

	2019	2018
Share of the associates' profits and losses	**48,767**	39,335
Share of the associates' total comprehensive income	**48,767**	39,335
Aggregate carrying amount of the Group's investments in the associates	**9,512,401**	6,363,462

As at 31 December 2019, there were no proportionate interests of the Group in the associates' capital commitments (31 December 2018: Nil).

As at 31 December 2019, the Group had pledged investments in associates amounting to RMB539 million (31 December 2018: investments in associates amounting to RMB536 million) as set out in Note 24 to the financial statements.

There were no material contingent liabilities relating to the Group's interests in the associates and the associates themselves.

(Amounts expressed in thousands of RMB unless otherwise stated)

9. EQUITY INVESTMENTS DESIGNATED AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	31 December 2019	31 December 2018
Equity investments designated at fair value through other comprehensive income		
Listed equity investments, at fair value		
Dongxing securities Co., Ltd.(東興證券)	**8,853**	6,441
	8,853	6,441
Unlisted equity investments, at fair value		
Sanmenxia Dachang Mining Co., Ltd. (三門峽達昌礦業有限公司)	**20,905**	20,926
Inner Mongolia Ganqimaodu Port Development Co., Ltd. (內蒙古甘其毛都港務發展股份有限公司)	**30,410**	18,010
Yinchuan Economic and Technological Development Zone Investment Holding Co., Ltd. (銀川經濟技術開發區投資控股有限公司)	**20,000**	19,306
China Color International Alumina Development Co., Ltd. (中色國際氧化鋁開發有限公司)	**6,614**	9,000
Luoyang Jianyuan Mining Co., Ltd. (洛陽建元礦業有限公司)	**4,960**	4,948
Ningxia Ningdian Logistics Transportation Co., Ltd. (寧夏寧電物流運輸有限公司)	**1,640**	1,194
Chinalco Innovative Development Investment Company Limited ("Chinalco Innovative") (中鋁創投)	**365,681**	–
Size Industry Investment Fund *(Note)*	**1,653,251**	1,650,000
Fangchenggang Chisha Pier Co., Ltd. (防城港赤沙碼頭有限公司)	**700**	–
Xingxian Shengxing Highway Investment Management Co., Ltd. (興縣盛興公路投資管理有限公司)	**126,237**	–
	2,230,398	1,723,384
	2,239,251	1,729,825

9. EQUITY INVESTMENTS DESIGNATED AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME (CONTINUED)

The above equity investments were irrevocably designated at fair value through other comprehensive income as the Group considers these investments to be strategic in nature.

Note:

Included in the unlisted investments is mainly the equity investment in Size Industry Investment Fund. In 2017, the Company entered into a series of agreements with Bank of Communications International Trust Co., Ltd. ("BOCOMMTRUST") (交銀國際信託有限公司), Bocommtrust Asset Management Co., Ltd.* ("Bocommtrust Asset") (交銀國信資產管理有限公司), a subsidiary of BOCOMMTRUST, and Chinalco Jianxin Investment Fund Management (Beijing) Company Limited* ("Chinalco Jianxin") (中鋁建信投資基金管理(北京)有限公司) to establish Beijing Chalco Bocom Size ("Size Industry Investment Fund") (北京中鋁交銀四則產業投資基金管理合夥企業(有限合夥)). According to these agreements, BOCOMMTRUST acted as the prioritised limited partner and the Company as the secondary limited partner of Size Industry Investment Fund, with the maximum amount of capital contribution of RMB6,700 million and RMB3,300 million, respectively. Bocommtrust Asset and Chinalco Jianxin are the general partner and the manager of Size Industry Investment Fund, respectively. The purpose of Size Industry Investment Fund is to invest in the Company's subsidiaries, associates or joint ventures in the form of debt financing.

As at 31 December 2019, Size Industry Investment Fund made four investments in three of the Company's subsidiaries and one of the Company's joint ventures amounting to RMB5,000 million in the form of debt. The Company and BOCOMMTRUST contributed capital of RMB1,650 million and RMB3,350 million to Size Industry Investment Fund, respectively.

Because the variable return of Size Industry Investment Fund depends on the selection of investment targets, the timing and size of the investment fund and the rate of return, which are all determined by BOCOMMTRUST under its full authority, the directors of the Company are of the opinion that the Company did not have control or joint control over, or significant influence over Size Industry Investment Fund. Therefore, the Company's investment in Size Industry Investment Fund was accounted for as an equity investment designated at fair value through other comprehensive income.

* The English names represent the best effort made by management of the Group in translating the Chinese names of the companies as the companies do not have any official English names.

(Amounts expressed in thousands of RMB
unless otherwise stated)

10. DEFERRED TAX

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current income tax assets against current income tax liabilities and when the deferred taxes relate to the same tax authority.

The movements in deferred tax assets and liabilities during the year ended 31 December 2019 without taking into consideration the offsetting of balances within the same tax jurisdiction, are as follows:

Movements in deferred tax assets:

	Provision for impairment	Accrued expenses	Tax losses	Unrealised profit at consolidation	Others	Total
As at 31 December 2017	525,382	264,209	539,899	166,043	168,647	1,664,180
Business combination under common control	57	–	–	–	–	57
As at 1 January 2018 (Restated)	525,439	264,209	539,899	166,043	168,647	1,664,237
Acquisition of subsidiaries	360	–	–	–	7,734	8,094
(Charged)/credited to profit or loss	(139,956)	(21,839)	76,338	3,833	5,989	(75,635)
As at 31 December 2018 (Restated)	385,843	242,370	616,237	169,876	182,370	1,596,696
As at 1 January 2019 (Restated)	**385,843**	**242,370**	**616,237**	**169,876**	**182,370**	**1,596,696**
Credit/(charged) to profit or loss	**59,218**	**(33,214)**	**(40,047)**	**(521)**	**(2,956)**	**(17,520)**
As at 31 December 2019	**445,061**	**209,156**	**576,190**	**169,355**	**179,414**	**1,579,176**

(Amounts expressed in thousands of RMB unless otherwise stated)

10. DEFERRED TAX (CONTINUED)

Movements in deferred tax liabilities:

	Interest capitalisation	Fair value changes of financial assets	Depreciation and amortisation	Fair value adjustments arising from acquisition of subsidiaries	Total
As at 1 January 2018	52,934	5,972	7,659	988,848	1,055,413
Exchange realignment	–	–	–	1,353	1,353
Credited to other comprehensive income	–	(3,769)	–	–	(3,769)
Acquisition of subsidiaries	–	–	–	822,229	822,229
(Credited)/charged to profit or loss	(9,102)	3,403	24,830	(27,511)	(8,380)
As at 31 December 2018	43,832	5,606	32,489	1,784,919	1,866,846
As at 1 January 2019	**43,832**	**5,606**	**32,489**	**1,784,919**	**1,866,846**
Exchange realignment	**–**	**–**	**–**	**416**	**416**
Charged to other comprehensive income	**–**	**14,642**	**–**	**–**	**14,642**
Credited to profit or loss	**(5,825)**	**(12,517)**	**(8,616)**	**(85,247)**	**(112,205)**
As at 31 December 2019	**38,007**	**7,731**	**23,873**	**1,700,088**	**1,769,699**

The temporary differences associated with investments in the Group's associates and joint ventures, for which a deferred tax liability has not been recognised in the periods presented, aggregate to RMB827 million (2018: RMB438 million), considering dividends from investments in associates and joint ventures are exempted from the PRC income tax and the Group has no plan to dispose any of these investees in the foreseeable future.

(Amounts expressed in thousands of RMB unless otherwise stated)

10. DEFERRED TAX (CONTINUED)

For presentation purposes, certain deferred tax assets and liabilities have been offset in the consolidated statement of financial position. The following is an analysis of the deferred tax balances of the Group for financial reporting purposes:

	31 December 2019	31 December 2018 (Restated)
Net deferred tax assets	**1,522,216**	1,542,655
Net deferred tax liabilities	**1,712,739**	1,812,805

As at 31 December 2019, the Group has not recognised deferred tax assets of RMB1,467 million (31 December 2018: RMB2,634 million) in respect of accumulated tax losses amounting to RMB6,210 million (31 December 2018: RMB11,387 million) arising in Mainland China that can be carried forward for offsetting against future taxable income, and deferred tax assets of RMB2,287 million (31 December 2018: RMB1,660 million) in respect of deductible temporary differences amounting to RMB9,160 million (31 December 2018: RMB7,992 million) as it was considered not probable that those assets would be realised. The above tax losses will expire in one to five years if not utilised.

(Amounts expressed in thousands of RMB
unless otherwise stated)

10. DEFERRED TAX (CONTINUED)

As at 31 December 2019, the expiry profile of these unprovided tax losses was analysed as follows:

	31 December 2019	31 December 2018
Expiring in		
2019	**-**	6,753,096
2020	**690,646**	711,878
2021	**958,188**	975,081
2022	**1,211,002**	1,211,002
2023	**997,376**	1,736,412
2024	**2,353,070**	–
	6,210,282	11,387,469

(Amounts expressed in thousands of RMB unless otherwise stated)

11. OTHER NON-CURRENT ASSETS

	31 December 2019	1 January 2019	31 December 2018 (Restated)
Financial assets			
– Other long-term receivables	**128,673**	204,718	204,718
Prepayment for mining rights	**813,822**	808,736	808,736
Long-term prepaid expenses	**648,983**	647,449	667,772
Deferred losses for sale and leaseback transactions*	**766,548**	1,323,221	1,323,221
Others	**849,817**	1,438,198	1,438,198
	3,079,170	4,217,604	4,237,927
	3,207,843	4,422,322	4,442,645

* As disclosed in Note 20, the Group entered into several sale and leaseback agreements which constitute finance leases in previous years. The deferred losses resulted from the sale are classified as other non-current assets and were amortised over the useful lives of the assets leased back.

As at 31 December 2019 and 31 December 2018, all amounts were denominated in RMB.

As at 31 December 2019 and 31 December 2018, all amounts in other non-current assets were non-interest-bearing.

(Amounts expressed in thousands of RMB unless otherwise stated)

12. INVENTORIES

	31 December 2019	31 December 2018
Raw materials	**6,825,650**	8,362,697
Work-in-progress	**7,847,599**	8,684,506
Finished goods	**4,501,633**	3,280,641
Spare parts	**842,734**	879,794
Packaging materials and others	**57,870**	63,227
	20,075,486	21,270,865
Less: provision for impairment of inventories	**(560,066)**	(811,197)
	19,515,420	20,459,668

Movements in the provision for impairment of inventories are as follows:

	2019	2018
As at 1 January	**811,197**	457,252
Provision for impairment of inventories	**1,503,406**	2,413,098
Disposal of subsidiary	**(772)**	–
Reversal arising from increase in net realisable value	**(340,134)**	(165,510)
Written off upon sales of inventories	**(1,413,631)**	(1,893,643)
As at 31 December	**560,066**	811,197

As at 31 December 2019 and 31 December 2018, the Group had no pledged inventories for bank and other borrowings.

(Amounts expressed in thousands of RMB unless otherwise stated)

13. TRADE AND NOTES RECEIVABLES

	31 December 2019	31 December 2018 (Restated)
Trade receivables	**5,273,969**	5,868,796
Less: impairment	**(714,857)**	(659, 261)
	4,559,112	5,209,535
Notes receivable	**2,834,011**	2,894,482
	7,393,123	8,104,017

As at 31 December 2019, except for trade and notes receivables of the Group amounting to RMB1,111 million which were denominated in USD (31 December 2018: RMB1,403 million which were denominated in USD), all trade and notes receivables were denominated in RMB.

Included in the Group's trade and notes receivables are amounts due from the Group's joint ventures and associates of RMB788 million (31 December 2018: RMB820 million) and RMB0.03 million (31 December 2018: RMB7 million), which are repayable on credit terms similar to those offered to the major customers of the Group.

As at 31 December 2019, the Group had pledged notes receivable amounting to RMB667 million (31 December 2018: notes receivable amounting to RMB934 million) as set out in Note 24 to the financial statements.

Trade receivables and notes receivable are non-interest-bearing and are generally on terms of 3 to 12 months. Certain of the Group's sales were on advance payments or documents against payment. In some cases, these terms are extended for qualifying long term customers that have met specific credit requirements. As at 31 December 2019, the ageing analysis of trade receivables was as follows:

(Amounts expressed in thousands of RMB
unless otherwise stated)

13. TRADE AND NOTES RECEIVABLES (CONTINUED)

	31 December 2019	31 December 2018 (Restated)
Within 1 year	**2,907,407**	3,320,735
Between 1 and 2 years	**742,477**	906,302
Between 2 and 3 years	**377,836**	158,162
Over 3 years	**1,246,249**	1,483,597
	5,273,969	5,868,796
Less: loss allowance for impairment	**(714,857)**	(659, 261)
	4,559,112	5,209,535

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates are based on days past due for groupings of various customer segments with similar loss patterns (i.e., by geographical region, product type, customer type and rating, and coverage by letters of credit or other forms of credit insurance). The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions.

(Amounts expressed in thousands of RMB
unless otherwise stated)

13. TRADE AND NOTES RECEIVABLES (CONTINUED)

Set out below is the information about the credit risk exposure on the Group's trade receivables using a provision matrix:

	As at 31 December 2019		
	Gross carrying amount	**Expected credit losses**	**Expected credit loss rate(%)**
Alumina and primary aluminum			
Within 1 year	**207,602**	**1,910**	**0.92**
Between 1 and 2 years	**47,883**	**5,305**	**11.08**
Between 2 and 3 years	**20,712**	**18,643**	**90.01**
Over 3 years	**205,395**	**194,858**	**94.87**
	481,592	**220,716**	**/**
Trading			
Within 1 year	**113,596**	**159**	**0.14**
Between 1 and 2 years	**–**	**–**	**1.69**
Between 2 and 3 years	**1,001**	**41**	**4.05**
Over 3 years	**79,793**	**15,560**	**19.50**
	194,390	**15,760**	**/**
Energy			
Within 1 year	**348,399**	**13,343**	**3.83**
Between 1 and 2 years	**11,722**	**2,496**	**21.29**
Between 2 and 3 years	**9,073**	**2,170**	**23.92**
Over 3 years	**7,269**	**3,555**	**48.91**
	376,463	**21,564**	**/**

(Amounts expressed in thousands of RMB
unless otherwise stated)

13. TRADE AND NOTES RECEIVABLES (CONTINUED)

	As at 31 December 2019		
	Gross carrying amount	Expected credit losses	Expected credit loss rate(%)
Corporate and other operating segments			
Within 1 year	**51,774**	**3,117**	**6.02**
Between 1 and 2 years	**18,129**	**12,831**	**70.78**
Between 2 and 3 years	**5,399**	**5,127**	**94.96**
Over 3 years	**6,176**	**6,019**	**97.45**
	81,478	**27,094**	**/**
	1,133,923	**285,134**	
Individually assessed trade receivables	**4,140,046**	**429,723**	
	5,273,969	**714,857**	

(Amounts expressed in thousands of RMB
unless otherwise stated)

13. TRADE AND NOTES RECEIVABLES (CONTINUED)

	As at 31 December 2018		
	Gross carrying amount	Expected credit losses	Expected credit loss rate(%)
Alumina and primary aluminum			
Within 1 year	401,691	3,696	0.92
Between 1 and 2 years	55,766	6,179	11.08
Between 2 and 3 years	16,546	14,893	90.01
Over 3 years	379,213	359,759	94.87
	853,216	384,527	/
Trading			
Within 1 year	473,153	662	0.14
Between 1 and 2 years	4,146	70	1.68
Between 2 and 3 years	74	3	3.80
Over 3 years	19,422	3,787	19.50
	496,795	4,522	/
Energy			
Within 1 year	88,462	3,388	3.83
Between 1 and 2 years	3,217	685	21.28
Between 2 and 3 years	15,417	3,688	23.92
Over 3 years	12,710	6,216	48.91
	119,806	13,977	/

(Amounts expressed in thousands of RMB
unless otherwise stated)

13. TRADE AND NOTES RECEIVABLES (CONTINUED)

	As at 31 December 2018		
	Gross carrying amount	Expected credit losses	Expected credit loss rate(%)
Corporate and other operating segments			
Within 1 year	108,627	6,539	6.02
Between 1 and 2 years	10,974	7,767	70.78
Between 2 and 3 years	4,026	3,823	94.96
Over 3 years	25,800	25,142	97.45
	149,427	43,271	/
	1,619,244	446,297	
Individually assessed trade receivables	4,249,552	212,964	
	5,868,796	659,261	

Movements in the loss allowance for impairment of trade receivables are as follows:

	2019	2018 (Restated)
As at 1 January	**659,261**	546,102
Effect of adoption of IFRS 9	**–**	112,407
At beginning of year	**659,261**	658,509
Impairment loss	**236,238**	64,544
Write off	**(97,554)**	(33,469)
Reversal	**(83,095)**	(20,466)
Others	**7**	(9,857)
As at 31 December	**714,857**	659,261

13. TRADE AND NOTES RECEIVABLES (CONTINUED)

As at 31 December 2019, the Group derecognised notes receivable not yet due with a carrying amount in aggregate of RMB34,506 million (31 December 2018: RMB29,273 million). In addition, as at 31 December 2019, the Group has not derecognised notes receivable that have been discounted or enclosed but not yet due with a carrying amount of RMB357 million (31 December 2018: RMB444 million).

The derecognised notes receivable had a maturity of one to six months at the end of the reporting period. In accordance with the Law of Negotiable Instruments in the PRC, the holders of the derecognised notes receivable have a right of recourse against the Group if the PRC banks default (the "Continuing Involvement"). In the opinion of the directors, the Group has transferred substantially all risks and rewards relating to the derecognised notes receivable. Accordingly, it has derecognised the full carrying amounts of the derecognised notes receivable and the associated trade payables. The maximum exposure to loss from the Group's Continuing Involvement in the derecognised notes receivable and the undiscounted cash flows to repurchase these derecognised notes receivable is equal to their carrying amounts. In the opinion of the directors, the fair values of the Group's Continuing Involvement in the derecognised notes receivable are not significant.

During the year ended 31 December 2019, the Group has not recognised any gain or loss on the date of transfer of the derecognised notes receivable. No gains or losses were recognised from the Continuing Involvement, both during the year or cumulatively. The endorsement has been made evenly throughout the year.

(Amounts expressed in thousands of RMB unless otherwise stated)

14. OTHER CURRENT ASSETS

	31 December 2019	31 December 2018 (Restated)
Financial assets		
– Deposits paid to suppliers	**501,918**	317,946
– Dividends receivable	**82,796**	47,167
– Receivables from disposal of businesses and assets	**90,399**	134,789
– Entrusted loans and loans receivable from third parties	**1,544,070**	1,645,205
– Entrusted loans and loans receivable from related parties	**1,309,095**	1,297,892
– Receivables from disposal of properties	**1,948,434**	1,881,513
– Interest receivables	**40,936**	40,936
– Recoverable reimbursement for freight charges	**223,884**	415,232
– Receivable of government grants	**517,365**	129,977
– Other financial assets	**1,185,466**	787,396
	7,444,363	6,698,053
Less: impairment allowance	**(1,720,439)**	(1,764,068)
	5,723,924	4,933,985
Advances to employees	**17,207**	23,744
Deductible input value added tax receivables	**2,424,004**	2,189,470
Prepaid income tax	**93,093**	162,103
Prepayments to related parties for purchases	**229,324**	586,312
Prepayments to suppliers for purchases and others	**634,548**	964,158
Others	**117,678**	169,881
	3,515,854	4,095,668
Less: impairment allowance	**(2,715)**	(4,139)
	3,513,139	4,091,529
Total other current assets	**9,237,063**	9,025,514

(Amounts expressed in thousands of RMB unless otherwise stated)

14. OTHER CURRENT ASSETS (CONTINUED)

As at 31 December 2019, except for amounts included in other receivables amounting to RMB37 million, which were denominated in USD (31 December 2018: other receivables amounting to RMB48 million denominated in USD), remaining amounts in other current assets were denominated in RMB0.12 million (31 December 2018: remaining denominated in RMB).

As at 31 December 2019, except for entrusted loans and loans receivable (31 December 2018: except for entrusted loans and loans receivable) which were interest-bearing assets, all amounts in other current assets were non-interest-bearing (31 December 2018: all non-interest-bearing).

As at 31 December 2019, the ageing analysis of financial assets included in other current assets was as follows:

	31 December 2019	31 December 2018 (Restated)
Within 1 year	**1,628,723**	1,456,520
Between 1 and 2 years	**752,731**	283,844
Between 2 and 3 years	**151,974**	844,262
Over 3 years	**4,910,935**	4,113,427
	7,444,363	6,698,053
Less: provision for impairment	**(1,720,439)**	(1,764,068)
	5,723,924	4,933,985

(Amounts expressed in thousands of RMB unless otherwise stated)

14. OTHER CURRENT ASSETS (CONTINUED)

Movements in the provision for impairment of financial assets in other current assets are as follows:

	2019	2018 (Restated)
As at 1 January	**1,768,207**	1,677,277
Effect of adoption of IFRS 9	**–**	38,502
At beginning of year	**1,768,207**	1,715,779
Impairment loss	**42,898**	65,494
Write off	**(62,319)**	(6,117)
Reversal	**(26,290)**	(1,731)
Others	**658**	(5,218)
As at 31 December	**1,723,154**	1,768,207

Financial assets included in other current assets at amortised cost are subject to impairment under the general approach and they are classified within the following stages for measurement of ECLs.

As at 31 December 2019	**Gross carrying amount**	**Expected credit losses**
Stage 1 – 12 months expected credit loss	**1,632,766**	**–**
Stage 2 – life time expected credit loss	**4,052,681**	**82,061**
Stage 3 – life time expected credit loss with credit-impaired	**1,758,916**	**1,638,378**
	7,444,363	**1,720,439**

(Amounts expressed in thousands of RMB unless otherwise stated)

14. OTHER CURRENT ASSETS (CONTINUED)

As at 31 December 2018	Gross carrying amount	Expected credit losses
Stage 1 – 12 months expected credit loss	1,098,455	–
Stage 2 – life time expected credit loss	3,744,612	88,974
Stage 3 – life time expected credit loss with credit-impaired	1,796,526	1,675,094
	6,639,593	1,764,068

15. CASH AND CASH EQUIVALENTS AND RESTRICTED CASH

	31 December 2019	31 December 2018 (Restated)
Restricted cash	**1,305,781**	2,165,288
Cash and cash equivalents	**7,759,190**	19,130,835
	9,064,971	21,296,123

Restricted cash mainly represented deposits held for use in issued notes payable and letters of credit.

(Amounts expressed in thousands of RMB
unless otherwise stated)

15. CASH AND CASH EQUIVALENTS AND RESTRICTED CASH (CONTINUED)

As at 31 December 2019, bank balances and cash on hand of the Group were denominated in the following currencies:

	31 December 2019	31 December 2018 (Restated)
RMB	**7,858,867**	18,026,265
USD	**1,195,720**	3,256,625
HKD	**4,423**	8,321
EUR	**1,943**	371
AUD	**–**	2,552
IDR	**4,018**	1,989
	9,064,971	21,296,123

Cash at banks earns interest at floating rates based on daily bank deposit rates. The bank balances, time deposits and restricted cash are deposited with creditworthy banks with no recent history of default.

16. SHARE CAPITAL

As at 31 December 2018 and 2019, all issued shares were registered and fully paid. Both A shares and H shares rank pari passu with each other.

On 31 January 2018, the Company and eight investors, including Huarong Ruitong Equity Investment Management Co., Ltd. (華融瑞通股權投資管理有限公司), China Life Insurance Co., Ltd. (中國人壽保險股份有限公司), Shenzhen Zhao Ping Aluminum Investment Center (limited partnership) (深圳市招平中鋁投資有限(有限合夥)), China Pacific Life Insurance Co., Ltd. (中國太平洋人壽保險股份有限公司), China Cinda Asset Management Co., Ltd. (中國信達資產管理股份有限公司), BOC Financial Asset Investment Co, Ltd. (中銀金融資產投資有限公司), ICBC Financial Asset Investment Co., Ltd. (工銀金融資產投資有限公司) and ABC Financial Asset Investment Co., Ltd.(農銀金融資產投資有限公司) (collectively called "Transferors") entered into the equity acquisition agreements, pursuant to which, the Company agreed to acquire and the Transferors agreed to sell their non-controlling equity interests in Chalco Shandong Co., Ltd., Chalco Zhongzhou Aluminum Co., Ltd., Baotou Aluminum Co., Ltd. and Chalco Mining Co., Ltd. (collectively called the "Target Companies"), at a consideration of approximately 2.1 billion ordinary shares of the Company, which was determined at the fair value of the non-controlling interests in the Target Companies of approximately RMB12.7 billion. Upon signing the equity acquisition agreements, together with the investment agreements and debt to equity swap agreements signed in 2017, the Transferors effectively surrendered their non-controlling interests in the Target Companies, which included the rights to profit or loss, voting rights and other shareholder rights of the Target Companies to the Group. Consequently the carrying values of the Transferors' non-controlling interests in the Target Companies of RMB10.7 billion were derecognised, and were transferred to the capital reserve of the Group in 2018.

On 25 February 2019, the Company completed the issuance of ordinary shares to these Transferors, and the total number of shares issued was 2,118,874,715.

The number of the Company's authorised ordinary shares was 17,022,672,951 at par value of RMB1.00 per share as at 31 December 2019. There were 14,903,798,236 and 17,022,672,951 ordinary shares issued and outstanding as at 31 December 2018 and 2019, respectively.

17. RESERVES

The amounts of the Group's reserves and the movements therein for the current and prior years are presented in the consolidated statement of changes in equity of the financial statements.

(Amounts expressed in thousands of RMB unless otherwise stated)

18. INTEREST-BEARING LOANS AND BORROWINGS

	31 December 2019	1 January 2019	31 December 2018 (Restated)
Long-term loans and borrowings			
Finance lease payables *(Note 20)*	**–**	–	4,081,270
Lease liabilities *(Note 19)*	**8,369,262**	11,010,323	–
Bank and other loans *(Note (a))*			
– Secured *(Note (f))*	**13,254,721**	12,608,727	12,608,727
– Guaranteed *(Note (e))*	**3,948,400**	3,040,400	3,040,400
– Unsecured	**21,632,766**	30,491,613	30,491,613
	38,835,887	46,140,740	46,140,740
Medium-term notes and bonds and private placement notes *(Note (b))*			
– Unsecured	**16,736,755**	10,094,861	10,094,861
	16,736,755	10,094,861	10,094,861
Total long-term loans and borrowings	**63,941,904**	67,245,924	60,316,871
Current portion of lease liabilities *(Note 19)*	**(1,358,654)**	(2,509,125)	–
Current portion of finance lease payables *(Note 20)*	**–**	–	(2,328,358)
Current portion of medium-term bonds and long-term bonds	**–**	(396,727)	(396,727)
Current portion of long-term bank and other loans	**(3,339,687)**	(3,384,400)	(3,384,400)
Non-current portion of long-term loans and borrowings	**59,243,563**	60,955,672	54,207,386

(Amounts expressed in thousands of RMB
unless otherwise stated)

18. INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

	31 December 2019	31 December 2018 (Restated)
Short-term loans and borrowings		
Bank and other loans *(Note (c))*		
– Secured *(Note (f))*	**465,000**	1,220,680
– Guaranteed *(Note (e))*	**–**	240,000
– Unsecured*	**20,773,166**	37,887,420
	21,238,166	39,348,100
Short-term bonds, unsecured *(Note (d))*	**9,331,488**	500,000
Gold leasing arrangements *(Note (g))*	**7,018,609**	1,607,905
Current portion of lease liabilities/finance lease payables *(Note 19)*	**1,358,654**	2,328,358
Current portion of medium-term notes	**–**	396,727
Current portion of long-term bank and other loans	**3,339,687**	3,384,400
Total short-term borrowings and current portion of long-term loans and borrowings	**42,286,604**	47,565,490

As at 31 December 2019, except for loans and borrowings of the Group amounting to RMB17 million (31 December 2018: RMB19 million) and RMB4,006 million (31 December 2018: RMB3,984 million) which were denominated in JPY and USD, respectively, all loans and borrowings were denominated in RMB.

18. INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

As at 31 December 2019, included in the Group's interest-bearing loans and borrowings are amounts due to subsidiaries of Chinalco RMB4,181 million (31 December 2018: RMB4,373 million), respectively, as set out in Note 35(b). There were no interest-bearing loans and borrowings obtained from joint ventures and associates (31 December 2018: Nil).

* As at 31 December 2019, Shandong Huayu Alloy Materials Co., Ltd. ("Shandong Huayu"), a subsidiary of the Group, has overdued short-term loans of RMB649 million. Since overdued on its bank debts, Shandong Huayu actively communicated with relevant bank creditors, participated in relevant litigation process in accordance with law, and coordinated the repayments of its debts with its own assets, and sought the understanding and support of relevant bank creditors. As of the date of approval of the report, Shandong Huayu's default on debts did not lead to a renegotiation of debt terms.

(Amounts expressed in thousands of RMB unless otherwise stated)

18. INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Note:

(a) Long-term bank and other loans

(i) The maturity of long-term bank and other loans is set out below:

	Loans from banks and other financial institutions		**Other loans**		**Total of long-term bank and other loans**	
	31 December 2019	31 December 2018 (restated)	**31 December 2019**	31 December 2018	**31 December 2019**	31 December 2018 (restated)
Within 1 year	**3,337,202**	3,382,325	**2,485**	2,075	**3,339,687**	3,384,400
Between 1 and 2 years	**7,523,290**	7,375,557	**2,485**	2,399	**7,525,775**	7,377,956
Between 2 and 5 years	**9,151,573**	16,586,390	**7,455**	7,197	**9,159,028**	16,593,587
Over 5 years	**18,806,428**	18,777,275	**4,969**	7,522	**18,811,397**	18,784,797
	38,818,493	46,121,547	**17,394**	19,193	**38,835,887**	46,140,740

(ii) Other loans were provided by local bureaus of the Ministry of Finance to the Group. The weighted average annual interest rate of long-term bank and other loans for the year ended 31 December 2019 was 5.20% (2018: 4.78%).

(b) Medium-term notes and bonds and long-term bonds and private placement notes

Outstanding medium-term bonds and private placement notes of the Group as at 31 December 2019 are summarised as follows:

	Face value (RMB)/maturity	**Effective interest rate**	**31 December 2019**	31 December 2018
2018 Medium-term notes	2,000,000/2021	5.84%	**1,992,339**	1,986,418
2019 Medium-term bonds	2,000,000/2024	4.31%	**1,982,228**	–
2016 private placement notes	3,215,000/2019	5.12%	**–**	396,727
2018 Medium-term bonds	1,100,000/2021	4.66%	**1,098,218**	1,097,003
2018 Medium-term bonds	900,000/2023	5.06%	**898,315**	897,820
2018 Medium-term bonds	1,400,000/2021	4.30%	**1,397,319**	1,395,970
2018 Medium-term bonds	1,600,000/2023	4.57%	**1,596,192**	1,595,311
2019 Medium-term bonds	2,000,000/2022	3.84%	**1,998,604**	–
2019 Medium-term bonds	1,000,000/2022	3.50%	**1,997,097**	–
2019 Medium-term bonds	900,000/2023	4.99%	**999,462**	–
2018 Hong Kong Medium-term bonds	2,785,840/2021	5.25%	**2,776,981**	2,725,612
			16,736,755	10,094,861

Medium-term notes and bonds and private placement notes were issued for capital expenditure and operating cash flows purposes, as well as for the purpose of re-financing of bank loans.

(Amounts expressed in thousands of RMB unless otherwise stated)

18. INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Note: *(Continued)*

(c) Short-term bank and other loans

Other loans were entrusted loans provided by state-owned companies to the Group.

The weighted average annual interest rate of short-term bank and other loans for the year ended 31 December 2019 was 4.29% (2018: 4.52%).

(d) Short-term bonds

Outstanding short-term bonds as at 31 December 2019 are summarised as follows:

	Face value/ maturity	**Effective interest rate**	**31 December 2019**	31 December 2018
2018 Ningxia short-term bonds	500,000/2019	5.00%	**–**	500,000
2019 Ningxia short-term bonds	300,000/2020	3.97%	**300,000**	–
2019 short-term bonds	1,000,000/2020	2.45%	**1,008,161**	–
2019 short-term bonds	2,000,000/2020	2.63%	**2,013,127**	–
2019 short-term bonds	3,000,000/2020	2.00%	**3,008,384**	–
2019 short-term bonds	3,000,000/2020	2.30%	**3,001,816**	–
			9,331,488	500,000

All the above short-term bonds were issued for working capital needs.

(Amounts expressed in thousands of RMB unless otherwise stated)

18. INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Note: *(Continued)*

(e) Guaranteed interest-bearing loans and borrowings

Details of the interest-bearing loans and borrowings in which the Group received guarantees are set out as follows:

Guarantors	31 December 2019	31 December 2018 (restated)
Long-term loans		
Yinyi Fengdian, Neimenggu, Alashan *(Note (iv))*	**150,000**	–
Ningxia Energy *(Note (i))*	**1,274,400**	892,400
Yinxing Energy *(Note (i))*	**46,000**	70,000
Baotou Aluminum Limited Company(包頭鋁業有限公司) and Baotou Communications Investment Group Limited Company(包頭交通投資集團有限公司) *(Note (ii))*	**1,250,000**	1,600,000
The Company and Hangzhou Jinjiang Group Limited Company ("Hangzhou Jinjiang", 杭州錦江集團有限公司) *(Note (iii))*	**10,000**	246,000
Hangzhou Jinjiang *(Note (v))*	**123,500**	–
Qingzhen Industrial Investment Co.,Ltd. (清鎮市工業投資有限公司) *(Note (v))*	**47,250**	116,000
Guizhou Industrial Investment Group Co.,Ltd. (貴州產業投資(集團)有限責任公司) *(Note (v))*	**47,250**	116,000
Size Industry Investment Fund(北京中鋁交銀四則產業投資基金管理合夥企業(有限合夥)) *(Note (v))*	**1,000,000**	–
	3,948,400	3,040,400
Short-term loans		
China Great Wall Aluminum Co., Ltd.*("China Great Wall Aluminum") (中國長城鋁業有限公司) *(Note (vi))*	**–**	40,000
Hangzhou Jinjiang, Qingzhen Investment and Guizhou Investment *(Note (v))*	**–**	200,000
–	**–**	240,000

Notes:

(i) The guarantor is a subsidiary of the Company.

(ii) The guarantors are a subsidiary of the Company and a third party respectively.

(iii) The guarantors are the Company and a third party respectively.

(iv) The guarantors are subsidiaries of the Company.

(v) The guarantor is a third party.

(vi) The guarantor is a subsidiary of Chinalco.

* The English names represent the best effort by management of the Group in translating the Chinese names of the Companies as they do not have any official English names.

18. INTEREST-BEARING LOANS AND BORROWINGS (CONTINUED)

Notes: (Continued)

(f) Secured interest-bearing loans and borrowings

The assets pledged for bank and other borrowings were set out in Note 24 to the financial statements.

(g) Gold leasing arrangements

In 2018 and 2019, the Company entered into several gold leasing master framework agreements, individual gold leasing agreements and general hedging agreements with Bank of Communications and Agriculture Bank of China (collectively, "the Banks"). According to the gold leasing master framework agreements and gold leasing agreements, the Company leased standard gold with fineness of Au 99.99 for 6 to 12 months from the Banks, with annual interest rates ranging from 3.70% to 4.50%. Concurrently, the Company entrusted the Banks to sell all leased gold and received cash of RMB6,922 million from the sale, and repaid gold leasing principal amounting to RMB1,608 million. Upon the expiry of the gold leasing agreements, the Company shall purchase the standard gold (with same quality and value according to the general hedging agreements entered into simultaneously with the leasing agreements) to return to the Banks.

The directors of the Company are of the view that the Company is free from the assumption of risk of gold price fluctuations due to the fixed repurchase price under the general hedging agreements, and therefore, this arrangement should be accounted for as short-term loans with fixed interest rates (ranging from 3.70% to 4.50%) (2018: ranging from 4.10% to 4.50%), net of the Banks' charges.

19. LEASE

The Group as a lessee

The Group has lease contracts for various items of plant and machinery, motor vehicles and other equipment used in its operations. Lump sum payments were made upfront to acquire the leased land from the owners with lease periods of 20 to 30 years, and no ongoing payments will be made under the terms of these land leases. Leases of plant and machinery generally have lease terms between 3 and 5 years, while motor vehicles generally have lease terms between 2 and 5 years. Other equipment generally has lease terms of 12 months or less and/or is individually of low value. Generally, the Group is restricted from assigning and subleasing the leased assets outside the Group. There are several lease contracts that include extension and termination options and variable lease payments, which are further discussed below.

(Amounts expressed in thousands of RMB
unless otherwise stated)

19. LEASE (CONTINUED)

The Group as a lessee (Continued)

(a) Land use rights (before 1 January 2019)

	31 December 2018 (Restated)
Operating leases:	
In the Mainland China, held on:	
Leases less than 10 years	768,153
Leases between 10 and 50 years	2,753,882
Leases over 50 years	784,830
	4,306,865

	2018 (Restated)
As at 1 January 3,604,201	3,604,201
Additions	2,838
Acquisition of subsidiaries	460,638
Transfer from property, plant and equipment *(Note 6)*	382,242
Government grants	(34,174)
Disposal of subsidiaries	(728)
Amortisation	(108,152)
As at 31 December	4,306,865

As at 31 December 2018, the Group has pledged land use rights at a net carrying value amounting to RMB328 million for bank and other borrowings as set out in Note 24 to the financial statements.

(Amounts expressed in thousands of RMB unless otherwise stated)

19. LEASE (CONTINUED)

The Group as a lessee (Continued)

(b) Right-of-use assets

The carrying amounts of the Group's right-of-use assets and the movements during the year are as follows:

	Buildings	Machinery	Land use rights	Total
As at 1 January 2019	396,499	6,129,771	11,450,581	17,976,851
Additions	21,203	11,606	1,215,049	1,247,858
Transfer to investment properties *(Note 7)*	–	–	(239,765)	(239,765)
Transfer to property, plant and equipment *(Note 6)*	–	(1,674,260)	–	(1,674,260)
Government grants	–	(107,441)	–	(107,441)
Contract modification	(45,507)		(137,358)	(182,865)
Disposal of subsidiaries	–	–	(52,668)	(52,668)
Depreciation	(84,940)	(601,891)	(388,994)	(1,075,825)
Impairment losses	–	–	(1,448)	(1,448)
As at 31 December 2019	287,255	3,757,785	11,845,397	15,890,437

As at 31 December 2019, the Group was in the process of applying for the certificates of land use rights with a carrying amount of RMB74 million (31 December 2018: RMB687 million). There has been no litigations, claims or assessments against the Group for compensation with respect to the use of land parcels to date. As at 31 December 2019, the carrying value of these land parcels only represented approximately 0.04% of the total asset value of the Group (31 December 2018: 0.34%). Management considers that it is probable that the Group can obtain the relevant ownership certificates from the appropriate authorities. The directors of the Company are of the opinion that the Group legally owns and has the right to use the above land, and that there is no material adverse impact on the overall financial position of the Group.

(Amounts expressed in thousands of RMB
unless otherwise stated)

19. LEASE (CONTINUED)

The Group as a lessee (Continued)

(b) Right-of-use assets (Continued)

As at 31 December 2019, the Group has pledged land use rights at a net carrying value amounting to RMB373 million for bank and other borrowings as set out in Note 24 to the financial statements.

(c) Lease liabilities

The carrying amount of lease liabilities (included under interest-bearing bank and other borrowings) and the movements during the year are as follows:

	2019 **Lease liabilities**
Carrying amount at 1 January	**11,010,323**
New leases	**82,370**
Contract modification	**(178,575)**
Accretion of interest recognised during the year	**487,249**
Payments	**(3,032,106)**
Carrying amount at 31 December	**8,369,261**
Analysed into:	
Current portion	**1,358,653**
Non-current portion	**7,010,608**

19. LEASE (CONTINUED)

The Group as a lessee (Continued)

(d) The amounts recognised in profit or loss in relation to leases are as follows:

	2019
Interest on lease liabilities	**487,249**
Depreciation charge of right-of-use assets	**1,075,825**
Expense relating to short-term leases and other leases with remaining lease terms ended on or before 31 December 2019	**63,626**
Expense relating to leases of low-value assets	**1,800**
Total amount recognised in profit or loss	**1,628,500**

(e) Extension and termination options

The Group has several lease contracts that include extension and termination options. These options are negotiated by management to provide flexibility in managing the leased-asset portfolio and align with the Group's business needs. Management exercises significant judgement in determining whether these extension and termination options are reasonably certain to be exercised. Set out below are the undiscounted potential future rental payments relating to periods following the exercise date of extension and termination options that are not included in the lease terms:

	Payable within five years	Payable after five year
Extension options expected not to be exercised	–	–
Termination options expected to be exercised	–	–

19. LEASE (CONTINUED)

The Group as a lessee (Continued)

(f) The total cash outflow for leases and future cash outflows relating to leases that have not yet commenced are disclosed in Notes 34(c) and 42, respectively, to the financial statements.

The Group as a lessor

Rental income recognised by the Group during the year was RMB318 million (2018: RMB240 million), details of which are included in Note 4 to the financial statements. In the opinions of the directors, the undiscounted lease payments receivable by the Group in future periods under non-cancellable operating leases are not material.

(Amounts expressed in thousands of RMB
unless otherwise stated)

20. FINANCE LEASE PAYABLES

These leases were classified as finance leases prior to IFRS 16 becoming effective on 1 January 2019.

At 31 December 2018, the total future minimum lease payments under finance leases and their present values were as follows:

	Minimum lease payments	**Present value of minimum lease payments**
	31 December 2018	31 December 2018
Amounts payable:		
Within one year	2,518,653	2,328,358
In the second year	1,161,490	1,075,050
In the third to fifth years, inclusive	707,716	664,889
After five years	13,238	12,973
Total minimum finance lease payments	4,401,097	4,081,270
Future finance charges	(319,827)	
Total net finance lease payables *(Note 18)*	4,081,270	
Portion classified as current liabilities *(Note 18)*	(2,328,358)	
Non-current portion	1,752,912	

(Amounts expressed in thousands of RMB
unless otherwise stated)

20. FINANCE LEASE PAYABLES (CONTINUED)

During the year ended 31 December 2018, the Group entered into various sale and leaseback agreements with Pingan International Financial Leasing Co., Ltd. ("平安國際融資租賃有限公司"), Tianjin Far East Hongxin Finance Leasing Co., Ltd. ("遠東宏信(天津)融資租賃有限公司")，China Aviation International Leasing Co., Ltd. ("中航國際租賃有限公司"), Zhaoyin Leasing Co., Ltd. ("招銀租賃有限公司") and Chalco Financial Leasing Co., Ltd. ("中鋁融資租賃有限公司"), which is a related party of the Group, respectively, under which the Group sold machineries and construction in progress and leased them back. The lease terms range from one to five years and the lease rentals are payable by instalments with bearing interest at prevailing lending rates.

* The English names represent the best effort made by management of the Group in translating the Chinese names of the Companies as they do not have any official English names.

21. OTHER NON-CURRENT LIABILITIES

	31 December 2019	31 December 2018
Financial liabilities		
– Long-term payables for mining rights	**1,108,075**	788,133
– Other financial liabilities	**45,412**	52,926
	1,153,487	841,059
Obligations in relation to early retirement schemes *(Note (i))*	**426,737**	777,305
Deferred government grants *(Note (ii))*	**245,916**	314,045
Deferred gain relating to sales and leaseback agreements	**125,707**	240,661
Contract liabilities	**125,758**	132,844
Provision for rehabilitation	**131,248**	121,033
Others	**10,721**	11,217
	1,066,087	1,597,105
	2,219,574	2,438,164

(Amounts expressed in thousands of RMB
unless otherwise stated)

21. OTHER NON-CURRENT LIABILITIES (CONTINUED)

Note:

(i) Obligations in relation to early retirement schemes

From 2014, certain subsidiaries and branches implemented certain early retirement benefit schemes which allow qualified employees to early retire on a voluntary basis. The Group undertakes the obligations to pay the early retirement employees' living expenses for no more than five years in the future on a monthly basis according to the early retirement benefit schemes, together with social insurance and housing fund pursuant to the regulation of the local Social Security Office. Living expenses, social insurance and the housing fund are together referred to as "the Payments". The Payments are forecasted to increase by 3% per annum with reference to the inflation rate and adjusted based on the average death rate in China. The Payments are discounted by the treasury bond rate of 31 December 2019. As at 31 December 2019, the current portion of the Payments within one year was reclassified to "Other payables and accrued liabilities".

As at 31 December 2019, obligations in relation to retirement benefits under the Group's early retirement schemes are as follows:

	2019	2018
As at 1 January	**1,293,841**	1,438,440
Provision made during the year *(Note 29)*	**210,428**	447,660
Interest costs	**18,260**	62,801
Payment during the year	**(680,888)**	(655,060)
As at 31 December	**841,641**	1,293,841
Non-current	**426,737**	777,305
Current *(Note 22)*	**414,904**	516,536
	841,641	1,293,841

(ii) For asset related government grant, had the asset already exist upon receiving the government grant, the Group directly deducts the grant amount against the book value of assets related to government grant instead of record the government grants as deferred income. For government grant related to income and expenses or losses already incurred by the Group, the government grant amounts are directly deducted the related costs, expenses or non-operating losses. Other types of government grant in the Group are still included in deferred government grant and other income.

(Amounts expressed in thousands of RMB
unless otherwise stated)

22. OTHER PAYABLES AND ACCRUED LIABILITIES

	31 December 2019	31 December 2018 (Restated)
Financial liabilities		
– Payable for capital expenditures	**6,832,365**	5,694,632
– Interest payable	**494,341**	396,286
– Payables withheld as guarantees and deposits	**1,339,722**	1,102,358
– Dividends payable by subsidiaries to non-controlling shareholders	**518,360**	543,207
– Consideration payable for investment projects	**141,740**	280,856
– Current portion of payables for mining rights	**372,824**	210,325
– Others	**1,083,646**	1,058,798
	10,782,998	9,286,462
Output value-added tax on pending	**210,283**	252,691
Taxes other than income taxes payable*	**732,264**	831,151
Accrued payroll and bonus	**21,902**	220,851
Staff welfare payables	**258,448**	391,824
Current portion of obligations in relation to early retirement schemes *(Note 21)*	**414,904**	516,536
Contribution payable for pension insurance	**20,386**	30,145
Others	**999**	37,492
	1,659,186	2,280,690
	12,442,184	11,567,152

* Taxes other than income taxes payable mainly comprise accruals for value-added tax, resource tax, city construction tax and education surcharge.

As at 31 December 2019, except for other payables and accrued liabilities of the Group amounting to RMB825 million and RMB0.25 million which were denominated in USD and HKD, respectively (31 December 2018: RMB240 million and RMB0.27 million which were denominated in USD and HKD, respectively), all payables and accrued liabilities were denominated in RMB.

(Amounts expressed in thousands of RMB
unless otherwise stated)

23. TRADE AND NOTES PAYABLES

	31 December 2019	31 December 2018 (Restated)
Trade payables	**7,858,214**	8,570,102
Notes payable	**4,726,541**	5,439,162
	12,584,755	14,009,264

As at 31 December 2019, except for trade and notes payables of the Group amounting to RMB52 million which were denominated in USD (31 December 2018: RMB213 million in USD), all trade and notes payables were denominated in RMB (31 December 2018: all denominated in RMB).

The ageing analysis of trade and notes payables is as follows:

	31 December 2019	31 December 2018 (Restated)
Within 1 year	**12,145,985**	13,598,039
Between 1 and 2 years	**229,221**	140,665
Between 2 and 3 years	**30,713**	47,654
Over 3 years	**178,836**	222,906
	12,584,755	14,009,264

The trade and notes payables are non-interest-bearing and are normally settled within one year.

(Amounts expressed in thousands of RMB
unless otherwise stated)

24. PLEDGE OF ASSETS

The Group has pledged various assets as collateral against certain secured borrowings as set out in Note 18. As at 31 December 2019, a summary of these pledged assets was as follows:

	31 December 2019	31 December 2018
Property, plant and equipment *(Note 6)*	**4,946,338**	4,168,239
Land use rights *(Note 19)*	**–**	328,116
Right-of-use assets *(Note 19)*	**373,048**	–
Intangible assets *(Note 5)*	**757,269**	772,597
Notes receivable *(Note 13)*	**667,190**	933,551
Investments in associates*(Note 8)*	**538,787**	535,610
	7,282,632	6,738,113

As at 31 December 2019, in addition to the loans and borrowings which were secured by the above assets, the current portion of long-term loans and borrowings amounting to RMB1,209 million (31 December 2018: RMB1,354 million), and the non-current portion of long-term loans and borrowings amounting to RMB10,265 million (31 December 2018: RMB10,155 million) were secured by the contractual right to charge users for electricity generated in the future.

(Amounts expressed in thousands of RMB unless otherwise stated)

25. PROFIT BEFORE INCOME TAX

An analysis of profit before income tax is as follows:

	2019	2018 (Restated)
Purchase of inventories in relation to trading activities	**104,928,962**	85,443,397
Raw materials and consumables used, and changes in work-in-progress and finished goods	**35,573,467**	43,197,855
Power and utilities	**16,755,424**	17,650,214
Depreciation of right-of-use assets	**1,075,825**	–
Depreciation and amortisation (Other than depreciation of right-of-use assets)	**7,714,418**	8,055,753
Employee benefit expenses *(Note 29)*	**7,773,170**	7,433,027
Repairs and maintenance	**1,867,160**	1,750,194
Transportation expenses	**950,716**	1,893,659
Logistic cost	**2,469,531**	2,794,733
Taxes other than income tax expense *(Note (i))*	**904,088**	936,546
Rental expenses for land use rights and buildings	**–**	649,640
Packaging expenses	**277,785**	261,626
Research and development expenses	**940,828**	626,873
Auditors' remuneration *(Note (ii))*	**33,337**	30,852

Note:

(i) Taxes other than income tax expense mainly comprise surcharges, land use tax, property tax and stamp duty.

(ii) During the year ended 31 December 2019, auditors' remuneration included audit and non-audit services provided by Ernst & Young, Hong Kong and Ernst & Young Hua Ming LLP, amounting to RMB27.8 million (2018: RMB26.7 million), and remuneration for services provided by other auditors.

26. OTHER INCOME

For the year ended 31 December 2019, government grants amounting to RMB79 million (2018: RMB135 million) were recognised as income for the year to facilitate the Group's development. There are no unfulfilled conditions or contingencies attached to the grants.

(Amounts expressed in thousands of RMB
unless otherwise stated)

27. OTHER GAINS, NET

	2019	2018
Gain on disposal of subsidiaries *(Note 39)*	**261,187**	3,517
Gain on disposal and dividends of equity investments designated at fair value through other comprehensive income*(Note (1))*	**97,775**	109,914
Realised gains on futures, forward and option contracts, net *(Note (2))*	**60,671**	40,492
Unrealised (losses)/gains on futures, forward and option contracts, net *(Note (2))*	**(9,851)**	100,967
Gain on disposal of property, plant and equipment and land use rights, net *(Note (3))*	**259,684**	272,098
Gain on previously held equity interests remeasured at acquisition–date fair value	**–**	748,086
Gain on share of associates *net assets (Note 8(b)), (Note (4))*	**295,288**	–
Gain/(loss) on disposal of investment in a joint venture/ an associate *(Note (5))*	**159,514**	(1,904)
Gain on disposal of business *(Note (6))*	**262,677**	–
Others	**(139,676)**	(351,266)
	1,247,269	921,904

Notes:

(1) In 2019, the dividends of other equity instrument investments were mainly RMB98 million from Size Industry Investment Fund (2018: RMB109 million).

(2) The Group does not apply hedge accounting for these futures, forward and option contracts.

27. OTHER GAINS, NET (CONTINUED)

Notes: (Continued)

(3) During the year, the transactions contributed to the gain on disposal of electrolytic aluminum capacity quota and property, plant and equipment mainly include the following:

(a) Pursuant to the agreement entered into between Shanxi Huasheng Co., Ltd. ("Shanxi Huasheng") and Yixin Aluminum on 28 May 2019, the electrolytic aluminum capacity quota of 170,000 tonnes was transferred from Shanxi Huasheng to Yixin Aluminum. A gain of RMB800 million from disposal of the aluminum capacity quota was recorded by the Group in the current period. The transfer constitutes a related party transaction which was disclosed in Note 35 (a).

(b) The fixed assets related to the electrolytic aluminum production line of Guizhou Branch have been disposed of, and the Company recognised the disposal loss of RMB541 million from the difference between the transfer price and carrying amount of the assets.

(4) As disclosed in Note 8 (b), the Group recognised a gain of RMB204 million and a gain of RMB91 million on share of associates' net assets Yunnan Aluminum and Yixin Aluminum, respectively.

(5) In March 2019, Ningxia Energy transferred, through an auction transaction, its 50% equity interest in Ningxia Zhongning Power Co., Ltd. to Ningxia Tianyuan Manganese Industry Group Co., Ltd. A gain of RMB159 million from disposal of investment in a joint venture was recorded by the Group in the current year.

(6) The Company used gallium metal business to increase its investment to an associate Chinalco Rare Earth & Metals Co., Ltd. ("China Rare Earth"), and recognised a gain of RMB263 million.

(Amounts expressed in thousands of RMB unless otherwise stated)

28. FINANCE INCOME/FINANCE COSTS

An analysis of finance income/finance costs is as follows:

	2019	2018 (Restated)
Finance income-interest income	**(261,151)**	(492,234)
Interest expense	**4,665,329**	5,202,639
Less: Interest expense capitalised in property, plant and equipment *(Note 6)*	**(289,499)**	(517,589)
Interest expense, net of capitalised interest	**4,375,830**	4,685,050
Interest on lease liability	**487,249**	–
Amortisation of unrecognised finance expenses	**60,415**	205,335
Exchange gains, net	**(2,315)**	(7,889)
Finance costs	**4,921,179**	4,882,496
Capitalisation rate during the year *(Note 6)*	**4.00% to 6.96%**	4.54% to 7.00%

(Amounts expressed in thousands of RMB unless otherwise stated)

29. EMPLOYEE BENEFIT EXPENSES

An analysis of employee benefit expenses is as follows:

	2019	2018 (Restated)
Salaries and bonuses	**4,939,758**	4,636,972
Housing fund	**488,574**	414,440
Staff welfare and other expenses*	**2,035,931**	1,896,365
Employment expense in relation to early retirement schemes *(Note 21)*	**210,428**	447,660
Employment expenses in relation to termination benefits	**98,479**	37,590
	7,773,170	7,433,027

* Staff welfare and other expenses include staff welfare, staff union expenses, staff education expenses, unemployment insurance expenses and pension insurance expenses, etc.

Employee benefit expenses include remuneration payables to directors, supervisors and senior management as set out in Note 30.

(Amounts expressed in thousands of RMB unless otherwise stated)

30. DIRECTORS' AND SUPERVISORS' REMUNERATION

(a) Directors' and supervisors' remuneration

Directors' and supervisors' remuneration for the year, disclosed pursuant to the Listing Rules, section 383(1)(a), (b), (c) and (f) of the Hong Kong Companies Ordinance and Part 2 of the Companies Regulation (Disclosure of Information about Benefits of Directors), is as follows:

	2019	2018
Fees	**780**	756
Basic salaries, housing fund, other allowances and benefits in kind	**4,665**	1,849
Pension costs	**513**	234
	5,958	2,839

The remuneration of each director and supervisor of the Company for the year ended 31 December 2019 is set out below:

Names of directors and supervisors	**Fees**	**Salaries**	**Discretionary bonuses**	**Pension costs**	**total**
Executive Directors:					
Yu Dehui *(Note (i))*	**–**	**–**	**–**	**–**	**–**
Lu Dongliang *(Note (i))*	**–**	**–**	**–**	**–**	**–**
He Zhihui	**–**	**885**	**–**	**73**	**958**
Zhu Runzhou	**–**	**833**	**–**	**88**	**921**
Jiang Yinggang	**–**	**889**	**–**	**88**	**977**
	–	**2,607**	**–**	**249**	**2,856**

(Amounts expressed in thousands of RMB
unless otherwise stated)

30. DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

Names of directors and supervisors	Fees	Salaries	Discretionary bonuses	Pension costs	total
Non-executive Directors:					
Ao Hong	–	–	–	–	–
Wang Jun *(Note (ii))*	150	–	–	–	150
Chen Lijie	210	–	–	–	210
Lie-A-Cheong Tai-Chong, David	210	–	–	–	210
Hu Shihai	210	–	–	–	210
	780	–	–	–	780
Supervisors:					
Ye Guohua *(Note (iii))*	–	–	–	–	–
Ou Xiaohui *(Note (iii))*	–	–	–	–	–
Shan Shulan *(Note (iii))*	–	–	–	–	–
Guan Xiaoguang *(Note (iii))*	–	710	–	88	798
Yue Xuguang *(Note (iii))*	–	770	–	88	858
Wu Zuoming	–	578	–	88	666
	–	2,058	–	264	2,322
Total	780	4,665	–	513	5,958

(Amounts expressed in thousands of RMB unless otherwise stated)

30. DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

The remuneration of each director and supervisor of the Company for the year ended 31 December 2018 is set out below:

Names of directors and supervisors	Fees	Salaries	Discretionary bonuses	Pension costs	total
Executive Directors:					
Yu Dehui *(Note (i))*	–	–	–	–	–
Lu Dongliang *(Note (i))*	–	–	–	–	–
Jiang Yinggang	–	762	–	90	852
Zhu Runzhou	–	438	–	54	492
	–	1,200	–	144	1,344
Non-executive Directors:					
Ao Hong	–	–	–	–	–
Liu Caiming	–	–	–	–	–
Wang Jun	150	–	–	–	150
Chen Lijie	202	–	–	–	202
Lie-A-Cheong Tai-Chong, David	202	–	–	–	202
Hu Shihai	202	–	–	–	202
	756	–	–	–	756
Supervisors:					
Liu Xiangmin	–	–	–	–	–
Wang Jun	–	–	–	–	–
Wu Zuoming	–	649	–	90	739
Total	756	1,849	–	234	2,839

30. DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

Notes:

(i) On 21 February 2019, Mr. Yu Dehui resigned as the chairman and an executive Director of the Company, and Mr. Lu Dongliang was elected as the chairman of the sixth session of the Board of the Company at the 39th meeting of the sixth session of the Board.

(ii) On 20 February 2019, the appointment of Mr. Wang Jun as the chief financial officer and the Secretary to the Board (Company Secretary) of the Company was approved at the 38th meeting of the sixth session of the Board of the Company.

(iii) On 25 June 2019, Mr. Ye Guohua was elected as the chairman of the seventh session of the Supervisory Committee of the Company at the first meeting of the seventh session of the Supervisory Committee of the Company.

On 25 June 2019, Ms. Shan Shulan were elected as the shareholder representative Supervisors of the seventh session of the Supervisory Committee of the Company at the 2018 annual general meeting of the Company.

On 25 June 2019, Mr. Guan Xiaoguang was elected as an employee representative Supervisor of the seventh session of the Supervisory Committee of the Company at the employees' representatives meeting of the Company.

On 10 December 2019, Mr. Ou Xiaowu, nominated by Chinalco, the controlling shareholder of the Company on 24 October 2019, was elected as a shareholder representative Supervisor of the seventh session of the Supervisory Committee of the Company at the 2019 third extraordinary general meeting of the Company.

On 10 December 2019, Mr. Yue Xuguang was elected as an employee representative Supervisor of the seventh session of the Supervisory Committee of the Company at the employees' representatives meeting of the Company.

(Amounts expressed in thousands of RMB unless otherwise stated)

30. DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(a) Directors' and supervisors' remuneration (Continued)

The remuneration of the directors and supervisors of the Company fell within the following band:

	Number of individuals	
	2019	2018
Nil to RMB1,000,000	**14**	12

During the year, no options were granted to the directors or the supervisors of the Company (2018: Nil).

During the year, no emoluments were paid to the directors or the supervisors of the Company (among which included the five highest paid employees) as an inducement to join or upon joining the Company or as compensation for loss of office (2018: Nil).

No directors or supervisors of the Company waived any remuneration during the years 2019 and 2018.

(Amounts expressed in thousands of RMB
unless otherwise stated)

30. DIRECTORS' AND SUPERVISORS' REMUNERATION (CONTINUED)

(b) Five highest paid individuals

During the year ended 31 December 2019, the five highest paid employees of the Group include three directors (2018: two director and one supervisor) whose remuneration is reflected in the analysis presented above. The remuneration payable to the remaining two individuals during 2019 (2018: two) is as follows:

	2019	2018
Basic salaries, housing fund, other allowances and benefits in kind	**1,670**	1,305
Discretionary bonuses	**–**	–
Pension costs	**137**	165
	1,807	1,470

The number of the remaining three highest paid individuals during 2019 (2018: two) whose remuneration fell within the following band is as follows:

	Number of employees	
	2019	2018
Nil to RMB1,000,000	**2**	2

(Amounts expressed in thousands of RMB unless otherwise stated)

31. INCOME TAX EXPENSE

	2019	2018 (Restated)
Current income tax expense	**720,405**	755,264
Deferred tax (benefit)/expense	**(94,685)**	67,255
	625,720	822,519

In general, the Group's PRC entities are subject to PRC corporate income tax at the standard rate of 25% (2018: 25%) on their respective estimated assessable profits for the year. Certain branches and subsidiaries of the Company located in the western regions of the PRC are granted tax concessions including a preferential tax rate of 15% (2018: 15%).

(Amounts expressed in thousands of RMB
unless otherwise stated)

31. INCOME TAX EXPENSE (CONTINUED)

A reconciliation of the tax expense applicable to profit before tax at the statutory rates for the countries in which the Company and the majority of its subsidiaries are domiciled to the tax expense at the effective tax rates, and a reconciliation of the applicable rates to the effective tax rates, are as follows:

	2019	2018 (Restated)
Profit before income tax	**2,113,801**	2,264,514
Tax expense calculated at the statutory tax rate of 25% (2018: 25%)	**528,450**	566,129
Tax effects of:		
Preferential income tax rates applicable to certain branches and subsidiaries	**(464,880)**	(268,665)
Impact of change in income tax rate	**4,594**	23,425
Tax losses with no deferred tax assets recognised	**588,267**	434,103
Deductible temporary differences with no deferred tax assets recognised	**41,695**	384,072
Utilisation of previously unrecognised tax losses and deductible temporary differences	**(17,952)**	(52,962)
Tax incentive in relation to deduction of certain expenses	**(50,921)**	(62,172)
Non-taxable income	**(173,686)**	(254,337)
Expenses not deductible for tax purposes	**56,448**	54,959
Write-off of unrecoverable deferred tax assets previously recognised	**187,433**	183,195
Profits and losses attributable to joint ventures and associates	**(79,720)**	40,029
Recognition of deferred tax assets related to deductible temporary differences and tax losses previously not recognised	**(3,868)**	(233,940)
Adjustments in respect of current tax of previous periods	**9,860**	8,683
Income tax expense	**625,720**	822,519
Effective tax rate	**30%**	36%

Share of income tax expense of associates and joint ventures of RMB79 million (2018: RMB106 million) and RMB54 million (2018: RMB48 million) is included in "Share of profits and losses of associates" and "Share of profits and losses of joint ventures", respectively.

32. EARNINGS PER SHARE ATTRIBUTABLE TO ORDINARY EQUITY HOLDERS OF THE PARENT

	2019	2018 (Restated)
Profit attributable to ordinary equity holders of the parent *(in thousands of RMB)*	**850,999**	707,460
Other equity instruments' distribution reserved *(in thousands of RMB)*	**(219,249)**	(129,282)
	631,750	578,178
Weighted average number of ordinary shares in issue	**14,903,798,236**	14,903,798,236
Effect of equity exchange arrangement	**–**	1,938,915,502
Issuance of share capital*(Note 16)	**2,118,874,715**	–
	17,022,672,951	16,842,713,738
Basic and diluted earnings per share *(RMB)*	**0.037**	0.034

* The Group had no potentially dilutive ordinary shares in issue during the years ended 31 December 2019 and 2018.

33. DIVIDENDS

According to the articles of association of the Company, the Company considers the maximum limit of profit appropriation to its shareholders is the lowest of:

(i) the sum of the net profit and the opening retained earnings for the current period in accordance with IFRSs;

(ii) the sum of the net profit and the opening retained earnings for the current period in accordance with the PRC Accounting Standards for Business Enterprises; and

(iii) the amount limited by the Company Law of the PRC.

According to the resolution of the board of directors dated 26 March 2020, the directors did not propose any final dividend for the year ended 31 December 2019, which is to be approved by the shareholders.

(Amounts expressed in thousands of RMB
unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS

(a) Reconciliation of profit before taxation to cash generated from operations

	Notes	2019	2018
Cash flows generated from operating activities			
Profit before income tax		**2,113,801**	2,264,514
Adjustments for:			
Share of profits and losses of joint ventures	8 (a)	**(270,115)**	199,452
Share of profits and losses of associates	8 (b)	**(48,767)**	(39,335)
Depreciation of property, plant and equipment	6	**7,094,716**	7,499,322
Depreciation of investment properties	7	**26,559**	22,229
Depreciation of right-of-use assets	19	**1,075,825**	–
Amortisation of land use rights	19	**–**	108,152
Gain on disposal of other property, plant and equipment, land use rights, net		**(242,960)**	(101,098)
Impairment losses on property, plant and equipment		**259,354**	46,484
Impairment loss of right-of-use assets	19	**1,448**	–
Amortisation of intangible assets	5	**338,938**	295,901
Amortisation of prepaid expenses included in other non-current assets		**254,205**	130,148
Realised and unrealised gains on futures, option and forward contracts	27	**(50,820)**	(141,459)
Gain on previously held equity interest remeasured at acquisition-date fair value	27	**–**	(748,086)
Gain on disposal of subsidiaries	27	**(261,187)**	(3,517)

(Amounts expressed in thousands of RMB
unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(a) Reconciliation of profit before taxation to cash generated from operations (Continued)

	Notes	2019	2018
Cash flows generated from operating activities (Continued)			
(Gain)/loss on disposal of investments in associates	27	**(159,514)**	1,904
Gain on disposal of business	27	**(262,677)**	–
Gain on share of associates' net assets	27	**(295,288)**	–
Gain on disposal of and dividends from equity investments designated at fair value through other comprehensive income	27	**(97,775)**	(109,914)
Receipt of government subsidies		**(112,141)**	(158,109)
Finance cost	28	**4,921,179**	4,882,496
Change in special reserve		**(23,085)**	6,605
Others		**11,555**	75,381
		14,250,141	14,231,070

(Amounts expressed in thousands of RMB
unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(a) Reconciliation of profit before taxation to cash generated from operations (Continued)

	2019	2018
Cash flows generated from operating activities (Continued)		
Changes in working capital:		
Decrease in inventories	**929,027**	1,194,454
Increase in trade and notes receivables	**(1,050,860)**	(2,473,006)
(Increase)/decrease in other current assets	**(360,639)**	916,681
Decrease in restricted cash	**859,507**	530,284
Increase in other non-current assets	**547,287**	425,739
Decrease in trade and notes payables	**(1,385,081)**	(5,559)
Decrease in other payables and accrued liabilities	**(560,914)**	(945,270)
(Decrease)/increase in other non-current liabilities	**(206,355)**	105,386
Cash generated from operations	**13,022,114**	13,979,779
PRC corporate income taxes paid	**(548,625)**	(947,703)
Net cash generated from operating activities	**12,473,489**	13,032,076
Non-cash transactions of investing activities and financing activities		
Equity exchange arrangement	**–**	10,735,214
Investment in a joint venture used gallium business	**352,848**	–
Endorsement of notes receivables accepted from sale of goods or services for purchase of property, plant and equipment	**1,504,162**	2,384,046
Acquisition of equity investments designated at fair value through other comprehensive income by exchanging equity in a subsidiary	**350,911**	–
Non-controlling shareholders forfeited sharing of profit or equity interests	**149,322**	–
Acquisition of business	**–**	70,087
Finance lease	**–**	113,601

(Amounts expressed in thousands of RMB
unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities

The table below details changes in the Group's liabilities from financing activities, including both cash and non-cash changes. Liabilities arising from financing activities are liabilities for which cash flows was, or future cash flows will be, classified in the Group's consolidated statement of cash flows as cash flows from financing activities.

	Financial liabilities at fair value through profit or loss	Trade and notes payables	Financial liabilities included in other current payables and accrued expenses	Financial Liabilities included in other non-current liabilities	Interest bearing loans and borrowings	Total
As at 1 January 2019 (Restated)	1,766	14,009,264	9,286,462	841,059	101,772,876	125,911,427
Net cash generated from operating activities	–	(1,385,080)	470,478	–	–	(914,602)
Net cash flows from/(used in) investing activities	(961)	(41,607)	622,995	474,548	7,157,695	8,212,670
Proceeds from gold leasing arrangement	–	–	–	–	6,921,860	6,921,860
Proceeds from issuance of short-term bonds and medium-term notes, net of issuance costs	–	–	–	–	37,965,385	37,965,385
Repayments of senior perpetual securities	–	–	–	–	(352,648)	(352,648)
Repayments of medium-term notes and short-term bonds	–	–	–	–	(22,400,000)	(22,400,000)

(Amounts expressed in thousands of RMB
unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities (Continued)

	Financial liabilities at fair value through profit or loss	Trade and notes payables	Financial liabilities included in other current payables and accrued expenses	Financial Liabilities included in other non-current liabilities	Interest bearing loans and borrowings	Total
Repayments of gold leasing arrangement	–	–	–	–	(1,607,905)	(1,607,905)
Drawdown of short-term and long-term bank and other loans	–	–	–	–	40,669,197	40,669,197
Repayments of short-term and long-term bank and other loans	–	–	–	–	(66,105,388)	(66,105,388)
Principal portion of lease payment	–	–	–	–	(3,032,106)	(3,032,106)
Dividends paid by subsidiaries to non-controlling shareholders	–	–	(23,715)	–	–	(23,715)
Amortisation of unrecognised finance expenses and interest expense	–	–	–	–	487,249	487,249
Interest paid	–	–	235,310	–	22,631	257,941
Reclassification	–	–	162,120	(162,120)	–	–
Net cash (used in)/generated from financing activities	–	–	373,715	(162,120)	(7,431,725)	(7,220,130)
Net foreign exchange differences	–	2,178	10,408	–	31,321	43,907
As at 31 December 2019	805	12,584,755	10,764,058	1,153,487	101,530,167	126,033,272

(Amounts expressed in thousands of RMB
unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities (Continued)

	Financial liabilities at fair value through profit or loss	Trade and notes payables	Financial liabilities included in other current payables and accrued expenses	Financial Liabilities included in other non-current liabilities	Interest bearing loans and borrowings	Total
As at 1 January 2018 (Restated)	89,426	12,360,441	11,363,236	769,061	103,270,773	127,852,937
Net cash generated from operating activities	–	(3,996)	(624,504)	–	–	(628,500)
Net cash flows from/(used in) investing activities	(87,660)	1,646,299	(193,345)	–	7,263,251	8,628,545
Payment of upfront interest of gold leasing arrangement	–	–	–	–	2,323,105	2,323,105
Proceeds from issuance of short-term bonds and medium-term notes, net of issuance costs	–	–	–	–	13,185,034	13,185,034
Repayments of medium-term notes and short-term bonds	–	–	–	–	(21,815,000)	(21,815,000)
Repayments of gold leasing arrangement	–	–	–	–	(7,519,283)	(7,519,283)
Drawdown of short-term and long-term bank and other loans	–	–	–	–	76,899,591	76,899,591
Repayments of short-term and long-term bank and other loans	–	–	(1,000,000)	–	(69,560,667)	(70,560,667)

(Amounts expressed in thousands of RMB unless otherwise stated)

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(b) Reconciliation of liabilities arising from financing activities (Continued)

	Financial liabilities at fair value through profit or loss	Trade and notes payables	Financial liabilities included in other current payables and accrued expenses	Financial Liabilities included in other non-current liabilities	Interest bearing loans and borrowings	Total
Proceeds from finance lease, net of deposit and transaction costs	–	–	–	–	1,204,843	1,204,843
Capital elements of finance lease rental payment	–	–	–	–	(3,915,404)	(3,915,404)
Dividends paid by subsidiaries to non-controlling shareholders	–	–	277,771	–	–	277,771
Amortisation of unrecognised finance expenses and interest expense	–	–	–	6,090	521,295	527,385
Interest paid	–	–	(460,147)	(24,736)	(85,578)	(570,461)
Reclassification	–	–	(90,644)	90,644	–	–
Net cash (used in)/generated from financing activities	–	–	(1,273,020)	71,998	(8,762,064)	(9,963,086)
Net foreign exchange differences	–	6,520	14,095	–	916	21,531
As at 31 December 2018 (Restated)	1,766	14,009,264	9,286,462	841,059	101,772,876	125,911,427

34. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

(c) Total cash outflow for leases

The total cash outflow for leases included in the statement of cash flows is as follows:

	2019
Within operating activities	65,426
Within financing activities	3,032,106
	3,097,532

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS

The Company is controlled by Chinalco, the parent company and a state-owned enterprise established in Mainland China. Chinalco itself is controlled by the PRC government, which also owns a significant portion of the productive assets in Mainland China. In accordance with IAS 24 *Related Party Disclosures*, government-related entities and their subsidiaries, directly or indirectly controlled, jointly controlled or significantly influenced by the PRC government are defined as related parties of the Group. On that basis, related parties include Chinalco and its subsidiaries (other than the Group), other government-related entities and their subsidiaries ("other state-owned enterprises"), other entities and corporations over which the Company is able to control or exercise significant influence and key management personnel of the Company and Chinalco as well as their close family members.

For the purposes of the related party transaction disclosures, the directors of the Company consider that meaningful information in respect of related party transactions has been adequately disclosed.

In addition to the related party information and transactions disclosed elsewhere in the consolidated financial statements, the following is a summary of significant related party transactions in the ordinary course of business between the Group and its related parties during the year.

(Amounts expressed in thousands of RMB unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions

	Notes	2019	2018
Sales of goods and services rendered:			
Sales of materials and finished goods to:	(i)		
Chinalco and its subsidiaries	(ix)	**13,612,817**	11,248,625
Associates of Chinalco		**514,414**	897,642
Joint ventures		**5,676,548**	4,462,670
Associates		**3,812,565**	2,626,780
		23,616,344	19,235,717
Provision of engineering, construction and supervisory services to:	(iii)		
Chinalco and its subsidiaries	(ix)	**–**	5,981
Associates		**–**	1,725
		–	7,706
Provision of utility services to:	(ii)		
Chinalco and its subsidiaries	(ix)	**687,290**	620,552
Associates of Chinalco		**4,062**	15,719
Joint ventures		**263,436**	186,672
Associates		**35,650**	24,309
		990,438	847,252

(Amounts expressed in thousands of RMB
unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

	Notes	2019	2018
Sales of goods and services rendered: (Continued)			
Rental revenue of land use rights and buildings from:	(vi)		
Chinalco and its subsidiaries	(ix)	**52,571**	31,551
Associates of Chinalco		**65**	–
Joint ventures		**1,967**	1,545
Associates		**775**	1,511
		55,378	34,607
Purchases of goods and services:			
Purchases of engineering, construction and supervisory services from:	(iii)		
Chinalco and its subsidiaries	(ix)	**2,949,866**	2,088,338
Joint ventures		**69,332**	2,100
Associates		**218,616**	405,993
		3,237,814	2,496,431
Purchases of key and auxiliary materials, equipment and finished goods from:	(iv)		
Chinalco and its subsidiaries	(ix)	**8,161,223**	3,513,420
Associates of Chinalco		**18**	18,917
Joint ventures		**2,647,234**	8,182,251
Associates		**1,893,449**	2,108,072
		12,701,924	13,822,660

(Amounts expressed in thousands of RMB unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

	Notes	2019	2018
Purchases of goods and services: (Continued)			
Provision of social services and logistics services by:	(v)		
Chinalco and its subsidiaries	(ix)	**309,180**	312,062
Provision of utility services by:	(ii)		
Chinalco and its subsidiaries	(ix)	**763,812**	992,827
Associates of Chinalco		**100,835**	96,510
Joint ventures		**280,523**	26,269
Associates		**8,326**	77,432
		1,153,496	1,193,038
Provision of other services by:	(vii)		
A joint venture		**272,220**	226,280
Rental expenses/lease liabilities payments for buildings and land use rights charged by:	(vi)		
Chinalco and its subsidiaries	(ix)	**499,191**	501,866

(Amounts expressed in thousands of RMB unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

	Notes	2019	2018
Other significant related party transactions:			
Borrowing from subsidiaries of Chinalco	(viii), (ix)	**3,890,000**	6,525,000
Interest expense on borrowings, discounted notes and factoring arrangement from subsidiaries of Chinalco		**141,991**	143,415
Consideration to acquire the shares in the subsidiaries of Chinalco	(xiv)		
Investment in Yunnan Aluminum		**1,287,608**	–
Investment in Yixin Aluminum		**850,000**	–
		2,137,608	–
Disposal of electronic aluminium capacity quota to a subsidiary of Chinalco		**800,000**	–

(Amounts expressed in thousands of RMB unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

	Notes	**2019**	2018
Disposal of assets under a sale and leaseback contract to a subsidiary of Chinalco	(xi)	**500,000**	224,000
Finance lease under a sale and leaseback contract from a subsidiary of Chinalco	(xi), (ix)	**558,924**	224,000
Trade receivable factoring arrangement from a subsidiary of Chinalco	(ix)	**136,656**	470,101
Discounted notes receivable to a subsidiary of Chinalco	(viii)	**679,517**	756,000
Provision of financial guarantees to:			
A joint venture	(x)	**12,450**	12,450

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

All transactions with related parties were conducted at prices and on terms mutually agreed by the parties involved, which are determined as follows:

(i) Sales of materials and finished goods comprised sales of alumina, primary aluminum, copper and scrap materials. Transactions entered into are covered by general agreements on a mutual provision of production supplies and ancillary services. The pricing policy is summarised below:

1. The price prescribed by the PRC government ("state-prescribed price") is adopted;

2. If there is no state-prescribed price, state-guidance price is adopted;

3. If there is neither state-prescribed price nor state-guidance price, then the market price (being price charged to and from independent third parties) is adopted; and

4. If none of the above is available, then the adoption of a contractual price (being reasonable costs incurred in providing the relevant services plus not more than 5% of such costs is adopted).

(ii) Utility services, including electricity, gas, heat and water, are provided at the state-prescribed price.

(iii) Engineering, project construction and supervisory services were provided for construction projects. The state-guidance price or prevailing market price (including the tender price where by way of tender) is adopted for pricing purposes.

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

All transactions with related parties were conducted at prices and on terms mutually agreed by the parties involved, which are determined as follows: (Continued)

(iv) The pricing policy for purchases of key and auxiliary materials (including bauxite, limestone, carbon, cement and coal) is the same as that set out in (i) above.

(v) Social services and logistics services provided by Chinalco Group cover public security, fire services, education and training, school and hospital services, cultural and physical education, newspaper and magazines, broadcasting and printing as well as property management, environmental and hygiene, greenery, nurseries and kindergartens, sanatoriums, canteens and offices, public transport and retirement management and other services. Provisions of these services are covered by the Comprehensive Social and Logistics Services Agreement. The pricing policy is the same as that set out in (i) above.

(vi) Pursuant to the Land Use Right Lease Agreements entered into between the Group and Chinalco Group, operating leases for industrial or commercial land are charged at the market rent rate. The Group also entered into a building rental agreement with Chinalco Group and paid rents based on the market rate for its lease of buildings owned by Chinalco.

(vii) Other services are environmental protection operation services. The prevailing market price is adopted for pricing purposes.

(viii) Chinalco Finance Company Limited ("Chinalco Finance") (中鋁財務有限責任公司), a wholly-owned subsidiary of Chinalco and a non-bank financial institution established in the PRC, provides deposit services, credit services and miscellaneous financial services to the Group. The terms for the provision of financial services to the Group are no less favourable than those of the same type of financial services provided by Chinalco Finance to Chinalco and other members of its group or those of the same type of financial services that may be provided to the Group by other financial institutions.

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(a) Significant related party transactions (Continued)

All transactions with related parties were conducted at prices and on terms mutually agreed by the parties involved, which are determined as follows: (Continued)

(ix) These related party transactions also constitute connected transactions or continuing connected transactions as defined in Chapter 13A of the Listing Rules.

(x) In December 2006, Ningxia Energy, a subsidiary of the Company, entered into a financial guarantee contract with China Construction Bank providing a financial guarantee to Tian Jing Shen Zhou Wind Power Co., Ltd, a joint venture of the Company, for its 14-year bank loan amounting to RMB35 million. As at 31 December 2019, the outstanding amount of the guarantee was RMB6 million.

(xi) As disclosed in Note 20, the Group has entered into several sale and leaseback contracts with Chalco Financial Leasing Co., Ltd.

(xii) As disclosed in Note 38, the Group acquired a 100% equity interest in Suzhou Zhongcai from Zhongse Technology and Suzhou Research Institute, which constituted a related party transaction.

(xiii) As disclosed in Note 27, in May 2019, the Group entered into transactions with its fellow subsidiaries including the disposals of subsidiaries and disposal of electronic aluminium capacity quota. These transactions constituted related party transactions.

(xiv) As disclosed in Note 8 (b), the Company completed the acquisitions of equity interests in Yunnan Aluminum and Yixin Aluminum, respectively. These transactions constituted related party transactions.

* The English names represent the best effort made by management of the Group in translating the Chinese names of the Companies as they do not have any official English names.

(Amounts expressed in thousands of RMB unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(b) Balances with related parties

Other than those disclosed elsewhere in the consolidated financial statements, the outstanding balances with related parties at the year end are as follows:

	31 December 2019	31 December 2018 (Restated)
Cash and cash equivalents deposited with		
A subsidiary of Chinalco*	**3,285,093**	9,101,541
Trade and notes receivables		
Chinalco and its subsidiaries	**1,054,168**	1,281,395
Associates of Chinalco	**6,034**	18,655
Joint ventures	**788,183**	819,878
Associates	**25**	6,615
	1,848,410	2,126,543
Provision for impairment of receivables	**(17,815)**	(77,657)
	1,830,595	2,048,886

* On 26 August 2011, the Company entered into an agreement with Chinalco Finance, pursuant to which, Chinalco Finance agreed to provide deposit services, credit services and other financial services to the Group. On 24 August 2012, 28 April 2015 and 26 October 2017, the Company renewed the financial service agreement with Chinalco Finance with a validation term of three years ending on 26 October 2020.

(Amounts expressed in thousands of RMB unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(b) Balances with related parties (Continued)

	31 December 2019	31 December 2018 (Restated)
Other current assets		
Chinalco and its subsidiaries	**482,195**	830,615
Joint ventures	**1,503,505**	1,424,678
Associates	**47,743**	29,701
	2,033,443	2,284,994
Provision for impairment of other current assets	**(30,509)**	(40,830)
	2,002,934	2,244,164
Other non-current assets		
Associates	**111,845**	111,845
Interest-bearing loans and borrowings:		
Subsidiaries of Chinalco (including lease liabilities)	**9,857,187**	4,373,033
Trade and notes payables		
Chinalco and its subsidiaries	**334,840**	404,278
Associates of Chinalco	**917**	4,012
Joint ventures	**527,744**	631,570
Associates	**9,789**	13,033
	873,290	1,052,893

(Amounts expressed in thousands of RMB
unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(b) Balances with related parties (Continued)

	31 December 2019	31 December 2018 (Restated)
Other payables and accrued liabilities		
Chinalco and its subsidiaries	**1,810,514**	1,930,947
Associates of Chinalco	**17,056**	17,128
Associates	**80,012**	148,978
Joint ventures	**73,823**	8,860
	1,981,405	2,105,913
Contract liabilities:		
Chinalco and its subsidiaries	**29,210**	22,307
Associates of Chinalco	**–**	20
Associates	**223**	12,451
Joint ventures	**56,010**	94,367
	85,443	129,145

As at 31 December 2019, included in long-term loans and borrowings and short-term loans and borrowings were from other state-owned enterprises amounting to RMB35,029 million (31 December 2018: RMB42,553 million) and RMB29,781 million (31 December 2018: RMB41,189 million), respectively.

The terms of all balances with the exception of the entrusted loans were unsecured and were in accordance with terms as set out in the respective agreements or as mutually agreed between the parties concerned.

(Amounts expressed in thousands of RMB
unless otherwise stated)

35. SIGNIFICANT RELATED PARTY BALANCES AND TRANSACTIONS (CONTINUED)

(c) Compensation of key management personnel

	2019	2018
Fees	**780**	756
Basic salaries, housing fund, other allowances and benefits in kind	**6,945**	3,953
Pension costs	**715**	482
	8,440	5,191

* The year-on-year increase in the salaries of key management personnel was mainly due to the company's addition of a salaried supervisor this year and changes in the positions of some key management personnel, which caused the year-on-year changes in the scope and duration of salaries paid by the company.

Details of directors' remuneration are included in Note 30 to the financial statements.

(d) Commitments with related parties

As at 31 December 2019 and 2018, except for the other capital commitments disclosed in Note 42(b) to these financial statements, the Group had no significant commitments with related parties.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT

36.1 Financial risk management

The Group's activities expose it to a variety of financial risks, including market risk (including foreign currency risk, interest rate risk and commodity price risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimise the potential adverse effects on the Group's financial performance.

Risk management is carried out by the treasury management department (the "Group Treasury") under policies approved by the board of directors of the Company. The Group Treasury identifies, evaluates and hedges financial risks through close co-operation with the Group's operating units.

(a) Market risk

(i) Foreign currency risk

Foreign currency risk primarily arises from certain significant foreign currency deposits, trade and notes receivables, trade and notes payables, advances paid to suppliers, and short-term and long-term loans denominated in United States dollars ("USD"), Australian dollars ("AUD"), Euro ("EUR"), Japanese yen ("JPY"), and Hong Kong dollars ("HKD"). Related exposures are disclosed in Notes 13, 14, 15, 18, 22, 23 and 40 to the financial statements, respectively. The Group Treasury closely monitors the international foreign currency market on the change of exchange rates and takes these into consideration when investing in foreign currency deposits and borrowing loans. As at 31 December 2019, the Group only had significant exposure to USD.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(a) Market risk (Continued)

(i) Foreign currency risk (Continued)

As at 31 December 2019, if RMB had strengthened/weakened by 5% against USD with all other variables held constant, the profit for the year would have been approximately RMB95 million higher/lower (2018: RMB10 million lower/higher), mainly as a result of foreign exchange gains and losses arising from translation of USD-denominated borrowings, other payables and medium-term notes. Profit was more sensitive to the fluctuation in the RMB/USD exchange rates in 2019 than in 2018, mainly due to the increase in the USD denominated other payables and medium-term notes.

As the assets and liabilities denominated in other foreign currencies other than USD were relatively minimal to the total assets and liabilities of the Group, the directors of the Company are of the opinion that the Group was not exposed to any significant foreign currency risk arising from these foreign currency denominated assets and liabilities as at 31 December 2019 and 2018.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(a) Market risk (Continued)

(ii) Interest rate risk

As at 31 December 2019, as the Group had no significant interest-bearing assets except for bank deposits (Note 15), entrusted loans (Note 14), the Group's income and operating cash flows are substantially independent of changes in market interest rates.

Most of the bank deposits are maintained in savings and time deposit accounts in the PRC. The interest rates are regulated by the People's Bank of China and the Group Treasury closely monitors the fluctuation on such rates periodically. The interest rates of entrusted loans are fixed. As the interest rates applied to the entrusted loans were fixed, the directors of the Company are of the opinion that the Group was not exposed to any significant interest rate risk for its financial assets held as at 31 December 2019 and 2018.

The interest rate risk for the Group's financial liabilities primarily arises from interest-bearing loans. Loans borrowed at floating interest rates expose the Group to cash flow interest rate risk. The Group enters into debt obligations to support general corporate purposes including capital expenditures and working capital needs. The Group Treasury closely monitors market interest rates and maintains a balance between variable rate and fixed rate borrowings in order to reduce the exposures to the interest rate risk described above.

As at 31 December 2019, if interest rates had been 100 basis points (31 December 2018: 100 basis points) higher/lower for bank and other loans borrowed at floating interest rates with all other variables held constant, net profit for the year would have been RMB451 million lower/higher (2018: RMB641 million (Restated)), respectively, mainly as a result of the higher/lower interest expense on floating rate borrowings.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(a) Market risk (Continued)

(ii) Interest rate risk (Continued)

The interest rate risk of the Group mainly arises from medium-term notes and short-term bonds issued at fixed rates. As the fluctuation of comparable interest rates of corporate bonds with similar terms was relatively low, the directors of the Company are of the opinion that the Group was not exposed to any significant fair value interest rate risk for its fixed interest rate borrowings held as at 31 December 2019 and 2018.

(iii) Commodity price risk

The Group uses futures and option contracts to reduce its exposure to fluctuations in the price of primary aluminum and other products. The Group uses the futures contract for hedging other than speculation. With reference to the hedging of primary aluminum, production company hedges the output of primary aluminum and trading company hedges the quantities of buyout and self-supporting.

The Group uses mainly futures contracts and option contracts traded on the Shanghai Futures Exchange and London Metal Exchange ("LME") to hedge against fluctuations in primary aluminum prices. As at 31 December 2019, the fair values of the outstanding futures contracts amounting to RMB3 million (31 December 2018: RMB16 million) and RMB1 million (31 December 2018: RMB2 million) were recognised in financial assets and financial liabilities at fair value through profit or loss, respectively. As at 31 December 2019, the Company did not hold any option contracts (31 December 2018: the Company did not hold any option contracts).

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(a) Market risk (Continued)

(iii) Commodity price risk (Continued)

As at 31 December 2019, if the commodity futures prices had increased/decreased by 3% (31 December 2018: 3%) and all other variables held constant, profit for the year would have changed by the amounts shown below:

	2019	2018
Primary aluminum	**Decrease/increase RMB40 million**	Decrease/increase RMB14 million
Copper	**Increase/decrease RMB0.9 million**	Increase/decrease RMB0.9 million
Zinc	**Decrease/increase RMB5.1 million**	Decrease/increase RMB1.0 million
Coal	**Decrease/increase RMB0.2million**	Decrease/increase RMB2.7 million

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(b) Credit risk

Credit risk arises from balances with banks and financial institutions, trade and notes receivables, other current and non-current receivables as well as credit exposures of customers, including outstanding receivables and committed transactions.

The Group maintains substantially all of its bank balances and cash and short-term investments in several major state-owned banks in the PRC. With strong support from the PRC government to these state-owned banks, the directors of the Company are of the opinion that there is no significant credit risk on such assets being exposed to losses.

The Group applies the simplified approach to most of its trade receivables to provide for expected credit losses prescribed by IFRS 9, which permits the use of the lifetime expected loss provision for trade receivables. The Group has made individual assessment for trade receivables from clients with top rating and those receivables with pledged assets separately and impairment provisions are made.

To measure the expected credit losses of trade receivables excluding individually assessed and impaired receivables, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The expected credit loss model also incorporates forward-looking information.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(b) Credit risk (Continued)

The Group has performed historical analysis and identified the key economic variables impacting credit risk and expected credit losses. It considers available reasonable and supportive forwarding-looking information. Especially the following indicators are incorporated:

- internal credit rating
- external credit rating
- actual or expected significant adverse changes in business, financial or economic conditions that are expected to cause a significant change to the borrower's ability to meet its obligations
- actual or expected significant changes in the operating results of individual clients
- significant changes in the expected performance and behaviour of the clients

The Group measures expected credit loss rates on the basis of a loss rate approach by segmenting its portfolio into appropriate groupings based on shared credit risk characteristics. At the end of each year, the Group updates its historical loss information with forward-looking information. As the historical credit loss rates were comparatively stable and no significant changes were expected to the forward-looking information after the consideration of reasonable and supportable forecasts of comparatively stable customer relationship and customers' credit ratings, the expected credit loss rates remained consistent during 2019.

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(b) Credit risk (Continued)

Maximum exposure and year-end staging as at 31 December 2019

The table below shows the credit quality and the maximum exposure to credit risk based on the Group's credit policy, which is mainly based on past due information unless other information is available without undue cost or effort, and year-end staging classification as at 31 December 2019. The amounts presented are carrying amounts for financial assets and the exposure to credit risk for the financial guarantee contracts.

	Stage 1	Stage 2	Stage 3	Simplified	Total
Trade receivables*	–	–	–	4,559,112	4,559,112
Financial assets in other current assets	1,632,766	3,970,620	120,538	–	5,723,924
Restricted cash	1,305,781	–	–	–	1,305,781
Notes receivable	2,834,011	–	–	–	2,834,011
Cash and cash equivalents	7,759,190	–	–	–	7,759,190
Financial assets in other non-current assets	128,673	–	–	–	128,673
Financial guarantees – not yet past due	5,772	–	–	–	5,772
Total	13,666,193	3,970,620	120,538	4,559,112	22,316,463

* For trade receivables to which the Group applies the simplified approach for impairment, information based on the provision matrix is disclosed in Note 13 to the consolidated financial statements.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(b) Credit risk (Continued)

The carrying amounts of short-term investments and these receivables included in Notes 9, 11, 13 and 14 represent the Group's maximum exposure to credit risk in relation to its financial assets. The Group also provided financial guarantees to certain subsidiaries and a joint venture. The guarantees to the joint venture mentioned in Note 35 represented the Group's maximum exposure to credit risk in relation to its guarantees to the joint venture.

For the year ended 31 December 2019, revenues of approximately RMB40,567 million (2018: RMB32,852 million) were derived from entities directly or indirectly owned or controlled by the PRC government including Chinalco. There were no other individual customers from whom the Group has derived revenue of more than 10% of the Group's revenue during the years ended 31 December 2019 and 2018. Thus, the directors of the Company are of the opinion that the Group was not exposed to any significant concentration of credit risk as at 31 December 2019 and 2018.

(c) Liquidity risk

Cash flow forecast is performed in the operating entities of the Group and aggregated by the Group Treasury. The Group Treasury monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. This forecast takes into consideration of the Group's debt financing plans, covenant compliance, compliance with internal balance sheet ratio targets and, if applicable, external regulatory or legal requirements, for example, currency restrictions.

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(c) Liquidity risk (Continued)

As at 31 December 2019, the Group had total banking facilities of approximately RMB167,431 million of which amounts totalling RMB49,347 million have been utilised as at 31 December 2019. Banking facilities of approximately RMB108,360 million will be subject to renewal during the next 12 months. The directors of the Company are confident that such banking facilities can be renewed upon expiration based on their past experience and good credit standing.

In addition, as at 31 December 2019, the Group had no credit facilities through its futures agent at the LME (31 December 2018: USD12 million (equivalent to RMB82 million), of which USD1 million (equivalent to RMB7 million) has been utilised. The futures agent has the right to adjust the related credit facilities.)

Management also monitors rolling forecasts of the Group's liquidity reserve on the basis of expected cash flows.

(Amounts expressed in thousands of RMB unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(c) Liquidity risk (Continued)

The table below analyses the maturity profile of the Group's financial liabilities as at the end of the reporting period. The amounts disclosed in the table are the contractual undiscounted cash flows.

	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
As at 31 December 2019					
Lease liabilities, including current portion	1,729,933	1,106,701	1,333,762	10,377,143	14,547,539
Long-term bank and other loans, including current portion	3,339,687	7,525,775	9,159,028	18,811,397	38,835,887
Medium-term notes and bonds, including current portion	–	7,285,840	9,500,000	–	16,785,840
Short-term bonds	9,300,000	–	–	–	9,300,000
Gold leasing arrangement	6,921,860	–	–	–	6,921,860
Short-term bank and other loans	21,238,166	–	–	–	21,238,166
Interest payables for loans and borrowings	4,955,925	2,289,092	4,220,111	978,041	12,443,169
Financial liabilities at fair value through profit or loss	805	–	–	–	805
Financial liabilities included in other payables and accrued liabilities, excluding accrued interest	10,288,657	–	–	–	10,288,657
Financial liabilities included in other non-current liabilities *(Note)*	–	176,232	182,006	857,647	1,215,885
Trade and notes payables	12,584,755	–	–	–	12,584,755
	70,359,788	18,383,640	24,394,907	31,024,228	144,162,563

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.1 Financial risk management (Continued)

(c) Liquidity risk (Continued)

	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
As at 31 December 2018					
Finance lease payables, including current portion	2,518,653	1,161,490	707,716	13,238	4,401,097
Long-term bank and other loans, including current portion	3,384,400	7,377,956	16,593,587	18,784,797	46,140,740
Medium-term notes and bonds, including current portion	400,000	–	9,785,840	–	10,185,840
Short-term bonds	500,000	–	–	–	500,000
Gold leasing arrangement	1,607,905	–	–	–	1,607,905
Short-term bank and other loans	39,348,100	–	–	–	39,348,100
Interest payables for borrowings	4,848,968	2,602,751	4,197,364	898,786	12,547,869
Financial liabilities at fair value through profit or loss	1,766	–	–	–	1,766
Financial liabilities included in other payables and accrued liabilities, excluding accrued interest	8,890,176	–	–	–	8,890,176
Financial liabilities included in other non-current liabilities *(Note)*	–	108,896	333,354	420,258	862,508
Trade and notes payables	14,009,264	–	–	–	14,009,264
	75,509,232	11,251,093	31,617,861	20,117,079	138,495,265

Note: As disclosed in Note 21, as at 31 December 2019, the carrying value of financial liabilities included in other non-current liabilities was RMB1,153 million (31 December 2018: RMB841 million).

(Amounts expressed in thousands of RMB unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments

(a) Financial instruments by category

The carrying amounts of each of the categories of financial instruments of the Group as at the end of the reporting period are as follows:

Financial assets

	Group 31 December 2019					
	Financial assets at fair value through profit or loss					
	Designated as such upon initial recognition	Held for trading	Financial assets at amortised cost	Equity investments designated at fair value through other comprehensive income	Debt instruments at fair value through other comprehensive income	Total
Current						
Trade receivables	–	–	4,559,112	–	–	4,559,112
Notes receivable	–	–	–	–	2,834,011	2,834,011
Financial assets at fair value through profit or loss*	–	3,503,175	–	–	–	3,503,175
Restricted cash and time deposits	–	–	1,305,781	–	–	1,305,781
Cash and cash equivalents	–	–	7,759,190	–	–	7,759,190
Financial assets included in other current assets	–	–	5,723,924	–	–	5,723,924
Subtotal	–	3,503,175	19,348,007	–	2,834,011	25,685,193
Non-current						
Equity investments designated at fair value through other comprehensive income	–	–	–	2,239,251	–	2,239,251
Other non-current assets	–	–	128,673	–	–	128,673
Subtotal	–	–	128,673	2,239,251	–	2,367,924
Total	–	3,503,175	19,476,680	2,239,251	2,834,011	28,053,117

* Financial assets measured at fair value through profit or loss are mainly wealth management products, denominated in RMB, with expected rates of return depending on the interest rates and yield curves observable at commonly quoted intervals. The fair value approximates to the carrying amount of the financial assets measured at fair value through profit or loss.

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(a) Financial instruments by category (Continued)

Financial liabilities

	Group 31 December 2019			
	Financial liabilities at fair value through profit or loss			
	Designated as such upon initial recognition	Held for trading	Financial liabilities at amortised cost	Total
Current				
Financial liabilities at fair value through profit or loss	–	805	–	805
Interest-bearing loans and borrowings	–	–	42,286,604	42,286,604
Financial liabilities included in other payables and accrued liabilities *(Note 22)*	–	–	10,782,998	10,782,998
Trade and notes payables	–	–	12,584,755	12,584,755
Subtotal	–	805	65,654,357	65,655,162
Non-current				
Financial liabilities included in other non-current liabilities *(Note 21)*	–	–	1,153,487	1,153,487
Interest-bearing loans and borrowings	–	–	59,243,563	59,243,563
Subtotal	–	–	60,397,050	60,397,050
Total	–	805	126,051,407	126,052,212

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(a) Financial instruments by category (Continued)

Financial assets

	Group 31 December 2018 (Restated)				
	Financial assets at fair value through profit or loss				
	Designated as such upon initial recognition	Held for trading	Financial assets at amortised cost	Equity investments designated at fair value through other comprehensive income	Total
Current					
Trade and notes receivables	–	–	8,104,017	–	8,104,017
Financial assets at fair value through profit or loss	–	16,141	–	–	16,141
Restricted cash and time deposits	–	–	2,165, 288		2,165, 288
Cash and cash equivalents	–	–	19,130,835	–	19,130,835
Financial assets included in other current assets	–	–	4,875,530	–	4,875,530
Subtotal	–	16,141	34,275,670	–	34,291,811
Non-current					
Equity investments designated at fair value through other comprehensive income	–	–	–	1,729,825	1,729,825
Other non-current assets	–	–	204,718	–	204,718
Subtotal	–	–	204,718	1,729,825	1,934,543
Total	–	16,141	34,480,388	1,729,825	36,226,354

(Amounts expressed in thousands of RMB unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(a) Financial instruments by category (Continued)

Financial liabilities

	Group 31 December 2018 (Restated)			
	Financial liabilities at fair value through profit or loss			
	Designated as such upon initial recognition	Held for trading	Financial liabilities at amortised cost	Total
Current				
Financial liabilities at fair value through profit or loss	–	1,766	–	1,766
Interest-bearing loans and borrowings	–	–	47,565,490	47,565,490
Financial liabilities included in other payables and accrued liabilities *(Note 22)*	–	–	9,286,462	9,286,462
Trade and notes payables	–	–	14,009,264	14,009,264
Subtotal	–	1,766	70,861,216	70,862,982
Non-current				
Financial liabilities included in other non-current liabilities *(Note 21)*	–	–	841,059	841,059
Interest-bearing loans and borrowings	–	–	54,207,386	54,207,386
Subtotal	–	–	55,048,445	55,048,445
Total	–	1,766	125,909,661	125,911,427

(Amounts expressed in thousands of RMB unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy

Fair value

The carrying amounts and fair values of the Group's financial instruments, other than those with carrying amounts that reasonably approximate to fair values and those carried at fair value, are as follows:

	Carrying amounts		Fair values	
	31 December 2019	31 December 2018	**31 December 2019**	31 December 2018
Financial assets				
Other non-current assets *(Note 11)*	**128,673**	204,718	**111,935**	182,132

	Carrying amounts		Fair values	
	31 December 2019	31 December 2018	**31 December 2019**	31 December 2018
Financial liabilities				
Financial liabilities included in other non-current liabilities *(Note 21)*	**1,153,487**	841,059	**1,146,893**	816,529
Long-term interest-bearing loans and borrowings, excluding lease liability *(Note 18)*	**52,232,955**	54,207,386	**50,952,676**	53,207,052
	53,386,442	55,048,445	**52,099,569**	54,023,581

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value (Continued)

Management has assessed that the fair values of cash and cash equivalents, restricted cash and time deposits, trade and notes receivables, financial assets included in other current assets, entrusted loans, trade and notes payables, financial liabilities included in other payables and accrued liabilities, short-term and the current portion of interest-bearing loans and borrowings, interest payable and the current portion of long-term payables approximate to their carrying amounts largely due to the short term maturities of these instruments.

The fair values of the financial assets and liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The fair values of the financial assets included in other non-current assets and financial liabilities included in other non-current liabilities and long-term interest-bearing loans and borrowings have been calculated by discounting the expected future cash flows using rates currently available for instruments on with similar terms, credit risk and remaining maturities.

The Group's own non-performance risk for financial liabilities included in other non-current liabilities and long-term interest-bearing loans and borrowings as at 31 December 2019 was assessed to be insignificant.

(Amounts expressed in thousands of RMB unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy

The following tables illustrate the fair value measurement hierarchy of the Group's financial instruments:

Assets measured at fair value

As at 31 December 2019	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial assets at fair value through profit or loss:				
Futures contracts	3,175	–	–	3,175
Financial product	–	3,500,000	–	3,500,000
Debt instruments at fair value through other comprehensive income – notes receivable	–	2,834,011	–	2,834,011
Equity investments designated at fair value through other comprehensive income:				
Listed equity investments	8,853	–	–	8,853
Other unlisted investment	–	–	2,230,398	2,230,398
	12,028	6,334,011	2,230,398	8,576,437

(Amounts expressed in thousands of RMB unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Assets measured at fair value (Continued)

As at 31 December 2018	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial assets at fair value through profit or loss:				
Futures contracts	16,141	–	–	16,141
Equity investments designated at fair value through other comprehensive income:				
Listed equity investments	6,441	–	–	6,441
Other unlisted investment	–	–	1,723,384	1,723,384
	22,582	–	1,723,384	1,745,966

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Liabilities measured at fair value

As at 31 December 2019	**Fair value measurement using**			
	Quoted prices in active markets (Level 1)	**Significant observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Financial liabilities at fair value through profit or loss:				
Futures contracts	**805**	**–**	**–**	**805**
	805	**–**	**–**	**805**

As at 31 December 2018	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial liabilities at fair value through profit or loss:				
Futures contracts	1,766	–	–	1,766
	1,766	–	–	1,766

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Assets for which fair values are disclosed:

As at 31 December 2019	**Fair value measurement using**			
	Quoted prices in active markets (Level 1)	**Significant observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Loans and receivables:				
Financial assets included in other non-current assets	**–**	**111,935**	**–**	**111,935**

As at 31 December 2018	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Loans and receivables:				
Financial assets included in other non-current assets	–	182,132	–	182,132

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Liabilities for which fair values are disclosed

As at 31 December 2019	**Fair value measurement using**			
	Quoted prices in active markets (Level 1)	**Significant observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Financial liabilities at amortised cost:				
Financial liabilities included in other non-current liabilities	**–**	**1,146,893**	**–**	**1,146,893**
Long-term interest-bearing loans and borrowings	**–**	**50,952,676**	**–**	**50,952,676**
	–	**52,099,569**	**–**	**52,099,569**

As at 31 December 2018	Fair value measurement using			
	Quoted prices in active markets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Financial liabilities at amortised cost:				
Financial liabilities included in other non-current liabilities	–	816,529	–	816,529
Long-term interest-bearing loans and borrowings	–	53,207,052	–	53,207,052
	–	54,023,581	–	54,023,581

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.2 Financial instruments (Continued)

(b) Fair value and fair value hierarchy (Continued)

Fair value hierarchy (Continued)

Liabilities for which fair values are disclosed: *(Continued)*

During the year ended 31 December 2019 the Group had no transfers of fair value measurements between Level 1 and Level 2 and no transfers into or out of Level 3 for both financial assets and financial liabilities (2018: Nil).

Below is a summary of significant unobservable inputs to the valuation of financial instruments as at 31 December 2019 and 2018:

	Valuation Technique	**Significant unobservable input**	**Range**
Equity investments in Size Industry Investment Fund			
31 December 2019	Net Assets Method	Net Assets	5,000,000
31 December 2018	Net Assets Method	Net Assets	5,000,000
Chinalco Innovative			
31 December 2019	Net Assets Method	Net Assets	350,911

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.3 Capital risk management

The Group's capital management objectives 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.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, issue new shares or sell assets to reduce debts.

Consistent with other entities in the industry, the Group monitors capital on the basis of its gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is calculated as total liabilities (excluding deferred tax liabilities, income tax payable and deferred government grants) less restricted cash, time deposits and cash and cash equivalents. Total capital is calculated as equity, as shown in the consolidated statement of financial position, plus net debt less non-controlling interests.

(Amounts expressed in thousands of RMB
unless otherwise stated)

36. FINANCIAL AND CAPITAL RISK MANAGEMENT (CONTINUED)

36.3 Capital risk management (Continued)

The gearing ratio as at 31 December 2019 is as follows:

	31 December 2019	31 December 2018 (Restated)
Total liabilities (excluding deferred tax liabilities, income tax payable and deferred government grants)	**130,170,395**	131,054,499
Less: Restricted cash, time deposits and cash and cash equivalents	**(9,064,971)**	(21,296,123)
Net debt	**121,105,424**	109,758,376
Total equity	**70,725,060**	67,669,619
Add: Net debt	**121,105,424**	109,758,376
Less: Non-controlling interests	**(16,065,427)**	(15,254,312)
Total capital attributable to owners of the parent	**175,765,057**	162,173,683
Gearing ratio	**69%**	68%

(Amounts expressed in thousands of RMB unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS

Other than the senior perpetual securities issued by a subsidiary of the Group, which is disclosed in Note 40, details of the Group's subsidiaries that have material non-controlling interests are set out below:

	2019	2018
Percentage of equity interest held by non-controlling interests		
Ningxia Energy	**29.18%**	29.18%
Shanxi Zhongrun	**56.61%**	60.00%
Guizhou Huaren	**60.00%**	60.00%
Profit for the year allocated to non-controlling interests		
Ningxia Energy	**240,504**	214,479
Shanxi Zhongrun	**69,701**	291,009
Guizhou Huaren	**198,016**	20,783
Dividends distributed to non-controlling interests		
Ningxia Energy	**76,469**	351,979
Shanxi Zhongrun	**–**	200,000
Guizhou Huaren	**–**	–
Accumulated balances of non-controlling interests at the Year ended		
Ningxia Energy	**4,978,089**	4,757,014
Shanxi Zhongrun	**996,686**	782,176
Guizhou Huaren	**1,028,426**	820,675

(Amounts expressed in thousands of RMB
unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations:

2019	Ningxia Energy
Revenue	6,695,724
Total expenses	6,314,098
Profit for the year	381,626
Total comprehensive income for the year	381,626
Current assets	5,081,743
Non-current assets	32,133,495
Current liabilities	8,688,475
Non-current liabilities	17,559,995
Net cash flows from operating activities	3,274,683
Net cash flows used in investing activities	(939,054)
Net cash flows from/financing activities	(2,611,597)
Effect of foreign exchange rate changes, net	–
Net decrease in cash and cash equivalents	(275,968)

(Amounts expressed in thousands of RMB
unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations: (Continued)

2018	Ningxia Energy
Revenue	6,714,040
Total expenses	6,555,933
Profit for the year	158,107
Total comprehensive income for the year	158,107
Current assets	5,036,413
Non-current assets	32,677,977
Current liabilities	8,723,922
Non-current liabilities	18,367,979
Net cash flows from operating activities	2,755,612
Net cash flows used in investing activities	(1,616,513)
Net cash flows from/financing activities	(991,998)
Effect of foreign exchange rate changes, net	–
Net increase in cash and cash equivalents	147,101

(Amounts expressed in thousands of RMB
unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations: (Continued)

2019	Shanxi Zhongrun
Revenue	2,204,777
Total expenses	2,081,652
Profit for the year	123,125
Total comprehensive income for the year	123,125
Current assets	783,726
Non-current assets	4,010,818
Current liabilities	1,084,890
Non-current liabilities	2,093,735
Net cash flows from operating activities	234,014
Net cash flows used in investing activities	(402,636)
Net cash flows from/financing activities	307,452
Effect of foreign exchange rate changes, net	–
Net increase in cash and cash equivalents	138,830

(Amounts expressed in thousands of RMB
unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations: (Continued)

2018	Shanxi Zhongrun
Revenue	645,413
Total expenses	644,596
Profit for the year	817
Total comprehensive income for the year	817
Current assets	605,140
Non-current assets	3,421,608
Current liabilities	790,819
Non-current liabilities	2,258,089
Net cash flows from operating activities	(19,718)
Net cash flows used in investing activities	(781,869)
Net cash flows from/financing activities	(1,335,579)
Effect of foreign exchange rate changes, net	–
Net decrease in cash and cash equivalents	(2,137,166)

(Amounts expressed in thousands of RMB
unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations: (Continued)

2019	**Guizhou Huaren**
Revenue	**5,982,665**
Total expenses	**5,677,075**
Profit for the year	**305,590**
Total comprehensive income for the year	**305,590**
Current assets	**1,034,442**
Non-current assets	**2,650,822**
Current liabilities	**1,164,346**
Non-current liabilities	**1,006,360**
Net cash flows from operating activities	**565,027**
Net cash flows used in investing activities	**(91,319)**
Net cash flows from/financing activities	**(354,187)**
Effect of foreign exchange rate changes, net	**–**
Net increase in cash and cash equivalents	**119,521**

(Amounts expressed in thousands of RMB
unless otherwise stated)

37. PARTLY-OWNED SUBSIDIARIES WITH MATERIAL NON-CONTROLLING INTERESTS (CONTINUED)

The following tables illustrate the summarised financial information of the above subsidiaries. The amounts disclosed are before any inter-company eliminations: (Continued)

2018	Guizhou Huaren
Revenue	4,282,882
Total expenses	4,248,243
Profit for the year	34,639
Total comprehensive income for the year	34,639
Current assets	
Non-current assets	1,169,453
Current liabilities	3,038,875
Non-current liabilities	1,381,541
Net cash flows from operating activities	134,781
Net cash flows used in investing activities	(510,243)
Net cash flows from/financing activities	(115,222)
Effect of foreign exchange rate changes, net	–
Net decrease in cash and cash equivalents	(490,684)

38. BUSINESS COMBINATIONS

(a) Acquisition of Suzhou Zhongcai

On 29 April 2019, Chinalco Shanghai Company Limited ("Chinalco Shanghai") ("中鋁上海有限公司"), a subsidiary of the Company, entered into an equity transfer agreement with Zhongse Technology Co., Ltd. ("Zhongse Technology") ("中色科技股份有限公司") and Suzhou Research Institute of Non-ferrous Metals Co., Ltd. ("Suzhou Research Institute") ("蘇州有色金屬研究院有限公司"), pursuant to which, Chinalco Shanghai acquired 70% and 30% equity interests in Suzhou Zhongse Metal Materials Technology Co., Ltd.* ("Suzhou Zhongcai") ("蘇州中色金屬材料科技有限公司") from Zhongse Technology and Suzhou Research Institute, respectively. The consideration for the acquisition was RMB237 thousand, which was determined based on the appraisal value of the 100% equity interest in Suzhou Zhongcai. Chinalco Shanghai has paid the consideration in full as of 30 June 2019. The acquisition date was 1 June 2019, which was the date that the Group obtained control of Suzhou Zhongcai. Before and after the acquisition, both Suzhou Zhongcai and Chinalco Shanghai were controlled by Chinalco, and the control was not temporary. Thus, the acquisition of the 100% equity interest in Suzhou Zhongcai is considered to be a business combination under common control, other than significant influence or joint control.

39. DISPOSAL OF BUSINESSES

(a) Disposal of 100% equity of China Aluminum Nanhai Alloy

In January 2019, the Company entered into a Capital Contribution Agreement with Chinalco and its subsidiary Chinalco Innovative, pursuant to which the Company shall make a capital contribution to Chinalco Innovative in form of its 100% equity interests in China Aluminum Nanhai Alloy Co., Ltd. ("China Aluminum Nanhai Alloy"). After the transaction, the Company holds 19.4852% in Chinalco Innovative. As of the date of deemed disposal, the Company re-measured the equity of China Aluminum Nanhai Alloy to a fair value of RMB350 million and recognized the fair value gain of RMB258 million accordingly.

39. DISPOSAL OF BUSINESSES (CONTINUED)

(b) Disposal of 40% equity interest of Inner Mongolia Fengrong and disposal of 60% equity interest of Ningxia Fenghao

On 20 February 2019, Chalco Energy Co., Ltd., a wholly-owned subsidiary of the Company, entered into equity transfer agreements with Chinalco Environment Protection Co., Ltd. on the partial disposal of 40% equity interest in Inner Mongolia Fengrong Co., Ltd. and 60% equity interest in Ningxia Fenghao Co., Ltd., respectively. A gain of RMB3,014 thousands from partial disposal of the two subsidiaries was recorded by the Group in the current period.

(c) Deregistration of Shanghai Kailin

Chalco Trade, a subsidiary of the Company, held 100% equity interest of Shanghai Chalco Kailin Aluminum Co., Ltd.* (上海中鋁凱林鋁業有限公司) ("Shanghai Kailin"). In July 2019, Shanghai Kailin was deregistered, from which the Company recorded a gain of RMB160 thousands.

(d) Disposal of Ruzhou Jinhua

Zhongzhou Aluminum, a subsidiary of the Company, held a 51% equity interest in Ruzhou Chinalco Jinhua Mining Co., Ltd.* (汝州中鋁金華礦業有限公司) ("Ruzhou Jinhua"). In July 2019, Zhongzhou Aluminum disposed all of its equity interest of Ruzhou Jinhua, and a gain of RMB113 thousands from the disposal was included in other gains during the year ended 31 December 2019.

* The English names represent the best effort made by management of the Group translating the Chinese names of the Companies as the companies do not have any official English names.

40. OTHER EQUITY INSTRUMENTS

On 27 October 2015, the Company issued RMB2,000 million perpetual medium-term notes with an initial distribution rate at 5.50% (the "2015 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2015 Perpetual Medium-term Notes were RMB2,000 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 5.50% per annum on the 2015 Perpetual Medium-term Notes have been made annually in arrears from 29 October 2015 and may be deferred at the discretion of the Company. The 2015 Perpetual Medium-term Notes have no fixed maturity date and are callable only at the Group's option on 29 October 2020 or any coupon distribution date after 29 October 2020 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. The coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 2.61 percent, (b) the China Treasury Rate, and (c) a margin of maximum 300 Bps every five years after 29 October 2020. While any coupon distribution payments are unpaid or deferred, the Company cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments.

On 31 October 2016, Chalco Hong Kong Investment issued USD500 million senior perpetual securities with an initial distribution rate at 4.25% (the "2016 Senior Perpetual Securities"). The proceeds from the issuance of the 2016 Senior Perpetual Securities after the issuance costs were USD498 million (equivalent to RMB3,374 million). The proceeds were on-lent to the Company and any of its subsidiaries for general corporate use. Coupon payments of 4.25% per annum on the 2016 Senior Perpetual Securities have been made semi-annually on 29 April and 29 October in arrears from 7 November 2016 and may be deferred at the discretion of the Group. The first coupon payment date was 29 April 2017. The 2016 Senior Perpetual Securities have no fixed maturity date and are callable only at the Group's option on or after 7 November 2021 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. After 7 November 2021, the coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 2.931 percent, (b) the U.S. Treasury Rate, and (c) a margin of 5.00 percent per annum. While any coupon distribution payments are unpaid or deferred, the Group, the wholly-owned subsidiaries of Chalco Hong Kong as guarantors, and the Issuer cannot declare or pay dividends or make distributions or similar discretionary payments in respect of, or repurchase, redeem or otherwise acquire any securities of lower or equal rank.

40. OTHER EQUITY INSTRUMENTS (CONTINUED)

On 19 October 2018, the Company issued RMB2,000 million perpetual medium-term notes with an initial distribution rate at 5.10% (the "2018 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2018 Perpetual Medium-term Notes were RMB2,000 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 5.10% per annum on the 2018 Perpetual Medium-term Notes have been made annually in arrears from 19 October 2018 and may be deferred at the discretion of the Company. The 2018 Perpetual Medium-term Notes have no fixed maturity date and are callable only at the Group's option on 23 October 2021 or any coupon distribution date after 23 October 2021 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. The coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 2.61 percent, (b) the China Treasury Rate, and (c) a margin of maximum 500 Bps every five years after 23 October 2021. While any coupon distribution payments are unpaid or deferred, the Company cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments.

On 19 November 2019, the Company issued RMB1,500 million perpetual medium-term notes with an initial distribution rate at 4.20% (the "2019 Perpetual Medium-term Notes"). The proceeds from the issuance of the 2019 Perpetual Medium-term Notes were RMB1,499 million. The proceeds were used for the repayment of interest-bearing loans and borrowings. Coupon payments of 4.20% per annum on the 2019 Perpetual Medium-term Notes have been made annually in arrears from 19 November 2019 and may be deferred at the discretion of the Company. The 2019 Perpetual Medium-term Notes have no fixed maturity date and are callable only at the Group's option on 20 November 2022 or any coupon distribution date after 20 November 2022 at their principal amounts together with any accrued, unpaid or deferred coupon distribution payments. The coupon distribution rate will be reset to a percentage per annum equal to the sum of (a) the initial spread of 1.31 percent, (b) the China Treasury Rate, and (c) a margin of maximum 300 Bps every five years after 20 November 2022. While any coupon distribution payments are unpaid or deferred, the Company cannot declare or pay dividends to shareholders or decrease the share capital, or make material fixed asset investments.

40. OTHER EQUITY INSTRUMENTS (CONTINUED)

Pursuant to the terms and conditions of the 2016 Senior Perpetual Securities, the 2018 Perpetual Medium-term Notes and the 2019 Perpetual Medium-term Notes, the Group has no contractual obligations to repay their principal or to pay any coupon distributions. Thus in the opinion of the directors of the Company, they do not meet the definition of financial liabilities according to IAS 32 *Financial Instruments: Presentation*, and are classified as equity and subsequent distributions declared will be treated as distributions to equity owners.

41. CONTINGENT LIABILITIES

The Group was sued in the second quarter of 2019 against the project construction, financing arrangement and others, collectively aggregating to RMB591 million, which mainly arose from contract variation orders without merits and disagreed by the Group. As an administrative process, the local courts held to freeze the Group's bank accounts or other equivalent assets amounting to RMB214 million. As at 31 December 2019 and as at the date of approval of these financial statements, the local courts have already frozen several bank accounts of the Group aggregating to RMB61 million and a real estate of the Group of a net book value amounting to RMB46 million. Currently the lawsuits are in progress and the outcomes are unknown. The directors, based on the advice from the Group's legal counsels, believe that the Group has valid defence against all the allegations and accordingly, have not provided for any claim arising from the litigations, other than the related legal and other costs.

(Amounts expressed in thousands of RMB
unless otherwise stated)

42. COMMITMENTS

(a) Capital commitments on property, plant and equipment

	31 December 2019	31 December 2018
Contracted, but not provided for	**4,041,857**	3,942,933

(b) Operating lease commitments as at 31 December 2018

The future aggregate minimum lease payments as at 31 December 2018 pursuant to non-cancellable lease agreements entered into by the Group are summarised as follows:

	31 December 2018
Within one year	541,541
In the second to fifth years, inclusive	1,880,058
After five years	10,567,925
	12,989,524

(c) Other capital commitments

As at 31 December 2019, the commitments to make capital contributions to the Group's joint ventures and associates were as follows:

	31 December 2019	31 December 2018
Associates	**33,800**	82,800
Joint ventures	**410,000**	460,000
	443,800	542,800

43. EVENTS AFTER THE REPORTING PERIOD

(a) On 13 January 2020, the Group completed an issuance of short-term bonds with a total face value of RMB1.5 billion at par value of RMB100.00 per unit which will mature in April 2020 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.10%.

(b) On 15 January 2020, the Group completed an issuance of short-term bonds with a total face value of RMB2 billion at par value of RMB100.00 per unit which will mature in April 2020 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.20%.

(c) On 13 February 2020, the Group completed an issuance of short-term bonds with a total face value of RMB1 billion at par value of RMB100.00 per unit which will mature in May 2020 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.10%.

(d) On 20 February 2020, the Group completed an issuance of short-term bonds with a total face value of RMB1 billion at par value of RMB100.00 per unit which will mature in November 2020 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.50%.

(e) On 21 February 2020, the Group completed an issuance of short-term bonds with a total face value of RMB1 billion at par value of RMB100.00 per unit which will mature in May 2020 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.20%.

(f) On 5 March 2020, the Group completed an issuance of corporate bonds with a total face value of RMB0.5 billion at par value of RMB100.00 per unit which will mature in March 2025 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 3.30%.

(g) On 13 March 2020, the Group completed an issuance of short-term bonds with a total face value of RMB1.8 billion at par value of RMB100.00 per unit which will mature in September 2020 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.20%.

43. EVENTS AFTER THE REPORTING PERIOD (CONTINUED)

(h) On 20 March 2020, the Group completed an issuance of corporate bonds with a total face value of RMB1 billion at par value of RMB100.00 per unit which will mature in March 2023 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 3.05%.

(i) On 26 March 2020, the Group completed an issuance of medium-term notes with a total face value of RMB0.9 billion at par value of RMB100.00 per unit which will mature in March 2023 for working capital needs and repayment of bank borrowings. The fixed annual coupon interest rate of these bonds is 2.93%.

(j) The outbreak of the novel coronavirus (COVID-19)in the PRC since January 2020,the prevention and control of COVID-19 has continued. The Group has taken all possible effective measures to limit and keep the impact in control. The Group will follow and strengthen its support to the government's requirements on COVID-19 prevention and control work.COVID-19 has significant impacts on production, consumption and investment. It is expected that the aluminum industry will face greater challenges as well as greater opportunities. The Group will continue to pay close attention to and evaluate the developments of COVID-19 and market changes, and actively respond to the possible impact on the Group's financial situation and operating results. As of the date of this report, the evaluation is still in progress.

44. COMPARATIVE AMOUNTS

Certain comparative amounts have been restated as a result of the business combinations under common control as disclosed in Note 38.

(Amounts expressed in thousands of RMB unless otherwise stated)

45. STATEMENT OF FINANCIAL POSITION OF THE COMPANY

Information about the statement of financial position of the Company at the end of the reporting period is as follows:

	31 December 2019	31 December 2018
ASSETS		
Non-current assets		
Intangible assets	**922,741**	2,847,450
Property, plant and equipment	**12,852,420**	17,376,731
Investment properties	**21,069**	–
Right-of-use assets	**1,816,982**	–
Land use rights	**–**	550,005
Investments in subsidiaries	**61,956,887**	57,559,298
Investments in joint ventures	**1,471,924**	1,421,924
Investments in associates	**5,968,055**	3,436,268
Equity investments designated at fair value through other comprehensive income	**2,034,398**	1,665,441
Deferred tax assets	**576,254**	656,317
Other non-current assets	**7,008,769**	8,023,750
Total non-current assets	**94,629,499**	93,537,184
Current assets		
Inventories	**2,202,255**	3,062,042
Trade and notes receivables	**912,872**	1,098,718
Other current assets	**22,428,349**	15,417,130
Financial assets at fair value through profit or loss	**3,500,000**	–
Restricted cash and time deposits	**148,908**	127,588
Cash and cash equivalents	**3,385,377**	4,357,656
Total current assets	**32,577,761**	24,063,134
Total assets	**127,207,260**	117,600,318

(Amounts expressed in thousands of RMB unless otherwise stated)

45. STATEMENT OF FINANCIAL POSITION OF THE COMPANY (CONTINUED)

	31 December 2019	31 December 2018
EQUITY AND LIABILITIES		
EQUITY		
Equity attributable to owners of the parent		
Share capital	**17,022,673**	14,903,798
Other reserves	**42,015,946**	42,680,053
Accumulated losses	**(6,593,433)**	(7,176,832)
Total equity	**52,445,186**	50,407,019
LIABILITIES		
Non-current liabilities		
Interest-bearing loans and borrowings	**28,597,132**	27,877,479
Other non-current liabilities	**335,592**	674,105
Total non-current liabilities	**28,932,724**	28,551,584

(Amounts expressed in thousands of RMB
unless otherwise stated)

45. STATEMENT OF FINANCIAL POSITION OF THE COMPANY (CONTINUED)

	31 December 2019	31 December 2018
EQUITY AND LIABILITIES		
LIABILITIES		
Current liabilities		
Interest-bearing loans and borrowings	**29,637,697**	27,801,492
Other payables and accrued liabilities	**15,322,156**	10,133,854
Contract liabilities	**73,991**	110,154
Trade and notes payables	**795,506**	596,215
Total current liabilities	**45,829,350**	38,641,715
Total liabilities	**74,762,074**	67,193,299
Total equity and liabilities	**127,207,260**	117,600,318
Net current liabilities	**13,251,589**	14,578,581
Total assets less current liabilities	**81,377,910**	78,958,603

Lu Dongliang	**Wang Jun**
Director	*Chief Financial Officer*

(Amounts expressed in thousands of RMB unless otherwise stated)

45. STATEMENT OF FINANCIAL POSITION OF THE COMPANY (CONTINUED)

Note :

A summary of the Company's reserves is as follows:

	Share premium	Other capital reserves	Statutory surplus reserve	Special reserve	Fair value Reserve	Other equity instruments	Accumulated losses	Total
Balance at 31 December 2017	19,191,612	873,215	5,867,557	14,718	6,836	2,019,288	(7,648,158)	20,325,068
Change in accounting policy	–	–	–	–	6,469	–	(11,364)	(4,895)
At 1 January 2018 (Restated)	19,191,612	873,215	5,867,557	14,718	13,305	2,019,288	(7,659,522)	20,320,173
Profit for the year	–	–	–	–	–	–	573,412	573,412
Issuance of senior perpetual securities	–	–	–	–	–	1,988,000	–	1,988,000
Business combinations under common control	11,527	–	–	–	–	–	–	11,527
Release of deferred government subsidies	–	2,200	–	–	–	–	–	2,200
Changes in fair value of available-for-sale financial assets, net of tax	–	–	–	–	(5,880)	–	–	(5,880)
Other appropriation	–	–	–	10,551	–	–	–	10,551
Other equity instruments' distribution	–	–	–	–	–	(19,288)	(90,722)	(110,010)
Equity exchange arrangement	–	12,713,248	–	–	–	–	–	12,713,248
Balance at 31 December 2018	19,203,139	13,588,663	5,867,557	25,269	7,425	3,988,000	(7,176,832)	35,503,221
Profit for the year	**–**	**–**	**–**	**–**	**–**	**–**	**795,399**	**795,399**
Issuance of senior perpetual securities	**–**	**–**	**–**	**–**	**–**	**1,499,104**	**–**	**1,499,104**
Business combinations under common control	**1,020**	**–**	**–**	**–**	**–**	**–**	**–**	**1,020**
Changes in fair value of equity investments at fair value through other comprehensive income, net of tax	**–**	**–**	**–**	**–**	**13,352**	**–**	**–**	**13,352**
Other appropriation	**–**	**–**	**–**	**(7,030)**	**–**	**–**	**–**	**(7,030)**
Other equity instruments' distribution	**–**	**–**	**–**	**–**	**–**	**–**	**(212,000)**	**(212,000)**
Issuance of share capital	**8,564,661**	**(10,735,214)**	**–**	**–**	**–**	**–**	**–**	**(2,170,553)**
At 31 December 2019	**27,768,820**	**2,853,449**	**5,867,557**	**18,239**	**20,777**	**5,487,104**	**(6,593,433)**	**35,422,513**

46. APPROVAL OF THE FINANCIAL STATEMENTS

The financial statements were approved and authorised for issue by the board of directors on 26 March 2020.

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