

ALUMINUM CORP OF CHINA LTD  
Form 20-F  
April 27, 2012

As filed with Securities and Exchange Commission on April 27, 2012

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF  
THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF  
1934

For the fiscal year ended December 31, 2011

OR

TRANSITION REPORT PURSUANT TO SECTION 13 or 15(d) OF  
THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF  
THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-15264

(Exact name of Registrant as specified in its charter)

**ALUMINUM CORPORATION OF CHINA LIMITED**  
(Translation of Registrant's name into English)

People's Republic of China  
(Jurisdiction of incorporation or organization)

No. 62 North Xizhimen Street, Haidian District, Beijing  
People's Republic of China (100082)

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(Address of principal executive offices)

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Xiong Weiping

No. 62 North Xizhimen Street, Haidian District, Beijing  
People's Republic of China (100082)

(86) 10 8229 8103

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

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Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Name of each exchange on which registered
American Depositary Shares* Class H Ordinary Shares**	New York Stock Exchange, Inc.
* Evidenced by American Depositary Receipts. Each American Depositary Share represents 25 H Shares.	
** Not for trading, but only in connection with the listing of American Depositary Shares, pursuant to the requirements of the Securities and Exchange Commission	

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None

(Title of Class)

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Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of December 31, 2011:

Domestic Shares, par value RMB1.00 per share	9,580,521,924
H Shares, par value RMB1.00 per share	3,943,965,968

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes  No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes  No

Note-Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer  Accelerated filer  Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP  International Financial Reporting Standards as issued by the International Accounting Standards Board  Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17  Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes [ ] No [X]

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### FORWARD-LOOKING STATEMENTS

Certain information contained in this annual report, which does not relate to historical financial information, may be deemed to constitute forward-looking statements. The words or phrases "will likely result", "are expected to", "will continue", "is anticipated", "estimate", "project", "believe" or similar expressions are intended to identify "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Such statements are subject to certain risks and uncertainties that could cause actual results to differ materially from historical results and those presently anticipated or projected. You should not place undue reliance on any such forward-looking statements, which speak only as of the date made. These forward-looking statements include, without limitation, statements relating to:

- \* future general economic conditions;
- \* future conditions in the international and China capital markets;
- \* future conditions in the financial and credit markets;
- \* future prices and demand for our products;
- \* future PRC tariff levels for alumina, primary aluminum and aluminum fabrication products;
- \* sales of our products;
- \* the extent and nature of, and potential for, future development;
- \* production, consumption and demand forecasts of bauxite, alumina, primary aluminum and aluminum fabrication products;

- \* expansion, consolidation or other trends in the primary aluminum industry;
- \* the effectiveness of our cost-saving measures;
- \* future expansion, investment and acquisition plans and capital expenditures;
- \* competition;
- \* changes in legislation, regulations and policies;
- \* estimates of proven and probable bauxite reserves;
- \* our research and development plans; and
- \* our dividend policy.

These statements are based on assumptions and analyses made by us in light of our experience and our perception of historical trends, current conditions and future developments, as well as other factors we believe are appropriate in particular circumstances. However, whether actual results and developments will meet our expectations and predictions depends on a number of risks and uncertainties, which could cause actual results to differ materially from our expectations. These risks are more fully described in the section headed "Item 3. Key Information - D. Risk Factors."

Consequently, all of the forward-looking statements made in this annual report are qualified by these cautionary statements. We cannot assure you that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected effect on us or our business or operations.

#### CERTAIN TERMS AND CONVENTIONS

"Chalco", "the Company", "the Group", "our company", "we", "our"

and "**us**" refer to Aluminum Corporation of China Limited and its subsidiaries and, where appropriate, to its predecessors;

"A Shares"

and "**domestic shares**" refer to our domestic ordinary shares, with a par value of RMB1.00 each, which are listed on the Shanghai Stock Exchange;

"alumina-to-silica ratio"

refers to the ratio of alumina to silica in bauxite by weight;

"aluminum fabrication"

refers to the process of converting primary aluminum or recycled aluminum materials into plates, strips, bars, tubes and other fabricated products;

"AUD"

or "**Australian dollars**" refers to the lawful currency of the Commonwealth of Australia;

"Baotou Aluminum"

refers to Baotou Aluminum Limited, our wholly-owned subsidiary established under PRC Law;

"Baotou Group"

refers to Baotou Aluminum (Group) Co., Ltd., one of our shareholders;

"bauxite"

refers to a mineral ore that is principally composed of aluminum;

"Bayer process"

refers to a refining process that employs a strong solution of caustic soda at an elevated temperature to extract alumina from ground bauxite;

"Board"

refers to our board of directors;

"Chalco Hong Kong"

refers to Chalco Hong Kong Limited, our wholly-owned subsidiary established under Hong Kong Law;

"Chalco Mining"

refers to Chalco Mining Co., Ltd., our wholly-owned subsidiary established under PRC law;

"Chalco Nanhai"

refers to Chalco Nanhai Alloy Company, our subsidiary established under PRC law;

"Chalco Qingdao"

refers to Chalco Qingdao Light Metal Company Limited, our subsidiary established under PRC Law;

"Chalco Ruimin"

refers to Chalco Ruimin Company Limited, 93.47% of the equity interest of which is owned by us;

"Chalco Southwest Aluminum"

refers to Chalco Southwest Aluminum Company Limited, 60% of the equity interest of which is owned by us;

"Chalco Southwest Aluminum Cold Rolling"

refers to Chalco Southwest Aluminum Cold Rolling Company Limited, our wholly-owned subsidiary established under PRC Law;

"Chalco Xing Xian"

refers to the construction of Bayer process production system and ancillary facilities at Xing Xian, Lvliang City of Shanxi Province with designed capacity of 800,000 tonnes of metallurgical grade alumina per year;

"China"

and the "**PRC**" refers to the People's Republic of China, excluding for purposes of this annual report, Hong Kong Special Administrative Region, Macao Special Administrative Region and Taiwan;

"China Nonferrous Metals Technology"

refers to China Nonferrous Metals Processing Technology Co., Ltd.;

"Chinalco"

and "**Chinalco Group**" refer to our controlling shareholder, Aluminum Corporation of China and its subsidiaries (other than Chalco and its subsidiaries) and, where appropriate, to its predecessors;

"Chalco Trading"

or "**CIT**" refers to China Aluminum International Trading Co., Ltd., our wholly-owned subsidiary established under PRC Law ;

"CSRC"

refers to China Securities Regulatory Commission;



"C\$"

refers to the legal currency of Canada;

"Energy-Saving and Emission Reduction Goals"

refer to the energy-saving and emission reduction goals set out in China's 12th Five-Year Plan for National Economic and Social Development laid out in 2011, by which China expects to cut its per unit GDP energy consumption by 16 percent compared with the 2010 level by the end of 2015;

"Exchange Act"

refers to the U.S. Securities Exchange Act of 1934, as amended;

"Euros"

or "**EUR**" refers to the lawful currency of the Euro zone;

"Fushun Aluminum"

refers to Fushun Aluminum Company Limited, our wholly-owned subsidiary established under PRC law;

"Gansu Hualu"

refers to Gansu Hualu Aluminum Company Limited, 51% of the equity interest of which is owned by us;

"Gansu Huayang"

refers to Gansu Huayang Mining Development Company Limited, 70% of the equity interest of which is owned by us;

"Guangxi Huayin"

refers to Guangxi Huayin Aluminum Company Limited, 33% of the equity interest of which is owned by us;

"Guangxi Investment"

refers to Guangxi Investment (Group) Co., Ltd., formerly known as Guangxi Development and Investment Co., Ltd., a PRC state-owned enterprise and one of our promoters and shareholders;

"Guizhou Development"

refers to Guizhou Provincial Materials Development and Investment Corporation, a PRC state-owned enterprise and one of our promoters and shareholders;

"H Shares"

refers to overseas listed foreign shares with a par value RMB1.00 each, which are listed on the Hong Kong Stock Exchange;

"Henan Aluminum"

refers to Chinalco Henan Aluminum Company Limited, 90.03% of the equity interest of which is owned by us;

"HK\$"

and "**HK dollars**" refers to Hong Kong dollars, the lawful currency of the Hong Kong Special Administrative Region of the PRC;

"Hong Kong Stock Exchange"

refers to The Stock Exchange of Hong Kong Limited;

"Hongrui Chemical"

refers to Jiaozuo Hongrui Chemical Company Limited, which we acquired in October 2009 and subsequently ceased its existence as an independent legal person and became part of our Zhongzhou branch;

"Huaxi Aluminum"

refers to Huaxi Aluminum Company Limited, 56.86% of the equity interest of which is owned by us;

"hybrid Bayer-sintering process" and "series Bayer-sintering process"

refer to 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;

"Japanese Yen"

refers to the lawful currency of Japan;

"Jiaozuo Wanfang"

refers to Jiaozuo Wanfang Aluminum Manufacturing Co. Ltd., 24.002% of the equity interest of which is owned by us as of December 31, 2011. Jiaozuo Wanfang has been our subsidiary since January 1, 2008 after we established de facto control over it;

"Ka"

refers to kiloamperes, a unit for measuring the strength of an electric current, with one kiloampere equaling to 1,000 amperes;

"kWh"

refers to kilowatt hours, a unit of electrical power, meaning one kilowatt of power for one hour;

"Lanzhou Aluminum"

refers to Lanzhou Aluminum Co., Ltd., a wholly-owned subsidiary of us since April 2007 and until July 2007 when it was divided into two wholly-owned entities: Lanzhou branch and Northwest Aluminum;

"Liancheng branch"

refers to our wholly-owned branch, which was formerly known as Lanzhou Liancheng Longxing Aluminum Company Limited, before we acquired 100% of its equity interest;

"Listing Rules"

and "**Hong Kong Listing Rules**" refers to the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange, as amended;

"LME"

refers to the London Metal Exchange Limited;

"Longmen Aluminum"

refers to Shanxi Longmen Aluminum Co., Ltd., 55% of its equity interests is owned by us;

"Luxin Company"

refers to Jiexiu Luxin Coal Gasification Company Limited;

"Nanping Aluminum"

refers to Fujian Nanping Aluminum Company Limited;

"NDRC"

refers to China National Development and Reform Commission;

"Northwest Aluminum"

refers to Northwest Aluminum Fabrication Plant, our wholly-owned branch;

"NYSE"

or "**New York Stock Exchange**" refers to the New York Stock Exchange Inc.;

"ore-dressing Bayer process"

refers to a refining process we developed to increase the alumina-to-silica ratio of bauxite;

"Pingguo Aluminum"

refers to Pingguo Aluminum Company;

"Qinghai Energy"

refers to Qinghai Province Energy Development (Group) Co., Ltd., 21% of the equity interest of which is owned by us;

"refining"

refers to the chemical process used to produce alumina from bauxite;

"Research Institute"

refers to Zhengzhou Research Institute, our wholly-owned branch mainly providing research and development services;

"Rio Tinto"

refers to 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"

or "**Renminbi**" refers to the lawful currency of the PRC;

"SASAC"

refers to State-owned Assets Supervision and Administration Commission of the State Council of China;

"SEC"

refers to the U.S. Securities and Exchange Commission;

"Securities Act"

refers to the U.S. Securities Act of 1933, as amended;

"Shandong Aluminum"

refers to Shandong Aluminum Industry Co., Limited, a wholly-owned subsidiary of Chinalco;

"Shanxi Jiexiu"

refers to Shanxi Jiexiu Xinyugou Coal Industry Co., Ltd., 34% of the equity interest of which is owned by us;

"Shanxi Huasheng"

refers to Shanxi Huasheng Aluminum Company Limited, 51% of the equity interest of which is owned by us;

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"Shanxi Huaxing"

refers to Shanxi Huaxing Aluminum Co., Ltd., our wholly-owned subsidiary;

"Shandong Huayu"

refers to Shandong Huayu Aluminum and Power Company Limited, 55% of the equity interest of which is owned by us;

"Shanxi Huaze"

refers to Shanxi Huaze Aluminum and Power Co., Limited, 60% of the equity interest of which is owned by us;

"Shanxi Other Mines"

refers to the seven of our 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 our new own mine in 2010;

"SHFE"

refers to the Shanghai Futures Exchange;

"Simandou Project"

refers to 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 July 29, 2010 entered into amongst Rio Tinto, Rio Tinto Iron Ore Atlantic Limited and us for the purpose of development of the Simandou Project;

"sintering process"

refers to 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"

refers to the electrolytic process used to produce molten aluminum from alumina;

"SouthGobi"

refers to SouthGobi Resources Ltd.;

"tonne"

refers to the metric ton, a unit of weight, that is equivalent to 1,000 kilograms or 2,204.6 pounds;

"US\$", "dollars"

or "**U.S. dollars**" refers to the legal currency of the United States;

"Xinan Aluminum"

refers to Xinan Aluminum (Group) Company Limited;

"Xincheng"

refers to Henan Xincheng Construction Supervisory Services Company Limited, a subsidiary that we acquired in October 2009;

"Yichuan Power"

refers to Yichuan Power Industries Group Company;

"Zhangze Electric Power"

refers to Shanxi Zhangze Electric Power Co., Ltd.;

"Zhongzhou Aluminum"

refers to Henan Zhongzhou Aluminum Construction Company Limited, a subsidiary that we acquired in October 2009;

"Zunyi Alumina"

refers to Chalco Zunyi Alumina Co., Ltd, 67% of the equity interest of which is owned by us; and

"Zunyi Aluminum"

refers to Zunyi Aluminum Co., Ltd., our subsidiary established under PRC law.

Translations of amounts in this annual report from Renminbi to U.S. dollars and vice versa have been made at the rate of RMB6.2939 to US\$1.00, the exchange rate as set forth in the H.10 statistical release of the Federal Reserve Board for December 30, 2011. We make no representation that any Renminbi or U.S. dollar amounts could have been, or could be, converted into U.S. dollars or Renminbi, as the case may be, at any particular rate, the rates stated below, or at all. See "Item 3. Key Information - Selected Financial Data - Exchange Rate Information" for historical exchange rates between the Renminbi and the U.S. dollar.

Any discrepancies in any table between the amounts identified as total amounts and the sum of the amounts listed therein are due to rounding.

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## PART I

### ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

### ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

### ITEM 3. KEY INFORMATION

#### A. SELECTED FINANCIAL DATA

##### Historical Financial Information

The following tables present selected comprehensive income data and cash flow data for the years ended December 31, 2008, 2009, 2010 and 2011 and selected statement of financial position data as of December 31, 2008, 2009, 2010 and 2011 that were prepared under International Financial Reporting Standards, or IFRS, which includes all International Accounting Standards and Interpretations, as issued by the International Accounting Standards Board, or the IASB. The selected financial information has been derived from, and should be read in conjunction with, the audited consolidated financial statements and their notes included elsewhere in this annual report or our previous annual reports. Financial information presented in the following tables as of and for the year ended December 31,

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2007 has been prepared in accordance with Hong Kong Financial Reporting Standards, or HKFRS, and has not been restated. The selected financial data also includes certain items as of and for the year ended December 31, 2007 in accordance with U.S. Generally Accepted Accounting Principles, or U.S. GAAP.

Our consolidated financial statements as of December 31, 2010 and 2011 and for the years ended December 31, 2009, 2010 and 2011 included in this annual report on Form 20-F have been prepared in accordance with IFRS. We make an explicit and unreserved statement of compliance with IFRS with respect to our consolidated financial statements as of December 31, 2010 and 2011 and for the years ended December 31, 2009, 2010 and 2011 included in this annual report. PricewaterhouseCoopers, our independent registered public accounting firm, has issued an unqualified auditor's report on these consolidated financial statements.

On October 29, 2009, we acquired the entire equity interest of Zhongzhou Aluminum, Hongrui Chemical, Xincheng and a limestone mining business from two subsidiaries of Chinalco. As our Company and all the foregoing companies and businesses were under the common control of Chinalco immediately before and after the acquisitions, these transactions were accounted for as business combinations under common control using the merger accounting method as if the acquisition had been consummated since the inception of common control.

Year Ended December 31,

	2008	2009	2010	2011	2011
	RMB	RMB	RMB	RMB	US\$

(in thousands, except per share and per ADS data)

STATEMENT OF  
COMPREHENSIVE  
INCOME DATA

Revenue	76,728,147	70,268,005	120,994,847	145,874,433	23,177,113
Cost of sales	(70,960,668)	(69,079,446)	(113,349,941)	(138,111,367)	(21,943,686)
Gross profit	5,767,479	1,188,559	7,644,906	7,763,066	1,233,427
Selling and distribution expenses	(1,562,841)	(1,264,920)	(1,573,301)	(1,622,788)	(257,835)
General and administrative expenses	(2,507,011)	(2,956,506)	(2,623,740)	(2,779,429)	(441,607)
Research and development expenses	(177,507)	(177,756)	(164,235)	(218,026)	(34,641)
Impairment loss on property, plant and equipment	(1,334)	(623,791)	(701,781)	(279,750)	(44,448)
Other income	100,781	151,142	328,853	185,501	29,473
Other gains, net	212,840	403,836	491,024	538,033	85,485



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Operating profit/(loss)	1,832,407	(3,279,436)	3,401,726	3,586,607	569,854
Finance costs, net	(1,709,667)	(2,137,825)	(2,495,184)	(3,293,574)	(523,296)

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Operating profit/(loss)					
after finance costs	122,740	(5,417,261)	906,542	293,033	46,558
Share of profit/(loss) of					
jointly-controlled entities	1,672	(50,392)	233,784	122,262	19,425
Share of profit of associates	10,045	77,056	240,028	402,701	63,983
Profit/(loss) before income tax	134,457	(5,390,597)	1,380,354	817,996	129,966
Income tax benefit/(expense)	34,172	711,003	(411,216)	(127,492)	(20,256)
Profit/(loss) for the year	168,629	(4,679,594)	969,138	690,504	109,710
Attributable to:					
Equity holders of the Company	19,485	(4,642,894)	778,008	237,974	37,810
Non-controlling interests	149,144	(36,700)	191,130	452,530	71,900
	168,629	(4,679,594)	969,138	690,504	109,710
Earnings/(losses) per share for					
profit/(loss) attributable to					
the equity holders of the					
Company:					
Basic and diluted net					
earnings/(losses) per share	0.0014	(0.34)	0.06	0.02	0.0028
Basic and diluted net					
earnings/(losses) per ADS	0.035	(8.58)	1.44	0.44	0.07

Dividends					
Interim dividends per share	0.05	-	-	-	-
Interim dividends per ADS	1.30	-	-	-	-
Special dividends per share	-	-	-	-	-
Special dividends per ADS	-	-	-	-	-
Final dividends per share	-	-	-	0.0114	0.0018
Final dividends per ADS	-	-	-	0.2850	0.0453
Proposed dividends per share	-	-	0.0114	-	-
Proposed dividends per ADS	-	-	0.2850	-	-

As of December 31,

	2008	2009	2010	2011	2011
	RMB	RMB	RMB	RMB	US\$
	(in thousands)				

STATEMENT OF FINANCIAL  
POSITION DATA

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Total non-current assets	93,055,157	97,641,312	99,997,492	107,164,449	17,026,716
Total assets	135,612,152	133,975,189	141,322,039	157,134,157	24,966,103
Total current liabilities	38,622,098	40,029,861	55,733,547	62,360,398	9,908,069
Total non-current liabilities	36,808,624	38,364,171	28,401,637	36,619,073	5,818,185
Total liabilities	75,430,722	78,394,032	84,135,184	98,979,471	15,726,254
Net assets	60,181,430	55,581,157	57,186,855	58,154,686	9,239,849

Long-term borrowings (non-current portion)	36,042,552	37,804,482	27,723,867	35,968,526	5,714,823
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Year Ended December 31,

2008	2009	2010	2011	2011
RMB	RMB	RMB	RMB	US\$

(in thousands)

OTHER FINANCIAL  
DATA

Total current assets	42,556,995	36,333,877	41,324,547	49,969,708	7,939,387
Net cash generated from/(used in)					
operating activities	5,023,984	(705,954)	7,103,859	2,489,756	395,582
Net cash used in investing activities	(22,207,473)	(9,477,193)	(8,260,317)	(9,714,547)	(1,543,485)
Net cash generated from financing activities	24,370,350	1,576,713	2,717,553	8,842,453	1,404,924
Net increase/(decrease) in cash and cash equivalents	7,186,861	(8,606,434)	1,561,095	1,617,662	257,021

Year Ended  
December 31,

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2007

(1)

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RMB  
(in thousands, except  
per  
share and per ADS  
data)

HKFRS

STATEMENT OF COMPREHENSIVE INCOME DATA

Revenue	85,198,835
Cost of sales	(64,936,133)
	<hr/>
Gross profit	20,262,702
Selling and distribution expenses	(1,355,534)
General and administrative expenses	(3,029,114)
Research and development expenses	(229,803)
Impairment loss on property, plant and equipment	(13,249)
Other income	47,067
Other gains, net	111,846
	<hr/>
Operating profit	15,793,915
Finance costs, net	(1,040,171)
	<hr/>

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Operating profit after finance costs	14,753,744
Share of loss of jointly-controlled entities	(3,381)
Share of profit of associates	241,945
	<hr/>
Profit before income tax	14,992,308
Income tax expense	(2,869,210)
	<hr/>
Profit for the year	12,123,098
	<hr/>
Attributable to:	
Equity holders of the Company	10,753,042
Non-controlling interests	1,370,056
	<hr/>
	12,123,098

Earnings per share for profit

attributable to the equity holders of the Company

Basic and diluted net earnings per share	0.84
Basic and diluted net earnings per ADS	21.02

Dividends

Interim dividends per share	0.14
Interim dividends per ADS	3.43
Special dividends per share	0.01
Special dividends per ADS	0.33
Final dividends per share	0.12
Final dividends per ADS	2.88
Proposed dividends per share	0.05
Proposed dividends per ADS	1.33

As of December 31,

2007

RMB

(in thousands)

HKFRS

STATEMENT OF FINANCIAL POSITION DATA

Total current assets	30,331,947
Total non-current assets	75,594,525

Total assets	105,926,472
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Total current liabilities	23,646,302
Total non-current liabilities	17,812,612

Total liabilities	41,458,914
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Net assets (excluding non-controlling interests)	60,662,414
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Note:

- (1) Statement of comprehensive income data for the years ended December 31, 2007 have not been restated for the business combinations under common control which occurred during 2009, because such selected financial data cannot be provided on a restated basis without unreasonable effort.

Year Ended  
December 31,  

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2007  

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RMB  
(in thousands, except  
per  
share and per ADS  
data)

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U.S. GAAP

INCOME STATEMENT DATA

Operating income	14,203,729
Net income	9,899,628
Basic and diluted earnings per share	0.79
Basic and diluted earnings per ADS	19.78

As of December 31,

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2007  

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BALANCE SHEET DATA

RMB  
(in thousands)

Total current assets	26,243,677
Total non-current assets	78,534,806

Total assets	104,778,483
Total current liabilities	18,832,342
Total non-current liabilities	14,489,200
Total liabilities	33,321,542
Net assets (excluding non-controlling interests)	68,447,456
Number of shares('000)	13,524,488

#### Exchange Rate Information

The following table sets forth information concerning exchange rates between the Chinese Renminbi and the U.S. dollar for the periods indicated. These rates are provided solely for your convenience and are not necessarily the exchange rates that we used in this annual report or will use in the preparation of our periodic reports or any other information to be provided to you. The source of these rates is the Federal Reserve Bank of New York for the periods through December 2008 and the Federal Reserve H.10 Statistical Release for the periods beginning on or after January 1, 2009. On April 20, 2012, the exchange rate for Renminbi was US\$1.00 = RMB6.3080.

Period	Period End	Average	Low	High
		(1)		
		(RMB per US\$1.00)		
2007	7.2946	7.5806	7.8127	7.2946
2008	6.8225	6.9192	7.2946	6.7800
2009	6.8259	6.8307	6.8470	6.8176
2010	6.6000	6.7603	6.8330	6.6000
2011	6.2939	6.4475	6.6364	6.2939
October	6.3547	6.3710	6.3825	6.3534
November	6.3765	6.3564	6.3839	6.3400
December	6.2939	6.3482	6.3733	6.2939
2012				
January	6.3080	6.3119	6.3330	6.2940
February	6.2935	6.2997	6.3120	6.2935
March	6.2975	6.3125	6.3315	6.2975

April (through April 20, 2012)	6.3080	6.3052	6.3150	6.2975
	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

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(1) Annual average are calculated by averaging the rates on the last business day of each month during the annual period. Monthly averages are calculated by averaging the rates on each business day during the month.

#### B. CAPITALIZATION AND INDEBTEDNESS

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Not applicable.

#### C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

#### D. RISK FACTORS

Our business and our financial condition and results of operations are subject to various changing business, competitive, economic, political and social conditions in China and worldwide. In addition to the factors discussed elsewhere in this annual report, the following are some of the important factors that could cause our actual results to differ materially from those projected in any forward-looking statements.

Demand for our products is sensitive to cyclical fluctuations and general economic conditions, and a reduction in demand could materially and adversely affect our business, financial condition and results of operations.

Demand for our products is sensitive to cyclical fluctuations and is significantly affected by general economic conditions. From the fourth quarter of 2008 through the second quarter of 2009, demand for our products decreased significantly due to the global financial crisis, which resulted in a significant downturn in a number of our end-user markets. The performance of each of our business segments was in turn materially and adversely affected during that period. The global economy has been recovering since the second half of 2009 and continued to gain its momentum in 2010. As a result, our production and sales volumes increased significantly in 2010 and continued to increase in the first half of 2011. However, since the third quarter of 2011, the global demand for our products has been adversely affected by the looming European debt crisis. If the recent European debt crisis continues or the global economic recovery fails to continue due to other reasons or a global recession recurs, demand for our products may continue to decline. Uncertainty about future economic conditions makes it challenging for us to forecast our results of operations, make business decisions and identify risks that may affect our business. If we are not able to timely and appropriately adapt to changes resulting from the difficult macroeconomic environment, our business, financial condition and results of operations may be materially and adversely affected.



Volatility in alumina, primary aluminum and other non-ferrous metal prices may adversely affect our business, financial condition and results of operations.

The prices of our key products have been historically volatile and fluctuate in response to general economic conditions, supply and demand and the level of global inventories. We price our alumina and primary aluminum products by reference to international and domestic market prices, and domestic supply and demand, each of which may fluctuate beyond our control. From the fourth quarter of 2008 through early 2009, the demand for alumina and primary aluminum decreased significantly as a result of the global financial crisis. In the second half of 2009, the global economy started to recover and the demand for alumina and primary aluminum gradually increased. In 2010, the international spot prices of alumina and primary aluminum on the LME reached a high of US\$390 per tonne and US\$2,447 per tonne, respectively. In the first half of 2011, the international spot prices of alumina and primary aluminum on the LME continued to increase and reached a high of US\$440 per tonne and US\$2,802 per tonne, respectively. However, since the third quarter of 2011, demand for alumina and primary aluminum has been negatively affected by looming European debt crisis. As a result, the international spot prices of alumina and primary aluminum on the LME decreased significantly to US\$310 per tonne and US\$1,955 per tonne, respectively. Our average selling price of alumina and primary aluminum increased by 5.0% and 6.9%, respectively, from 2010 to 2011. Because most of our costs are fixed, we may not be able to respond promptly to a sudden decrease in alumina or primary aluminum prices. See "- Failure to maintain optimal utilization of our production facilities will adversely affect our gross and operating margins."

As a result of the implementation of our operational structural adjustment exercise, we established our trading business as a new operating segment in 2010. The trading segment engages in the trading of alumina, aluminum ingots and other non-ferrous metal products. These products are mainly sourced under spot contracts and long-term contracts signed with our international and domestic alumina suppliers, and mainly sold to aluminum smelters and other traders in the PRC. Sales of products manufactured by our manufacturing business through Chalco Trading are also included in the trading segment (see further discussion in Note 5b to our audited financial statements). The profits of our trading business may be negatively affected by fluctuations in the price of the non-ferrous metal products we trade.

As the profit margin of trading is based on price fluctuation in a short term, we need to make the correct prediction of the price fluctuation of the non-ferrous metal products on the markets to ensure the profit margin. If the price fluctuation on the market does not match our prediction, we may incur substantial losses. As a result, any significant fluctuation in international market prices could materially and adversely affect our business, financial condition and results of operations.

Our business requires substantial capital investments that we may be unable to fulfill.

Our plans to upgrade and expand our production capacity will require capital expenditures. See "Item 4. Information on the Company - D. Property, Plants and Equipment - Our Expansion." We may also need additional funding for debt servicing, working capital, other investments, potential acquisitions and joint ventures and other corporate requirements. As a result, we expect to incur total capital expenditures of approximately RMB19.2 billion (US\$3.1 billion) in 2012. We may seek external financing to satisfy our capital needs if cash generated from our operations is insufficient to fund our capital expenditures or if our actual capital expenditures and investments exceed our plans. Our ability to obtain external financing at reasonable costs and on acceptable terms is subject to a variety of

uncertainties. Failure to obtain sufficient funding for our development plans could adversely affect our business and prospects.

Our failure to successfully manage our business expansion would have a material adverse effect on our results of operations and prospects.

We may not be able to adequately manage our business growth, which we have achieved through organic growth, acquisitions and joint ventures. Our expansion has created, and will continue to place, substantial demand on our resources. Managing our growth and integrating the acquired businesses will require, among other things:

- \* complying with the laws, regulations and policies applicable to the acquired businesses;
- \* gaining market acceptance for new products and services and establishing relationships with new customers and suppliers;
- \* achieving sufficient utilization of new production facilities to recover costs;
- \* obtaining timely approval for the construction or expansion of alumina refineries, primary aluminum smelters and mining projects as required under PRC law;
- \* managing relationships with employees, customers and business partners during the course of our business expansion and integration of new businesses;
- \* attracting, training and motivating members of our management and workforce;
- \* accessing debt, equity or other capital resources to fund our business expansion, which may divert financial resources otherwise available for other purposes;
- \* diverting significant management attention and resources from our other businesses; and
- \* strengthening our operational, financial and management controls, particularly those of our newly acquired subsidiaries, to maintain the reliability of our reporting processes.

Any difficulty meeting the foregoing or similar requirements could significantly delay or otherwise constrain our ability to implement our expansion plans, which in turn would limit our ability to increase operational efficiency, reduce marginal manufacturing costs or otherwise strengthen our market position. If we are not able to manage our growth successfully, our business and prospects could be materially and adversely affected.

Risks associated with entering into new areas of business.

Since 2010, we have participated in joint ventures and made strategic investment in coal mining and iron ore production. We may not achieve our business objectives due to the lack of experience in these new areas. For example, coal mining and the production of iron ore involve processes and technologies that are significantly different from the production of alumina, primary aluminum and aluminum fabrication products. We will also need to establish relationships with customers of iron ore and coal products, which will be different from our existing customers. As such, we face various risks relating to the commencement of these new business operations, including our potential failure to:

- \* attract, train, motivate and retain skilled employees for our coal mining and the production of iron ore business;
- \* keep abreast of evolving industry standards and respond to competitive market conditions;
- \* maintain adequate control of our expenses in relation to such new businesses; and

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- \* achieve acceptable quality standard for our coal and iron ore products.

If we are unsuccessful in addressing any of these risks, our business, financial condition and results of operations may be materially and adversely affected.

Our joint ventures and strategic investment may not be successful.

We may from time to time enter into joint venture arrangements to grow our business and operations. For example, in 2011, we established Qinghai Energy jointly with Qinghai Province Investment Group Co., Ltd. and six other investors, and Sapa Chalco Aluminum Products (Chongqing) Co., Ltd. jointly with Sapa AB. In addition, we also entered into an investment agreement with Tangshan Jiahua Industrial Co., Ltd. to acquire 70% of the equity interest in Gansu Huayang in 2011.

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

- \* have economic or business interests or goals that are inconsistent with or opposed to ours;

- \* exercise veto rights so as to block actions that we believe to be in our or the joint venture's best interests;
- \* take action contrary to our 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.

Failure to maintain optimal utilization of our production facilities will adversely affect our gross and operating margins.

During 2011, we expanded the production capacity by upgrading or remoulding some of our alumina, primary aluminum and aluminum fabrication production facilities. However, our primary aluminum production may be adversely affected by the administrative policies and orders implemented by the local governments to fulfill China's Energy-Saving and Emission Reduction Goals. We also increased our external purchases of alumina and primary aluminum for trading purposes to capitalize on fluctuating market prices in 2011 and to enhance resource planning to achieve cost savings in our production. The increase in our external purchases has reduced our utilization of certain production facilities, but has not resulted in a proportionate decrease in fixed costs such as leases and depreciation of plant, property and equipment. Given our high proportion of fixed costs, failure to maintain historical utilization rates may adversely affect our gross and operating margins.

Furthermore, we expect our production capacity expansion in recent years to increase our costs of sales, in particular, depreciation and amortization costs. If we are able to maintain satisfactory facility utilization rates and increase our production output, our production capacity expansion will enable us to reduce our unit costs through economies of scale, as fixed costs will be spread over a higher volume of output units. Conversely, underutilization of our existing and newly acquired or constructed production facilities may increase our marginal production costs and prevent us from realizing the intended economic benefits of our expansion.

Our operations consume substantial amounts of energy, and our profitability may decline if energy costs rise or if our energy supplies are interrupted.

Our operations consume substantial amounts of energy. Although we generally expect to meet the energy requirements for our alumina refineries and primary aluminum smelters from a combination of internal and external sources, our results of operations may be materially and adversely affected by the following:

- \* significant increases in electricity costs; or
- \* curtailment of the operation of one or more refineries or smelters due to our inability to extend energy supply contracts upon their expiration.

Cost of electricity is the principal production cost in our primary aluminum operations. Our average cost per kilowatt-hour, or kWh, of electricity increased by 7.3% from 2010 to 2011 primarily due to the increase in the price of coal and the electricity price adjustment under state policy. We expect the PRC economy will continue to grow and

as a result, we expect demand for and prices of electricity to increase accordingly. If we are unable to pass on increases in energy costs to our customers, our operating margin, financial condition and results of operations could be materially adversely affected.

Our business and industry may be affected by the development of alternative energy sources and climate change.

Our 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 change in response to the potential impacts of climate change. These regulatory mechanisms may impact our operations directly or indirectly through customers or our supply chain. We may have to increase our capital expenditures in order to comply with such revised or new legislation or regulations, and may realize changes to profit or loss arising from increased or decreased demand for our products and indirectly, from changes in costs of goods sold, which may adversely affect our results of operation and financial condition.

In addition, we have invested in coal mining operations. We are 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 12th 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, in the next five years. 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, which could have a material adverse effect on the coal mining industry and, consequently, our business, results of operations and financial condition.

Losses caused by disruptions in the supply of power could materially and adversely affect our business, financial condition, results of operations and cash flows.

The production of primary aluminum requires a substantial and continuous supply of electricity. Interruptions in the supply of power 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, we may need to expend significant capital and resources to repair or replace the affected production equipment to restore our production capacity. Various regions across China have experienced shortages and disruptions in electrical power, especially during peak demand in the summer or during severe weather conditions. For example, our operations in Guizhou Province were disrupted due to power blackouts resulting from severe winter conditions in early 2008, and these disruptions damaged some production equipment and temporarily reduced our production capacity. We cannot assure you that our operations will not suffer from shortages or disruptions in electrical power, and occurrence of which could have a material and adverse impact on our business, financial condition and results of operations.

Our operations consume substantial amounts of coal, and our operations may be adversely affected if we are not able to procure sufficient coal or if coal prices rise significantly.

We rely heavily on coal as our energy and fuel source in our production of alumina. As we increase our refining capacity, our consumption of coal will increase accordingly. If we are not able to obtain the amount of coal needed for our production due to a shortage of coal, constraints on coal transportation or any other reason, we may be forced to reduce our production output or suspend our refining operations, which could materially adversely affect our financial condition and results of operations. Although we have acquired equity interest in a number of coal mines, we expect to continue to rely substantially on third party coal suppliers for the supply of coal. Our average purchase price of thermal coal per unit tonne increased by 8.8% from 2010 to 2011, and we expect the price of coal to continue to increase as the PRC economy continues its rapid growth. If we are unable to pass on increases in coal prices to our customers or offset price increases through productivity improvements, our operating margin, financial condition and results of operations could be adversely affected.

We may be unable to continue competing successfully in the markets in which we operate.

We face competition from both domestic and international primary aluminum producers. Our principal competitors are domestic smelters, some of which are consolidating and expanding their production capacities. These smelters compete with our primary aluminum operations on the basis of cost, quality and pricing. We also face increasing competition from international alumina and primary aluminum suppliers since the elimination of tariffs on imports of primary aluminum and alumina into China. We also face increasing competition from domestic aluminum fabrication products suppliers. Increasing competition in our markets may reduce our selling prices or sales volumes, which will have a material adverse effect on our financial condition and results of operations. If we are unable to price our products competitively, maintain or increase our current share of China's alumina and primary aluminum markets or otherwise maintain our competitiveness, our financial condition, results of operations and profitability could be materially and adversely affected.

Our overseas expansion exposes us to political and economic risks, commercial instability and events beyond our control in the countries in which we plan to operate.

We are currently undertaking a number of overseas projects, including the iron ore mining joint venture project in Guinea in West Africa and bauxite mining project in Laos, which require significant capital investment. See "Item 4. Information on the Company - A. History and Development of the Company- Overseas Development." As we are new to these overseas markets, we cannot assure you that our overseas expansion or investments will be successful or that we will not suffer foreign exchange losses in connection with our overseas investment. In 2007, we entered into a development agreement with the Queensland State Government of Australia ("Queensland State Government") to develop a bauxite and alumina project, the Aurukun Project. However, due to the change in market conditions of global aluminum industries, the Aurukun Project could no longer continue under the original framework. We engaged a series of negotiations with the Queensland State Government, but in June 2011, the Queensland State Government terminated the negotiation. As a result, we had a total impairment charge of RMB651 million of the carrying value of the capitalized development expenditures pertaining to the Aurukun Project in 2010 and 2011. In addition, our overseas business is subject to the risk of political and economic instability associated with these countries.

Our profitability and operations could be adversely affected if we are unable to obtain a steady supply of raw materials at competitive prices.

Historically, the price for bauxite, our most important raw material for alumina production, has been volatile. We obtain bauxite for our operations from three major sources, including mines that we own or jointly operate and external suppliers. See "Item 4. Information on the Company - B. Business Overview - Raw Materials - Alumina - Supply." The extent to which we procure bauxite from each of these sources affect the security of our supply or cost of bauxite. In addition, our results of operations are affected by increases in the cost of other raw materials and other key inputs such as energy. If we cannot obtain a steady supply of key raw materials at competitive prices, our financial condition and results of operations could be materially adversely affected.

Transportation interruptions may affect our shipment of raw material and delivery of products.

Our operations require the reliable transportation of raw materials and supplies to our refining, smelting and fabrication sites and the delivery of finished products to our customers. Our alumina products are mainly transported by rail or truck, and our primary aluminum products are delivered to our customers primarily by rail. In 2008, our deliveries were affected by a snow storm in the first quarter and severe earthquakes in Sichuan Province in May. If we are unable to make timely deliveries due to logistical and transportation disruptions, our production, reputation and results of operations may be adversely affected.

We may not successfully develop and implement new methods and processes.

A main objective of our research and development is to develop new methods and processes to improve the efficiency of our alumina refineries to production increase yield from bauxite with low alumina-to-silica ratio. If the supply of high quality bauxite with a high alumina-to-silica ratio in China declines, our failure to develop such methods and processes and incorporate them into our production could impede our efforts to reduce unit costs and diminish our competitiveness.

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

The bauxite reserve data on which we base our production, revenue and expenditure plans are estimates that we have developed internally and may prove inaccurate. There are numerous uncertainties inherent in estimating quantities of reserves, including many factors beyond our control. If these estimates are inaccurate or the indicated tonnages are not recovered, our business, financial condition, and results of operations may be materially and adversely affected.

Our significant indebtedness could adversely affect our business, financial condition and results of operations.

We require a significant amount of cash to meet our capital requirements, including the expansion and upgrade of our production capacity, as well as to fund our existing operations. As of December 31, 2011, we had approximately RMB46.7 billion (US\$7.4 billion) in outstanding short-term bonds and short-term bank borrowings (including the current portion of long-term bank and other borrowings) and RMB36.0 billion (US\$5.7 billion) in outstanding long and medium-term bonds and long-term bank and other borrowings (excluding the current portion of these borrowings). On February 9, 2012, we issued medium-term notes in the aggregate principal amount of RMB2 billion (US\$0.3 billion) with three-year maturity. In September 2011, we issued medium-term notes in the aggregate principal amount of RMB5 billion (US\$0.8 billion) with five-year maturity. In May 2011 and July 2011, we issued the first and second tranche of short-term bills in the aggregate principal amount of RMB10 billion (US\$1.6 billion)

with one-year maturity. See Note 20 to our audited consolidated financial statements for more detailed information about our notes. In October 2011, we issued the first tranche of dedicated private debt financing instruments in the principal amount of RMB2 billion (US\$0.3 billion) with three-year maturity. As a result, we had net current liabilities as of December 31, 2011. This level of debt could have significant consequences on our operations, including:

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- \* making it more difficult for us to fulfill payment and other obligations under our outstanding debt, including repayment of our debt and credit facilities should we be unable to obtain extensions for any such debt or credit facilities before they mature. As of December 31, 2011, we had outstanding long-term borrowings (including long-term loans, medium-term notes and long-term bonds) maturing in 2012, 2013, 2014, 2015, 2016 and after 2016 in the aggregate principal amount of RMB4.2 billion (US\$661.7 million), RMB11.3 billion (US\$1.8 billion), RMB15.2 billion (US\$2.4 billion), RMB4.4 billion (US\$705.0 million), RMB1.9 billion (US\$294.2 million) and RMB3.3 billion (US\$530.0 million), respectively;
- \* reducing the availability of cash flow to fund working capital, capital expenditures, acquisitions and other general corporate purposes;
- \* exposing us to interest rates fluctuations on our borrowings and the risk of being unable to rollover, extend or refinance our borrowings as necessary;
- \* potentially increasing the cost of additional financing and making it more difficult for us to conduct equity financings in the capital markets or obtain government approvals to seek additional financing; and
- \* putting pressure on our ADS price due to concerns of our ability to repay our debt.

Our ability to meet our payment and other obligations under our outstanding debt depends on our ability to generate cash flow in the future or to refinance such debt. We cannot assure you that our business will generate sufficient cash flow from operations to satisfy our obligations under our outstanding debt and to fund other liquidity needs. If we are not able to generate sufficient cash flow to meet such obligations, we may need to refinance or restructure our debt, reduce or delay capital investments, or seek additional equity or debt financing. The sale of additional equity securities could result in dilution to our ADS holders. A shortage of financing could in turn impose limitations on our ability to plan for, or react effectively to, changing market conditions or to expand through organic and acquisitive growth, thereby reducing our competitiveness. We cannot assure you that future financing will be available in amounts or on terms acceptable to us, if at all.

We may not realize the economic benefits of our expansion plans.



Since 2010, we have acquired equity interest in a number of coal mines and an iron ore mine to diversify our product offering and partially offset our future energy costs, as well as provide a portion of the coal we consume in our operations. We may continue to acquire equity interest or establish joint ventures in the coal mining or iron ore production business in the future. However, cost savings and other economic benefits expected from our expansion plans may not materialize as a result of project delays, cost overruns, or changes in market conditions. Failure to obtain the intended economic benefits from these projects could adversely affect our business, financial condition and results of operations. We may also experience mixed results from our expansion plans in the short term.

The interests of our controlling shareholder who exerts significant influence over us may conflict with ours.

Our largest shareholder, Chinalco, directly owned 38.56% of our issued share capital and indirectly owned an additional 3.26% of our issued share capital through its controlled entities. The interests of Chinalco may conflict or even compete with our interests and those of our public shareholders. Chinalco may take actions that are in the interest of its subsidiaries, associates and other related entities to our detriment. For example, Chinalco may seek to influence our decision as to the amount of dividends we declare and distribute. Any increase in our dividend payout would reduce funds otherwise available for reinvestment in our businesses and thus may adversely affect our future prospects and financial condition.

In addition, Chinalco and a number of its subsidiaries and associates provide a range of services to us, 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, such as educational and medical care services, that we receive from Chinalco. Our cost of operations may increase if Chinalco, its subsidiaries and associates are unable to continue providing such services to us.

We are subject to, and incur costs to comply with, environmental laws and regulations.

As we produce air emissions, discharge waste water, and handle hazardous substances at our bauxite mines, alumina refineries, aluminum smelters and aluminum fabrication plants, we are subject to, and incur costs to comply with, environmental laws and regulations. Each of our production plants has implemented a system to control emissions and ensure compliance with PRC environmental regulations. We may incur significant additional costs if relevant laws and regulations change or enforcement of existing laws and regulations becomes more rigorous. Further, although all of our overseas expansion projects are at the early stage and have not started operation, these projects are subject to foreign environmental laws and regulations that may materially adversely affect our future operations. 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 our business operations.

We are subject to administrative policies and orders relating to China's Energy-Saving and Emission Reduction Goals that could adversely affect our production.

We are 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. In the second

half of 2011, some of our primary aluminum production facilities were subject to power rationing carried out by some provincial governments to fulfill their energy-saving and emission reduction goals, which reduced our primary aluminum production by approximately 21,400 tonnes. Although power rationing only slightly reduced our primary aluminum production and the PRC central government has denounced it as an improper means to fulfill the Energy-Saving and Emission Reduction Goals, some or all of our primary aluminum production facilities may be subject to power rationing or other similar policies and orders from time to time in the future, which may adversely affect our production.

Our business is subject to unplanned business interruptions that may adversely affect our performance.

We may experience accidents in the course of our operations, which may cause significant property damage and personal injuries. Significant accidents and natural disasters may cause interruptions to our operations or result in property or environmental damage, an 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 we carry. In accordance with customary practice in China, we do not carry any business interruption insurance or third-party liability insurance for personal injury or environmental damage arising from accidents on our property or relating to our operations other than for our automobiles. Losses or payments incurred by us as a result of major accidents or natural disasters may have a material adverse effect on our results of operations if such losses or payments are not fully insured.

We are operating a number of mines without a valid permit.

Our permits to mine bauxite in some of our bauxite mines have expired and lapsed. While we are seeking to renew those expired licenses, we may be subject to administrative fines for operating mines without valid licenses, or we may be ordered to cease our mining operations at such mines until we obtain the renewed licenses. The failure to renew those expired mining licenses may adversely affect our financial condition and results of operations.

In addition, our investments in the coal mines are subject to PRC government approval. Our coal mining operations require valid licenses and permits issued by the PRC government. Delays or failure in securing necessary PRC government approvals, licenses or permits, as well as any adverse change in government policies may hinder our expansion plans, which may materially and adversely affect our profitability and growth prospects.

Our operations may be affected by uncertain mining conditions and we may suffer losses for mining safety incidents.

We currently operate 17 bauxite mines in China. We also established a joint venture to operate a bauxite mine in Laos. In addition, we have invested in a number of coal mines in China. Our mining operations are subject to certain risks inherent in underground mining, which may affect the safety of our workforce or cost of producing coal and bauxite, including, without limitation, roof collapses, minewater discharge, ground falls and other mining hazards. Additionally, we are exposed to operational risks associated with industrial or engineering activities, such as maintenance problems or equipment failures. Although we conduct geological assessments on mining conditions and adapt our mining plans to the mining conditions at each mine, we cannot assure you that adverse mining conditions will not endanger our workforce, increase our production costs, reduce our bauxite or coal output or temporarily suspend our operations. The occurrence of any of the foregoing events or conditions could have a material adverse impact on our business and results of operations.

Our mines and operating facilities may be damaged by water, gas, fire or cave-ins due to unstable geological structures. Although we have implemented safety measures at our mining sites, trained our employees on occupational safety and maintain liability insurance for personal injuries as well as limited property damage for certain of our operations, we cannot assure you that safety incidents will not occur. Any significant accident, business disruption or safety incident could result in substantial uninsured costs and the diversion of our resources, which could materially and adversely affect our business operations and financial condition.

We may be subject to product liability claims.

Some of the products we sell or manufacture may expose us to product liability claims relating to property damage or personal injury. The successful assertion of product liability claims against us could result in significant damage payments and harm to our reputation. A successful product liability claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations.

Our H Shares may not remain as a constituent stock of the Hang Seng Index.

Our H Shares are a constituent stock of the Hang Seng Index and, as a result, may attract the interest of tracker funds that maintain investment portfolios that track the performance of the Hang Seng Index. We have no control over the selection of the Hang Seng Index constituent stocks and our H Shares may not remain as a constituent stock. If our H Shares are removed from the Hang Seng Index, tracker funds may cease investing in our H Shares and our share price may decline.

The interests of the shareholders of Jiaozuo Wanfang may conflict with our interests.

The interests of non-controlling shareholders of Jiaozuo Wanfang, whose A Shares are listed on the Shenzhen Stock Exchange, may be inconsistent with our interests in certain circumstances. Jiaozuo Wanfang must comply with a number of PRC regulations designed to protect the interests of non-controlling shareholders. According to the relevant PRC laws, when shareholders of Jiaozuo Wanfang vote by poll on connected transactions, connected parties such as us must abstain from voting. If we are unable to obtain approval for connected transactions from the non-controlling shareholders of Jiaozuo Wanfang, such transactions cannot be implemented, which may affect our overall operational efficiency. Furthermore, we may be subject to legal proceedings initiated by the non-controlling shareholders of Jiaozuo Wanfang challenging our actions as its controlling shareholder. Such legal proceedings could result in significant damage awards payable by us and disruption to our businesses, which in turn could have an adverse effect on our business and financial condition.

Our operations are affected by a number of risks relating to conducting business in the PRC.

As a significant majority of our assets and operations are located in the PRC, we are subject to a number of risks relating to conducting business in the PRC, including the following:

- \* The central and local PRC government continues to exercise a substantial degree of control and influence over the aluminum industry in China and shape the structure and development of the industry through the imposition of industry policies governing major project approvals, preferential tax

treatment and safety, environmental and quality regulations. If the PRC government changes its current policies or the interpretation of those policies that are currently beneficial to us, we may face pressure on profit margins and significant constraints on our ability to expand our business operations.

- \* Although China has been transitioning from a planned economy to a market-oriented economy, a substantial portion of productive assets in China are still owned by the PRC government. It also exercises significant control over China's economic growth through the allocation of resources, control of payments of obligations denominated in foreign currencies and monetary and tax policies. Some of these measures benefit the overall economy of China, but may have a materially adverse impact on us.
  
- \* In 2005, China adopted a managed floating exchange rate system to allow the value of the Renminbi to fluctuate within a regulated band based on supply and demand with reference to a basket of currencies. Since then the exchange rate between U.S. dollar and Renminbi has fluctuated and become more unpredictable following the international financial crisis with increasing pressure on the Renminbi to appreciate. In April 2012, the PRC government took a milestone step in turning the Renminbi into a global currency by doubling the size of its trading band against the U.S. dollar, pushing through a crucial reform that further liberalizes its financial markets. The People's Bank of China allows the Renminbi to rise or fall 1% from a mid-point every day, effective on April 16, 2012, compared with its previous 0.5% limit. Any appreciation of the Renminbi will increase the prices of our export sales denominated in foreign currencies and reduce the Renminbi equivalent value of our trade and notes receivable denominated in foreign currencies, which may adversely affect our financial condition and results of operations. Our financial condition and operating performance may also be affected by changes in the value of currencies other than Renminbi in which our earnings and obligations are denominated.

- \* Although the promulgation of laws and regulations covering general economic matters has increased since 1979, China has not developed an adequately comprehensive legal system and recently enacted laws and regulations may not sufficiently cover all aspects of economic activities in China. In particular, because these laws and regulations are relatively new, and because of the limited volume of published decisions and their lack of binding precedential nature, the interpretation and enforcement of these laws and regulations involve uncertainties. The system of laws and the enforcement of existing laws in the PRC may not be as certain in implementation and interpretation as in the United States. The PRC judiciary is relatively inexperienced in enforcing corporate and commercial

law, leading to a higher than usual degree of uncertainty as to the outcome of any litigation. The inability to enforce or obtain a remedy under any of our present or future agreements could result in a significant loss of business, business opportunities or capital.

The audit report included in this annual report is prepared by an auditor who is not inspected by the Public Company Accounting Oversight Board and, as such, you 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 our independent registered public accounting firm, 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. Because we have substantial operations within the PRC and the PCAOB is currently unable to conduct inspections of the work of our auditor as it relates to those operations without the approval of the Chinese authorities, our auditor's work related to our 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 our auditor. As a result, investors may be deprived of the full benefits of PCAOB inspections.

The inability of the PCAOB to conduct inspections of audit work performed in China makes it more difficult to evaluate the effectiveness of our auditor's audit procedures as compared to auditors in other jurisdictions that are subject to PCAOB inspections on all of their work. Investors may lose confidence in our reported financial information and procedures and the quality of our financial statements.

#### ITEM 4. INFORMATION ON THE COMPANY

##### A. HISTORY AND DEVELOPMENT OF THE COMPANY

We were incorporated as a joint stock limited company under the Company Law of the PRC on September 10, 2001 under the corporate name Aluminum Corporation of China Limited. Our principal executive and registered office is located in the People's Republic of China at No. 62 North Xizhimen Street, Haidian District, Beijing, China 100082, and our telephone number is (86) 10 8229 8103.

Pursuant to a reorganization agreement entered into among 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 us upon our formation. We acquired our bauxite mining operations and associated mining rights from Chinalco in a separate mining rights agreement.

We are a vertically integrated aluminum producer with operations in bauxite mining, alumina refining, primary aluminum smelting and aluminum fabrication. We also produce ancillary products and services derived from or related to our aluminum operations. In addition, we are engaged in trading of alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products and raw and ancillary materials in bulk domestically and internationally. Since 2010, we have expanded our operations into iron ore production and substantially increased our investment in coal mining operations.

We have substantially increased the size and scope of our operations through organic growth as well as selective acquisitions and joint ventures. Our key operating assets include four subsidiaries mainly engaged in bauxite mining; three integrated alumina and primary aluminum production plants; one integrated alumina, primary aluminum and aluminum fabrication plant; six stand-alone alumina refineries, including our jointly-controlled entity, Guangxi Huayin, and our Research Institute; thirteen stand-alone primary aluminum smelters, including our Research Institute; eight stand-alone aluminum fabrication plants; and one carbon production plant. In addition, as of December 31, 2011, we were constructing one alumina refinery. All of our principal production facilities are operated in accordance with ISO14001 standards.

### Acquisitions and Joint Ventures

In January 2011, we established Shanxi Jiexiu with Luxin Company, Shanxi Aluminum Plant, a subsidiary of Chinalco, and three natural person shareholders to integrate coal resources in Shanxi Province by investing in and reorganizing five coal mining companies in the Jiexiu area, Shanxi Province. We and Shanxi Aluminum Plant held approximately 34% and 16%, respectively, of the equity interest of Shanxi Jiexiu upon its establishment. The remaining equity interest was held by Luxin Company and the other investors, who are independent of and not related to us. In April 2012, the shareholders of Shanxi Jiexiu adjusted their shareholding percentages and capital contributions. After the adjustment, the equity interest held by Shanxi Aluminum Plant was reduced from 16% to 15%, while our equity interest in Shanxi Jiexiu remains 34%. The amount of our capital contribution was increased from the original RMB537 million to RMB692 million (US\$110 million). As of the date of this annual report, we contributed RMB610 million (US\$96.9 million) in cash. As of the date of this annual report, Shanxi Jiexiu has not commenced commercial operation.

In June 2011, we established Guizhou Chalco Aluminum Co., Ltd. with Guiyang Industrial Investment (Group) Co., Ltd. and Shanghai Enyuan Industry Co., Ltd. The registered capital of Guizhou Chalco Aluminum Co., Ltd. is RMB320 million (US\$50.8 million). We currently hold 40% of the equity interest in Guizhou Chalco Aluminum Co., Ltd. Pursuant to the investment agreement we entered into with Guizhou Industrial Investment (Group) Co., Ltd. and Shanghai Enyuan Industry Co., Ltd. in December 2010, we have agreed to inject RMB83 million in cash and RMB45 million in equipment as capital contribution to Guizhou Chalco Aluminum Co., Ltd. We injected RMB35 million (US\$5.6 million) in cash and RMB45 million (US\$7.1 million) in property, plant and equipment in June 2011 and expect to make the remaining capital contribution in June 2012. Guizhou Chalco Aluminum Co., Ltd. is principally engaged in aluminum fabrication.

We established Qinghai Energy with Qinghai Province Investment Group Co., Ltd., a PRC limited liability company, and six other investors on March 24, 2011. The registered capital of Qinghai Energy is RMB3,555 million (US\$565 million). We contributed RMB755 million (US\$120 million) in cash to Qinghai Energy and hold 21% of its equity interest. Qinghai Energy is principally engaged in coal mining operations in Qinghai Province.

On March 8, 2011, we entered into an investment agreement with Tangshan Jiahua Industrial Co., Ltd. to acquire 70% of the equity interest in Gansu Huayang, a wholly-owned subsidiary of Tangshan Jiahua Industrial Co., Ltd. Pursuant to this agreement, we have agreed to contribute RMB965 million (US\$153.3 million) into Gansu Huayang. As of the date of this annual report, we have contributed RMB50 million in cash and we intend to contribute the remaining RMB915 million in two installments according to the capital expenditure requirement within five years. Gansu Huayang is engaged in coal mining operations in Gansu Province and owns Luochuan mine in Gansu

Province. As of the date of this annual report, we hold 70% of the equity interest in Gansu Huayang which is in the preparation for development of Luochuan mine.

In April 2011, we and Sapa AB, a Swedish limited liability company, jointly established Sapa Chalco Aluminum Products (Chongqing) Co., Ltd. ("Chalco Sapa") in China. Chalco Sapa is a PRC limited liability company engaging in production of special aluminum. The registered capital of Chalco Sapa is RMB280 million (US\$44.5 million). We and Sapa AB each hold 50% of the equity interest in Chalco Sapa. Pursuant to the joint venture agreement between Sapa AB and us dated April 8, 2011, we injected RMB140 million (US\$22.2 million) in cash as our capital contribution to Chalco Sapa in July 2011.

On 23 April 2012, we entered into a share sale and purchase agreement with Winsway Resources Holdings Limited ("Winsway Resources") and Mr. Wang Xingchun, the chairman and chief executive officer of Winsway Coking Coal Holdings Limited ("Winsway") and the ultimate controlling shareholder of Winsway, beneficially owning approximately 48.64% of the total issued share capital of Winsway. Pursuant to the agreement, we have conditionally agreed to purchase and Winsway Resources has conditionally agreed to sell 1,128,186,410 ordinary shares of Winsway legally and beneficially held by Winsway Resources, representing 29.9% of the issued share capital of Winsway, at a total cash consideration of HK\$2,391,755,189.20, representing HK\$2.12 per share to be acquired. In addition, pursuant to the agreement, Mr. Wang Xingchun has agreed unconditionally and irrevocably to guarantee all obligations of Winsway Resources under the share sale and purchase agreement. Assuming that there is no change to the issued share capital of Winsway between now and completion of the acquisition, after completion, we will hold 29.9% of the issued share capital of Winsway and will become the single largest shareholder of Winsway. Winsway is one of the leading suppliers of imported coking coal and one of the largest offtakers of Mongolian coking coal into China. Its principal business includes procurement, transportation, storage, processing and marketing of coking coal. Winsway is listed on the Main Board of Hong Kong Stock Exchange. The acquisition is subject to a number of conditions, including our shareholders' approval at a general meeting to be held.

### Construction Projects

As of the date of this annual report, we have undertaken a number of facility expansion projects in China. See "- D. Property, Plants and Equipment - Our Expansion."

### Overseas Development

On July 29, 2010, we entered into a joint development agreement with Rio Tinto and Rio Tinto Iron Ore Atlantic Limited, an affiliate of Rio Tinto, for the development and operation of the Simandou Project, a premium open-pit iron ore mine located in Guinea, West Africa. This agreement provides that we (via our subsidiary) would acquire for an earn-in payment of US\$1.35 billion (equivalent to approximately RMB9.17 billion) 47% of the equity interest in a joint-venture company to be incorporated by Rio Tinto, to which Rio Tinto would transfer its entire 95% of the equity interest in the Simandou Project. On April 22, 2011, Rio Tinto and the Government of Guinea entered into a settlement agreement, pursuant to which the Government of Guinea has the right to acquire up to 35% of the equity interest in the Simandou Project, including 15% of the equity interest at no cost. Rio Tinto and the Government of Guinea also agreed on the tax and royalties arrangement and rail line construction plan for the Simandou Project in the settlement agreement. Following the settlement agreement, we entered into a side letter with Rio Tinto on October 25, 2011 to amend the terms of the joint development agreement to, amongst other things, give effect to the terms of

the settlement agreement between Rio Tinto and the Government of Guinea. On November 28, 2011, we, through Chalco Hong Kong, established Chalco Iron Ore Holdings Limited ("Chalco Iron Ore"), under the laws of Hong Kong with the China-Africa Development Fund and three leading PRC enterprises in the steel, port building and railway construction industries to serve as an investment vehicle for investing in the Simandou Project. We, through Chalco Hong Kong, hold 65% and the other investors collectively hold 35% of the equity interest in Chalco Iron Ore. The NDRC and the Ministry of Commerce in the PRC approved the investment by investors of Chalco Iron Ore in the Simandou Project on March 13 and March 23, 2012, respectively. On April 17, 2012, the relevant administration of foreign exchange in the PRC approved our grant of a financing guarantee to Chalco Hong Kong for its overseas investment in the Simandou Project. Following the approvals of the relevant PRC authorities, Chalco Hong Kong contributed US\$880 million (equivalent to approximately RMB5,544 million) to Chalco Iron Ore, representing 65% of the US\$1.35 billion earn-in to be paid by Chalco Iron Ore to Simfer Jersey Limited pursuant to the joint development agreement, as amended. Simfer Jersey Limited is a company established under the laws of Jersey, in which Rio Tinto through its affiliate held 100% of the equity interest immediately before the investment by Chalco Iron Ore. On April 24, 2012, Chalco Iron Ore acquired a 47% equity interest in Simfer Jersey Limited, representing a 44.65% interest in the Simandou Project. Simfer Jersey Limited currently holds 95% of the equity interest in the Simandou Project, with the remaining 5% held by the International Finance Corporation.

On March 30, 2011, Chalco Hong Kong entered into a joint venture agreement with Laos Service Co., Ltd. to acquire 60% of the equity interest in Laos Mineral Services Co., Ltd., a limited liability company in Laos, at a total consideration of US\$18 million for the development and operation of a bauxite mine and other mineral resources in Laos. The remaining equity interest of the joint venture is held by Laos Service Co., Ltd. Laos Mineral Services Co., Ltd. was established on July 14, 2011 after obtaining approvals from the relevant government authorities and completing transfer of registered certificates. As of December 31, 2011, we had paid US\$15 million to Laos Service Co., Ltd. We will inject another US\$3 million into Laos Mineral Services Co., Ltd. as capital contribution. As of the date of this annual report, the bauxite mine is in the exploration stage.

On April 2, 2012, we announced the offer to acquire up to (but not more than) 60%, but not less than 56% of the issued and outstanding common shares of SouthGobi, a limited liability company incorporated in Canada and listed on Toronto Stock Exchange and Hong Kong Stock Exchange, by way of a partial offer. SouthGobi is an integrated coal mining, development and exploration company with metallurgical and thermal coal mines in Mongolia's South Gobi region. The offer is conditioned upon the fulfilment and/or waiver of conditions of the offer as set out in the lock-up agreement and all required regulatory approvals being obtained to our satisfaction and is made for a cash consideration of C\$8.48 (US\$8.55) for each common share, with a total consideration valued at C\$925.28 million (US\$933.12 million) for 60% of the common shares of SouthGobi. We intend to fund the cash required to effect the offer from our internal funds, external financing through bank borrowings, or a combination of both. In connection with the offer, we entered into a lock-up agreement with Ivanhoe Mining Ltd., pursuant to which Ivanhoe Mining Ltd. has agreed, among others, to tender to the offer all of the common shares held or subsequently acquired by it during the offer period, which are expected to amount to an aggregate of approximately 104,807,155 common shares or 57.6% of the total common shares of South Gobi. On March 27, 2012, we entered into consultancy agreements with nine key senior executives and officers of SouthGobi to retain their services. We expect to formally commence the offer no later than July 5, 2012. On April 16, 2012, the Mineral Resources Authority of Mongolia announced a request to suspend exploration and mining activity on certain licenses owned by SouthGobi Sands LLC, a wholly-owned division of SouthGobi.



On March 23, 2007, we entered into a development agreement with Queensland State Government to develop a bauxite and alumina project, the Aurukun Project. We were issued a bauxite exploration permit in September 2007 by the Queensland State Government. However, the market conditions of global aluminum industry experienced substantial negative changes after we executed the development agreement and the Aurukun Project could no longer continue under the original framework. We engaged in active negotiations with the Queensland State Government on this and both parties agreed that the development agreement would not be renewed after its term expired on June 30, 2010. Subsequent to the termination, we have engaged a new round of discussions with the Queensland State Government. In December 2010, the Queensland State Government offered a revised development agreement to us for further discussion. In July 2011, the Queensland State Government terminated such further discussions. See Note 7 to the consolidated financial statements for details.

#### Proposed non-public Offering of A Shares

On March 8, 2012, our Board resolved that the Company will issue no more than 1.25 billion A Shares in the PRC. The A Share issuance plans previously proposed by our Board on June 30, 2009 and January 30, 2011 and approved by our shareholders at the extraordinary general meeting, A Share class meeting and H Share class meeting held on August 24, 2009 and on April 14, 2011, respectively, will cease. Pursuant to the current issue plan, we will issue up to 1.25 billion A Shares, with a nominal value of RMB1.00 each, by way of non-public issuance for expected proceeds of not exceeding RMB8 billion (US\$1.3 billion). We will issue the A Shares to no more than ten specific target subscribers within six months from obtaining the approval of CSRC. The issue price of A Shares to be offered will be not less than 90% of the average trading price of our A Shares in twenty trading days immediately preceding the pricing determination date. We intend to apply proceeds from this private placement to finance Chalco Xing Xian alumina project, Chalco Zhongzhou Ore-dressing Bayer Process expansion construction project and to supplement working capital. The issue plan was approved by SASAC on April 5, 2012, and is still subject to the approval by our shareholders at the extraordinary general meeting, A Share class meeting and H Share class meeting and by other relevant government authorities in the PRC.

#### Proposed Issuance of H Shares

On May 31, 2011, the shareholders of the 2010 annual general meeting passed a special resolution, which is valid until the earliest of (i) the end of 12 months from the date of passage, (ii) the conclusion of our next annual general meeting or (iii) the date on which the authority set out in this resolution is revoked or varied by a special resolution in a general meeting. The resolution authorizes us to issue up to 20% of the total nominal value of H Shares in issue as of the resolution date. Our Board is authorized to determine the use of the proceeds. The proposed issuance is subject to the approval by the CSRC and/or other relevant PRC government authorities.

## B. BUSINESS OVERVIEW

### Our Principal Products

We are the largest producer of alumina, primary aluminum and aluminum fabrication products in China in terms of production volume. We have benefited from the strong growth of the PRC aluminum market, one of the world's fastest growing major aluminum markets. Our aluminum operations span the aluminum market value and industry chain from bauxite mining to aluminum fabrication. Bauxite is refined into alumina, which is then smelted into primary aluminum. Primary aluminum, in turn, is a widely used metal and the key raw material in aluminum fabrication. Aluminum fabrication products have applications in the construction, transportation, power generation, automobile, packaging, machinery and durable goods industries. In addition to alumina, primary aluminum and

aluminum fabrication products, we also produce and sell a comparatively small amount of alumina chemical products (alumina hydrate and alumina-based industrial chemical products), carbon products (carbon anodes and cathodes) and gallium. We are also engaged in the trading of alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products and raw and ancillary materials in bulk both manufactured by us and sourced from external suppliers domestically and abroad. Accordingly, we organize and manage our operations in four business segments: alumina segment, primary aluminum segment, aluminum fabrication segment and trading segment. After elimination of inter-segment sales, revenues attributable to our alumina, primary aluminum, aluminum fabrication and trading segments accounted for approximately 2.1%, 21.9%, 7.9% and 68.0%, respectively, of our total revenues in 2011. The remainder of our revenues were derived from research and development activities and other products and services.

Our alumina segment includes the mining and purchasing of bauxite and other raw materials, and production and sale of alumina as well as alumina-related products, such as alumina hydrate, alumina-based chemical products and gallium. Alumina accounted for approximately 93.8% of the total production volume for this segment in 2011. Alumina chemical products are used in the production of chemical, pharmaceutical, ceramic and construction materials. In the process of refining bauxite into alumina, we produce a small amount of gallium as a by-product. Gallium is a rare, high value metal with applications in the electronics and telecommunication industries.

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Our primary aluminum segment includes the production and sale of primary aluminum and aluminum-related products, such as carbon products. Our principal primary aluminum product is ingots, which accounted for approximately 77.7% of our total production volume of primary aluminum in 2011. Our standard 20 kilogram remelt ingots are used for general aluminum fabrication in the construction, power generation, automobile, packaging, machinery and durable goods industries. We internally produce substantially all the carbon products used at our smelters and sell our remaining carbon products to external customers.

Our aluminum fabrication segment includes the production and sale of aluminum fabrication products, including casts, planks, strips, screens, extrusions, ingots and profiles, which are widely used in the construction, power generation, automobile, packaging, machinery and durable goods industries. We use recycled aluminum materials at Chalco Qingdao and Chalco Nanhai, two of our aluminum fabrication plants, to produce aluminum fabrication products.

Our trading segment includes sales of alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products and raw and ancillary materials in bulk both manufactured by us and sourced from external suppliers domestically and abroad. We established our trading business as a separate segment in July 2010, as a result of the implementation of our operational structural exercise.

Since 2010, we have expanded our operations to iron ore production to diversify our product offering. In addition, we believe our investments in coal mining operations will partially offset the effect of the increase in the cost of energy and enable us to secure a portion of our coal supply. See "-Supplemental Raw Materials, Electricity and Fuel-Alumina."

Our Production Capacity

Our alumina production capacity increased from approximately 12.9 million tonnes as of December 31, 2010 to approximately 14.8 million tonnes as of December 31, 2011. During the same period, our annual primary aluminum production capacity increased from approximately 4.0 million tonnes to approximately 4.3 million tonnes. Our annual aluminum fabrication production capacity slightly increased and reached approximately 1.7 million tonnes as of December 31, 2011.

The following table sets forth the production capacity of each of our principal production facilities by business segment as of the indicated date:

Plant	As of December 31, 2011		
	Alumina	Primary Aluminum	Aluminum Fabrication Products
	(in thousand tonnes)		
(1)			
Guangxi branch	2,210.0	139.5	-
Zhongzhou branch	2,980.0	-	-
Qinghai branch	-	367.0	-
Shanxi branch	2,217.0	-	-
Guizhou branch	1,200.0	403.7	-
Henan branch	2,250.0	56.0	-
Shandong branch	1,770.0	55.0	10.0
Zunyi Alumina	800.0	-	-
Chongqing branch	800.0	-	-
Shanxi Huaze	-	350.0	-
Lanzhou branch	-	388.0	-
Shanxi Huasheng	-	220.0	-
Fushun Aluminum	-	240.0	-
Jiaozuo Wanfang <sup>(2)</sup>	-	412.0	-
Zunyi Aluminum	-	235.0	-
Shandong Huayu	-	200.0	-
Gansu Hualu	-	230.0	-
Baotou Aluminum	-	388.0	-
Guangxi Huayin <sup>(3)</sup>	530.0	-	-
Research Institute	20.0	18.0	-
Liancheng branch	-	613.0	-

Longmen Aluminum	-	17.0	-
Northwest Aluminum	-	-	135.0
Chalco Qingdao	-	-	120.0
Chalco Southwest Aluminum	-	-	350.0
Chalco Southwest Aluminum Cold Rolling	-	-	250.0
Chalco Ruimin	-	-	370.0
Henan Aluminum	-	-	355.0
Huaxi Aluminum	-	-	22.0
Chalco Nanhai	-	-	110.0
	<hr/>	<hr/>	<hr/>
<b>Total</b>	14,777.0	4,332.2	1,722.0
	<hr/>	<hr/>	<hr/>

- (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) We have de facto control over Jiaozuo Wanfang although we hold only 24.002% of its equity interest. As it is a consolidated subsidiary, the indicated production capacity represents Jiaozuo Wanfang's entire production capacity.
- (3) As of December 31, 2011, we held 33% of the equity interest in Guangxi Huayin as its second largest equity holder. The indicated production capacity represents our pro rata share of Guangxi Huayin's production capacity.

In 2011, we produced 11.7 million tonnes of alumina, 3.9 million tonnes of primary aluminum and 662,000 tonnes of aluminum fabrication products. Our production of alumina, primary aluminum and aluminum fabrication products represented 32.0%, 22.7% and 2.8%, respectively, of the total output in China.

The following table sets forth a breakdown of our production volume by product segment for the periods indicated:

Production Volume by Product	Year Ended December 31,		
	2009	2010	2011
	<hr/>	<hr/>	<hr/>

(in thousand tonnes, except Gallium)

Alumina segment			
Alumina	7,776.8	10,131.4	11,667.0 <sup>(2)</sup>
Alumina chemical products	1,034.3	1,173.7	1,192.0
Gallium (in tonnes)	20.9	20.2	35.9
Primary aluminum segment			
Primary aluminum <sup>(1)</sup>	3,444.4	3,835.1	3,915.0
Carbon	1,626.0	1,812.0	1,906.0
Aluminum fabrication			
Aluminum fabrication products	412.6	588.0	662.0

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(1) Including ingots and other primary aluminum products.

(2) As of December 31, 2011, we held 33% of the equity interest in Guangxi Huayin as its second largest equity holder. The indicated production volume of alumina in 2011 includes our pro rata share of Guangxi Huayin's production volume, which was not included in 2009 and 2010.

## Production Process

### Alumina

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. Our refineries may employ the Bayer process, the series Bayer-sintering process, the hybrid Bayer-sintering process or the ore-dressing Bayer process. Most of the bauxite reserves in China contain 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 hybrid Bayer-sintering process is suitable for refining low alumina-to-silica ratio bauxite. We have developed and improved these processes to increase our refining yield. When we refine alumina using the Bayer process, we produce gallium as a by-product, which undergoes further processing before sale.

### Primary Aluminum

We smelt 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 molds to produce foundry ingots, or further refined to form fabricating ingots, which may be used directly in the aluminum fabrication process. Most of the primary aluminum we produce is in the form of ingots.

All of our 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 waste gas produced during the process can be extracted using large exhaust fans. Our waste gas is treated and purified to reduce dust and fluoride emissions to acceptable levels set by state environmental protection agencies.

#### Aluminum Fabrication Products

Aluminum fabrication products are formed from primary aluminum. Our aluminum fabrication plants, Chalco Qingdao and Chalco Nanhai, use recycled aluminum materials to produce aluminum fabrication products. The major categories of aluminum fabrication products that we produce include casts, planks, strips, screens, extrusions, ingots and profiles.

#### Production Facilities

##### Alumina

We currently operate nine alumina production facilities and one research institute with a total designed annual production capacity of approximately 14.8 million tonnes as of December 31, 2011. Four of our refineries are integrated with primary aluminum smelters. In 2011, we produced approximately 11.7 million tonnes of alumina, approximately 1.2 million tonnes of alumina chemical products and approximately 35.9 tonnes of gallium. The overall utilization rate for our refineries was 94.2% in 2011. In 2011, we supplied approximately 7.5 million tonnes, or 64.3% of our total production, of alumina to our own smelters and sold the remaining alumina to other domestic smelters. All of the alumina chemical products that we produced in 2011 were sold by alumina refineries directly to external customers or internally to Chalco Trading for subsequent external trading. In 2011, our Zhongzhou branch, Guangxi branch, Henan branch and Shandong branch completed their respective remoulding and upgrading projects, which increased our total annual production capacity of alumina by 1.9 million tonnes. Our Shanxi branch and Henan branch are currently undergoing remoulding and upgrading, which we expect will be completed by the end of 2012 and will increase our total annual alumina production capacity by 530,000 tonnes and 160,000 tonnes, respectively. The following table sets forth the annual production capacity, output of alumina and alumina chemical products, utilization rate of and production process applied in each of our alumina refineries and our Research Institute.

As of		For the year ended December 31, 2011		
December 31, 2011				
Annual Production Capacity	Alumina Production Output	Alumina Chemical Products Output	Utilization Rate	Production Process
(1)			(2)	

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(in thousand tonnes, except percentages)

Shanxi branch	2,217.0	1,772.0	17.0	90.5%	Hybrid Bayer-sintering
Henan branch	2,250.0	1,965.0	75.0	88.8%	Hybrid Bayer-sintering
Shandong branch	1,770.0	1,870.0	674.0	90.2%	Sintering and Bayer
Guizhou branch	1,200.0	1,066.0	6.0	100%	Hybrid Bayer-sintering
Zhongzhou branch	2,980.0	1,615.0	221.0	98.4%	Sintering and Bayer
Guangxi branch	2,210.0	1,942.0	183.0	100%	Bayer
Zunyi Alumina	800.0	742.0	-	100%	Bayer
Chongqing branch	800.0	49.0	1.0	50.0%	Series Bayer-sintering
Guangxi Huayin <sup>(3)</sup>	530.0	646.0	-	100%	Bayer
Research Institute <sup>(4)</sup>	20.0	-	15.0	-	Bayer
	<u>14,777.0</u>	<u>11,667.0</u>	<u>1,192.0</u>	<u>94.2%</u>	

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Total	<u>14,777.0</u>	<u>11,667.0</u>	<u>1,192.0</u>	<u>94.2%</u>	
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- (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 utilization rate in 2011 is calculated by dividing our utilized production capacity by our total designed production capacity in 2011. Before 2011, we calculated capacity utilization rates by dividing the sum of (i) the output of alumina chemical products multiplied by a quotient based on the alumina content of the respective alumina chemical product and (ii) the output of alumina by production capacity of a particular plant.
- (3) Guangxi Huayin's designed production capacity and production volume represents our pro rata share of this jointly-controlled entity.
- (4) The alumina chemical products produced at our Research Institute are sold commercially, and such sales are included in our total revenues.

## Primary Aluminum

We operate 17 primary aluminum production facilities located across nine provinces in China, including our Research Institute, which produces a limited amount of primary aluminum in connection with its research and development activities. Our smelters had an aggregate annual production capacity of approximately 4.3 million tonnes as of December 31, 2011. Four of our smelters are integrated with alumina refineries and do not need to source alumina externally.

In 2011, we produced approximately 3.9 million tonnes of primary aluminum and the average utilization rate for our smelters was 92.6% for the year. In 2011, Liancheng branch completed the construction of its smelters, which increased our annual primary aluminum production capacity by 388,000 tonnes. The annual production capacity of Shandong branch decreased by 20,000 tonnes because we ceased the operation of some obsolete smelters in compliance with the energy saving and emission reduction policy of the local government in December 2011. Fushun Aluminum is currently undergoing remoulding and upgrading, which we expect will be completed by the end of 2012 and will increase our total annual primary aluminum production capacity by 90,000 tonnes.

The following table sets forth the annual production capacity, aluminum output, utilization rate and smelting equipment used in each of our aluminum smelters and our Research Institute.

Plant	As of	For the year ended December 31, 2011			
	December 31, 2011	Annual Production Capacity	Aluminum Output	Utilization Rate	Smelting Equipment
	(1)		(2)		
		(in thousand tonnes, except percentages)			
Baotou Aluminum	388.0	401.0	100%	200Ka, 240Ka and 400Ka pre-bake	
Fushun Aluminum	240.0	212.0	100%	200Ka and 350Ka pre-bake	
Gansu Hualu	230.0	220.0	100%	160Ka and 210Ka pre-bake	
Guangxi branch	139.5	108.0	59.7%	160Ka and 320Ka pre-bake	
Guizhou branch	403.7	413.0	95.4%	160Ka, 186Ka and 230Ka pre-bake	
Henan branch	56.0	-	-	85Ka pre-bake	
Jiaozuo Wanfang	412.0	417.0	100%	280Ka pre-bake	
Lanzhou branch	388.0	418.0	100%		



				200Ka and 350Ka pre-bake
Qinghai branch	367.0	386.0	100%	160Ka and 200Ka pre-bake
Research Institute <sup>(3)</sup>	18.0	4.0	-	150Ka and 300Ka pre-bake
Shandong Huayu	200.0	220.0	100%	240Ka pre-bake
Shandong branch	55.0	50.0	100%	200Ka pre-bake
Shanxi Huasheng	220.0	224.0	100%	300Ka pre-bake
Shanxi Huaze	350.0	347.0	100%	300Ka pre-bake
Zunyi Aluminum	235.0	209.0	88.0%	200Ka, 350Ka pre-bake
Liancheng branch	613.0	275.0	77.3%	90Ka, 200Ka and 500Ka pre-bake
Longmen Aluminum	17.0	11.0	62.2%	75Ka pre-bake
	<hr/>	<hr/>	<hr/>	<hr/>
Total	4,332.2	3,915.0	92.6%	
	(4)			
	<hr/>	<hr/>	<hr/>	<hr/>

(1) Production capacity takes into account designed capacity, downtime for ordinary maintenance and repairs and subsequent capacity modifications.

(2) Capacity utilization rate in 2011 is calculated by dividing our utilized production capacity by our total designed production capacity in 2011. Before 2011, we calculated capacity utilization rates by dividing the production output by production capacity.

(3) The primary aluminum produced at our Research Institute is sold commercially, and such sales are included in our total revenues.

(4) Not including the aluminum alloy business of Pingguo Aluminum.

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## Aluminum Fabrication Products

We currently operate nine aluminum fabrication facilities in China, among which, five facilities were acquired in 2008. We completed the construction and expansion of the facilities of Northwest Aluminum in 2011, which increased our annual aluminum fabrication production capacity by approximately 35,000 tonnes. Our annual

aluminum fabrication production capacity was 1.7 million tonnes as of December 31, 2011. In 2011, we produced approximately 662,000 tonnes of aluminum fabrication products and the average utilization rate of our aluminum fabrication plants was 38.4%.

The following table sets forth the annual production capacity, output of aluminum fabrication products, principal products and utilization rate of each of our aluminum fabrication plants.

Plant	As of December 31, 2011 For the year ended December 31, 2011			Principal Products
	Annual Production Capacity (1)	Aluminum Fabrication Product Output (2)	Utilization Rate	
(in thousand tonnes, except percentages)				
Northwest Aluminum	135.0	55.0	40.7%	extrusions, planks, strips and screens
Chalco Ruimin	370.0	148.0	40.0%	planks, strips and screens
Huaxi Aluminum	22.0	23.0	104.5%	strips and screens
Chalco Southwest Aluminum	350.0	232.0	66.3%	strips
Chalco Southwest Aluminum Cold Rolling	250.0	33.0	13.2%	planks and strips
Henan Aluminum	355.0	125.0	35.2%	planks, strips and screens
Shandong branch	10.0	8.0	80.0%	profiles
Chalco Qingdao <sup>(3)</sup>	120.0	9.0	7.5%	casts, ingots
Chalco Nanhai <sup>(3)</sup>	110.0	29.0	26.4%	casts
<b>Total</b>	<b>1,722.0</b>	<b>662.0</b>	<b>38.4%</b>	<b>-</b>

(1) Production capacity takes into account designed capacity, downtime for ordinary maintenance and repairs and subsequent capacity modifications.

(2) Capacity utilization rate is determined by dividing the production output by

production capacity.

- (3) Chalco Qingdao and Chalco Nanhai use recycled aluminum materials to produce aluminum fabrication products, while our other aluminum fabrication plants use ingots and other primary aluminum products to produce aluminum fabrication products.

## Raw Materials

### Alumina

Bauxite is the principal raw material in alumina production. Most of the bauxite in China is  $AL_2O_3 \cdot H_2O$  mineral. 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 Mineralization.

The bauxite deposits of our mines, except those of Guangxi Pingguo mine which is an accumulation deposit due to original erosion, usually have similar stratigraphical sequences. Primary bauxite deposit, as a type of sedimentary  $AL_2O_3 \cdot H_2O$  of Carboniferous or Permian age, is contained in clay rock, limestone or coal seams. A zony 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 our 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.

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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 the Guizhou No. 2 mine. Most of the original mineralization 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 meters of dislocation arising from partial faults.

### Economic Significance.

Our bauxite deposits 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.

We use the Chinese bauxite deposit estimation method, which is calculated using cutoff grades and thickness to

outline continuous areas within the limits defined by samples of marginal grade. We utilize actual limiting sample points that are joined to create a polygonal outline, and grades are then calculated using a length weighted arithmetic average. The Chinese program of systematic and accurate 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 analyze these types of deposits.

#### Supply.

To support the growth of our alumina production, we continuously seek opportunities to streamline and optimize our bauxite procurement, including the ongoing restructuring of our joint mining operators. Except for our Shandong branch, all of our refineries are located in the four provinces where over 90% of China's potentially mineable bauxite has been found. We generally source our bauxite from mines close to our refineries to control transportation costs. Historically, we have procured our bauxite supply principally from three sources:

- \* our 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, our refineries consume approximately 2.4 tonnes of bauxite to produce one tonne of alumina in 2011. We used approximately 17.7 million tonnes, 24.2 million tonnes and 27.7 million tonnes of bauxite in our alumina production in 2009, 2010 and 2011, respectively. The combined production volume of our own mines and jointly-operated mines was approximately 13.6 million tonnes in 2011, representing an increase of approximately 6.3% from 2010. The production of our own mines reached approximately 13.6 million tonnes in 2011, representing an increase of approximately 6.6% from 2010. The production volume of our jointly-operated mine was approximately 4,300 tonnes in 2011, representing a decrease of approximately 89.3% from 2010. We purchase bauxite from a number of suppliers and do not depend on any supplier for our bauxite requirements. In 2011, bauxite secured from other suppliers accounted for approximately 51.2% of our total bauxite supply, primarily because our demand for bauxite exceeded the production of our own mines and our joint-operated mines. Our own mines increased from 15 in 2010 to 17 in 2011 and we continue to explore new bauxite reserves to replenish our reserves.

The following table sets forth the volumes and percentages of bauxite supplied by our own mines, jointly-operated mines and other suppliers for the periods indicated:

	Year Ended December 31,					
	2009	2010	2011	2009	2010	2011
Bauxite Supply	Percentage of Bauxite Supply	Percentage of Bauxite Supply	Percentage of Bauxite Supply	Percentage of Bauxite Supply	Percentage of Bauxite Supply	Percentage of Bauxite Supply

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		%		%		%
(in thousand tonnes, except percentages)						
Own mines	10,656.8	61.3	12,729.9	49.4	13,564.6	48.8
Jointly-operated mines	439.5	2.5	40.0	0.2	4.3	0.02
Other suppliers	6,293.3	36.2	13,005.0	50.5	14,209.5	51.2
<b>Total</b>	<b>17,389.6</b>	<b>100.0</b>	<b>25,774.9</b>	<b>100.0</b>	<b>27,778.4</b>	<b>100.0</b>

Own Mines.

As of December 31, 2011, we owned and operated 17 mines that had approximately 261.9 million tonnes of aggregate bauxite reserves. As none of our mines produces bauxite for external sales, we have full access to the bauxite produced by our own mines. For the three years ended December 31, 2009, 2010 and 2011, we extracted approximately 10.7 million tonnes, 12.7 million tonnes and 13.6 million tonnes, respectively of bauxite from our own mines. In order to retain the title to our mines, or obtain the title to new mines, we are required to comply with mining qualifications approved by the relevant PRC authorities and pay an annual fee equivalent to RMB1,000 (US\$158.9) per km<sup>2</sup> for our mines.

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Our reported bauxite reserves for our own mines do not exceed the quantities that we estimate could be extracted economically if future prices were at similar levels to average historical prices for traded metals for the years ended December 31, 2009, 2010 and 2011, or the three year historical contracted prices for bulk commodities. However, we do not use the three year historical bauxite or aluminum price to determine bauxite reserves, nor did we utilize any currency conversion factors or pricing related mechanisms. Instead, the primary criteria are the specifications required by our aluminum refineries, as well as certain modifying factors that are dependent on reserve quality.

In 2011, the number of our own mines increased to 17 from 15 in 2010 because Xiaoguan mine was divided into three mines, namely, Xiaoguan mine, Gongyi mine and Dengfeng mine in 2011.

Each one of our mines is accessible by motor vehicles via public roads, highways or both. All of our own mines are powered by diesel fuel or generators and have access to water from local rivers, lakes or underground sources. The following table sets forth information for our own mines as of December 31, 2011:

Present Condition/ (2)	Bauxite Capacity Production
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Mine	Location	Nature of Ownership (1)	Mining Method	Permit Renewal (1)	Current State of Exploration	(in thousand tonnes)	(in thousand tonnes)
Pingguo mine	Guangxi Zhuang Autonomous Zone	100% owned and operated by Chalco	Open pit	January 2011 - April 2036	Fully developed and operational	5,080.0	5,123.9
Guizhou mine <sup>(3)</sup>	Guizhou Province	100% owned and operated by Chalco	Open pit / underground	October 2004 - December 2038	Fully developed and operational	1,400.0	1,061.8
Zunyi mine	Guizhou Province	100% owned and operated by Chalco	Open pit/ underground	December 2008 - May 2021	One stope is currently under development	-	164.5
Xiaoyi mine	Shanxi Province	100% owned and operated by Chalco	Open pit	September 2001 - September 2031	Fully developed and operational	2,750.0	2,907.0
Shanxi Other Mines	Shanxi Province	100% owned and operated by Chalco	Open pit/ underground	November 2010 - July 2016	Fully developed and operational or under construction <sup>(6)</sup>	1,300	969.9
Mianchi mine	Henan Province	100% owned and operated by Chalco	Open pit / underground	October 2001- October 2031	One stope is currently under development	400.0	310.4
Luoyang mine	Henan Province	100% owned and operated by Chalco	Open pit/ underground	October 2001 - October 2031	Fully developed and operational	700.0	735.0
Xiaoguan mine <sup>(4)</sup>	Henan Province	100% owned and operated by Chalco	Open pit / underground	October 2001- October 2031	Fully developed and operational	730.0	476.0
Gongyi mine <sup>(4)</sup>	Henan Province	100% owned and operated by Chalco	Open pit /	January 2008 - April 2029	Fully developed and operational	820.0	211.0
			Open pit /			350.0	368.0

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Dengfeng mine <sup>(4)</sup>	Henan Province	100% owned and operated by Chalco	underground	January 2008 - June 2019	Fully developed and operational		
Sanmenxia mine	Henan Province	100% owned and operated by Chalco	Underground	April 2005 - January 2026	Under construction	-	54.4
Xuchang mine <sup>(5)</sup>	Henan Province	100% owned and operated by Chalco	Open pit / underground	December 2008 - January 2016	Fully developed and operational	400.0	64.6
Jiaozuo mine	Henan Province	100% owned and operated by Chalco	Open pit/ underground	August 2004 - September 2016	Fully developed and operational	400.0	304.4
Pingdingshan mine	Henan province	100% owned and operated by Chalco	Open pit / underground	February 2008 - September 2021	Fully developed and operational	500.0	316.0
Yangquan mine	Shanxi Province	100% owned and operated by Chalco	Open pit	September 2001- September 2031	Fully developed and operational	200.0	180.0
Nanchuan mine	Chongqing City	100% owned and operated by Chalco	Underground	September 2010 - December 2022	Fully developed and operational	1,650.0	317.7

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- (1) All conditions to retain our properties or leases have been fulfilled as of December 31, 2011. Each mine may be covered by one or more mining permits and the range of permit renewal dates is set forth above.
- (2) The annual production capacity of our own mines was 16.7 million tonnes of bauxite as of December 31, 2011.
- (3) Including Guizhou No. 1 mine and Guizhou No. 2 mine.

- (4) Xiaoguan mine was divided into three mines, namely, Xiaoguan mine, Gongyi mine and Dengfeng mine in 2011.

- (5) Yuzhong mine was renamed Xuchang mine in 2009.
- (6) Three mining areas of Shanxi Other Mines are under construction and five mining areas are fully developed and operational.

The respective terms of the mining rights permit are the shorter of the estimated working life of the mine and 30 years from 2001. We are required to obtain mining rights permits to conduct mining activities. Under PRC laws and regulations, a mine owner 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, we are required to obtain land use rights on the land in order to operate these mines. We lease the land use rights relating to foregoing mines from Chinalco pursuant to a land use rights lease agreement that became effective upon our formation. Chinalco's land use rights relating to over 90% of our mining properties are for 50-year terms beginning on July 1, 2001. The remaining land use rights relating to the mines we own and operate are for shorter terms, some as short as one year. All of our land use rights lease agreements end 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.

The following table sets forth certain estimated details of the reserves for our own mines as of December 31, 2011.

Mine	Area (km <sup>2</sup> )	Total	Average Grade		Ratio of Average A/S
		(%) Reserves	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	
	(1)(2)	(million tonnes)		(3)	
Pingguo mine	186.19	93.41	54.79	5.07	10.81
Guizhou No. 1 mine	6.40	1.88	66.15	11.60	5.70
Guizhou No. 2 mine	31.52	22.26	64.85	8.54	7.59
Zunyi mine	11.25	4.31	58.96	8.53	6.91
Xiaoyi mine	10.21	23.79	63.54	12.62	5.03
Shanxi Other Mines	24.06	12.25	61.33	9.49	6.46
Mianchi mine	11.19	2.23	63.45	10.24	6.19
Luoyang mine	7.13	5.37	60.03	9.79	6.13
Xiaoguan mine <sup>(4)</sup>	56.10	14.47	63.93	14.46	4.42
Gongyi mine <sup>(4)</sup>	8.21	3.29	63.90	13.83	4.62
Dengfeng mine <sup>(4)</sup>	11.10	0.44	59.99	8.81	6.81
Sanmenxia mine	15.68	33.37	64.79	11.30	5.73



Xuchang mine	10.92	0.26	62.19	16.31	3.81
Jiaozuo mine	17.45	1.32	57.79	14.43	4.01
Pingdingshan mine	19.49	3.20	63.25	13.50	4.68
Yangquan mine	2.63	5.41	55.18	13.17	4.19
Nanchuan mine	20.96	34.66	61.29	13.40	4.57
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total (average)	450.49	261.91	59.97	9.36	6.41
By reserve type					
Proven reserve		143.78	60.81	10.32	5.89
Probable reserve		118.12	58.96	8.19	7.20
Total (average)					
reserves		261.91	59.97	9.36	6.41
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

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- (1) Our 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) Our 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<sub>2</sub>O<sub>3</sub> to the average grade of SiO<sub>2</sub> of the reserves.
  - (4) Xiaoguan mine was divided into three mines, namely, Xiaoguan mine, Gongyi mine and Dengfeng mine in 2011.

We have implemented a safety control program to achieve the targets set in our internal guidelines for safety and risk control management and to maintain compliance with the National Mining Safety Law and related rules and regulations in China. Our safety control program combines close supervision and routine inspection of mining conditions with continual implementation of safety measures and procedures at our own bauxite mines and safety training for our mining personnel. In 2011, we extracted approximately 13.6 million tonnes of bauxite from our own mines and did not experience any production accidents that involved serious work injuries or death.

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#### Jointly-Operated Mines.

To optimize our resources and reduce costs, we currently manage our jointly-operated mines by contracting with local companies for their mining services to operate mines owned by us. Generally, we are able to control the mining

operations of our jointly-operated mines, including determination of production schedules as well as the amounts and grades of bauxite produced. In the years ended December 31, 2009, 2010 and 2011, our jointly-operated mines produced 439,500 tonnes, 40,000 tonnes and 4,300 tonnes of bauxite, respectively.

We had three jointly-operated mines in China as of December 31, 2011. Each of our jointly-operated mines is accessible by motor vehicles via public roads, highways or both. Our jointly-operated mines are powered by diesel fuel or generators and have access to water from local rivers, lakes or underground sources. The following table sets forth information on our jointly-operated mines as of December 31, 2011:

Mine	Province	Name of Joint Operator	Mining Method	Permit Renewal (2)	Present Condition/ Current State of Exploration	Current Status
Dayu mine	Shanxi	n/a <sup>(1)</sup>	Open pit	December 2009 <sup>(3)</sup>	under development	We are the sole owner of these mines and are conducting research on the development plan of these mines. We are searching for operators for future development.
Xiataohua mine	Shanxi	n/a <sup>(1)</sup>	Open pit	June 2012	exploration is finished	We are the sole owner of these mines and are conducting research on the development plan of these mines. We are searching for operators for future development.
Xinzhuang mine	Shanxi	n/a <sup>(1)</sup>	Open pit	June 2012	exploration is finished	We are the sole owner of these mines and are conducting research on the development plan of these mines. We are searching for operators for future development.

(1) We have decided to cooperate with other parties to undertake the mining

operations in these mines. However, as of December 31, 2011, we had not confirmed any party as our partner.

- (2) All conditions to retain jointly-owned properties or jointly-held leases have been fulfilled as of December 31, 2011.
- (3) We are in the process of renewing the mining permit for Dayu mine as of the date of this annual report.

The following table sets forth the specific details of our jointly-operated mines as of December 31, 2011.

Mine	Area (km <sup>2</sup> )	Total	Average Grade		Ratio of Average A/S
		(%) Reserves	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	
	(1)(2)	(million tonnes)			(3)
Dayu mine	0.99	0.76	65.63	10.98	5.98
Xiataohua mine	2.50	7.10	59.40	13.75	4.32
Xinzhuang mine	1.50	5.85	61.48	12.38	4.97
Total (average)	4.99	13.71	60.63	13.01	4.66
By reserve type					
Proven reserve		10.41	60.10	13.54	4.44
Probable reserve		3.30	62.31	11.36	5.49
Total (average) reserves		13.71	60.63	13.01	4.66

- (1) Our reserves take into consideration mining dilution and loss factors, which generally vary from 5% to 10% and are based on the planning mining method and selected drill data for each site.
- (2) Our 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.

At the end of 2009, we started to modify or terminate the arrangements governing the operations of a number of jointly-operated mines and restructure our joint mining operations to increase operational efficiency and better align our mining operations with our long-term business strategy. Consequently, in 2010, we assumed the operations of the mines for which we own mining rights and ceased the operations of selected mines. For example, seven of our jointly-operated mines in Shanxi Province became mining areas of Shanxi Other Mines, our new own mine in 2010, and Wenquan Town mine and Shanchuan mine became mining areas of our Xiaoyi mine and Xiaoguan mine, respectively. As of the date of this annual report, the restructuring has been completed. We maintained a sufficient supply of bauxite from available sources throughout the course of the restructuring and we believe we will be able to continue to do so following the restructuring.

#### Other Suppliers.

In addition to our own mines and our jointly-operated mines, we also source bauxite from other suppliers. A majority of other suppliers are small independent mines. Small independent mines are not affiliated with us and generally have annual bauxite production capacities not exceeding 200,000 tonnes. These mines have been an important source of bauxite for our operations. We purchase bauxite directly from small independent mines or through local distributors that procure bauxite from these mines. In addition, we also secure a portion of bauxite overseas. Bauxite secured from other suppliers accounted for 51.2% of our total bauxite supply in 2011.

#### Bauxite Procurement.

The corporate management department at our headquarters is responsible for the oversight and coordination of our supply of bauxite. To determine how our bauxite requirement will be allocated among our principal sources each year, we first estimate our total bauxite needs for the year. Based on market conditions, production costs and other factors, we determine the amount of bauxite that we wish to source from our own mines, and allocate the remaining requirements among the jointly-operated mines and other suppliers. Our management or operational control of our own mines and jointly-operated mines generally allows us to adjust procurement from these sources during the course of the year to accommodate changes in our plans or market conditions.

#### 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 our current technology, an efficient application of the Bayer process requires bauxite with an alumina-to-silica ratio of 10:1 or higher, while the sintering process can refine bauxite with an alumina-to-silica ratio as low as 4:1. The average alumina-to-silica ratio of the proven and probable reserves of our mines ranges from 3.8:1 to 14.2:1.

#### Prices.

There is neither governmental regulation on bauxite prices nor an official trading market for bauxite in China. We negotiate bauxite prices with our 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. As we procure bauxite from three different sources, our total bauxite cost is influenced by the following factors:

- \* the cost of our mining operations;
- \* the terms of our operational arrangements with respect to our jointly-operated mines; and
- \* the market conditions relating to purchases from small independent mines.

The average purchase price of bauxite per tonne from our joint operations and other suppliers in 2009, 2010 and 2011 was approximately RMB289.2, RMB386.7 and RMB353.6 (US\$56.2), respectively. The average cost of bauxite from our own mines per tonne in 2009, 2010 and 2011 was approximately RMB174.0, RMB202.4 and RMB176.0 (US\$28.0), respectively.

We purchase a substantial amount of bauxite to protect the resources at the mines that we have already acquired despite our unutilized capacity at these mines. Additionally, to fully utilize the bauxite from our mines, we refine all bauxite that meets the minimum technical requirements for our production of alumina. We also purchase higher grade ore from other suppliers and blend the ore of various grades to meet the technical requirements for our alumina production. This practice allows for flexibility and the inclusion of lower grade bauxite to optimize the use of bauxite deposits available to us. We do not use our historical average purchase prices for 2009, 2010 and 2011, or any other historical index to estimate our bauxite reserves.

The following table sets forth our capital expenditures for our bauxite mines in China for the periods indicated:

	Year Ended December 31,		
	2009	2010	2011
	(RMB in thousands)		
Capital Expenditures			
Infrastructure construction	489,553.6	417,235.9	157,000.0
Facility upgrade	11,167.5	135,321.3	56,000.0
Total	500,721.1	552,557.2	213,000.0

#### Primary Aluminum

An average of approximately 1.9 tonnes of alumina and 14,109 kWh of electricity were required to produce one tonne of primary aluminum in 2011. Alumina and electricity, the two principal components of costs in the smelting

process, accounted for approximately 36.5% and 41.6%, respectively, of our unit primary aluminum production costs in 2011. Apart from alumina and electricity, we also require carbon anodes, carbon cathodes and sodium fluoride for our smelting operations.

Alumina is the main raw material in the production of primary aluminum. In 2011, our smelters consumed approximately 7.5 million tonnes of alumina to produce approximately 3.9 million tonnes of primary aluminum. Our Shandong, Henan, Guizhou and Guangxi branches have historically sourced all or substantially all of the alumina required for their primary aluminum production from their respective integrated refineries. Our plants that do not have integrated alumina refining operations onsite obtain alumina internally from our alumina refineries located elsewhere or externally on the market

#### Aluminum Fabrication Products

The main raw material for our aluminum fabrication operations is primary aluminum. We also use other metal raw materials in aluminum fabrication depending on the type of products. We meet the primary aluminum requirements of our aluminum fabrication segment with primary aluminum supplied by our own aluminum smelters. In addition, Chalco Qingdao and Chalco Nanhai use recycled aluminum materials to produce aluminum fabrication products.

#### Supplemental Materials, Electricity and Fuel

The procurement department at our headquarters coordinates and manages our supply chain for all our major raw materials in conjunction with the distribution center at each production facility, which manages the logistics and inventory of raw materials locally. We are able to purchase diesel, the main fuel used by our mining and manufacturing equipment, from the public markets, and we source our water from local rivers, lakes or underground sources.

#### Alumina

Electricity, coal, alkali (caustic soda or soda ash) and heavy oil are the principal materials used in our alumina production. Electricity is one of the principal cost components in our refining process. We generate electricity at a number of production facilities and purchase our remaining electric power requirement from regional power grids at government-mandated rates. Most of our 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 our various alumina refineries vary accordingly.

Large quantities of coal is used as a reducing agent and fuel to produce steam and gas in the alumina refining process. As of the date of this annual report, we held minority interests in a number of coal mining enterprises, including Shanxi Jiexiu, Qinghai Energy, Jiaozuo Coal Industry Group Zhaogu Energy (Xinxiang) Co., Ltd., Xuehugou Coal Industry Co., Ltd. and Huasheng Wanjie Coal Industry Co., Ltd. In addition, we have acquired 70% of the equity interest in Gansu Huayang, which holds mining rights for coal deposits in the Luochuan mining area, Gansu Province. All of the coal mining enterprises in which we directly or indirectly have equity interest are currently in the exploration or development stages, except:

- \* Qinghai Energy, a joint venture company in which we hold a 21% interest;  
and
- \* Jiaozuo Coal Industry Group Zhaogu Energy (Xinxiang) Co., Ltd., a joint  
venture company in which Jiaozuo Wanfang holds a 30% interest.

Qinghai Energy and Jiaozuo Coal Industry Group Zhaogu Energy (Xinxiang) Co., Ltd. are in commercial production.

We also entered into a mining rights transfer agreement to acquire the mining rights for coal deposits in the Laodonghe mining area, Guizhou Province. By investing in coal mining enterprises and acquiring mining rights for coal deposits, we plan to partially offset our future energy costs, and secure a portion of the coal we consume in our operations.

Alkali is used as a supplemental material in alumina refining. The sintering process and the hybrid Bayer-sintering process require soda ash while caustic soda is used in the Bayer process. Our refineries use heavy oil, natural gas and coal gas as fuel to refine alumina. There is no governmental regulation of the prices of coal, alkali or fuel. We purchase these raw materials from external suppliers under negotiated supply contracts, which we believe are competitively priced. We have not experienced difficulty in obtaining these materials in sufficient quantity and at acceptable prices.

## Primary Aluminum

Smelting primary aluminum requires a substantial and continuous supply of electricity. In 2011, we consumed 55.2 billion kWh of electricity for our primary aluminum production. The availability and price of electricity are key factors in our primary aluminum production. Electricity costs have fluctuated in recent years due to periodic shortages of electricity in China, cyclical demand and government policies to regulate key industries. See "Item 5. Operating and Financial Review and Prospects - A. Operating Results - Overview - Factors Affecting Our Results of Operations - Manufacturing Costs."

We generate electricity at three of our smelters and purchase our remaining electric power requirement from regional power grids or directly from power generation enterprises. Except for two of our smelters that have entered into direct purchase agreements with power generation enterprises, we purchase electricity from the regional power grids at prices set by the government. Industrial users within each region are generally subject to a common electricity tariff schedule, but prices vary, sometimes substantially, across regions. We believe our power supply from regional grids is generally not reliant upon any particular generation facility supplying the grid. Electricity purchased from different power grids is subject to different tariff levels in 2011. The average electricity cost of our smelters was RMB0.4597/kWh in 2011.

Carbon anodes and cathodes are key raw materials in the smelting process. Each of our smelters is able to produce carbon products necessary for its operations other than carbon cathodes. Most of our carbon cathodes are supplied by our Guizhou branch, which operates our only carbon cathode production facility and sells carbon cathodes to external smelters in China.

## Sales and Marketing

We coordinate substantially all of our sales and marketing activities of our self-produced alumina products and some of our sales and marketing activities of our self-produced primary aluminum products through Chalco Trading. Our subsidiaries and branches sell substantially all of our self-produced aluminum fabrication products and some of our self-produced primary aluminum products directly to external customers. Our alumina refineries sell our alumina chemical products directly to external customers or indirectly through Chalco Trading for subsequent external trading. For all of our products that are sold either through Chalco Trading for subsequent external sale or directly to external customers, our subsidiaries and branches play an important role in providing after-sales services and strengthening our presence in the marketplace.

Since late 2009, we also have been engaged substantially in the trading of external non-ferrous metal products through Chalco Trading, including alumina, primary aluminum, copper and other non-ferrous metal products.

## Alumina

We sell our alumina to customers primarily through Chalco Trading, giving priority to customers with whom we have long-standing relationships and who have established a strong credit history, after reserving sufficient alumina for our forecasted primary aluminum production. In 2011, we supplied approximately 7.5 million tonnes of alumina produced at our refineries to our own smelters, which represented approximately 64.3% of our total alumina production, and sold the remainder to our customers.

The sales prices of alumina that our alumina refineries sell internally to Chalco Trading are determined at a percentage of the average primary aluminum futures prices on the SHFE for the past three months. Chalco Trading coordinates the external sales of our alumina products. In the fourth quarter of each year, Chalco Trading hosts an annual national sales conference for our primary aluminum smelter customers with the presence of the representatives from our branches with alumina operations. At the sales conference, Chalco Trading enters into most of our external sales contracts for alumina.

Chalco Trading sells our alumina products to smelters throughout China. All of our major customers in the past three years have been domestic smelters. We sell most of our alumina products under three to five-year long-term sales contracts, under which the sales price is set as a percentage of the average primary aluminum futures prices on the SHFE for the past three months. As a result, fluctuations of primary aluminum prices on the SHFE affect alumina prices under our long-term contracts.

Chalco Trading sells the rest of our alumina products on the spot market. We set, and adjust as necessary, reference sales prices for these alumina products. In 2011, our highest and lowest reference spot price of domestic alumina was RMB3,000 (US\$477) per tonne and RMB2,800 (US\$445) per tonne, respectively. We set the price for the external sales of alumina products by reference to alumina prices at reference markets and taking into account the following considerations:

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\* alumina imports into China, CIF Chinese ports;



- \* international and domestic transportation costs;
- \* our short-term and mid-term projections for alumina;
- \* the 17% value-added tax applicable to our products;
- \* import related fees; and
- \* domestic supply and demand.

### Primary Aluminum

In 2011, some of our self-produced primary aluminum is sold directly by our subsidiaries and branches to external customers, our subsidiaries and branches also sold a portion of our primary aluminum internally to Chalco Trading for subsequent external trading. We consume the remaining portion at our own aluminum fabrication plants.

Our primary aluminum manufacturing subsidiaries and branches sell the majority of our primary aluminum output directly to external customers. Our primary aluminum manufacturing subsidiaries and branches also sell a portion of our primary aluminum output internally to Chalco Trading at prices based on the futures prices of primary aluminum on SHFE. Chalco Trading then coordinates the external sales of primary aluminum. Our subsidiaries and branches and Chalco Trading sell our primary aluminum products to external customers through the following three channels:

- \* Contract sales. Most of our primary aluminum sales are made pursuant to contracts entered into directly with our long-standing customers. Terms of the sales contracts for primary aluminum are typically one year. We price our primary aluminum products based on the SHFE futures prices.
- \* Sales on the SHFE. As part of our effort to manage market risk, we sell a portion of our 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. We also sell our primary aluminum products on the spot market at the reference prices we set and adjust as necessary.

We hold an annual national primary aluminum sales conference through Chalco Trading with the presence of representatives from our subsidiaries and branches in the fourth quarter of each year to procure sales and plan production for the following year.

To improve the efficiency of our distribution, we divide our China market into several regions as follows:

- \* 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
- \* northeastern China (including Liaoning and Heilongjiang Provinces).

We sell substantially all of our primary aluminum to domestic customers. We expect China to remain our key market for primary aluminum for the foreseeable future. Although we have conducted export sales in the past, substantially all of our external sales of primary aluminum in 2011 were domestic sales. Customers of our primary aluminum products principally consist of aluminum fabricators and distributors that resell our primary aluminum products to aluminum fabricators or other purchasers.

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We establish pricing guidelines for Chalco Trading to conduct external domestic sales of our own primary aluminum products, taking into account three main factors: the primary aluminum spot prices and futures price on the SHFE; our production costs and expected profit margins; and supply and demand. As part of our efforts to coordinate and centralize sales, we also set minimum prices for primary aluminum products that are sold directly to external consumers by our subsidiaries and branches with respect to each region in China where our primary aluminum is sold. These minimum prices are determined by reference to the SHFE spot price for primary aluminum. The smelter filling a particular order from an external customer is generally responsible for negotiating the pricing and delivery terms and must comply with the minimum pricing guidelines unless it obtains prior approval from our headquarters. In general, we satisfy each purchase order with products from our nearest smelter to minimize transportation costs.

#### Aluminum Fabrication Products

We produce aluminum fabrication products based on market demand. In 2011, our aluminum fabrication subsidiaries and branches sold substantially all of our aluminum fabrication products directly to external customers. In 2011, we sold approximately 658,894 tonnes of self-produced aluminum fabrication products.

In 2011, we derived more than 80% of our aluminum fabrication products revenues from sales in China. We extend credit terms for sales of aluminum fabrication products, requiring payment within a short period after delivery. The prices for our aluminum fabrication products are set by agreement with our customers.

#### Alumina Chemical Products and Gallium

Alumina chemical products and gallium are derived from our alumina production. We adjust our production of these products based on market demand. Our alumina refineries sell our alumina chemical products directly to external customers or indirectly to external customers through Chalco Trading for subsequent external trading.

We sell most of our alumina chemical products and gallium in China. Prices for our alumina chemical products and gallium are set according to market demand or by agreement with our customers. Our total sales of gallium in 2009, 2010 and 2011 amounted to RMB58.1 million, RMB67.0 million and RMB118.0 million (US\$18.7 million), respectively.

#### Trading of Outsourced Non-ferrous Metal Products and Other Materials

Since late 2009, we have been substantially engaged in the trading of non-ferrous metal products, including alumina, primary aluminum, copper, zinc, lead and other non-ferrous metal products that we source externally through Chalco Trading. We trade our outsourced non-ferrous metal products either by spot sales or under short-term futures and option contracts. In 2011, Chalco Trading also entered into a long-term coking coal trading agreement in respect of the coal from the Tavan Tolgoi mine with Erdenes MGL LLC, which is a Mongolian state-owned company engaging in development and operations of mining deposits in Mongolia. Chalco Trading has a team with trading expertise to conduct research on the markets of non-ferrous metal products and other materials.

#### Delivery

We rely on rail shipping and trucking for the delivery of products within China. Our alumina is transported by rail or truck, and transportation costs are generally borne by our customers and excluded from our sales prices. For long-distance deliveries, we maintain spur lines connecting our plants to the national railway routes. The price of rail shipping on the PRC national railway system is fixed by the government.

Most of our primary aluminum products are transported by rail. In view of the substantial distance between our smelters and aluminum fabrication plants, most of which are concentrated in southern and eastern China, we maintain subsidiaries (often with warehousing capacity leased from third parties) in major cities in eastern and southern China to facilitate and coordinate deliveries.

Our customers are generally responsible for arranging and bearing the costs associated with transporting aluminum fabrication products from our production facilities.

#### Principal Facilities

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Our principal facilities include 28 principal production plants and our Research Institute. Set forth below is a description of our principal production plants. Our production is organized and managed according to our three business segments: alumina, primary aluminum and aluminum fabrication.

#### Guangxi Branch

The Guangxi branch commenced operations in 1994 and is located in the 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 our wholly-owned mines, located less than 17 kilometers from the Guangxi branch.

The Pingguo mine contains large, easily exploitable bauxite reserves with high alumina-to-silica ratios. The Guangxi branch is our only principal refinery that uses the Bayer process exclusively. With technology and production equipment imported from Europe, the Guangxi refinery features a high level of automation and energy efficiency. Since its inception, we have continually increased the designed production capacity at this branch by removing production bottlenecks and investing in capacity expansions. After the completion of its expansion project in 2011, Guangxi branch's annual alumina production capacity reached 2,210,000 tonnes as of December 31, 2011. In 2011, the Guangxi branch produced approximately 1,942,000 tonnes of alumina, along with approximately 183,000 tonnes of alumina chemical products. Most of the alumina output at the Guangxi branch is used in the primary aluminum smelter at the same branch and the remainder is sold to third-party smelters.

Our Guangxi branch also uses advanced 160 kA and 320 kA pre-bake reduction pot-lines developed by us in its smelting operations. As of December 31, 2011, our Guangxi branch's annual primary aluminum production capacity was 139,500 tonnes and it produced approximately 108,000 tonnes of primary aluminum in 2011.

#### Guizhou Branch

The Guizhou branch commenced its smelting operations in 1966 and was subsequently expanded to include alumina refining operations in 1978. Our alumina refinery at this branch is one of the most advanced alumina refineries in China, having imported many of its key technologies and equipment. Our alumina refinery at this branch uses the hybrid Bayer-sintering process to refine bauxite supplied from our own mines as well as external suppliers into alumina. Bauxite from our own mines is delivered by trucks and train. The majority of the alumina produced at the Guizhou branch is used in the smelting operations at the same plant and the remainder is sold to third-party smelters. Our Guizhou branch uses 160 kA, 186kA and 230 kA pre-bake reduction pot-lines in its primary aluminum production. As a result of technological innovations and overhauls since its inception, our Guizhou smelter is among the most technologically advanced smelters in China. As of December 31, 2011, our Guizhou branch had an annual alumina production capacity of approximately 1,200,000 tonnes and an annual primary aluminum production capacity of approximately 403,700 tonnes. In 2011, our Guizhou branch produced approximately 1,066,000 tonnes of alumina, 6,000 tonnes of alumina chemical products and 413,000 tonnes of primary aluminum.

Our Guizhou branch also contains a modern carbon production facility, which produces carbon cathodes in addition to carbon anodes. As the Guizhou branch is our only facility that produces carbon cathodes, it supplies carbon cathodes to seven of our facilities and our Research Institute. Its carbon cathodes are also sold to external customers throughout China.

#### Henan Branch

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. Bauxite is delivered to our Henan branch 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. Our Henan branch was the first refinery in China to develop the hybrid Bayer-sintering process. We also have an alumina production line that uses the ore-dressing Bayer process, which we developed to refine low alumina-to-silica ratio bauxite. Since its inception, the Henan branch's production facilities have undergone substantial technological upgrades, based on equipment imported from Germany and Denmark. The refinery has also benefited from its access to high alumina-to-silica ratio bauxite from our own mines and through purchases on the market. Its alumina output is first used to satisfy its primary aluminum production, and the remainder is sold to our other smelters and external customers. After the completion of its expansion project in 2011, Henan branch's annual alumina production capacity reached 2,250,000 tonnes as of December 31, 2011. In 2011, our

Henan branch produced approximately 1,965,000 tonnes of alumina and 75,000 tonnes of alumina chemical products. Henan branch has commenced another expansion project which is expected to be completed in 2012 and we expect the completion of this project to increase Henan branch's annual alumina production capacity by 160,000 tonnes. Henan branch currently has the largest power generation capacity among our alumina manufacturing facilities.

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We have upgraded a portion of the primary aluminum facilities at this branch, which now utilizes 85 kA pre-bake reduction pot-lines. Its carbon plant produces high quality carbon products for sales to external customers in China as well as for export, after meeting the needs of our various smelting operations. As of December 31, 2011, Henan branch had an annual primary aluminum production capacity of 56,000 tonnes. In 2011, our Henan branch did not produce any primary aluminum.

#### Shandong Branch

The Shandong branch commenced operations in 1954 and has the capacity to produce alumina, primary aluminum and aluminum fabrication products. Bauxite is delivered to our Shandong branch 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 the majority of its alumina through the sintering process and Bayer process, but has an ore-dressing sintering operation. The Shandong branch purchases the majority of the bauxite required for its production from small third-party mines in Henan and Shanxi Provinces. Its alumina output is first used to satisfy its primary aluminum production, and the remainder is sold to our other smelters as well as external customers. After the completion of its expansion project in 2011, Shandong branch's annual alumina production capacity reached 1,770,000 tonnes as of December 31, 2011. It produced approximately 1,870,000 tonnes of alumina in 2011.

In addition, our Shandong branch produces substantial amounts of alumina chemical products and produced approximately 674,000 tonnes of alumina chemical products in 2011. It is the largest and most technologically advanced alumina chemical products production facility in China with the ability to produce the widest variety of alumina chemical products.

As of December 31, 2011, our Shandong branch's primary aluminum production capacity was 55,000 tonnes per annum and it produced approximately 50,000 tonnes of primary aluminum in 2011.

Our Shandong branch also uses its self-produced primary aluminum to produce aluminum fabrication products. As of December 31, 2011, our Shandong branch had an annual aluminum fabrication production capacity of 10,000 tonnes and it produced approximately 8,000 tonnes of aluminum fabrication products in 2011.

#### Qinghai Branch

Located in Qinghai Province, our 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 160 kA and 200kA 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 our Shanxi, Shandong, Henan and Zhongzhou branches, but incurs higher transportation costs for both raw materials and its primary aluminum products than our other branches. The

Qinghai branch produced approximately 386,000 tonnes of primary aluminum in 2011, slightly exceeding its designed annual production capacity of 367,000 tonnes as of December 31, 2011.

#### Shanxi Branch

Our Shanxi branch commenced operations in 1987 and is located in Shanxi Province, a province rich in bauxite deposits. Bauxite is transported to our Shanxi branch via railway and highway from the Xiaoyi mine in Shanxi Province. Our Shanxi branch is a stand-alone alumina plant with an annual production capacity of 2,217,000 tonnes as of December 31, 2011. Our Shanxi branch produced approximately 1,772,000 tonnes of alumina and 17,000 tonnes of alumina chemical products in 2011. Shanxi branch has commenced an expansion project which is expected to be completed in 2012 and we expect the completion of this project to increase Shanxi branch's annual alumina production capacity by 530,000 tonnes.

Our Shanxi branch's production facilities are primarily imported. Shanxi branch relies on bauxite from our own mines as well as external suppliers. It is in the proximity of large coal mines and substantial water resources and currently has the second largest power generation capacity among our alumina manufacturing facilities.

#### Zhongzhou Branch

Located in Henan Province, our Zhongzhou branch is a stand-alone alumina plant, located near abundant bauxite, coal and water supplies. It commenced operations in 1993 and is equipped with imported and self-developed technology and has undergone various improvements and upgrades, in particular to its sintering process and Bayer process. We purchase bauxite supplies from Henan Province and Shanxi Province.

Our Zhongzhou branch had an annual alumina production capacity of 2,980,000 tonnes as of December 31, 2011. Our Zhongzhou branch produced approximately 1,615,000 tonnes of alumina and approximately 221,000 tonnes of alumina chemical products in 2011.

#### Zunyi Alumina

Zunyi Alumina is located in Zunyi, Guizhou Province. In April 2006, we entered into a joint venture agreement with Guizhou Wujiang Hydroelectric Co., Ltd, to establish a joint venture company, Zunyi Alumina. We hold 67% of the equity interests in Zunyi Alumina. Zunyi Alumina completed the construction of alumina facilities and commenced operations in 2010. It had an annual alumina production capacity of 800,000 tonnes as of December 31, 2011. Zunyi Alumina produced approximately 742,000 tonnes of alumina in 2011.

#### Chongqing Branch

Our Chongqing branch is located in Chongqing. Chongqing branch completed the construction of alumina facilities in 2010 and its annual alumina production capacity was 800,000 tonnes as of December 31, 2011. Chongqing branch produced approximately 49,000 tonnes of alumina and 1,000 tonnes of alumina chemical products in 2011.

#### Lanzhou Branch

Located in Lanzhou city in Gansu Province, our Lanzhou branch is a stand-alone primary aluminum plant. It was part of Lanzhou Aluminum before July 2007 and was acquired by us through share exchange in April 2007. In July 2007, Lanzhou Aluminum was divided into two wholly-owned entities: Lanzhou branch and Northwest Aluminum. Our Lanzhou branch owns a primary aluminum smelting plant with a designed annual primary aluminum production capacity of approximately 388,000 tonnes as of December 31, 2011. It produced approximately 418,000 tonnes of primary aluminum in 2011.

#### Jiaozuo Wanfang

Jiaozuo Wanfang is situated in Jiaozuo city in Henan Province and is a stand-alone primary aluminum plant. Jiaozuo Wanfang was established in 1993. In May 2006, we acquired 29% of the issued share capital and thus became its largest shareholder. In 2010, we partially disposed our equity interest in Jiaozuo Wanfang. As of December 31, 2011, we held 24.002% equity interest of Jiaozuo Wanfang. Jiaozuo Wanfang has been our subsidiary since 2008 when we established the de facto control over it. Jiaozuo Wanfang had an annual primary aluminum production capacity of 412,000 tonnes as of December 31, 2011 and produced approximately 417,000 tonnes of primary aluminum in 2011.

#### Shanxi Huaze

Shanxi Huaze is situated in Shanxi Province. In March 2003, we established the joint venture company, Shanxi Huaze, with Zhangze Electric Power to commence the construction of a primary aluminum production facility. Shanxi Huaze's designed annual production capacity of primary aluminum was 350,000 tonnes as of December 31, 2011 and it produced approximately 347,000 tonnes of primary aluminum in 2011. We currently hold 60% of the equity interest of Shanxi Huaze.

#### Shanxi Huasheng

Shanxi Huasheng is situated in Shanxi Province. In December 2005, we entered into a joint venture agreement with Shanxi Guan Lv Company Limited to establish a joint venture company, Shanxi Huasheng. Shanxi Huasheng commenced operations in March 2006 and had a designed annual production capacity of primary aluminum of approximately 220,000 tonnes as of December 31, 2011. In 2011, Shanxi Huasheng produced 224,000 tonnes of primary aluminum. We currently hold a 51% equity interest in Shanxi Huasheng.

#### Zunyi Aluminum

Zunyi Aluminum is situated in Guizhou Province. In June 2006, we entered into a share purchase agreement with Guizhou Wujiang Hydropower Development Co., Ltd. and eight other companies, which were the shareholders of Zunyi Aluminum, to purchase part of the equity interest from Guizhou Wujiang Hydropower Development Co., Ltd. and all the equity interest held by the other eight companies. We have completed our purchase and currently hold 62.1% of the equity interest in Zunyi Aluminum. Zunyi Aluminum's annual primary aluminum production capacity was 235,000 tonnes as of December 31, 2011 and it produced approximately 209,000 tonnes of primary aluminum in 2011.

#### Fushun Aluminum

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Fushun Aluminum is situated in Liaoning Province, and is a stand-alone primary aluminum plant. In March 2006, we 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 is the production of primary aluminum and carbon products. Fushun Aluminum partially completed a new primary aluminum project at the end of 2008, which increased the annual primary aluminum production capacity of Fushun Aluminum by 100,000 tonnes. Fushun Aluminum's annual primary aluminum production capacity was 240,000 tonnes as of December 31, 2011. We expect to complete the new primary aluminum project by the end of 2012, which will increase Fushun Aluminum's annual primary aluminum production capacity by 90,000 tonnes. Fushun Aluminum produced approximately 212,000 tonnes of primary aluminum in 2011.

#### Shandong Huayu

Shandong Huayu is situated in Shandong Province and is a stand-alone primary aluminum plant. In July 2006, we entered into a share transfer agreement with Shandong Huasheng Jiangquan Group to acquire 55% of the equity interest of Shandong Huayu, a subsidiary of Shandong Huasheng Jiangquan Group. We currently hold 55% of the equity interest in Shandong Huayu. Shandong Huayu had an annual primary aluminum production capacity of 200,000 tonnes as of December 31, 2011. Shandong Huayu also has supporting facilities and coal-fired generators. In 2011, Shandong Huayu produced approximately 220,000 tonnes of primary aluminum.

#### Gansu Hualu

Gansu Hualu is situated in Gansu Province, and is a stand-alone primary aluminum plant. In August 2006, we 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, a subsidiary of Baiyin Ibis, and we hold 51% of the equity interest in Gansu Hualu. Gansu Hualu had an annual primary aluminum production capacity of 230,000 tonnes as of December 31, 2011 and it produced approximately 220,000 tonnes of primary aluminum in 2011.

#### Baotou Aluminum

Baotou Aluminum is located in Inner Mongolia Autonomous Region, and is a stand-alone primary aluminum plant. On December 28, 2007, through A Shares issuance and exchange for Baotou Aluminum shares, we acquired 100% of the equity interest of Baotou Aluminum. Baotou Aluminum had a designed annual production capacity of 388,000 tonnes as of December 31, 2011. In 2011, it produced approximately 401,000 tonnes of primary aluminum.

#### Liancheng branch

Liancheng branch is located in Gansu Province. In late May, 2008, we acquired 100% of the equity interest of Liancheng Longxing Aluminum Company Limited from Chinalco on the China Beijing Equity Exchange and subsequently turned it into our Liancheng branch which specializes in producing primary aluminum. After the completion of its expansion project in 2011, Liancheng branch's annual primary aluminum production capacity reached 613,000 tonnes as of December 31, 2011. It produced approximately 275,000 tonnes of primary aluminum in



2011.

#### Longmen Aluminum

Located in Shanxi Province, Longmen Aluminum is established in 1991. We hold 55% of its equity interests. It specializes in producing primary aluminum. As of December 31, 2011, Longmen Aluminum had an annual primary aluminum production capacity of 17,000 tonnes and produced 11,000 tonnes of primary aluminum in 2011.

#### Chalco Qingdao

Located in Qingdao, Shandong Province, Chalco Qingdao specializes in using recycled aluminum materials to produce aluminum fabrication products. As of December 31, 2011, Chalco Qingdao had an annual production capacity of 120,000 tonnes and produced 9,000 tonnes of aluminum fabrication products in 2011.

#### Northwest Aluminum

Northwest Aluminum is situated in Lanzhou city in Gansu Province and is an aluminum fabrication plant. It was part of Lanzhou Aluminum before July 2007 which we acquired through share exchange in April 2007. Lanzhou Aluminum's A shares were listed on Shanghai Stock Exchange until April 24, 2007 when we acquired it through share exchange. In July 2007, Lanzhou Aluminum was divided into two wholly-owned entities: Lanzhou branch and Northwest Aluminum. After the completion of its expansion project in 2011, Northwest Aluminum's annual production capacity for aluminum fabrication products reached approximately 135,000 tonnes as of December 31, 2011 and it produced approximately 55,000 tonnes of aluminum fabrication products in 2011.

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#### Chalco Ruimin

Located in Fujian, Chalco Ruimin commenced production in 1996 and specializes in aluminum fabrication. In late May 2008, we purchased 75% of the equity interest of Chalco Ruimin from Chinalco on the China Beijing Equity Exchange. Chalco Ruimin completed a RMB2.87 billion expansion plan in 2010. Chalco Ruimin had an annual aluminum fabrication capacity of approximately 370,000 tonnes as of December 31, 2011. Chalco Ruimin produced approximately 148,000 tonnes of aluminum fabrication products in 2011. We currently hold 93.47% of the equity interest in Chalco Ruimin.

#### Huaxi Aluminum

Located in Chengdu, Sichuan Province, Huaxi Aluminum commenced production in 1997 and specializes in aluminum fabrication. In late May 2008, we purchased 56.86% of the equity interest of Huaxi Aluminum from Chinalco on the China Beijing Equity Exchange. As of December 31, 2011, Huaxi Aluminum had an annual aluminum fabrication production capacity of 22,000 tonnes and it produced approximately 23,000 tonnes of aluminum fabrication products in 2011.

#### Chalco Southwest Aluminum

Established in September 2004 and located in Chongqing, Chalco Southwest Aluminum specializes in aluminum fabrication. On May 30, 2008, we purchased 60% of the equity interest of Chalco Southwest Aluminum from Chinalco on the China Beijing Equity Exchange. As of December 31, 2011, Chalco Southwest Aluminum had an annual aluminum fabrication production capacity of 350,000 tonnes and produced approximately 232,000 tonnes of aluminum fabrication products in 2011.

#### Chalco Southwest Aluminum Cold Rolling

Established in March 2006 and located in Chongqing, Chalco Southwest Aluminum Cold Rolling specializes in rolling aluminum and aluminum alloy processing, development of high precision aluminum strip production technology and import and export activities on goods and technology. On May 30, 2008, we acquired 100% of the equity interests of Chalco Southwest Aluminum Cold Rolling from Chinalco. In 2010, we completed the construction of production facilities of Chalco Southwest Aluminum Cold Rolling. As of December 31, 2011, Chalco Southwest Aluminum Cold Rolling had an annual aluminum fabrication production capacity of 250,000 tonnes. It produced approximately 33,000 tonnes of aluminum fabrication products in 2011.

#### Henan Aluminum

Established in August 2005 and located in Luoyang, Henan Province, Henan Aluminum specializes in aluminum fabrication. In late May 2008, we acquired 84.02% of the equity interest of Henan Aluminum from Chinalco and China Nonferrous Metals Technology on the China Beijing Equity Exchange. As of December 31, 2011, Henan Aluminum had an annual aluminum fabrication production capacity of 355,000 tonnes and produced approximately 125,000 tonnes of aluminum fabrication products in 2011. We currently hold 90.03% of the equity interest in Henan Aluminum.

#### Chalco Nanhai

Established in June 2007 and located in Foshan, Chalco Nanhai specializes in aluminum fabrication. Chalco Nanhai had an annual aluminum fabrication production capacity of 110,000 tonnes. Chalco Nanhai commenced its commercial operation in 2011. It produced approximately 29,000 tonnes of aluminum fabrication products in 2011.

#### Research Institute

Established in August 1965 and located in Zhengzhou, Henan Province, the Research Institute specializes in the research and development of technology for smelting aluminum. It is the only research institute in China dedicated to light metals research and has played a key role in bringing about technological innovations in China's aluminum industry. The Research Institute is central to our research and development efforts. The Research Institute operates test facilities, which produce alumina chemical products and primary aluminum. The Research 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. Our Research Institute has a limited alumina and primary aluminum production capacity, which it uses in connection with its research and development efforts.

## Competition

### Competition from Domestic Competitors

#### Alumina

As the largest producer of alumina in China, we believe that we will not face significant competition from domestic alumina producers in the short-term for the following reasons:

- \* a new producer would need access to a substantial and stable supply of bauxite as well as approval from the relevant departments under the State Council of China;
- \* we are experienced in alumina production and our production technologies are specifically adapted to the particular chemical composition of bauxite found in China;
- \* we have strong capacity in technology research and hold certain proprietary technologies and patents;
- \* our substantial workforce that has extensive experience in production and management; and
- \* we enjoy strong government support under state policy.

In order to improve the efficiency and competitiveness of the Chinese alumina industry as well as to protect the environment, NDRC published "Entrance Conditions for Aluminum Industry" (the "Entrance Conditions") in November 2007. According to the Entrance Conditions, new bauxite projects must be approved by the provincial authority or the relevant department of the State Council of China depending on the amount of total investment, and any new alumina project must be approved by the relevant department of the State Council of China. The Entrance Conditions also provide detailed requirements for capital size, service period and resource utilization rate for a new bauxite or alumina project to be approved. The Entrance Conditions has established a high entry barrier for new alumina producers in China.

#### Primary Aluminum

We derived substantially all of our primary aluminum revenues from domestic sales in 2011. Our competitors include other domestic and international primary aluminum producers that conduct sales in China. In 2011, our primary aluminum production represented approximately 22.7% of total domestic production in China.

There are approximately 67 primary aluminum smelting companies operating in China, which sell substantially all of their products in China. We are the largest integrated alumina and primary aluminum producer in China. Currently, only 20 primary aluminum producers in China (including Chalco) have annual production capacities of 300,000 tonnes or more, which represent approximately 57.4% of the total primary aluminum production capacity in China. Only seven primary aluminum producers in China (including Chalco) have annual production capacity of 500,000 tonnes or more. 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. Accordingly, the larger smelters are granted preferential treatment, including priority in the allocation of raw materials and electricity supplies, which give them a competitive advantage over small domestic smelters. Moreover, according to the Entrance Conditions, effective from 2007, new aluminum projects for expanding production capacity must be approved by the relevant department of the State Council of China. As of the date of the annual report, the relevant department of the State Council of China is not expected to approve any new aluminum projects except those environmental protection upgrade projects and expired equipment exchange projects planned by the PRC government.

Although we face competition from other large domestic smelters, we have several advantages over such competitors, including:

- \* Scale of production. With 17 primary aluminum facilities including our Research Institute, we can achieve significant economies of scale. In addition, our scale of production enables us to achieve high production volumes to fill large customer orders and maintain a large customer base. Through our national distribution network, we are able to make timely deliveries to customers from our local warehouses.

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- \* Technology. We believe we have more sophisticated and efficient technology than most of our domestic competitors. Our Guangxi, Guizhou and Qinghai branches are among the most technologically advanced primary aluminum smelting facilities in China. In addition, our technological support and research and development capabilities are superior to other domestic smelters.
- \* Vertical integration. As the largest integrated alumina and primary aluminum producer in China, we are able to supply alumina internally to our primary aluminum plants. As a result, we save on transportation, warehousing and related costs. In addition, because we operate our own alumina refineries, we are able to assure a stable supply of alumina for our primary aluminum smelting operations. Since 2006, we have expanded our primary aluminum business by mergers and acquisitions.

- \* Quality. The quality of our primary aluminum is generally higher than that of the primary aluminum produced by most of our domestic competitors. The primary aluminum produced by most of our smelters satisfies the quality standards of the LME.

#### Aluminum Fabrication Products

We derived more than 80% of our aluminum fabrication products revenues from sales in China in 2011. Our competitors include other domestic and international producers of aluminum fabrication products that sell aluminum fabrication products in China. The aluminum fabrication market in China is highly fragmented. There are more than 3,250 aluminum fabrication producers in China with an aggregate annual capacity of over 27.0 million tonnes as of the end of 2011. In 2011, the aluminum fabrication producers in China produced approximately 23.5 million tonnes of aluminum fabrication products. We are the largest producer of aluminum fabrication products in China and our major competitors are largely medium- and small-scale regional producers of aluminum fabrication products. We believe we have advantages over such competitors in scale of production, production technologies, research and development, variety of product offerings and experienced workforce.

#### Competition from International Competitors

The tariff rate for alumina and primary aluminum imports was eliminated on January 1, 2008 and August 1, 2007, respectively. In 2011, China imported approximately 1.9 million tonnes of alumina, representing a 56.4% decrease from 2010. China had net import of approximately 225,000 tonnes of primary aluminum in 2011, which represented a 2.2% decrease from 2010. Competition from international suppliers of alumina and primary aluminum is expected to increase. Such competitors are likely to be 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, we expect to continue benefiting from certain PRC governmental policies that promote the growth of large domestic smelters.

International suppliers used to be dominant in certain types of advanced aluminum fabrication products in China. Since 2007, the import of aluminum fabrication products has been slightly decreasing. However, as we began to produce some types of these advanced aluminum fabrication products, including aluminum CTP plates, precision aluminum tubes and some other types of aluminum strips, plates and screens used in electronic industry, to our customers in China, we expect the competition from these international suppliers will increase. We aim to provide high quality products at competitive prices to our customers.

#### Research and Development

Our research and development efforts over the years have facilitated the expansion of our production capacity and reduced our unit costs. We have successfully commercialized our previous research and development results in various technologies. In 2011, we completed 103 technological projects, including 39 technology development projects, 42 industrialization, promotion and application of advanced technologies projects and 22 basic application projects. In addition, we filed a total of 168 patent applications in 2011.

As of December 31, 2011, we owned 1,213 patents, which were primarily related to technologies and know-how, equipment and new products. Once registered, a patent in China for a new invention is valid for 20 years and for a new function or a new design, 10 years from the date of the patent application. As of December 31, 2011, we owned

35 trademarks, each of which had a term of 10 years.

We do not regard any single patent, license, or trademark to be material to our sales and operations as a whole. We have no material patents, licenses, or trademarks, the duration of which cannot, in the judgment of our management, be extended as necessary. We are neither involved in any material intellectual property disputes against us nor are we pursuing any legislation relating to intellectual property rights against any party.

## Environmental Protection

Our 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 authorized 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. On February 6, 2010, the State Council of China issued "Notice on Further Strengthening the Elimination of Obsolete Production Capacities", which recommends all pre-bake reduction pot-lines below 100kA be closed by the end of 2011. Some of our primary aluminum utilities with a total capacity of 437,000 tonnes were shut down in compliance with this notice in 2011.

The pollutants discharged from our alumina refining process include red mud, waste water and gas emissions and particulates. Our primary aluminum production process generates fluorides, pitch fume and particulates. It is illegal to release these pollutants untreated, or those after treatment but still not complying with discharge limits, the discharge of these pollutants must comply with national and local discharge limits.

Each of our 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. We were granted ISO14001 accreditations issued by China Quality Certification Center and the International Certification Network in 2004. In 2011, we passed the review and the accreditations were renewed.

We have increased our energy-efficiency by implementing new production techniques and technologies, upgrading our production facilities, optimizing our production process and enhancing our logistics and operations management. Through these efficiency initiatives, we estimate that we conserved the energy equivalent of 314,600 tonnes of standard coal in 2011. We have incorporated clean technology and processes into our operations with a view to promoting the concept of "zero emission" plants. In 2011, we achieved our target of zero waste water emission.

Our total expenditures for maintaining compliance with environmental laws and regulations were RMB1,395.0 million, RMB1,151.0 million and RMB1,524.6 million (US\$242.2 million) for the years ended December 31, 2009, 2010 and 2011, respectively. We believe that our operations are substantially in compliance with currently applicable national and provincial environmental regulations.

## Insurance

We maintain insurance coverage for our property, plant and equipment, in particular our transportation vehicles and assets that we consider to be subject to significant operating risks. We also have limited coverage for natural disaster such as typhoons, tornados, 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 we cannot obtain insurance at a reasonable cost or at all.

We are covered under the injury and accidental death insurance provided by the local government labor departments and do not separately maintain coverage for such risks. Consistent with what we believe to be the customary practice in China, we generally do not carry any third-party liability insurance to cover personal injury, environmental damage arising from accidents arising from property or related to our operations (other than our automobiles) or business interruption insurance. More extensive insurance is either unavailable in China or would impose a cost on our operations that would reduce our competitiveness.

We paid a total of RMB81.4 million, RMB79.5 million and RMB75.9 million (US\$12.1 million) in insurance premiums in 2009, 2010 and 2011, respectively.

## Seasonality

Our business is not subject to seasonality.

## Regulatory Overview

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Producers of alumina and primary aluminum are subject to national industrial policies and relevant laws and regulations in areas of environmental protection, import and export, land use, foreign investment regulation and taxation. We are also subject to regulations relating to activities such as mining.

We are principally subject to governmental supervision and regulation by two agencies of the PRC government:

- \* the NDRC, which sets and implements the major policies concerning China's economic and social development, approves investments exceeding certain amounts, coordinates and improves the reform of the economic system, and formulates industrial policies and investment guidelines for all industries including the aluminum industry; and
- \* the Ministry of Land and Resources of China, which has the authority to grant land use licenses and mining right permits.

The following is a brief summary of the principal laws, regulations, policies and administrative directives to which we are subject.

## Requirements for Capital Investments

Any capital markets financing activities by an enterprise or company incorporated in the PRC such as those to finance capital projects, are subject to approval by the CSRC and other relevant authorities in China, regardless of whether the funds are raised in China or on the international capital markets. An issuer incorporated in the PRC must obtain prior approval from the CSRC for issuance of equity securities or equity-linked securities. Offering of corporate bonds in the PRC by a listed PRC-incorporated company is subject to approval from the CSRC, while offering of enterprise bonds in the PRC by other enterprises is subject to approval from the People's Bank of China, the NDRC and other relevant authorities. Offering of bonds by a PRC-incorporated company outside the PRC is subject to approval from the NDRC and/or the State Administration of Foreign Exchange. For all international financing activities by an enterprise or company incorporated in the PRC, the issuer must register with and obtain prior approval from the NDRC and the administrative authorities of foreign exchange. Foreign investment in the exploring and mining of alumina and primary aluminum is permitted by the PRC government.

## Entrance Conditions for Aluminum Industry

"Entrance Conditions for Alumina Industry" provides that, (i) all new bauxite projects must be approved by relevant authorities at the provincial governments, with an exception for those projects with a total investment of RMB500 million (US\$79.4 million) or above, for which the approval from the competent authority under the State Council of China is required. In addition, all new bauxite projects applying for approval should have an annual production capacity of not less than 300,000 tonnes with a service period of over 15 years; (ii) all new alumina projects must obtain approval from the competent authority under the State Council of China. Any alumina project which consumes domestic bauxite must have an annual production capacity of 800,000 tonnes or above and service duration of bauxite mines must exceed 30 years. Any alumina projects which consumes imported bauxite must have an annual production capacity of 600,000 tonnes or above and have reliable bauxite supply. Raw materials supplied under long-term purchase agreements with terms of over five years must exceed 60% of the total raw material demand; and (iii) all primary aluminum projects for expanding production capacity must be approved by the competent authority under the State Council of China. In near future, approval will only be granted to environmental protection upgrade projects and those projects under state plan to replace out-of-date equipments. All update or replacement project must have reliable alumina supply, power supply and transportation access.

## Pricing

The PRC government does not impose any limitations with respect to the pricing of alumina, primary aluminum and related products. Thus, alumina and primary aluminum producers are free to set prices for their products. All the raw materials, supplemental materials and other supplies that we purchase are based on market prices. Freight transportation on the national railway system is subject to government mandated pricing.

## Electricity Supply and Price

The State Electricity Regulatory Commission of China is responsible for the supervision and administration of the power industry in China. The NDRC and local governments regulate electricity pricing. Electricity suppliers may not change their electricity prices without governmental authorization.



The Electric Power Law of China and related rules and regulations govern construction, generation, supply and consumption of electric power. Currently, China's state-owned power companies, through their respective local subsidiaries, operate all the regional power grids in China from which we obtain most of our electricity requirements. In October 2007, Chinese government issued "Notice on Further Solutions of the Difference in Electricity Rates", according to which the preferential electricity prices originally enjoyed by Chinese primary aluminum enterprises have been gradually abolished. In May 2010, Chinese government issued "Notice of Eliminating Preferential Electricity Rate for High Energy Consuming Enterprises and Related Matters", which further eliminated the preferential electricity price arrangement enjoyed by Chinese primary aluminum enterprises.

#### Regulations Concerning Imports and Exports of Alumina and Primary Aluminum

Import taxes on alumina and primary aluminum have been eliminated. The export tariff on certain primary aluminum products has been 15% since August 1, 2007.

#### Environmental Protection Laws and Regulations

The Ministry of Environmental Protection of China is responsible for supervision and administration of environmental protection in China. It formulates national environmental quality and discharge standards and monitors China's environmental system. Environmental protection bureaus at the county level or above are responsible for environmental protection within their respective jurisdictions.

Environmental regulations require each enterprise to file an environmental impact report with the relevant environmental bureau for approval before undertaking the construction of a new production facility or any major expansion or renovation of an existing production facility. New facilities built pursuant to this approval are not permitted to operate until the relevant environmental bureau has performed an inspection and concluded that the facilities are in compliance with environmental standards.

The Environmental Protection Law requires any facility that produces pollutants or other hazards to incorporate environmental protection measures in its operations and establish an environmental protection responsibility system. Such system includes adoption of effective measures to control and properly dispose of waste gases, waste water, waste residue, dust or other waste materials. Any entity that discharges pollution must register with the relevant environmental protection authority.

Penalties for breaches of the Environmental Protection Law include warning, payment of damages and imposition of fines. Any entity undertaking a construction project that fails to install pollution prevention and control facilities in compliance with environmental standards for a construction project may be ordered to suspend production or operations and may be fined. Criminal liability may be imposed for a material violation of environmental laws and regulations that causes loss of property or personal injuries or death.

#### Mineral Resources Laws and Regulations

All mineral resources in China are owned by the state under the current Mineral Resources Law. Exploration, exploitation and mining operations must comply with the relevant provisions of the Mineral Resources Law and are under the supervision of the Ministry of Land and Resources. Exploration and exploitation of mineral resources are

also subject to examination and approval by the Ministry of Land and Resources and relevant local authorities. Upon approval, the relevant administrative authorities, which are responsible for supervision and inspection of mining exploitation in their jurisdiction, will issue a mining permit or exploration permit. The holders of mining rights are required to file annual reports with the relevant administrative authorities.

The PRC government permits mine operators of collectively owned mines to exploit mineral resources in designated areas and individuals to mine scattered mineral resources. Such mine operators and individuals are subject to government regulation. Mining activities by individuals are restricted. Individuals are not permitted to exploit mineral reserves allocated for exploitation by a mining enterprise or company, or specified minerals prescribed by the state for protective mining. Indiscriminate mining that damages mineral resources is prohibited.

If mining activities result in damage to arable land, grassland or afforested area, the mining operator must take measures to return the land to an arable state within the prescribed time frame. Any entity or individual which fails to fulfill its remediation obligations may be fined and denied application for land use rights for new land by the relevant land and natural resources authorities.

It is unlawful for an entity or individual to conduct mining operations in areas designated for other legal mining operators. A mining operator whose exploitation causes harm to others in terms of production or in terms of living standards is liable for compensation and is required to take necessary remedial measures. When a mine is closed, a mine closure report and information concerning the mining facilities, hidden dangers, remediation and environmental protection must be submitted for examination and approval in accordance with the relevant PRC law and regulations.

The mineral products illegally extracted and the income derived from such activities may be confiscated and may result in fines, revocation of the mining permit and, in serious circumstances, criminal liability.

#### Tax Laws and Regulation

In March 2007, the PRC government promulgated the Enterprise Income Tax Law which became effective from January 1, 2008. The Enterprise Income Tax Law imposes a single income tax rate of 25% on both domestic and foreign invested enterprises. Certain branches and subsidiaries of us located in special regions of the PRC were granted tax concessions including preferential tax rates of 15%. On December 6, 2007, PRC government promulgated the Enterprise Income Tax Law Implementation Rules which also became effective on January 1, 2008.

#### C. ORGANIZATIONAL STRUCTURE

Below is a summary of our corporate structure and principal subsidiaries as of December 31, 2011:

Company	Percentage of Ownership Interest Attribution to the Company	Principal Activities
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Baotou Aluminum Co., Limited	100%	Manufacture and distribution of primary aluminum, aluminum alloy and related fabrication products and carbon products
Chalco Hong Kong Ltd. <sup>(1)</sup>	100%	Overseas investments and alumina import and export activities
Chalco Ruimin Co., Limited	93.47% <sup>(2)</sup>	Manufacture of aluminum, magnesium and related alloy products; export activities
Chalco Southwest Aluminum Co., Limited	60%	Manufacture and distribution of metal materials (excluding precious metals); sales of general machinery and equipment
Chalco Southwest Aluminum Cold Rolling Co., Limited	100%	Rolling aluminum and aluminum alloy processing; development of high precision aluminum strip production technology; import and export activities on goods and technology
Chalco Zunyi Alumina Co., Ltd.	67%	Manufacture and distribution of alumina
China Aluminum International Trading Co., Ltd.	100% <sup>(3)</sup>	Import and export activities
Chalco Mining Co., Ltd.	100%	Manufacture, acquisition and distribution of bauxite mines, limestone ore, aluminum magnesium ore and related nonferrous metal products
Fushun Aluminum Co., Ltd.	100%	Aluminum smelting, manufacture and distribution of nonferrous metals
Gansu Hualu Aluminum Co., Ltd.	51%	Manufacture and distribution of primary aluminum
Chalco Henan Aluminum Co., Limited	90.03%	Manufacture and distribution of aluminum and alloy related products
Jiaozuo Wanfang Aluminum Manufacturing Co., Ltd	24.002% <sup>(4)</sup>	Aluminum smelting, manufacture and distribution of nonferrous metals
Shandong Huayu Aluminum and Power Co., Ltd.	55%	Manufacture and distribution of primary aluminum
Shanxi Huasheng Aluminum Co., Ltd.	51%	Manufacture and distribution of primary aluminum, aluminum alloy and carbon-related products
	60%	

Shanxi Huaze Aluminum and Power Co., Ltd.		Manufacture and distribution of primary aluminum and anode carbon products and electricity generation and supply
Zunyi Aluminum Co., Ltd.	62.10%	Manufacture and distribution of primary aluminum

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Shanxi Huaxing Alumina Co., Ltd.	100%	Manufacture and distribution of alumina
Gansu Huayang Mining Development Company Limited	70%	Manufacture and distribution of coal and other mineral products
Chalco Energy Co., Ltd.	100%	Thermoelectric supply and investment management

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- (1) Chalco Hong Kong Ltd. is incorporated in Hong Kong and all other principal subsidiaries are incorporated in the PRC.
- (2) In April 2011, we injected RMB233 million (US\$37 million) in cash into Chalco Ruimin. Consequently, our equity interest in Chalco Ruimin increased from 92.18% to 93.47%.
- (3) In June 2011, we acquired 9.5% of the equity interest in Chalco Trading from China Aluminum Development Limited, a wholly-owned subsidiary of Chinalco, through public bidding at a total consideration of RMB160 million (US\$25.4 million). Subsequently, we injected additional RMB558 million (US\$88.7 million) in cash and Chalco Trading capitalized its retained earnings of RMB742 million (US\$117.9 million). As of December 31, 2011, the capital verification for this capitalization is still in process.
- (4) In October 2010, we disposed of a total of 5% equity interest of Jiaozuo Wanfang in an open market at market quoted price of the shares. Total cash proceeds less commission and other direct selling costs amounted to approximately RMB480 million. As a result of the disposal, our equity interest in Jiaozuo Wanfang decreased from 29% to 24.002%, but we remain the single largest shareholder and have retained the rights to nominate five of the six non-independent directors. The balance of equity holdings in Jiaozuo Wanfang is dispersed and the other shareholders have not organized their interests and cannot easily organize themselves in such a way that they exercise more votes than the minority holder. In additions, all resolutions proposed by us in the past four years were approved. The directors are of the view that we has de facto controlled over Jiaozuo

Wanfang.

#### D. PROPERTY, PLANTS AND EQUIPMENT

##### Mines

##### Bauxite Mines

The following map sets forth details of the area surrounding Pingguo mine, our largest bauxite mine in China:

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The Guangxi Pingguo plant, located in the Guangxi Zhuang Autonomous Region, commenced operations in 1994. The surrounding infrastructure includes roadways and waterways.

On March 30, 2011, Chalco Hong Kong entered into a joint venture agreement with Laos Service Co., Ltd. to acquire 60% of the equity interest in Laos Mineral Services Co., Ltd. for the development and operation of a bauxite mine and other mineral resources in Laos. As of the date of this annual report, the bauxite mine is at the exploration stage and neither proven nor probable reserves have been established.

##### Modernization and Physical Condition, Equipment, Infrastructure and Other Facilities

We have modern facilities at our mines in China, which were designed by professional PRC mine design institutes and adhere to international standards. Our mines are either open pit or underground. Our mines generally have mining offices and transportation facilities that have access to local roads and highways. In addition, we utilize advanced heavy equipment such as bulldozers and scrapers.

##### Source of Power and Water

All of our mining facilities in China are connected to the local or regional electric power grids. Certain jointly-owned mines that are in more remote areas depend on diesel powered equipment, which can be purchased at public markets. In addition, our mining facilities are connected to reliable water sources, all of which were sufficient for the requirements of each individual mine.

##### Coal Mines

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We acquired 70% of the equity interest in Gansu Huayang in March 2011, which holds mining rights for coal deposits in the Luochuan mining area, Gansu Province. Luochuan mine is an underground mine and is currently

under exploration. As of the date of this annual report, neither proven nor probable reserves have been established.

On May 16, 2011, We entered into a mining rights transfer agreement to acquire the mining rights for coal deposits in the Laodonghe mining area, Guizhou Province, with the previous mining rights holder. As of the date of this annual report, we are still in the process of transferring the mining rights from the previous mining rights holder. We are currently in preparation for exploration of Laodonghe mine. Laodonghe mine is an underground mine and has a designed annual production capacity of non-caking coal of 300,000 tonnes. As of the date of this annual report, neither proven nor probable reserves have been established.

## Land

Chinalco leases to us 457 pieces or parcels of land, located in eight provinces, covering an aggregate area of approximately 63.3 million square meters for any purpose related to our operations and businesses. Currently, all leases for our properties are valid and have not expired. The leased land mainly consists of:

- \* 449 pieces of allocated land with an area of approximately 62.0 million square meters. Chinalco has obtained authorization from the relevant administrative authorities to manage and lease the land use rights for such land; and
- \* 12 pieces of land with an area of approximately 1.3 million square meters. 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 July 1, 2001 (except for land use rights of mines operated by us, 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.

## Buildings

Our principal executive offices, which we lease from Chinalco, are located at No. 62 North Xizhimen Street, Hai Dian District, Beijing, People's Republic of China, 100082.

Pursuant to the reorganization in connection with our initial public offering in 2001, Chinalco transferred to us, among other operating assets, ownership of the buildings and properties for the operation of our core businesses.

Chinalco retained its remaining buildings and properties for its operations. The buildings transferred to us comprise 4,631 buildings with an aggregate gross area of approximately 4.2 million square meters. 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 affect land grant procedures to ensure that our buildings can be legally transferred or sold.

We 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. We lease 59 buildings to Chinalco, with an aggregate gross area of approximately 62,819 square meters. Chinalco leases 100 buildings to us, with an aggregate gross area of approximately 273,637 square meters. The lease terms of all these buildings are 20 years commencing from July 1, 2001. Chinalco had obtained proper land and building title certificates for all of the buildings it leases to us by the end of 2004. On March 28, 2005, we entered into a tenancy agreement with China Aluminum Development Company Limited, a wholly-owned subsidiary of Chinalco, for leasing the office premises at 12th to 16th floors and 18th to 31st floors of No. 62 North Xizhimen Street, Hai Dian District, Beijing, PRC with an aggregate gross floor area of 30,160.81 square meters for a term of three years. On October 15, 2008, our tenancy agreement with China Aluminum Development Company Limited expired, and we renewed the tenancy agreement to extend it for another three years commencing on October 16, 2008, pursuant to which, the aggregated gross floor area we leased under such tenancy agreement was increased to 30,188.0 square meters. On October 10, 2010, we entered into a supplemental tenancy agreement with China Aluminum Development Company Limited, pursuant to which, the aggregate gross floor area we lease under the tenancy agreement was reduced to 26,036.3 square meters. On October 15, 2011, we renewed the tenancy agreement to extend it for another two years, pursuant to which, the aggregate gross floor area we lease under the tenancy agreement was further reduced to 23,551 square meters.

For environmental issues in relation to the utilization of our assets, please refer to "Item 4. Information on the Company - B. Business Overview - Environmental Protection."

#### Our Expansion

In 2012, we plan to expand our annual production capacities of alumina and primary aluminum by approximately 690,000 tonnes and 90,000 tonnes, respectively. Our expansion projects in 2012 primarily include:

- \* Chalco Xing Xian alumina project: This project is expected to be completed in 2013, and we expect the completion of this project to increase our annual alumina production capacity by 800,000 tonnes. We expect to invest a total amount of approximately RMB4.7 billion (US\$0.7 billion) in this project and we had invested approximately RMB774 million (US\$123 million) as of December 31, 2011.
- \* Shanxi branch alumina project: This project is expected to be completed in 2012, and we expect the completion of this project to increase our annual alumina production capacity by 530,000 tonnes. We expect to invest a total amount of approximately RMB780 million (US\$124 million) in this project.

We intend to fund these capital expenditures through a combination of internal funds derived from our own operations and the proceeds from medium-term and long-term debt financing.

#### ITEM 4A. UNRESOLVED STAFF COMMENTS

None

#### ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

The following discussion and analysis should be read in conjunction with our audited financial statements and selected historical financial data, in each case together with the accompanying notes included elsewhere in this annual report. This section contains certain "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements are not guarantees of our future performance or results and our actual results could materially differ from those disclosed in the forward-looking statements. In evaluating our business, you should carefully consider the information provided in "Item 3. Key Information - D. Risk Factors."

##### A. OPERATING RESULTS

###### Overview

We are the largest producer of alumina, primary aluminum and aluminum fabrication products in China. We are engaged principally in alumina refining, primary aluminum smelting, aluminum fabricating and trading of non-ferrous metal products and other products. We organize and manage our operations according to the following key segments:

- \* Alumina segment, which consists of the mining and purchasing of bauxite and other raw materials, and production and sale of alumina as well as alumina-related products, such as alumina hydrate, alumina-based chemical products and gallium. Alumina accounted for approximately 93.8% of the total production volume for this segment in 2011. Alumina chemical products are used in the production of chemical, pharmaceutical, ceramic and construction materials. In the process of refining bauxite into alumina, we produce a small amount of gallium as a by-product. Gallium is a rare, high value metal with applications in the electronics and telecommunication industries.
- \* Primary aluminum segment, which consists of the production and sale of primary aluminum and aluminum-related products, such as carbon products. Our principal primary aluminum product is ingots, which accounted for approximately 77.7% of our total production volume for this segment in 2011. Our standard 20 kilogram remelt ingots are used for general aluminum fabrication in the construction, power generation, automobile, packaging, machinery and durable goods industries. We internally produce substantially all the carbon products used at our smelters and sell our remaining carbon products to external customers.



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- \* Aluminum fabrication segment, which consists of the production and sale of aluminum fabrication products, including casts, planks, strips, screens, extrusions, ingots and profiles, which are widely used in the construction, power generation, automobile, packaging, machinery and durable goods industries. We use recycled aluminum materials at Chalco Qingdao and Chalco Nanhai, two of our aluminum fabrication plants, to produce aluminum fabrication products.
  
  - \* Trading segment, which consists of sales of alumina, primary aluminum, aluminum fabrication products, other non-ferrous metal products and raw and ancillary materials in bulk both manufactured by us and sourced from external suppliers domestically and abroad. We established our trading business as a separate segment in July 2010, as a result of the implementation of our operational structural exercise.
  
  - \* Corporate and other operating segments, which mainly include management of headquarters, research and development activities.

#### Critical Accounting Policies

We prepare our consolidated financial statements in accordance with IFRS as issued by the IASB, which requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the accounting policies. The areas in our financial reporting involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 4 to our consolidated financial statements. We have established procedures and processes to facilitate the making of such judgments in the preparation of our consolidated financial statements. Management has used the best information available but actual performance may differ from our management's estimates and future changes in key variables could change future reported amounts in our financial statements.

#### Property, Plant and Equipment- recoverable amount

Each asset or cash generating unit is evaluated every reporting period to determine whether there are any indications of impairment. If any such indication exists, an estimate of recoverable amount is performed and an impairment loss recognized to the extent that the carrying amount exceeds the recoverable amount. The recoverable amount of an asset or cash generating group of assets is measured at the higher of fair value less costs to sell and value in use.

Fair value is determined as the amount that would be obtained from the sale of the asset in an arm's length transaction between knowledgeable and willing parties and is generally determined as the present value of the estimated future cash flows expected to arise from the continued use of the asset, and its eventual disposal.

Value in use is also generally determined as the present value of the estimated future cash flows, but only those expected to arise from the continued use of the asset in its present form and its eventual disposal. Present values are

determined using a risk-adjusted pre-tax discount rate appropriate to the risks inherent in the asset. Future cash flow estimates are based on expected production and sales volumes, commodity prices (considering current and historical prices, price trends and related factors) 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 the recoverable amount of the assets. In such circumstances, some or all of the carrying value of the assets may be impaired and the impairment would be charged against the statement of comprehensive income.

#### Property, plant and equipment and intangible assets - estimated useful lives and residual values

Our management determines the estimated useful lives and residual values (if applicable) and consequently related depreciation/amortization charges for our property, plant and equipment and intangible assets. 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 we intend to derive future economic benefits from the use of intangible assets. Our management will increase the depreciation/amortization charge where useful lives are less than previously estimated lives, 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 a change in depreciable lives and residual values and therefore depreciation/amortization expense in future periods.

#### Goodwill - recoverable amount

Goodwill is allocated to our operating segment as it represents the lowest level at which the goodwill is monitored for internal management purposes and is tested for impairment annually based on a formal estimate of the recoverable amount prepared by our management. The recoverable amount is estimated as the value in use of the operating segment. Similar considerations to those described above in respect of assessing the recoverable amount of property, plant and equipment apply to goodwill.

#### Estimated impairment of inventories - net realizable value

Our management tests whether inventory suffered any impairment based on estimates of the net realizable value of the inventory. For different types of inventories, it requires the exercise of accounting estimates on selling price, costs of conversion, selling expenses and related tax expense to calculate their net realizable value. For inventories held for executed sales contracts, our management estimates the net realizable value based on the contractual price; for other inventories, our management estimates the realizable future price based on the actual prices during the period from the balance sheet date to the date these financial statements were approved for issuance by our Board, taking into account the nature and balance of inventories and future estimated price trends. For raw materials and work-in-progress, our management has established a model in estimating the net realized value at which the inventories can be realized in the normal course of business after considering our manufacturing cycles, production capacity and forecasts, estimated future conversion costs and selling prices. The management also takes into account the price or cost fluctuations and other related matters occurring after the balance sheet date which reflect conditions

that existed as of the balance sheet date.

It is reasonably possible that if there is a significant change in circumstances including our business and the external environment, outcomes within the next financial year may be significantly affected.

#### Income Tax

We estimate our income tax provision and deferred income taxation in accordance with the prevailing tax rules and regulations, taking into account any special approvals obtained from relevant tax authorities and any preferential tax treatment to which we are entitled in each location or jurisdiction in which we operate. There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. We recognize 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, such differences will impact the income tax and deferred income tax provisions in the period in which such determination is made.

For temporary differences which give rise to deferred income tax assets, we have assessed the likelihood that the deferred income tax assets could be recovered. Major deferred income tax assets relate to deductible tax losses and provision for impairment of assets and accruals of expenses not yet deductible for tax purposes. Due to the effects of these temporary differences on income tax, we recorded deferred income tax assets of approximately RMB1,628 million (US\$258.7 million) as of December 31, 2011, compared with approximately RMB1,536 million as of December 31, 2010. Deferred income tax assets are recognized based on our estimates and assumptions that they will be recovered from taxable income arising from continuing operations in the foreseeable future.

We believe we have recorded adequate current tax provision and deferred income taxes based on the prevailing tax rules and regulations and our current best estimates and assumptions. In the event that future tax rules and regulations or related circumstances change, adjustments to current and deferred income taxation may be necessary which would impact the our results or financial position.

#### Going concern

As set out in Note 2.1.1 to the consolidated financial statements, our ability to continue operations depends on obtaining the necessary financing borrowings and continued operations to generate sufficient cash flow to meet our liabilities as they fall due. In the event we are unable to obtain adequate funding, there is uncertainty as to whether we will be able to continue as a going concern. The financial statements do not include any adjustments related to the carrying values and classifications of assets and liabilities that would be necessary should we be unable to continue as a going concern.

#### New IFRS Pronouncements

For a detailed discussion of new accounting pronouncements, please see Note 2 to our audited consolidated financial statements.

## Factors Affecting Our Results of Operations

We believe that the following factors which impact our various revenue and expense items (as described below) have had, and will continue to have, a significant effect on the development of our business, financial position and results of operation.

### General Economic Conditions in China and the World and Demand for, and Mix of, Our Self-produced Products.

We are engaged principally in alumina refining, primary aluminum smelting, aluminum fabrication products manufacturing and sales of these products and trading of non-ferrous metal products and other products. As the major aluminum product market is globalized, the demand for and prices of our products are highly correlated with the general economic conditions in China and the world and the performance of the major aluminum and related product markets. During late 2008 and early 2009, China's economy experienced a downturn, exacerbated by the global financial crisis. The downturn had a substantial impact on China's alumina, primary aluminum and aluminum fabrication product market and resulted in significant decreases in the sales volumes and average selling prices of our major aluminum products. As a result, we incurred a net loss of RMB4,679.6 million for the year ended December 31, 2009. In response to the downturn, the PRC government implemented a stimulus plan to encourage the economic growth, and China's economy began to recover in late 2009. In 2010, China's GDP growth rate reached 10.3% per annum and industries' sentiment recovered significantly, resulting in a general recovery of the alumina, primary aluminum and aluminum fabrication product markets in China. In addition, as the global economy continued to recover starting from the second half of 2009, the global demand for aluminum products continued to increase in 2010. As a result, our revenue increased by 72.2% from 2009 to 2010 and we generated a net profit of RMB969.1 million in 2010, compared with a net loss of RMB4,679.6 million in 2009. In 2011, China's GDP grew at 9.2%. The prices of various raw materials and energy cost increased in China, which increased our cost and led to a decrease in our gross profit margin. To control inflation, the PRC government increased the PBOC's benchmark interest rate several times, resulting in a significant increase in our financing cost. Such macro-economic conditions in China directly affected our financial results. Our net profit decreased from RMB969.1 million in 2010 to RMB690.5 million (US\$109.7 million) in 2011. We expect China's and global demand for and market prices of alumina, primary aluminum and aluminum fabrication products to continue to affect us in 2012.

Demand for alumina manufactured by us is primarily affected by the output and consumption on the global and domestic market. The global output of alumina in 2011 was approximately 90.7 million tonnes, representing a year-on-year increase of 10.6%. The global alumina consumption reached approximately 89.4 million tonnes, representing a year-on-year increase of 7.9%. In 2011, the domestic output of alumina products reached approximately 38.8 million tonnes, representing a year-on-year increase of 24.4%. The domestic demand for alumina was approximately 39.0 million tonnes, representing a year-on-year increase of 10.5%. In 2011, alumina imported into the PRC amounted to approximately 1.9 million tonnes, representing a year-on-year decrease of 56.4%.

Demand for primary aluminum manufactured by us is primarily affected by the output and consumption in the global and domestic market. In 2011, the global output of primary aluminum reached approximately 45.6 million tonnes, representing an increase of 8.8% from 2010. The global consumption of primary aluminum reached approximately 45.1 million tonnes, representing an increase of 10.0% from 2010. Domestic consumption of primary aluminum in China increased by 15.4% from 2010 and reached approximately 19.5 million tonnes in 2011. The domestic output increased by 24.3% from 2010 and reached approximately 19.5 million tonnes in 2011. In 2011, China had net import of approximately 225,000 tonnes primary aluminum.

Demand for aluminum fabrication products manufactured by us is primarily affected by the output and consumption on specific industrial end-user markets as different aluminum fabrication products are tailored for different industries.

In the current domestic and global market, the industries that consume the substantial portion of aluminum fabrication products are construction industry, real estate industry and automobile manufacturing industry. The performance of these industries is highly correlated with China's and the global economy.

#### Pricing and Sales of Our Self-produced Products.

We sell our self-produced products through Chalco Trading, taking into account the relevant LME and SHFE prices. For information on our pricing of different products, please see the section headed "Item 4. Information of the Company - B. Business Overview - Sales and Marketing."

The sales prices of alumina that our alumina refineries sell internally to Chalco Trading are determined at a percentage of the average primary aluminum futures prices on the SHFE for the past three months. Chalco Trading coordinates the external sales of our alumina products. In 2011, the international and domestic spot prices of alumina fluctuated significantly. The spot price of alumina in the international market reached a high of approximately US\$440 per tonne and bottomed out at approximately US\$310 per tonne. The spot price of alumina in the domestic market similarly reached a high of RMB3,000 (US\$476.7) per tonne and bottomed out at RMB2,600 (US\$413.1) per tonne. In 2011, our average selling price of alumina was RMB2,863 (US\$454.9) per tonne, representing a year-on-year increase of 5.0%, compared to the average import price of alumina of US\$417 per tonne, which represented a year-on-year increase of 23.4%.

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Like most primary aluminum producers in China, we price our primary aluminum products by reference to the SHFE spot prices. SHFE primary aluminum spot prices generally reflect LME primary aluminum spot prices, but also account for international transportation costs, import tariffs, value-added tax and other import-related costs. Fluctuations in the SHFE spot prices, and LME spot prices by extension, have a significant effect on our operating results. Primary aluminum prices on the SHFE and LME tend to be cyclical and volatile. The following table sets out the average three-month primary aluminum futures price on the LME and SHFE in the periods indicated:

	2009	2010	2011
	(U.S. dollar per tonne)		
LME	1,664.0	2,272.0	2,410.0
SHFE <sup>(1)</sup>	1,993.5	2,394.2	2,615.5

(1) Translated into U.S. dollars at U.S. dollar 1.00 = RMB6.4588, being the annual average for 2011.

During 2011, the international and domestic prices of primary aluminum fluctuated significantly as a result of the global macro-economic conditions. Largely due to the recovery of the global economy, the turmoil in the Middle East and the quantitative easing policy of the U.S., in May 2011, the price of three-month aluminum on the LME reached an annual high of US\$2,797 per tonne and in August 2011, the price of three-month aluminum at SHFE reached an

annual high of RMB18,600 (US\$2,955.2) per tonne. However, following the spread of the European sovereign debt crisis, the prices of three-month aluminum plummeted to an annual low of US\$1,962 per tonne at LME in the fourth quarter of 2011. Despite the price declines in the fourth quarter of 2011, the average three-month aluminum futures prices for 2011 at LME and SHFE reached US\$2,410 and RMB16,893 (US\$2,615.5) per tonne, representing a year-to-year increase of 6.1% and 4.4%, respectively. By comparison, our average external selling price of primary aluminum increased by 7.2% from 2010 to 2011.

We sell aluminum fabrication products under contracts, terms of which are typically no longer than one year. We price our aluminum fabrication products primarily pursuant to the market price of primary aluminum, and to a lesser extent, the processing charge. The price of primary aluminum generally reflects the SHFE and LME primary aluminum spot prices. Since the cost of primary aluminum comprises a substantial portion of our cost in producing aluminum fabrication products, fluctuations in the SHFE and LME spot prices have a significant effect on our operating results. The processing fee is generally affected by the client-based requirement for a specific product and our proprietary technology and know-how. Different client-based requirement will result in significantly different processing charges.

#### Price Volatility of Non-ferrous Metal Products.

Since late 2009, as a result of the implementation of our operational structural adjustment, we have been engaged substantially in the trading of non-ferrous metal products to increase our profit. Although the profit margin of non-ferrous metal products trading is typically lower than that of our self-produced products, we generated substantial revenues from trading of non-ferrous metal products in 2011 due to our significant trading volumes. We use futures contracts and option contracts in addition to the simple buy-low-sell-high trading model to hedge against price fluctuations in non-ferrous metal product market. However, short-term price volatility of non-ferrous metal products remains a key factor affecting our operation result, as we need to make the correct prediction of the price trends of the non-ferrous metal products on the markets to ensure substantial revenues through large trading volume. If the market price trend does not match our prediction, we may be forced to sell non-ferrous metal product at low prices or to purchase non-ferrous metal product at high prices, which may adversely affect gross margins and profitability.

#### Manufacturing Costs.

Our cost of revenues consists primarily of the costs of the raw materials, overhead cost and the electric power cost which is our principal energy cost.

Our principal raw material is bauxite. For the years ended December 31, 2009, 2010 and 2011 bauxite produced by us accounted for 61.3%, 49.4% and 49.1% of our total bauxite used in the production of alumina. The unit cost of bauxite produced by us is generally lower than the unit cost of bauxite procured from external suppliers. However, unit cost of bauxite produced by us may exceed the unit cost of outsourced bauxite if the domestic and global bauxite prices decrease. To mitigate such risk, we also purchase a substantial amount of bauxite from external suppliers. This practice allows us flexibility to control our production cost. We also apply this practice to our primary aluminum manufacturing.

Given our high proportion of fixed costs, we must generate sufficient sales to absorb our fixed costs to maintain or increase our operating margins. Our acquisitions and production expansion in recent years have significantly increased our costs that are relatively fixed in nature such as leases and depreciation of property, plant and equipment and employee benefit expenses. If we are able to maintain satisfactory facility utilization rates and productivity, our production capacity expansion will enable us to reduce our unit costs through economies of scale and recover associated increased costs through higher output.

Primary aluminum is one of our major aluminum products and is produced by smelting operations. Smelting operations require a substantial and continuous supply of electricity. Electricity cost is the most significant component of our primary aluminum production cost and accounted for approximately 42% of our unit production cost for primary aluminum in 2011. The availability and price of electricity are key considerations in our primary aluminum operations. 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. Our average annual electricity price increased by 12.7% from 2009 to 2010 and further by 5.7% from 2010 to 2011. In 2009, nine of our primary aluminum smelters were selected to participate in a direct electricity purchase program, which allows those smelters to purchase electricity supply directly from power generation enterprises at prices slightly lower than the market rates. As of December 31, 2011, two of our primary aluminum smelters with an annual production capacity of approximately 640,000 tonnes, representing approximately 16.1% of our primary aluminum capacity, had entered into direct electricity supply agreements under this program. The remaining seven primary aluminum smelters are still in the process of seeking the approvals from the relevant authority. In addition, we have implemented energy conservation measures at a number of our production facilities, mainly by streamlining the production process and improving our product portfolio.

#### PRC Regulation Affecting the Aluminum and Other Non-ferrous Metal Products Industries.

The central and local governments in PRC continues to exercise a substantial degree of control and influence over the aluminum and other non-ferrous metal product industry in China and shape the structure and development of the industry through the imposition of industry policies governing major project approvals, preferential tax treatment and safety, environmental and quality regulations, including but not limited to the "Aluminum Industry Development Policy", "Notice on Guiding Opinions for Accelerating Aluminum Industrial Restructuring", "Environmental Protection Guide for Developing Cyclic Economy in Aluminum Industry", "Notice of the State Council of China on Further Strengthening the Elimination of Obsolete Production Capacities" and "Non-ferrous Metals Industry Restructuring and Revitalization Planning", etc. Certain existing laws and regulations involve barriers to entry, production quotas, setting, amending or abolishing import tariffs and limitations and duties on the export of aluminum and certain non-ferrous metals and related products. If PRC government changes its current policies or the interpretation of those policies that are currently beneficial to us, we may face pressure on profit margins and significant constraints on our ability to expand our business operations.

#### Selected Statement of Operation Items

##### Revenues

We generate revenues primarily from sales of alumina, primary aluminum, aluminum fabrication products and other non-ferrous metal products. Historically, Chalco Trading mainly generated revenue by selling self-produced products procured from our alumina, primary aluminum and aluminum fabrication plants. Commencing in late 2009, as a result of the implementation of our operational structural adjustment, we have been engaged substantially in the

trading of outsourced non-ferrous metal products through Chalco Trading to increase the profit margin. In connection with the significant increase of trading revenue, we refined our existing accounting system to separately capture sales of self-produced products and products sourced from external suppliers within the trading segment in 2011. However, similar analysis for 2010 is not available as such information was not captured prior to 2011. In 2011, revenues generated from alumina, primary aluminum, aluminum fabrication products and trading segment (before elimination of inter-segment sales) accounted for 14.8%, 27.6%, 5.6% and 51.9%, respectively, of our consolidated total revenues before elimination of inter-segment sales. Revenues generated from alumina, primary aluminum, aluminum fabrication products and trading segments (after elimination of inter-segment sales) accounted for 2.1%, 21.9%, 7.9% and 68.0%, respectively, of our consolidated total revenues after elimination of inter-segment sales for the same period.

#### Cost of Sales

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Our cost of sales consists primarily of purchase of inventories in relation to trading activities, the cost of the raw materials, the electric power cost which is our principal energy cost and the fixed cost. For the years ended December 31, 2009, 2010 and 2011, our cost of sales was RMB69,079.4 million, RMB113,349.9 million and RMB138,111.4 million (US\$21,943.7 million), and accounted for 98.3%, 93.7% and 94.7% of the total consolidated revenues, respectively.

#### Operating Expenses

##### Selling and Distribution Expenses.

Our selling and distribution expenses consist primarily of transportation and loading expenses, packaging expense and, to a lesser extent, port expenses, employee benefit expenses for employees in selling and distribution department, warehouse and other storage fees, depreciation of non-production property, plant and equipment, sales commissions and other handling fees, marketing and advertising expenses, and others. Selling and distribution expenses accounted for 25.2%, 31.1% and 33.1% of our total operating expenses for the years ended December 31, 2009, 2010 and 2011, respectively.

##### General and Administrative Expenses.

Our general and administrative expenses consist primarily of employee benefit expenses for directors and officers and employees in administrative department, travelling and entertainment, taxes other than income tax expense, depreciation of non-production property, plant and equipment, operating lease rental expenses and, to a lesser extent, utilities and office supplies, amortization of land use rights and leasehold land, insurance expense, pollutants discharge fees, repairs and maintenance, legal and other professional fees, auditors' remuneration, amortization of intangible assets, and others. General and administrative expenses accounted for 58.9%, 51.8% and 56.8% of our total operating expenses for the years ended December 31, 2009, 2010 and 2011, respectively. Employee benefit expenses, including salaries and bonus, housing fund, staff welfare and other expenses, employment expense in relation to early retirement schemes, and retirement benefit cost-defined contribution schemes, comprise the largest component of our general and administrative expenses, accounting for 34.7%, 32.0% and 29.3% of our total general and administrative expenses for the years ended December 31, 2009, 2010 and 2011, respectively. Our taxes other than income tax expense, consisting primarily of land use tax, property tax and stamp duty, comprise the second



largest component of our general and administrative expenses, accounting for 18.5%, 23.4% and 23.9% of our total general and administrative expenses for the years ended 2009, 2010 and 2011, respectively.

#### Research and Development Expenses.

Our research and development expenses accounted for 3.5%, 3.2% and 4.4% of our total operating expenses for the years ended December 31, 2009, 2010 and 2011, respectively.

#### Impairment loss on property, plant and equipment.

Our impairment loss on property, plant and equipment accounted for 12.4%, 13.9% and 5.7% of our total operating expenses for the years ended December 31, 2009, 2010 and 2011, respectively.

#### Other Income.

Our other income represents government grants, which were primarily research subsidies and grants on environmental protection projects.

#### Other Gains, net.

Our other gains, net consist primarily of realized gain on future, forward and option contracts, and gain on disposal of available-for-sale investments and, to a lesser extent, gain/loss on disposal of property, plant and equipment, unrealized gain on future, forward and option contracts, and others.

#### Finance Costs

Our financing costs consist primarily of interest expense on our borrowings, which we have incurred mainly to fund our capital expenditures. Interest rates on loans related to capital expenditures and working capital set by banks generally follow guidelines issued by the People's Bank of China. The People's Bank of China regulates the interest rates for commercial loans charged by state-owned banks from time to time as part of the PRC government's efforts to regulate the PRC economy. Such interest rates decreased in 2009 and increased in 2010 and 2011. In 2011, we incurred interest expense (net of capitalized interest) of RMB3,457.0 million (US\$549.3 million) on our borrowings.

#### Share of profit of jointly controlled entities

Our share of profit of jointly controlled entities is the profit attributable to us from our jointly controlled entities, based on our equity interests in such jointly controlled entities. A jointly controlled entity is a joint venture that is subject to joint control, resulting in none of the participating parties having unilateral control over its economic activity.

Our share of profits of associates is the profits attributable to us from our associates, based on our equity interests in such associates. An associate is an entity over which we have significant influence but not control, in which we generally hold between 20% and 50% of the voting rights.

### Consolidated results of operations

The following table sets forth certain income and expense items as a percentage of our revenues from our consolidated statements of comprehensive income for the periods indicated:

	Year Ended December 31,						
	2009		2010		2011		
	RMB	(%)	RMB	(%)	RMB	US\$	(%)
	(in millions, except percentages)						
Revenues	70,268.0	100.0	120,994.8	100.0	145,874.4	23,177.1	100.0
Cost of sales	(69,079.4)	(98.3)	(113,349.9)	(93.7)	(138,111.4)	(21,943.7)	(94.7)
Gross profit	1,188.6	1.7	7,644.9	6.3	7,763.1	1,233.4	5.3
Selling and distribution expenses	(1,264.9)	(1.8)	(1,573.3)	(1.3)	(1,622.8)	(257.8)	(1.1)
General and administrative expenses	(2,956.4)	(4.2)	(2,623.8)	(2.2)	(2,779.4)	(441.6)	(1.9)
Research and development expenses	(177.8)	(0.3)	(164.2)	(0.1)	(218.0)	(34.6)	(0.1)
Impairment loss on property, plant and equipment	(623.8)	(0.9)	(701.8)	(0.6)	(279.8)	(44.5)	(0.2)
Other income	151.1	0.2	328.9	0.3	185.5	29.5	0.1
Other gains, net	403.8	0.6	491.0	0.4	538.0	85.5	0.4
Operating (loss)/profit	(3,279.4)	(4.7)	3,401.7	2.8	3,586.6	569.9	2.5
Finance costs, net	(2,137.9)	(3.0)	(2,495.2)	(2.1)	(3,293.6)	(523.3)	(2.3)

Share of (loss)/profit of jointly controlled entities	(50.4)	(0.1)	233.8	0.2	122.3	19.4	0.0
Share of profit of associates	77.1	0.1	240.1	0.2	402.7	64.0	0.3
	_____	_____	_____	_____	_____	_____	_____
(Loss) /Profit before income tax	(5,390.6)	(7.7)	1,380.4	1.1	818.0	130.0	0.6
Income tax benefit /(expense)	711.0	1.0	(411.3)	(0.3)	(127.5)	(20.3)	(0.1)
	_____	_____	_____	_____	_____	_____	_____
(Loss)/profit for the year	(4,679.6)	(6.7)	969.1	0.8	690.5	109.7	0.5
	_____	_____	_____	_____	_____	_____	_____

No customer individually accounted for more than 10% of our total sales or any of our segment sales for the year ended December 31, 2011. Sales to Chinalco and its subsidiaries, jointly-controlled entities, associates and other related parties accounted for approximately 9.7%, 9.0% and 7.4% of consolidated revenues for the years ended December 31, 2009, 2010 and 2011, respectively. For information on related party transactions, see "Item 7 - Major Shareholders and Related Party Transactions - B. Related Party Transactions" and Note 35 to our audited consolidated financial statements.

#### Year Ended December 31, 2011 Compared with Year Ended December 31, 2010

##### Revenues

Our revenue increased by 20.6% from RMB120,994.8 million for the year ended December 31, 2010 to RMB145,874.4 million (US\$23,177.1 million) for the year ended December 31, 2011, primarily due to the increase in the sales of our major products and the trading volumes. The aggregate external sales of our self-produced products made directly by our Alumina, Primary aluminum and Aluminum fabrication segments increased by 19.4% from RMB38,870.9 million for the year ended December 31, 2010 to RMB46,399.9 million (US\$7,372.2 million) for the year ended December 31, 2011 and our revenue generated from trading segment increased by 21.2% from RMB81,982.2 million for the year ended December 31, 2010 to RMB99,324.1 million (US\$15,781.0 million) for the year ended December 31, 2011, reflecting the increased demand for these products as a result of the continued recovery of the PRC and global economy.

##### Cost of Sales

Our cost of sales increased by 21.8% from RMB113,349.9 million for the year ended December 31, 2010 to RMB138,111.4 million (US\$21,943.7 million) for the year ended December 31, 2011, primarily due to the increases in our sales and trading volume. Our purchase of inventories in relation to trading activities increased by 24.3% from RMB50,843.1 million for the year ended December 31, 2010 to RMB63,216.5 million for the year ended December 31, 2011, primarily due to the increase in our trading volume. The raw materials and consumables used increased by 45.8% from RMB27,042.8 million for the year ended December 31, 2010 to RMB39,424.4 million for the year ended December 31, 2011, primarily due to the increase in the prices of raw materials. The power and utilities cost increased by 12.2% from RMB19,622.1 million for the year ended December 31, 2010 to RMB22,018.4 million for the year ended December 31, 2011, primarily due to the increase in the prices of fuels and power. Our gross profit margin decreased from 6.3% for the year ended December 31, 2010 to 5.3% for the year ended December 31, 2011, primarily because the prices of raw materials and power and utilities increased faster than the average selling prices of our products and the growth of our trading segment, which generally had a lower gross margin than that for our Group as a whole.

#### Selling and Distribution Expenses

Our selling and distribution expenses increased by 3.1% from RMB1,573.3 million for the year ended December 31, 2010 to RMB1,622.8 million (US\$257.8 million) for the year ended December 31, 2011, primarily due to an increase in the external sales of our major products.

#### General and Administrative Expenses

Our general and administrative expenses increased by 5.9% from RMB2,623.8 million for the year ended December 31, 2010 to RMB2,779.4 million (US\$441.6 million) for the year ended December 31, 2011, primarily due to the net effect of an increase in fees and expenses as a result of establishment and acquisition of new subsidiaries in 2011, partially offset by a decrease in non-fixed expenses such as employee benefit expenses and insurance expenses as a result of our efforts to reduce costs and enhance efficiency.

#### Research and Development Expenses

Our research and development expenses increased by 32.8% from RMB164.2 million for the year ended December 31, 2010 to RMB218.0 million (US\$34.6 million) for the year ended December 31, 2011, reflecting our increased research and development efforts.

#### Impairment loss on Property, Plant and Equipment

Our impairment loss on property, plant and equipment decreased by 60.1% from RMB701.8 million for the year ended December 31, 2010 to RMB279.8 million (US\$44.5 million) for the year ended December 31, 2011, primarily because we discontinued the use of certain production equipment and reduced the carrying amount of these pieces of equipment to our estimated net proceeds, or recoverable amount, from their disposal in 2010, whereas we did not have such impairment loss in 2011. In addition, we had a partial write-off of the expenditure on Aurukun Project of RMB373 million, and in 2011, we recognized an additional impairment charge of RMB278 million (US\$44 million) on Aurukun Project. See Note 7(b) to our audited consolidated financial statements for detailed information.

#### Other Income

Other income decreased by 43.6% from RMB328.9 million for the year ended December 31, 2010 to RMB185.5 million (US\$29.5 million) for the year ended December 31, 2011, primarily due to the decrease in government grants on research and development of RMB94.9 million and the one-off government reward of RMB68.0 million for our contribution to the local economic development in 2010.

#### Other Gains, Net

Our net other gains increased by 9.6% from RMB491.0 million for the year ended December 31, 2010 to RMB538.0 million (US\$85.5 million) for the year ended December 31, 2011, primarily due to an increase in realized gain on futures, forward and option contracts of RMB244.5 million (US\$38.8 million), partly offset by a decrease in gain on disposal of available-for-sale investments.

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#### Operating Profit

As a result of the foregoing, our operating profit increased by 5.4% from RMB3,401.7 million for the year ended December 31, 2010 to RMB3,586.6 million (US\$569.9 million) for the year ended December 31, 2011.

#### Finance Costs, Net

Our net finance cost increased by 32.0% from RMB2,495.2 million for the year ended December 31, 2010 to RMB3,293.6 million (US\$523.3 million) for the year ended December 31, 2011, primarily due to the increase in our interest-bearing indebtedness and the increases in the PBOC's benchmark interest rates, which resulted in an increase in our weighted average annual interest rate. Our weighted average annual interest rate of long-term bank and other loans increased from 5.25% for the year ended December 31, 2010 to 5.62% for the year ended December 31, 2011.

#### Share of profit of jointly controlled entities

Our share of profit of jointly controlled entities decreased by 47.7% from RMB233.8 million for the year ended December 31, 2010 to RMB112.3 million (US\$19.4 million) for the year ended December 31, 2011, primarily due to a decrease of RMB106.9 million in the profits of Guangxi Huayin. The share of profit of jointly controlled entities accounted for 14.9% of our profit before income tax in 2011, as compared with 16.9% in 2010.

#### Share of profit of associates

Our share of profit of associates increased by 67.8% from RMB240.0 million for the year ended December 31, 2010 to RMB402.7 million (US\$64.0 million) for the year ended December 31, 2011, primarily due to an increase in the profits of our associate engaged in coal production, Jiaozuo Coal Group Xinxiang (Zhaogu) Energy Corporation Co., Ltd. The share of profit of associates accounted for 49.2% of our profit before income tax in 2011, as compared with 17.4% in 2010.

#### Income Tax

Our income tax expense decreased by 69.0% from RMB411.3 million for the year ended December 31, 2010 to RMB127.5 million (US\$20.3 million) for the year ended December 31, 2011, primarily due to the significant decrease in our profit before tax by approximately 40.7% from RMB1,380 million for 2010 to RMB818 million for 2011, which led to a corresponding decrease in income tax expense. This was partially reduced by the increase of deferred income tax assets arising from the changes in applicable income tax rate for certain branches and subsidiaries. In 2011, the applicable tax rate of certain branches and subsidiaries situated in the Western region of China changed from 15% to 25% upon expiration of the relevant preferential tax rate entitlement. Upon the relevant new requirements and conditions pertaining to the preferential tax rate entitlement, which was enacted in July 2011, these branches and subsidiaries were not qualified. Accordingly, they are subject to the normal corporate tax rate of 25%. As a consequence, the recognized deferred tax assets increased by approximately RMB115 million.

## Results of Operations

As a result of the foregoing, our net profit decreased by 28.7% from RMB969.1 million for the year ended December 31, 2010 to RMB690.5 million (US\$109.7 million) for the year ended December 31, 2011.

## Year Ended December 31, 2010 Compared with Year Ended December 31, 2009

### Revenues

Our revenues increased by 72.2% from RMB70,268.0 million for the year ended December 31, 2009 to RMB120,994.8 million for the year ended December 31, 2010, primarily due to the increase in the selling prices and sales volume of products manufactured by us and the increase in the trading volume. Our average selling prices of alumina and primary aluminum increased by 21.9% and 14.4% respectively, in 2010 from the prior year. The aggregate sales volume of our self-produced products also increased, reflecting the increased demand for these products as a result of the recovery of the PRC and global economy. Increase in revenues generated from trading of outsourced products also contributed to the revenues growth in 2010 from the prior year as we significantly increased the trading volume commencing in late 2009. Our sales of products manufactured by us in the trading segment for 2010 was approximately RMB34,444 million, representing an increase of RMB17,709 million or 105.8% from approximately RMB16,735 million for the preceding year. Our sales of products sourced from external suppliers in the trading segment for 2010 was approximately RMB55,697 million, representing an increase of RMB33,981 million or 156.5% from approximately RMB21,716 million for the preceding year.

### Cost of Sales

Our cost of sales increased by 64.1% from RMB69,079.4 million for the year ended December 31, 2009 to RMB113,349.9 million for the year ended December 31, 2010, primarily due to the increase in our sales and the prices of raw materials, the sales volume of products manufactured by us and the trading volume of non-ferrous metal products. Our gross profit margin increased from 1.7% for the year ended December 31, 2009 to 7.5% for the year ended December 31, 2010, primarily due to the relatively larger increase of our average selling price than the increase of the prices of raw materials.

### Selling and Distribution Expenses

Our selling and distribution expenses increased by 24.4% from RMB1,264.9 million for the year ended December 31, 2009 to RMB1,573.3 million for the year ended December 31, 2010, primarily due to the increase of transportation, loading and packaging expenses in association with the increase of our external sales of major products.

### General and Administrative Expenses

Our general and administrative expenses decreased by 11.3% from RMB2,956.4 million for the year ended December 31, 2009 to RMB2,623.8 million for the year ended December 31, 2010, primarily due to the decrease of RMB216 million in the retirement benefit expenses as a result of our early retirement schemes adopted in 2009 and 2010. These early retirement benefit schemes allow qualified employees to early retire on a voluntary basis. In addition, we applied strict control to daily administrative expenses and have adopted proactive measures to constrain all controllable expenses, resulting in a decrease of approximately RMB123 million in our administrative expenses.

### Research and Development Expenses

Our research and development expenses decreased slightly by 7.6% from RMB177.8 million for the year ended December 31, 2009 to RMB164.2 million for the year ended December 31, 2010.

### Impairment loss on Property, Plant and Equipment

Our impairment loss on property, plant and equipment increased by 12.5% from RMB623.8 million for the year ended December 31, 2009 to RMB701.8 million for the year ended December 31, 2010, primarily due to the partial write-off of the expenditure on Aurukun Project in the amount of RMB373 million. See Note 7 to our audited consolidated financial statements for detailed information. In addition, as part of our ongoing effort to optimize operations, we discontinued the use of certain production equipment and reduced the carrying amount of these pieces of equipment to our estimated net proceeds, or recoverable amount, from their disposal in 2010 in the amount of RMB329 million, as compared with RMB623.8 million in 2009.

### Other Income

Other income increased by 117.7% from RMB151.1 million for the year ended December 31, 2009 to RMB328.9 million for the year ended December 31, 2010, primarily due to an increase in government grants of RMB178 million.

### Other Gains, Net

Our net other gains increased by 21.6% from RMB403.8 million for the year ended December 31, 2009 to RMB491.0 million for the year ended December 31, 2010, primarily due to an increase in gain on disposal of available-for-sale investments of RMB150.3 million relating to the sales of our investment in China Aluminum International Engineering Corporation Limited, partially offset by a decrease in net realized/unrealized gain on future and option contracts.

### Operating Profit

As a result of the foregoing, we incurred operating profit of RMB3,401.7 million for the year ended December 31, 2010, compared with an operating loss of RMB3,279.4 million for the year ended December 31, 2009.

#### Finance Costs, Net

Our net finance cost increased by 16.7% from RMB2,137.9 million for the year ended December 31, 2009 to RMB2,495.2 million for the year ended December 31, 2010. Notwithstanding the year-on-year increase in interest-bearing borrowings, we maintained our total interest expenses in 2010 basically constant as compared with 2009 through optimization of our debt portfolio, expanding our low-cost financing channels and lowering of the interest rates. However, since more construction in progress projects were completed and transferred to property, plant and equipment in 2010, capitalized interest expense decreased as compared with 2009, leading to an increase of approximately RMB235 million in finance costs. In addition, we reduced our fund reserve to expedite fund turnover to reduce demand for funds and in turn our interest income was reduced by approximately RMB34 million. We also adopted low-cost notes financing by issuing and utilizing more notes, resulting in an increase of approximately RMB35 million in the discount on interest and the handling fee during the year. Furthermore, net exchange gains for the year decreased by approximately RMB47 million as compared with the preceding year.

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#### Share of profit/(loss) of jointly controlled entities

Our share of profit of jointly controlled entities was RMB122.3 million for the year ended December 31, 2010, whereas our share of loss of jointly controlled entities was RMB50.4 million for the year ended December 31, 2009, primarily due to an increase in the profits of Guangxi Huayin.

#### Share of profit of associates

Our share of profit of associates increased by 211.5% from RMB77.1 million for the year ended December 31, 2009 to RMB240.0 million for the year ended December 31, 2010, primarily due to the profits generated by Duofuduo (Fushun) Technology Development Co., Ltd and Henan Zhongfu Special Aluminum Co., Ltd, both of which became our associates in 2010.

#### Income Tax

Our income tax expense was RMB411.3 million for the year ended December 31, 2010, compared to income tax benefit of RMB711.0 million for the year ended December 31, 2009, primarily due to the significant increase of our total profit since we achieved a turnaround from loss to profit in 2010.

#### Results of Operations

We had net profit of RMB969.1 million for the year ended December 31, 2010, compared with a net loss of RMB4,679.6 million for the year ended December 31, 2009, primarily due to rebound of the market price of our major products, the effect of cost control measures and the increase of our production and sales volume.



## Discussion of Segment Operations

We account for our operations on a segmental basis, that is, separately prepare the accounting for our alumina, primary aluminum, aluminum fabrication and trading segments as well as other segment operations. Unless otherwise indicated, also included in these segments are other revenue derived from activities such as supplying electricity, gas, heat and water to our affiliates, selling scrap and other materials and providing services including transportation and research and development to third parties. For additional information relating to our business segments and segment presentation, see Note 5 to our audited consolidated financial statements.

The following table sets forth a breakdown of our revenues by segment and the contribution of external sales and inter-segment sales for the periods indicated:

	Before Elimination of Inter-segment Sales				After Elimination of Inter-segment Sales	
	Year Ended December 31,					
	2009	2010	2011	2011	2011	2011
	RMB	RMB	RMB	US\$	%	%
	(in millions, except percentages)					
Revenues						
Alumina:						
External sales	5,734.1	2,148.3	3,060.8	486.3	1.5	2.1
Inter-segment sales	12,555.4	24,689.6	28,066.3	4,459.3	13.3	
Total	18,289.5	26,837.9	31,127.0	<b>4,945.6</b>	<b>14.8</b>	

## Primary aluminum:

External sales	26,267.7	26,407.3	31,887.9	5,066.5	15.2	21.9
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Inter-Segment sales	<u>16,463.5</u>	<u>26,847.7</u>	<u>26,091.8</u>	<u>4,145.6</u>	<u>12.4</u>	
Total	<u>42,731.2</u>	<u>53,255.0</u>	<u>57,979.7</u>	<u>9,212.1</u>	<b>27.6</b>	
Aluminum fabrication:						
External sales	6,040.4	10,315.3	11,451.2	1,819.4	5.4	7.9
Inter-Segment sales	<u>1,062.2</u>	<u>150.7</u>	<u>343.6</u>	<u>54.6</u>	<u>0.2</u>	
Total	<u>7,102.6</u>	<u>10,466.0</u>	<u>11,794.8</u>	<u>1,874.0</u>	<b>5.6</b>	
Trading						
External sales	31,939.7	81,982.2	99,324.1	15,781.0	47.2	68.0
Inter-Segment sales	<u>6,511.6</u>	<u>8,159.2</u>	<u>9,848.3</u>	<u>1,564.7</u>	<u>4.7</u>	
Total	<u>38,451.3</u>	<u>90,141.4</u>	<u>107,172.4</u>	<b>17,345.7</b>	<b>51.9</b>	
Corporate and others						
External sales	286.1	141.7	150.4	23.9	0.1	<u>0.1</u>
Inter-Segment sales	<u>-</u>	<u>48.6</u>	<u>25.6</u>	<u>4.1</u>	<u>0.0</u>	
Total	<u>286.1</u>	<u>190.3</u>	<u>176.0</u>	<b>28.0</b>	<b>0.1</b>	
Total Revenues before						
Inter-segment eliminations	106,860.7	180,890.6	210,250.0	33,405.4	100	
Eliminations of inter-segment sales	<u>(36,592.7)</u>	<u>(59,895.8)</u>	<u>(64,375.6)</u>	<u>(10,228.3)</u>		
Consolidated total revenues	70,268.0	120,994.8	145,874.4	<b>23,177.1</b>	<b>100</b>	

The following table sets forth segment results by segment for the periods indicated:

	Year Ended December 31,			
	2009	2010	2011	2011
	RMB	RMB	RMB	US\$
	(in millions)			
<b>Alumina:</b>				
Revenues	18,289.5	26,837.9	31,127.1	4,945.6
Cost and expenses <sup>(1)</sup>	(21,185.1)	(25,760.8)	(30,775.2)	(4,889.7)
Segment results	(2,895.6)	1,077.1	351.9	55.9
(2)				
<b>Primary aluminum:</b>				
Revenues	42,731.2	53,255.0	57,979.7	9,212.1
Cost and expenses <sup>(1)</sup>	(44,157.7)	(52,896.2)	(57,074.2)	(9,068.2)
Segment results	(1,426.5)	358.8	905.5	143.9
(2)				
<b>Aluminum Fabrication:</b>				
Revenues	7,102.6	10,466.0	11,794.8	1,874.0
Cost and expenses <sup>(1)</sup>	(8,000.5)	(10,789.6)	(12,130.7)	(1,927.4)
Segment results	(897.9)	(323.6)	(335.9)	(53.4)
(2)				

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Trading				
Revenues	38,451.3	90,141.4	109,172.4	17,345.7
Cost and expenses <sup>(1)</sup>	(37,818.8)	(89,280.8)	(108,501.8)	(17,239.2)
	<hr/>	<hr/>	<hr/>	<hr/>
Segment results	632.5	860.6	670.6	106.5
(2)	<hr/>	<hr/>	<hr/>	<hr/>
Corporate and others				
Revenues	286.1	190.3	176.0	28.0
Cost and expenses <sup>(1)</sup>	(975.3)	(680.6)	(1,227.5)	(195.1)
	<hr/>	<hr/>	<hr/>	<hr/>
Segment results	(689.2)	(490.3)	(1,051.5)	(167.1)
(2)	<hr/>	<hr/>	<hr/>	<hr/>
Elimination <sup>(3)</sup>	(113.9)	(102.2)	277.4	44.2
	<hr/>	<hr/>	<hr/>	<hr/>
Total profit/(loss) before income tax	(5,390.6)	1,380.4	818.0	130.0
	<hr/>	<hr/>	<hr/>	<hr/>

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(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.

Year Ended December 31, 2011 Compared with Year Ended December 31, 2010

## Alumina Segment

### Revenues.

Total revenues generated by the alumina segment increased by 16.0% from RMB26,837.9 million for the year ended December 31, 2010 to RMB31,127.1 million (US\$4,945.6 million) for the year ended December 31, 2011, primarily due to increases in the average selling price and the sales volume of alumina manufactured by us. Our average selling price and sales volume of alumina increased by 5.0% and 11.7%, respectively, from the year ended December 31, 2010 to the year ended December 31, 2011, primarily due to an increase in demand.

Revenues from external sales of alumina segment increased by 42.5% from RMB2,148.3 million for the year ended December 31, 2010 to RMB3,060.8 million (US\$486.3 million) for the year ended December 31, 2011, primarily due to an increase in the average selling price and an increase in the external sales volume of the alumina products as a result of increased demand.

Revenues from inter-segment sales of alumina segment increased by 13.7% from RMB24,689.6 million for the year ended December 31, 2010 to RMB28,066.3 million (US\$4,459.3 million) for the year ended December 31, 2011, primarily due to an increase in the average selling price and an increase in the sales volume of alumina from our alumina segment to the trading segment.

### Cost and expenses.

The total cost and expenses for our alumina segment increased by 19.5% from RMB25,760.8 million for the year ended December 31, 2010 to RMB30,775.2 million (US\$4,889.7 million) for the year ended December 31, 2011, primarily due to the increase in the prices of raw materials and sales volume of alumina manufactured by us.

### Segment Results.

Segment profit for alumina segment decreased by 67.3% from RMB1,077.1 million for the year ended December 31, 2010 to RMB351.9 million (US\$55.9 million) for the year ended December 31, 2011.

## Primary Aluminum Segment

### Revenues.

Total revenues generated by the primary aluminum segment increased by 8.9% from RMB53,255.0 million for the year ended December 31, 2010 to RMB57,979.7 million (US\$9,212.1 million) for the year ended December 31, 2011, primarily due to an increase in the average selling price of primary aluminum manufactured by us. Our average selling price of primary aluminum increased by 6.9% from the year ended December 31, 2010 to the year ended December 31, 2011, primarily due to an increase in demand. Our sales volume of primary aluminum increased slightly by 0.6% from 3,821,000 tonnes for the year ended December 31, 2010 to 3,843,000 tonnes for the year ended December 31, 2011.

Revenues from external sales of the primary aluminum segment increased by 20.8% from RMB26,407.3 million for the year ended December 31, 2010 to RMB31,887.9 million (US\$5,066.5 million) for the year ended December 31, 2011, primarily due to the increase in the average selling price and external sales volume of primary aluminum manufactured by us. Our sales volume to external customers increased by 10.8% from 2010 to 2011.

Revenues from inter-segment sales of primary aluminum segment decreased by 2.8% from RMB26,847.7 million for the year ended December 31, 2010 to RMB26,091.8 million (US\$4,145.6 million) for the year ended December 31, 2011, primarily due to a decrease in the sales volume of primary aluminum manufactured by us through our trading segment.

Cost and expenses.

The total cost and expenses for our primary aluminum segment increased by 7.9% from RMB52,896.2 million for the year ended December 31, 2010 to RMB57,074.2 million (US\$9,068.2 million) for the year ended December 31, 2011, primarily due to the increase in the prices of raw materials, the electric power cost and sales volume of primary aluminum manufactured by us.

Segment Results.

Segment profit for our primary aluminum segment increased by 152.4% from RMB358.8 million for the year ended December 31, 2010 to RMB905.5 million (US\$143.9 million) for the year ended December 31, 2011. Included in this segment profit was share of profit of associates of RMB390 million (US\$62 million), primarily due to an increase in the profits of Qinghai Province Energy Development (Group) Co., Ltd and Jiaozuo Coal Group Xinxiang (Zhaogu) Energy Corporation Co., Ltd., our associates engaged in coal production.

Aluminum Fabrication Segment

Revenues.

Total revenues generated by the aluminum fabrication segment increased by 12.7% from RMB10,466.0 million for the year ended December 31, 2010 to RMB11,794.8 million (US\$1,874.0 million) for the year ended December 31 2011, primarily due to an increase in the selling prices and sales volume of various aluminum fabrication products manufactured by us.

Revenues from external sales of the aluminum fabrication segment increased by 11.0% from RMB10,315.3 million for the year ended December 31, 2010 to RMB11,451.2 million (US\$1,819.4 million) for the year ended December 31, 2011, primarily due to the increase in the selling prices of various aluminum fabrication products and the sales volume of aluminum fabrication products directly sold by the aluminum fabrication plants as a result of increased market demand.

Revenues from inter-segment sales of aluminum fabrication increased by 128.0% from RMB150.7 million for year ended December 31, 2010 to RMB343.6 million (US\$54.6 million) for the year ended December 31, 2011, primarily due to a significant increase in the sales volume of self-produced aluminum fabrication products through our trading segment.

Cost and expenses.

The total cost and expenses for our aluminum fabrication segment increased by 12.4% from RMB10,789.6 million for the year ended December 31, 2010 to RMB12,130.7 million (US\$1,927.4 million) for the year ended December 31, 2011, primarily due to the increase in the prices of raw materials and sales volume of aluminum fabrication products manufactured by us.

#### Segment Results.

Segment loss for our aluminum fabrication segment increased by 3.8% from RMB323.6 million for the year ended December 31, 2010 to RMB335.9 million (US\$53.4 million) for the year ended December 31, 2011.

#### Trading Segment

##### Revenues.

Total revenues generated by the trading segment increased by 21.1% from RMB90,141.4 million for the year ended December 31, 2010 to RMB109,172.4 million (US\$17,345.7 million) for the year ended December 31, 2011, primarily due to an increase in the average selling price and sales volume of self-produced alumina and primary aluminum through our trading segment, and an increase in trading volume of non-ferrous metal products sourced from external suppliers.

Revenues from internal sales of the trading segment increased by 20.7% from RMB8,159.2 million for the year ended December 31, 2010 to RMB9,848.3 million (US\$1,564.7 million) for the year ended December 31, 2011. Revenue from internal sales of trading segment for the year ended December 31, 2011 included RMB406 million of internal sales of products purchased from our internal sources and RMB9,442 million of internal sales of products purchased from our external sources.

Revenues from external sales of the trading segment increased by 21.2% from RMB81,982.2 million for the year ended December 31, 2010 to RMB99,324.1 million (US\$15,781.0 million) for the year ended December 31, 2011. Revenue from external sales of trading segment for the year ended December 31, 2011 included RMB35,916 million of external sales of products produced by us and sold through the trading segment and RMB63,408 million of external sales of commodities including alumina, primary aluminum, carbon products, aluminum fabrication products, coal products and non-ferrous metal products, purchased from external sources.

##### Cost and expenses.

The total cost and expenses for our trading segment increased 21.5% from RMB89,280.8 million for the year ended December 31, 2010 to RMB108,501.8 million (US\$17,239.2 million) for the year ended December 31, 2011, primarily due to the increase in the prices and volumes of major aluminum and other non-ferrous metal products procured and sold through our trading segment.

#### Segment Results.

Segment profit for our trading segment decreased by 22.1% from RMB860.6 million for the year ended December 31, 2010 to RMB670.6 million (US\$106.5 million) for the year ended December 31, 2011.

#### Corporate and other operating segment

##### Revenues.

Revenues from the headquarters and other operating segments decreased by 7.4% from RMB190.3 million for the year ended December 31, 2010 to RMB176.1 million (US\$28.0 million) for the year ended December 31, 2011.

##### Segment Loss.

Segment loss for our corporate and other operating segment increased by 114.5% from RMB490.3 million for the year ended December 31, 2010 to RMB1,051.5 million (US\$167.1million) for the year ended December 31, 2011, primarily due to an increase of RMB530 million in finance costs as a result of the increase in our interest-bearing indebtedness and the increases in the PBOC's benchmark interest rates, which resulted in an increase in our weighted average annual interest rate. Our weighted average annual interest rate of long-term bank and other loans increased from 5.25% for the year ended December 31, 2010 to 5.62% for the year ended December 31, 2011.

#### Year Ended December 31, 2010 Compared with Year Ended December 31, 2009

#### Alumina Segment

##### Revenues.

Total revenues generated by the alumina segment increased by 46.7% from RMB18,289.5 million for the year ended December 31, 2009 to RMB26,837.9 million for the year ended December 31, 2010, primarily due to increase in the selling prices and the sales volume of alumina manufactured by us.

Revenues from external sales of alumina segment decreased by 62.5% from RMB5,734.1 million for the year ended December 31, 2009 to RMB2,148.3 million for the year ended December 31, 2010, primarily because the alumina refineries significantly decreased the direct sales to the external customers and increased the volume sold through Chalco Trading as a result of the sales channel integration.

Revenues from inter-segment sales of alumina segment increased by 96.6% from RMB12,555.4 million for the year ended December 31, 2009 to RMB24,689.6 million for the year ended December 31, 2010, primarily due to the significant increased sales volume of alumina manufactured by us through Chalco Trading.

##### Cost and expenses.

The total cost and expenses for our alumina segment increased by 21.6% from RMB21,185.1 million for the year ended December 31, 2009 to RMB25,760.8 million for the year ended December 31, 2010, primarily due to the increase in the price of raw materials and sales volume of alumina manufactured by us.

Segment Results. Our alumina segment incurred an profit before income tax of RMB1,077.1 million for the year ended December 31, 2010, compared with the loss before income tax of RMB2,895.6 million for the year ended



December 31, 2009.

## Primary Aluminum Segment

### Revenues.

Total revenues generated by the primary aluminum segment increased by 24.6% from RMB42,731.2 million for the year ended December 31, 2009 to RMB53,255.0 million for the year ended December 31, 2010, primarily due to the increase in the selling prices and the sales volume of primary aluminum manufactured by us.

Revenues from external sales of the primary aluminum segment slightly increased by 0.5% from RMB26,267.7 million for the year ended December 31, 2009 to RMB26,407.3 million for the year ended December 31, 2010, primarily due to the increase in the selling price of primary aluminum manufactured by us. Our average selling price of primary aluminum increased by 14.4% in 2010 from 2009. However, the primary aluminum smelters significantly decrease direct sales to external customers because of the sales channel integration, which offset the effect of increased selling price of primary aluminum.

Revenues from inter-segment sales of primary aluminum segment increased by 63.1% from RMB16,463.5 million for the year ended December 31, 2009 to RMB26,847.7 million for the year ended December 31, 2010, primarily due to the significant increased sales volume of primary aluminum manufactured by us through Chalco Trading.

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### Cost and expenses.

The total cost and expenses for our primary aluminum segment increased by 19.8% from RMB44,157.7 million for the year ended December 31, 2009 to RMB52,896.2 million for the year ended December 31, 2010, primarily due to the increase in the price of raw materials, the electric power cost and sales volume of primary aluminum manufactured by us.

### Segment Results.

The profit before income tax of our primary aluminum segment was RMB358.8 million for the year ended December 31, 2010, compared to the loss before income tax of RMB1,426.5 million for the year ended December 31, 2009.

## Aluminum Fabrication Segment

### Revenues.

Total revenues generated by the aluminum fabrication segment increased by 47.4% from RMB7,102.6 million for the year ended December 31, 2009 to RMB10,466.0 million for the year ended December 31 2010, primarily due to increase in the selling prices and sales volume of various aluminum fabrication products manufactured by us.

Revenues from external sales of the aluminum fabrication segment increased by 70.8% from RMB6,040.4 million for

the year ended December 31, 2009 to RMB10,315.3 million for the year ended December 31, 2010, primarily due to the increase in selling price of various aluminum fabrication products and sales volume directly from the aluminum fabrication plants.

Revenues from inter-segment sales of aluminum fabrication decreased by 85.8% from RMB1,062.2 million for year ended December 31, 2009 to RMB150.7 million for the year ended December 31, 2010, primarily due to the significantly decreased sales volume of self-produced aluminum fabrication products through Chalco Trading.

Cost and expenses.

The total cost and expenses for our aluminum fabrication segment increased by 34.9% from RMB8,000.5 million for the year ended December 31, 2009 to RMB10,789.6 million for the year ended December 31, 2010, primarily due to the increase in the price of raw materials and sales volume of aluminum fabrication products manufactured by us.

Segment Results.

The total loss before income tax of our aluminum fabrication segment decreased by 64.0% from RMB897.9 million for the year ended December 31, 2009 to RMB323.6 million for the year ended December 31, 2010.

Trading Segment

Revenues.

Total revenues generated by the trading segment increased by 134.4% from RMB38,451.3 million for the year ended December 31, 2009 to RMB90,141.4 million for the year ended December 31, 2010, primarily due to increase in average selling price and sales volume of self-produced alumina and primary aluminum through Chalco Trading, and increase in trading volume of non-ferrous metal products purchased from external manufacturers.

Revenues from external sales of the trading segment increased by 156.7% from RMB31,939.7 million for the year ended December 31, 2009 to RMB81,982.2 million for the year ended December 31, 2010, primarily due to increase in average selling price and sales volume of self-produced alumina and primary aluminum through Chalco Trading and increase in trading volume of non-ferrous metal products. Our average selling price of alumina and primary aluminum increased by 21.9% and 14.4%, respectively, in 2010 from 2009.

Revenues from inter-segment sales of the trading segment increased by 25.3% from RMB6,511.5 million for year ended December 31, 2009 to RMB8,159.2 million for the year ended December 31, 2010, primarily due to the increase in prices of raw and ancillary materials and alumina sold to our own plants.

Cost and expenses.

The total cost and expenses for our trading segment increased 136.1% from RMB37,818.8 million for the year ended December 31, 2009 to RMB89,280.8 million for the year ended December 31, 2010, primarily due to the increase in the prices and volumes of major aluminum and other non-ferrous metal products procured and sold through Chalco Trading.

Segment Results.

The total profit before income tax of our trading segment increased by 36.1% from RMB632.5 million for the year ended December 31, 2009 to RMB860.6 million for the year ended December 31, 2010.

Corporate and other operating segment

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Revenues.

Revenues from the headquarters and other operating segments decreased by 33.5% from RMB286.1 million for the year ended December 31, 2009 to RMB190.3 million for the year ended December 31, 2010.

Segment Loss.

Segment loss for our corporate and other operating segment decreased by 28.9% from RMB689.2 million for the year ended December 31, 2009 to RMB490.3 million for the year ended December 31, 2010.

## B. LIQUIDITY AND CAPITAL RESOURCES

Historically, our primary sources of funding have been cash generated from operating activities, prepayments and deposits from customers, short-term, medium-term and long-term borrowings and proceeds from equity or debt offerings. Our primary uses of funds have been working capital for production, capital expenditures and repayments of short-term, medium-term and long-term borrowings.

Our current assets amounted to RMB49,969.7 million (US\$7,939.4 million) as of December 31, 2011, representing an increase of 20.9% from RMB41,324.5 million as of December 31, 2010, primarily due to increase in inventories, trade and notes receivable, cash and cash equivalents, as well as other current assets. As of December 31, 2011, our inventories amounted to RMB24,124.4 million (US\$3,833.0 million), representing an increase of 10.8% from RMB21,780.0 million as of December 31, 2010, primarily due to the increase in our work-in-progress and finished goods in response to increased market demand. As of December 31, 2011, our trade and notes receivable amounted to RMB5,631.8 million (US\$894.8 million), representing an increase of 72.2% from RMB3,270.0 million as of December 31, 2010, primarily due to the increase in our notes receivable as a result of increased sales. As of December 31, 2011, our bank balances and cash amounted to RMB11,644.7 million (US\$1,850.2 million), representing an increase of 22.6% from RMB9,495.6 million as of December 31, 2010, primarily due to an increase in cash and equivalents. As of December 31, 2011, our other current assets amounted to RMB7,666.0 million (US\$1,218.0 million), representing an increase of 24.9% from RMB6,140.0 million as of December 31, 2010.

As of December 31, 2011, our current liabilities amounted to RMB62,360.4 million (US\$9,908.1 million), representing a 11.9% increase from RMB55,733.5 million as of December 31, 2010. Our current liabilities increased primarily due to the increase in our short-term bank borrowing in the amount of RMB11,733.1 million (US\$1,864.2 million) during the period and partially offset by the decrease in the current portion of our long-term borrowing of RMB6,093.8 million (US\$968.2 million).

As of December 31, 2011, our net current liabilities amounted to RMB12,390.7 million (US\$1,968.7 million), representing a 14% decrease from RMB14,409.0 million as of December 31, 2010. As of December 31, 2011, our

current ratio (current assets/current liabilities) was 0.80, representing an increase of 0.06 as compared with 0.74 as of December 31, 2010. Our quick ratio ((current assets - inventories)/current liabilities) was 0.41 as of December 31, 2011, representing an increase of 0.06 as compared with 0.35 as of December 31, 2010.

During the past years, we engaged in debt financing to fund our operations and business expansion. In June 2007, we issued long-term corporate bonds with maturity of ten years in the principal amount of RMB2 billion. The fixed annual coupon and effective rates of these bonds are 4.50% and 4.64%, respectively. In June 2008, we issued medium-term notes in the principal amount of RMB5 billion with three-year terms for operating cash flows and capital expenditures. The fixed annual coupon and effective interest rates of these notes are 5.30% and 5.62%, respectively. In October 2008, we issued medium-term notes with a total face value of RMB5 billion at par (face value of RMB100 per unit) with five-year terms for operating cash flows and capital expenditures. The fixed annual coupon and effective interest rate of these notes is 4.58% and 4.92% respectively. In July and August 2010, we issued the first and second tranches of medium-term notes, respectively, each with a face value of RMB1 billion at par with five-year term to replenish capital expenditure purposes, operating cash flows and bank loans re-financing. The effective interest rate of the first and second tranches of the notes is 4.34% and 4.20% respectively. In March and June 2010, we issued the first and second tranches of short-term bills, respectively, each with a face value of RMB 5 billion at par (face value of RMB100 per unit) with one-year term to replenish general working capital and bank loan swap. The effective interest rate of the first and second tranches of the bills is 3.04% and 3.17% respectively. In 2011, we issued three tranches of medium-term notes with a face value of RMB5 billion (US\$0.8 billion), RMB800 million (US\$127 million) and RMB2 billion (US\$0.3 billion), respectively. The effective interest rate of the notes is 6.03%, 6.85% and 6.36% respectively. In 2011, we also issued the first and second tranches of one-year short-term bills in the principal amount of RMB5 billion (US\$0.8 billion) each (face value of RMB100 per unit). The effective interest rates of the short-term bills is 4.63% and 5.36% respectively.

As of December 31, 2011, our gearing ratio (net debts/total capital as defined in Note 3.3 to our audited consolidated financial statements) was approximately 63% as compared with approximately 59% as of December 31, 2010.

Our ability to obtain additional external financing in the future and the cost of such financing are subject to a variety of uncertainties, including:

- \* obtaining PRC government approvals required to access domestic or international financing or to undertake any project involving significant capital investment, which may include one or more approvals from the NDRC, the State Administration of Foreign Exchange, the Ministry of Commerce and the CSRC depending on the circumstances;
- \* our future operating performance, financial condition and cash flows;
- \* the cost of financing and the condition of financial markets; and
- \* potential changes in monetary policy of the PRC government with respect to bank interest rates and lending practices.

If we fail to rollover, extend or refinance our short-term debts as necessary in a timely manner, we may be unable to meet our obligations in connection with debt servicing, trade and notes payable and/or other liabilities when they become due.

In light of our good credit standing and various domestic and overseas financing channels, we believe that we will not experience any difficulty financing our capital investments. Our capital expenditures and external investments have historically been mainly financed by cash generated from operating activities, long-term and medium-term borrowings and equity offerings. As of December 31, 2011, our current liabilities exceeded our current assets by approximately RMB12,390.7 million (US\$1,968.7 million). The Board has considered our available sources of funds as follows:

- \* Our expected net cash inflow from operating activities in 2012;
- \* Unutilized banking facilities of approximately RMB42,749 million (US\$6,792 million) as of December 31, 2011, of which amounts totaling RMB35,045 million (US\$5,568 million) will be subject to renewal in the next 12 months from the date our financial statements were approved. In February 2012, a bank confirmed in writing that it agreed to renew the banking facilities granted to us with unutilized banking facilities of approximately RMB11,180 million (US\$1,776 million) as of December 31, 2011 upon their expiration in November 2012. Additionally, our directors are confident that all banking facilities could be renewed upon their expiration based on our past experience with banks and our good credit standing; and
- \* Other available sources of financing from banks and other financial institutions based on our good credit history.

The Board believes that we have adequate resources to continue in operational existence for the foreseeable future not less than 12 months from the date these financial statements were approved. The Board therefore continues to adopt the going concern basis in preparing these financial statements.

#### Cash Flows and Working Capital

Our cash and cash equivalents as of December 31, 2011 amounted to RMB10,591.3 million (US\$1,682.8 million), including Renminbi balances and foreign currency deposits of U.S. dollar, HK dollar, Euro and Australian dollar, which translates into RMB296.9 million, RMB18.2 million, RMB6.4 million and RMB6.4 million, respectively. The following table sets forth a condensed summary of our statement of cash flows for the periods indicated:

Year Ended December 31,		
2009	2010	2011
RMB	RMB	RMB
(in millions)		

Net cash (used in)/generated from			
operating activities	(705.9)	7,103.9	2,489.8
Net cash used in investing activities	(9,477.2)	(8,260.3)	(9,714.5)
Net cash generated from financing activities	1,576.7	2,717.5	8,842.4
	<u>                    </u>	<u>                    </u>	<u>                    </u>
Net (decrease) increase in cash and cash equivalents	(8,606.4)	1,561.1	1,617.7
	<u>                    </u>	<u>                    </u>	<u>                    </u>

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#### Net Cash Generated from/(used in) Operating Activities

For the year ended December 31, 2011, we had a cash inflow before changes in working capital but after adjustments for non-cash items and non-operating cash outflow of RMB9,326.0 million (US\$1,481.8 million) and net cash generated from operating activities of RMB2,489.8 million (US\$395.6 million). Net cash flow generated from operating activities consisted primarily of our profit before tax of RMB818.0 million (US\$130.0 million), an outflow of RMB6,558.7 million (US\$1,042.1 million) for changes in working capital and income tax of RMB277.5 million (US\$44.1 million). The outflow from changes in working capital consisted primarily of (i) increase in trade and notes receivable of RMB3,474.2 million (US\$552.0 million), primarily due to our increased sales, (ii) increase in inventories of RMB2,353.2 million (US\$373.9 million), and (iii) increase in other current assets of RMB2,089.8 million (US\$332.0 million), partially offset by increase in trade and notes payable of RMB2,025.0 million (US\$321.7 million).

For the year ended December 31, 2010, we had a cash inflow before changes in working capital but after adjustments for non-cash items and non-operating cash outflow of RMB9,763.2 million and net cash generated from operating activities of RMB7,103.9 million. Net cash flow generated from operating activities consisted primarily of an outflow of RMB2,358.9 million for changes in working capital, our profit before tax of RMB1,380.4 million and income tax of RMB300.5 million. The outflow from changes in working capital consisted primarily of (i) increase in inventories of RMB1,356.8 million and (ii) increase in other current assets of RMB515.6 million, partially offset by decrease in other non-current assets of RMB72.8 million and increase in trade and notes payable of RMB53.1 million.

For the year ended December 31, 2009, we had a cash inflow before changes in working capital but after adjustments for non-cash items and non-operating cash outflow of RMB3,136.2 million and net cash used in operating activities of RMB705.9 million. Net cash used in operating activities primarily reflected our loss before income tax of RMB5,390.6 million, an outflow of RMB3,640.7 million for changes in working capital and income taxes of RMB201.4 million. The cash outflow from changes in working capital consisted primarily of (i) decrease in other payables and accrued expenses of RMB2,967.6 million and (ii) increase in trade and notes receivable of RMB1,342.4 million, primarily due to an increase in sales on credit, partly offset by increase in trade and notes payable of RMB1,585.9 million, which also reflected an increase in production activities as demand for our product started to recover in the second quarter 2009.

### Net Cash Used in Investing Activities

Net cash used in investing activities increased by 17.6% from RMB8,260.3 million for the year ended December 31, 2010 to RMB9,714.5 million (US\$1,543.5 million) for the year ended December 31, 2011, primarily due to the increase of cash outflow related to purchases of property, plant and equipment, and the decrease in proceeds from disposal of a subsidiary. Our net cash used in investing activities for the year ended December 31, 2011 consisted primarily of (i) purchase of property, plant and equipment of RMB8,552.7 million (US\$1,358.9 million), (ii) investment in associates of RMB817.0 million (US\$129.8 million) and (iii) deposit for investment projects of RMB536.7 (US\$85.3 million), partially offset by (i) net proceeds from settlement of futures and option contracts of RMB550.9 million (US\$87.5 million) and (ii) government grants/subsidies received of RMB392.3 million (US\$62.3 million).

Net cash used in investing activities decreased by 12.8% from RMB9,477.2 million for the year ended December 31, 2009 to RMB8,260.3 million for the year ended December 31, 2010, primarily due to the increase of cash inflow related to investments and government grants received, and the decrease in purchases of property, plant and equipment. Our net cash used in investing activities for the year ended December 31, 2010 consisted primarily of (i) purchase of property, plant and equipment of RMB8,325.9 million and (ii) deposit for investment projects of RMB849.8 million and (iii) capital injection to associates of RMB748.7 million.

Net cash flow used in investing activities decreased by 57.3% from RMB22,207.5 million for the year ended December 31, 2008 to RMB9,477.2 million for the year ended December 31, 2009, primarily because we selectively slowed down a number of projects. Net cash used in investing activities in 2009 consisted primarily of (i) purchase of property, plant and equipment of RMB9,597.3 million and (ii) purchase of land use rights and leasehold land of RMB260.7 million, partially offset by net cash inflow from settlement of futures contracts of RMB458.0 million.

### Net Cash Generated from Financing Activities

Net cash generated from financing activities increased by 225.4% from RMB2,717.5 million for the year ended December 31, 2010 to RMB8,842.4 million (US\$1,404.9 million) for the year ended December 31, 2011, primarily due to the increase in the drawdown of short-term and long-term loans during the year. Our net cash generated from financing activities for the year ended December 31, 2011 consisted primarily of drawdown of short-term and long-term loans of RMB56,477.6 million (US\$8,973.4 million), partially offset by repayments of short-term and long-term loans of RMB45,378.1 million (US\$7,209.9 million).

Net cash generated from financing activities increased from RMB1,576.7 million for the year ended December 31, 2009 to RMB2,717.5 million for the year ended December 31, 2010, primarily due to the increase of external debt financing during the year. Our net cash generated from financing activities for the year ended December 31, 2010 consisted primarily of drawdown of short-term and long-term loans of RMB34,141.5 million, partially offset by repayments of short-term and long-term loans of RMB41,195.1 million.

Net cash generated from financing activities decreased significantly from RMB24,370.4 million for the year ended December 31, 2008 to RMB1,576.7 million for the year ended December 31, 2009, primarily because we did not

issue short-term or long-term bonds in 2009. Our net cash generated from financing activities for the year ended December 31, 2009 consisted primarily of drawdown of short-term and long-term loans of RMB38,057.5 million, partially offset by (i) repayments of short-term and long-term loans of RMB27,644.3 million and (ii) repayments of short-term bonds of RMB5,000.0 million.

#### Borrowings and Banking Facilities

Our net borrowings were as follows as of December 31, 2010 and 2011:

	As of December 31,		
	2010	2011	2011
	RMB	RMB	US\$
	(in millions)		
Short-term borrowings	41,719.9	46,737.8	7,425.9
Short-term bank loans	20,589.7	32,322.7	5,135.5
Short-term bonds	10,871.9	10,250.6	1,628.7
Current portion of long-term borrowings	10,258.3	4,164.5	661.7
Long-term borrowings	27,723.9	35,968.5	5,714.8
Long-term bank and other loans	24,072.2	23,430.5	3,722.7
Medium-term notes and long-term bonds	13,910.0	16,702.5	2,653.8
Less: Current portion of long-term borrowings	(10,258.3)	(4,164.5)	(661.7)
Total borrowings	69,443.8	82,706.3	13,140.7
Less: Bank balances and cash	(9,495.6)	(11,644.7)	(1,850.1)
Net	59,948.2	71,061.6	11,290.6

The aggregate maturities of our outstanding long-term borrowings (including long-term loans, medium-term notes and long-term bonds) as of December 31, 2011 were as follows:

#### Maturity Date



Principal Outstanding as of  
December 31, 2011

	RMB	US\$
	(in millions)	
2012	4,164.5	661.7
2013	11,288.8	1,793.6
2014	15,152.3	2,407.5
2015	4,437.4	705.0
2016	1,851.9	294.2
After 2016	3,335.6	530.0
	<hr/>	<hr/>
Total	40,230.5	6,392.0
	<hr/>	<hr/>

As of December 31, 2011, we had certain foreign currency denominated loans with principal amount of RMB47 million (US\$8.8 million) in Japanese Yen, RMB2,628 million (US\$417.5 million) in U.S. dollars and RMB6 million (US\$1.0 million) in Euro. In addition, our foreign currency denominated short-term bank deposits amounted to RMB327.9 million (US\$52.1 million), of which RMB296.9 million (US\$47.2 million) was denominated in U.S. dollars, RMB6.4 million (US\$1 million) was denominated in Australian dollars, RMB18.2 million (US\$2.9 million) was denominated in HK dollars and RMB6.4 million (US\$1 million) was denominated in Euros. See "Item 11. Quantitative and Qualitative Disclosures about Market Risk - Foreign Exchange Rate Risk" for details of interest rate structure disclosure of the borrowings above.

As of December 31, 2011, we had secured loans of RMB1,060.2 million (US\$168.4 million) (including long-term and short-term loans) and we, on a stand-alone basis, provided guarantees in respect of RMB2,114.6 million (US\$336.0 million) of long-term loans and RMB315.0 million (US\$50.0 million) of short-term loans for our subsidiaries. As of December 31, 2011, Chinalco guaranteed RMB1,419.0 million (US\$225.5 million) of our long-term bank loans and RMB1,330.0 (US\$211.3) of our short-term bank loans.

As of December 31, 2011, we had total banking facilities of RMB100,520 million (US\$15,971.0 million). Out of the total banking facilities granted, amounts totaling RMB57,771 million (US\$9,178.9 million) had been utilized as of December 31, 2011. Approximately RMB73,989 million (US\$11,755.7 million) in bank facilities are subject to renewals in 2012. We believe that we will be able to renew these facilities when they expire. In addition, as of December 31, 2011, we had credit facilities through our primary aluminum futures agent at the LME amounting to US\$132.0 million (equivalent to RMB831.7 million), of which US\$1.5 million (equivalent to RMB9.4 million) had been utilized. The futures agent has the right to adjust the related credit facilities. As of December 31, 2011, we had total bank balances and cash of RMB11,644.7 million, equivalent to US\$1,850.2 million.

## Restriction on Cash Dividends

Our PRC subsidiaries are required to set aside a certain amount of their retained profits each year, if any, to fund certain statutory reserves and these reserves may not be distributed as cash dividends. In addition, when our subsidiaries incur debts on their own behalf, the instruments governing the debt may restrict their ability to pay dividends or make other distributions to us. Our directors are of the view that we will continue to be able to meet our borrowing payment obligations as they fall due from cash generated from our operating activities.

## Foreign Exchange

We conduct our business primarily in Renminbi, which is also our functional and reporting currency. We convert a portion of our Renminbi revenues into other currencies to meet foreign currency financial obligations and to pay for imported equipment and materials. Under current foreign currency regulations in China, to meet these needs, we are permitted to convert Renminbi into the necessary foreign currencies at authorized banks based on a presentation of the relevant contracts. We may also borrow foreign currency loans from such banks for these purposes. To the extent that we need to obtain foreign currency funding for capital projects as defined under foreign exchange regulations, we would be required to obtain approval from the State Administration of Foreign Exchange. Transactions in foreign exchange are translated at exchange rates prevailing at the transaction dates. Monetary assets and liabilities expressed in foreign currencies at the balance sheet date are translated at exchange rates prevailing at the balance sheet date. Exchange differences arising in these cases are recognized as income or expense in the statement of comprehensive income.

Renminbi is not a freely convertible currency. The restrictions on foreign exchange imposed by the PRC government may affect current and future exchange rates. We believe that we are able to obtain sufficient foreign exchange to fulfill the above-mentioned obligations. In addition, our foreign currency denominated short-term bank deposits amounted to RMB327.9 million (US\$52.1 million), of which RMB296.9 million (US\$47.2 million) was denominated in U.S. dollars, RMB6.4 million (US\$1 million) was denominated in Australian dollars, RMB18.2 million (US\$2.9 million) was denominated in HK dollars and RMB6.4 million (US\$1 million) was denominated in Euros. Most of our sales are domestic and, as such, we have a limited amount of foreign currency denominated trade and notes receivable. See "Item 11. - Quantitative and Qualitative Disclosures About Market Risks - Foreign Exchange Rate Risk". Our sources of foreign currency include payments from export sales. We do not anticipate that we will incur significant additional foreign currency debts in the near future.

We have been, and will continue to be, affected by changes in exchange rates in connection with our ability to meet our foreign currency obligations and will be affected by such changes in connection with our ability to pay dividends in HK dollars on our H Shares and in U.S. dollars on our ADSs. As of December 31, 2011, we maintained bank balances of US\$47.1 million, HK\$22.5 million, AUD1.0 million and EUR0.8 million or the aggregate equivalent of approximately RMB327.9 million (US\$52.1 million) to satisfy our foreign currency obligations and pay dividends to our overseas shareholders. We believe that we will be able to obtain sufficient foreign exchange to continue satisfying these obligations.

The following table sets forth our capital expenditures by operating segment for the years ended 2009, 2010 and 2011, and the capital expenditures of each segment as a percentage of our total capital expenditures for the periods indicated.

	Year Ended December 31					
	2009		2010		2011	
	RMB	%	RMB	%	RMB	%
	(in millions, except percentages)					
Alumina	5,710.7	53.4	4,360.9	48.4	2,619.0	23.9
Primary aluminum	2,814.7	26.3	3,502.2	38.8	4,539.2	41.5
Aluminum fabrication	2,055.1	19.2	1,059.0	11.7	2,881.1	26.3
Trading	2.2	0.0	15.1	0.2	9.5	0.1
Corporate and others	102.5	1.0	79.6	0.9	896.8	8.2
<b>Total</b>	<b>10,685.2</b>	<b>100.0</b>	<b>9,016.8</b>	<b>100.0</b>	<b>10,945.6</b>	<b>100.0</b>

In 2011, we spent approximately RMB10,945.6 million (US\$1,739.1 million) of our capital expenditures primarily on investments in energy saving and consumption reduction, environmental protection, mine construction and scientific research, including projects such as the alumina production capacity expansion and environmental protection project of Guizhou branch, environmentally friendly energy-saving renovation project of Zunyi Aluminum, Liancheng branch's project in relation to the phasing out of obsolete capacity and environmental protection and energy saving as well as the expansion of Bayer-process ore dressing project of Lanzhou Branch.

Our capital expansion plan for 2012 requires a total of approximately RMB19.2 billion (US\$3.1 billion) in capital expenditures for technology upgrading and expansion projects to increase our annual production capacity. Our capacity expansion plan reflects our focus on vertically integrating our production chain, which consists of bauxite mining, alumina refining, primary aluminum and aluminum fabrication, to take advantage of our market position in China. In addition, we continually evaluate potential acquisition and joint venture projects for opportunities that are in our and our shareholders' interests. We expect production capacity for alumina, primary aluminum and aluminum fabrication products will reach approximately 15.5 million tonnes, 4.4 million tonnes and 1.7 million tonnes, respectively, by the end of 2012.

As of December 31, 2011, our capital commitment for investment in property, plant and equipment amounted to RMB39,976.2 million (US\$6,351.6 million), of which those contracted but not provided for amounted to RMB6,450.7 million (US\$1,024.9 million) and those authorized but not contracted for amounted to RMB33,525.5 million (US\$5,326.7 million).

In addition, we had significant capital commitments under our joint venture or investment agreements as of December 31, 2011. In May 2010, we entered into an investment agreement with Xiaoyi Mining Co., Ltd. to jointly establish Shanxi Huayi Mining Co., Ltd. with registered capital amounting to RMB80 million. We are obliged to inject cash amounting to RMB41 million and we will hold 51% equity interest of the investee under the agreement. As of December 31, 2011, we had injected a total of RMB8 million and were obliged to inject an additional RMB33 million. For additional information on our capital commitment under our joint venture and investment agreements as of December 31, 2011, see "Item 4 - Information on the Company - History and Development of the Company - Acquisitions and Joint Ventures."

We expect to use primarily operating cash flow in meeting such commitments with the shortfall to be satisfied by proceeds of bank loans, short-term, long-term bonds and medium-term notes.

### C. RESEARCH AND DEVELOPMENT

Our department of science and technology management coordinates the research and development efforts undertaken at our Research Institute and technology centers at our plants. The Research Institute, the only organization in China dedicated to aluminum smelting research, is responsible for the research and development of technologies for our operations. The technology centers at our plants focus on providing engineering solutions and applying our developed technologies. Each of the plants also conducts operational testing and pilot experimentation relating to various research and development topics. Although we collaborate with universities and other research institutions in China on some of our projects, we generally do not outsource our research and development.

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Our total expenditure for research and development was approximately RMB177.8 million, RMB164.2 million and RMB218.0 million (US\$34.6 million) for 2009, 2010 and 2011, respectively.

### D. TREND INFORMATION

In 2011, China's GDP growth rate was 9.2%. Due to the global economic recovery, global demand for aluminum products continued to increase in 2011. We expect that in 2012:

- \* the global economy will be subject to uncertainties and risks of economic downturns arising from the Euro debt crisis; and
- \* as a developing country, China is still in the process of urbanization and industrialization, which provides a promising prospect for the aluminum market. Subject to the information set out in the section headed "Item 3. Key Information - D. Risk Factors," and the section headed "Forward-looking Statements," we believe that with the recovery of the economy, aluminum consumption and price will continue to recover.

### E. OFF-BALANCE-SHEET ARRANGEMENTS

There are no material off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

#### F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The following table summarizes our contractual obligations and commercial commitments for the periods indicated as of December 31, 2011:

	Payment due by period				
	Total	2012	2013-2014	2015-2016	Thereafter
	(RMB in millions)				
Long-term debts	23,430.5	4,164.5	14,441.1	3,489.3	1,335.6
Medium-term notes	14,800.0	-	12,000.0	2,800.0	-
Long-term bonds	2,000.0	-	-	-	2,000.0
Interest payments	7,068.7	3,389.6	2,758.8	722.5	197.8
Operating leases	22,228.3	667.0	1,328.4	1,327.5	18,905.4
Capital commitments	6,450.7	6,450.7	-	-	-
Commitments for capital contribution	128.0	128.0	-	-	-
<b>Total</b>	<b>76,106.2</b>	<b>14,799.8</b>	<b>30,528.3</b>	<b>8,339.3</b>	<b>22,438.8</b>

#### ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

##### A. DIRECTORS AND SENIOR MANAGEMENT

###### Directors

The fourth session of our Board currently consists of nine directors, including four executive directors, two non-executive directors and three independent non-executive directors. In accordance with our Articles of Association, our affairs are managed by our Board. The business address of each of our directors is No. 62 North Xizhimen Street, Hai Dian District, Beijing, People's Republic of China, 100082.

We follow our home country practice in relation to the composition of our Board in reliance on the exemption provided under Section 303A.00 of the NYSE Corporate Governance Rules available to foreign private issuers. Our home country practice does not require a majority of directors of a listed company to be independent directors. As such, the majority of our directors are not independent within the meaning of NYSE Corporate Governance Rules.

The table and discussion below set forth information concerning our directors who served on our Board during the year ended December 31, 2011.

Name	Age	Positions with the Company
Executive Directors		
Xiong Weiping	55	Chairman of the Board and Chief Executive Officer
Luo Jianchuan	48	Director and President
Liu Caiming <sup>(1)</sup>	49	Director, Senior Vice President and Chief Financial Officer
Liu Xiangmin <sup>(2)</sup>	49	Director and Senior Vice President
Non-executive Directors		
Lv Youqing	48	Non-executive Director
Shi Chungui	71	Non-executive Director
Independent Non-executive Directors		
Zhang Zhuoyuan	78	Independent Director
Wang Mengkui	73	Independent Director
Zhu Demiao	47	Independent Director

(1) At the board meeting held on February 23, 2011, the Board resolved to appoint Mr. Liu Caiming as senior vice president, chief financial officer and a member of executive committee of the Company and resolved to nominate Mr. Liu Caiming as an candidate for executive director of the 4th session of the Board subject to approval at the forthcoming annual general meeting. Mr. Liu Caiming was appointed to the Board at the annual general meeting of the Company held on May 31, 2011.

(2) At the board meeting held on May 27, 2011, the Board resolved to appoint Mr. Liu Xiangmin as senior vice president of the Company.

Executive Directors

Xiong Weiping,

aged 55, serves as the chairman of the Board, our chief executive officer and the general manager of Chinalco. Mr. Xiong served on our Board from 2001 to 2006 and was re-appointed to the Board in 2009. Mr. Xiong holds a doctorate degree of engineering from Central South University of Industry where he studied mining engineering. He completed his post-doctoral research in economics at the Guanghua School of Management at Peking University where he is a professor and a Ph.D tutor. He has received grants from the State Council of China and was recognized as the "Middle-Aged and Young Expert with Outstanding Contributions to the Nation" by the former Ministry of Personnel of the PRC. He was previously the deputy secretary of Hunan Provincial Communist Youth League, a member of standing committee of the All China Youth Federation, president of Hunan Youth Union Committee and standing vice-chancellor and dean of the Faculty of Management and professor and Ph.D. tutor at the Central South University of Industry. Mr. Xiong previously served as the vice president of China Copper, Lead & Zinc Group Corporation, a vice president of Chinalco, an executive director, senior vice president and president of Chalco and the vice chairman and general manager of China National Travel Service (HK) Group Corporation (China Travel Service (Holdings) Hong Kong Limited).

Luo Jianchuan,

aged 48, serves as an executive director on our Board, chairman of the development planning committee, vice chairman of the executive committee, and our president. He has been employed by us since 2001. Mr. Luo holds a bachelor's degree in mining from Kunming University of Science and Technology and a doctorate degree from Central South University, and he is a professor-grade senior engineer. He has long engaged in corporate management of non-ferrous metals and thus has extensive professional experience and strong management skills in those fields. Mr. Luo previously served as an engineer of the Lead and Zinc Bureau of China Non-ferrous Metals Industry Corporation, manager of Haikou Nanxin Industry & Commerce Corporation, assistant to general manager of Jinpeng Mining Development Corporation, deputy general manager and general manager of Beijing Xinquan Tech-trading Corporation, assistant to general manager of China Non-ferrous Metals Industry Trading Group Corporation, deputy chief of the Trading Division of China Copper, Lead & Zinc Group Corporation, general manager of China Aluminum International Trading Corporation Limited, general manager of the Operations and Sales Division, vice president and senior vice president of us.

Liu Caiming,

aged 49, serves as an executive director on our Board and our senior vice president and chief financial officer. Graduated from the School of Economics at Fudan University, Mr. Liu is a doctoral candidate, senior accountant and certified public accountant in the PRC. He joined Chinalco in January 2007. He had served as deputy head and head of the Finance Department of China Non-ferrous Metals Foreign-Engineering Corporation, deputy general manager of China Non-ferrous Metals Construction Group Limited, deputy general manager of China Non-ferrous Construction Group Limited, director and deputy general manager of China Non-ferrous Metal Industry's Foreign Engineering and Construction Co., Ltd., deputy general manager of China Non-ferrous Metals Mining and Construction (Group) Co., Ltd., deputy general manager of Chinalco, chairman of Yunnan Copper Industry (Group) Co., Ltd., chairman of Chinalco Shanghai Copper Co., Ltd., executive director of Chinalco Kunming Copper Co., Ltd., as well as director and president of China Copper Co., Ltd. Mr. Liu also has acted as the titular deputy head of Department of Finance of Yunnan Province, a director of State-owned Assets Supervision and Administration Commission of Yunnan Provincial People's Government and an assistant to the governor of Yunnan Province.

Liu Xiangmin,

aged 49, serves as an executive director on our Board and our senior vice president and has been employed by us since 2001. Mr. Liu holds a doctorate degree from Central South University of Industry where he studied non-ferrous metal science and is a professor-grade senior engineer. Mr. Liu previously served as deputy head and head of the Alumina branch of Zhongzhou Aluminum Plant, deputy head of Zhongzhou Aluminum Plant and general manager of our Zhongzhou branch.

#### Non-Executive Directors

Lv Youqing,

age 48, serves as a non-executive director on our Board and the deputy general manager of Chinalco. He has been with us since June 2010. He graduated as a postgraduate from the Political Studies Institute, Social Science Faculty of Sichuan Province in 1989. He then later graduated from School of Economics, Sichuan University majoring in management, and obtained a Ph.D. degree in economics. He is a visiting scholar of Finance Department of New York University, and is a professor-grade senior engineer. Mr. Lv accumulated substantial practical experience in economics and enterprise management. He previously served as deputy director of Policy Reform Division, Policy Research Office of Sichuan Province, vice factory manager, deputy party secretary, factory manager and party secretary of Nanchong Gear Factory. He also served as deputy mayor of Nanchong People's Government, and a member of standing committee, deputy mayor and deputy party secretary of Luzhou's Municipal Party Committee. Mr. Lv is also a vice president of China Association of Work Safety.

Shi Chungui,

aged 71, serves as a non-executive director on our Board and has been with us since 2005. He holds a bachelor's degree in accounting from Northeast University of Finance and Economics. Mr. Shi is a senior economist with extensive experience in finance, government and corporate management. Mr. Shi was previously the vice director of Commerce Bureau of Qinhuangdao City, Hebei Province, deputy mayor and the standing deputy mayor of Qinhuangdao City, Hebei Province, president of Hebei Branch of China Construction Bank, president of Beijing Branch of China Construction Bank, deputy president of the head office of China Construction Bank and deputy president of China Cinda Asset Management Corporation, vice chairman of Tianjin Pipe Co., Ltd. and vice chairman of China Investment Society. Mr. Shi is currently an independent director of Intime Department Store (Group) Company Limited and China National Materials Company Limited.

#### Independent Non-Executive Directors

Zhang Zhuoyuan,

aged 78, has served as an independent non-executive director on the Board since 2007. Mr. Zhang graduated from the Faculty of Economics of Zhongnan University of Economics. Mr. Zhang previously served as the director and researcher of the Institute of Finance, Trade and Economics of Chinese Academy of Social Sciences, chief editor of the Finance & Trade Economics, a director, researcher and Ph.D tutor at the Institute of Industrial Economics of Chinese Academy of Social Sciences and a director, researcher and Ph.D tutor of the Institute of Economics of the Chinese Academy of Social Sciences, and chief editor of Economics Research Journal. Mr. Zhang is a member of the ninth and tenth sessions of the National Committee of the Chinese People's Political Consultative, a consultant of each of China Price Association and the Chinese Society for Urban Studies and a director of Chinese Society for Cost Studies and honorary director of Foundation of Sun Ye Fang Economics and Science. Mr. Zhang is a member of the Chinese Academy of Social Sciences and a researcher at the Institute of Economics of the Chinese Academy of Social Sciences.



Wang Mengkui,

aged 73, has served as an independent non-executive director on the Board since 2008. Mr. Wang graduated from the School of Economics, Peking University. He is an economist engaged in long-term analysis of economic theory and policy and is currently a professor and advisor of doctor candidates of Peking University. He has published many articles on economic theory and related topics and served in the "Red Flag" magazine and the First Ministry of Machine Building Industry. Mr. Wang previously served as a vice head and researcher of the economic team of the research office of the Secretariat of the Communist Party of China Central Committee, a commission member of the State Development and Planning Commission, executive vice director of economic research center of the State Development and Planning Commission, the vice director and director of the research office of the State Council of China and the center director of the Development Research Center of the State Council of China. Mr. Wang also served as a member of the Tenth Standing Committee of National People's Congress and vice director of Financial and Economic Affairs Committee of National People's Congress. He is also a professor and Ph.D tutor of Peking University. He is currently the chairman of the China Development Research Foundation and a committee member of the National Social Security Fund of the PRC.

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Zhu Demiao,

aged 47, has served as an independent non-executive director and Chairman of the audit committee of the Board since 2008. Mr. Zhu holds a MBA degree from the University of Chicago Graduate School of Business, a master's degree in economics from the Research Institute for Fiscal Science at the Ministry of Finance of the PRC and a bachelor's degree in economics from Hebei Geological Institute. Mr. Zhu is one of the early Certified Public Accountants in the PRC. Mr. Zhu previously worked in the Ministry of Finance and in the investment analysis department of FMC Corporation. He also served as the head of China Business in the Equity Capital Market Department and Investment Bank Department of Credit Suisse First Boston, a managing director and member of the executive committee of the Asia-Pacific region of JP Morgan Chase & Co. and chairman of operating committee of the Greater China Region of JP Morgan Chase & Co. Mr. Zhu once served as the managing director and senior consultant of Oaktree Capital (Hong Kong) Ltd. Mr. Zhu is currently an independent director of WSP Holding Limited and a member of the Advisory Board of Business School at the University of Chicago.

#### Supervisors

Our supervisors are elected to represent our employees and shareholders and serve a term of three years or until the election of their respective successors, whichever is earlier. Our supervisors are Mr. Ao Hong, Mr. Yuan Li and Mr. Zhang Zhankui who were elected at the 2009 annual general meeting held on June 22, 2010 with a term of office expiring at the conclusion of the annual general meeting for the year 2012.

The table and discussion below set forth certain information concerning our supervisors.

Name	Age	Positions with the Company
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Ao Hong	50	Chairman of Supervisor Committee
Yuan Li	53	Supervisor (employee representative), General Manager of Corporate Culture Department of the Company
Zhang Zhankui	53	Supervisor

Ao Hong,

aged 50, is currently a vice president of Chinalco and has served as a supervisor of us since 2006. Mr. Ao holds a bachelor's degree from Kunming University of Science and Technology where he studied metallurgy. He also holds a master's degree from Central South University and is a professor-grade senior engineer. Mr. Ao previously worked as an engineer, senior engineer and served as head of general office and vice chairman at the Beijing General Research Institute for Non-ferrous Metals ("GRINM"), the chairman of GRINM Semiconductor Materials Co., Ltd., Guorui Electronic Materials Co., Ltd., Beijing Guojing Infrared Optical Technology Co., Ltd., Guowei Silver Anticorrosive Materials Company and Guo Jing Micro-electronic Holdings Ltd. in Hong Kong, respectively.

Yuan Li,

aged 53, serves as our employee representative supervisor and a general manager of our Corporate Culture Department. Mr. Yuan has been employed by us since 2001. He is an engineer with extensive administrative and management experience. He previously served as a manager of the General Management Office and the deputy head of the Department of Research and Investigation of China Non-ferrous Metals Industry Corporation, the head of the Department of Research and Investigation, the head of the Secretariat, an assistant inspector of the State Bureau of Non-ferrous Metals Industry, the deputy head of the Department of Political Affairs and the head of the community union working department of Chinalco.

Zhang Zhankui,

aged 53, is the head of the Finance Department of Chinalco and has served us since 2001. Mr. Zhang is a postgraduate researcher in economic management and a senior accountant. Mr. Zhang had formerly served as head of the finance division and then the audit division of China General Design Institute for Non-ferrous Metals, a deputy general manager of Beijing Enfei Tech-industry Group, the head of the accounting division of the finance department and the deputy head of the finance department of China Copper Lead & Zinc Group Corporation, the officer-in-charge of asset and finance at our listing office and the head of the capital division of our finance department and the manager of the general division of our finance department and the deputy head of the finance department of Chinalco.

#### Senior Management

The table and discussion below set forth certain information concerning other member of senior management.

Name	Age	Positions with the Company
Ding Haiyan	53	Vice President
Jiang Yinggang	48	Vice President

Xie Hong <sup>(1)</sup>	53	Vice President
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Qiao Guiling <sup>(1)</sup>	43	Vice President
Liu Qiang	48	Secretary to the Board

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(1) At the board meeting held on October 25, 2011, the Board resolved to appoint Mr. Xie Hong and Ms. Qiao Guiling as vice presidents of the Company.

Ding Haiyan,

aged 53, serves as vice president of us and has been employed by us since 2001. Mr. Ding holds a master's degree from Beijing Economics University where he studied labor economics and he is a senior economist with extensive experience in labor, wages, insurance, enterprise mergers and acquisitions and capital operation. He has served as head of the labor wage division of the human resource department of China Non-ferrous Metals Industry Corporation, the deputy director of the Bureau of Labor and Insurance, deputy director-general of the enterprise reform department of the State Bureau of Non-ferrous Metals Industry, the head manager of the department of asset operation of Chinalco, deputy head of our Listing Office and an assistant to general manager of Chinalco. He also served as an executive director and the secretary on our Board.

Jiang Yinggang,

aged 48, has served as a vice president of us since 2007 and has been employed by us since 2001. Mr. Jiang holds a master's degree from the Central South University of Industry where he studied metallurgy of non-ferrous metals. Mr. Jiang is a professor-grade senior engineer. He has served as deputy head and then the head of the corporate management department of Qinghai Aluminum Plant, head of the Qinghai aluminum smelter, deputy general manager and general manager of Qinghai Aluminum Company Limited and general manager of our Qinghai branch.

Xie Hong,

aged 53, serves as vice president of us and has been employed by us since 2001. Mr. Xie is an outstanding senior engineer who graduated from Central South University of Technology with a major in ore dressing. He has long engaged in strategic planning and project construction management, and has extensive experience in strategic planning, project management and investment management. Mr. Xie has previously served as the cadre, director of the Design Division at Infrastructure Department, deputy division head and division head of the Project Division at Investment and Operation Department of China Nonferrous Metals Industry Corporation, the deputy director-general of the Planning and Development Department of the State Bureau of Non-ferrous Metals Industry, person-in-charge of the (Coordinated) Planning and Development Department of Aluminum Corporation of China, director of the Planning and Development Department of Aluminum Corporation of China and the general manager of Investment Management Department, member of the Executive Committee and assistant to President of the Company.

Qiao Guiling,

aged 43, serves as vice president of us. Ms. Qiao holds a master's degree in engineering from Jiaozuo Mining Institute where she studied mechanical engineering and she is a senior engineer with extensive experience in management. Ms. Qiao has served as the deputy director of Jiaozuo City Cryolite Factory, deputy director of the Economic and Trade Commission of Jiaozuo City Zhongzhan District, general manager of Zhongzhan Taishun Co., Ltd., factory director of a Kaolinite plant in Jiaozuo City, general manager of Henan Zhongzhou Holding Group Co., Ltd., vice mayor of the People's Government of Wen County, chairman and general manager of Jiaozuo Wanfang Aluminum Manufacturing Co., Ltd., chairman of Jiaozuo Wanfang Group Co., Ltd. and the general manager of Henan Branch of the Company.

Liu Qiang,

aged 48, is the secretary to the Board and has been employed by us since 2001. Ms. Liu holds a master's degree in English literature (minor in translation) from Beijing International Studies University. Ms. Liu studied finance, financial management and business administration at the University of Foreign Business and Economics in Beijing and received trainings on finance and financial management in Hong Kong. She previously worked in the finance department of Hong Kong Oriental Xinyuan (Holdings) Company Limited and served as the manager of the finance department of the Australian branch of China National Non-Ferrous Metals Import and Export Corporation. She has formerly served as manager of the aluminum department of China National Non-Ferrous Metals Import and Export Corporation, a senior market analyst for the Aluminum Industry in China National Non-Ferrous Metals Trading Group and China National Metals and Minerals Import and Export Corporation as well as the deputy manager of the import and export division of China Aluminum International Trading Corporation Limited.

## B. COMPENSATION

### Executive Compensation

Executive directors are entitled to a director's fee, performance bonuses and welfare benefits provided under the relevant PRC laws and regulations. Non-executive directors are entitled only to a director's fees. The aggregate amount of cash compensation paid by us to our directors in 2011 for services performed in connection with their respective capacities above was approximately RMB4.1 million (US\$0.7 million). The aggregate amount of cash compensation paid by us to our senior management who are not members of our Board in 2011 was approximately RMB2.1 million (US\$0.3 million), respectively. Our executive directors and supervisors who are employees also receive compensation in the form of housing allowances, other allowances and benefits and contributions to their pension plans. Directors receive fees for their services. None of the service contracts of our directors provide benefits to our directors upon their termination.

Details of the emoluments paid to our directors and supervisors during the reporting period are as follows:

Name of Director	Discretionary				Total
	Fees	Salary	Bonus	Pension	
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
	_____	_____	_____	_____	_____

## Executive Directors

Xiong Weiping	-	626.3	298.1	30.0	954.4
Luo Jianchuan	-	550.8	261.5	30.0	842.3
Liu Caiming <sup>(1)</sup>	-	515.8	267.0	30.0	812.8
Liu Xiangmin <sup>(2)</sup>	-	494.7	219.9	30.0	744.6

## Non-Executive Directors

Shi Chungui	150.0	-	-	-	150.0
Lv Youqing	-	-	-	-	-

Independent Non-Executive  
Directors

Zhang Zhuoyuan	197.0	-	-	-	197.0
Wang Mengkui	197.0	-	-	-	197.0
Zhu Demiao	197.0	-	-	-	197.0

	<u>741.0</u>	<u>2,187.6</u>	<u>1,046.5</u>	<u>120.0</u>	<u>4,095.1</u>
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## Supervisors

Ao Hong	-	-	-	-	-
Yuan Li	-	383.4	90.6	30.0	504.0
Zhang Zhankui	-	-	-	-	-

Total	<u>741.0</u>	<u>2,571.0</u>	<u>1,137.1</u>	<u>150.0</u>	<u>4,599.1</u>
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(1) At the board meeting held on February 23, 2011, the Board resolved to appoint Mr. Liu Caiming as senior vice president, chief financial officer and a member of executive committee of the Company and resolved to nominate Mr. Liu Caiming as an candidate for executive director of the 4th session of the Board subject to approval at the forthcoming annual general meeting. Mr. Liu Caiming was appointed to the Board at the annual general meeting of the Company held on May 31, 2011.

(2) At the board meeting held on May 27, 2011, the Board resolved to appoint Mr. Liu Xiangmin as senior vice president of the Company.

## Senior Management Incentive System

In order to better provide incentives for our senior management and improve our shareholders' value, we adopted a special compensation system for our senior management designed to align our senior management's financial interests with our operating performance. Under this system, the senior management's compensation consists of the following components:

- \* basic salaries;
- \* performance bonuses;
- \* welfare benefits; and
- \* incentive bonuses.

## C. BOARD PRACTICES

### Board of Directors

All of our directors and supervisors serve a term of three years or until such later date as their successors are elected or appointed. Directors and supervisors may serve consecutive terms. Each of our directors and supervisors has entered into a service contract with us, none of which can be terminated by us within one year without payment of compensation (other than statutory compensation). There were no arrangements providing for benefits upon termination of our directors, supervisors or other senior management personnel. One of the supervisors is an employee representative appointed by our employees and the rest are appointed by the shareholders. The following table sets forth the number of years our directors and supervisors have held their positions and the expiration of their current term.

Name	Held Position Since	Expiration of Term
Xiong Weiping	May 26, 2009	June 30, 2013
Luo Jianchuan	May 18, 2007	June 30, 2013
Liu Caiming	May 31, 2011	June 30, 2013
Liu Xiangmin	May 18, 2007	June 30, 2013
Lv Youqing	June 22, 2010	June 30, 2013

Shi Chungui	May 18, 2007	June 30, 2013
Zhang Zhuoyuan	May 18, 2007	June 30, 2013
Wang Mengkui	May 9, 2008	June 30, 2013
Zhu Demiao	May 9, 2008	June 30, 2013
Ao Hong	May 18, 2007	June 30, 2013
Yuan Li	May 18, 2007	June 30, 2013
Zhang Zhankui	May 18, 2007	June 30, 2013

#### Audit Committee

Our audit committee consists of three independent non-executive directors, namely, Mr. Zhu Demiao, Mr. Zhang Zhuoyuan and Mr. Wang Mengkui. Mr. Zhu Demiao is chairman of the audit committee.

Our audit committee satisfies the requirements of Rule 10A-3 of the Exchange Act and NYSE Rule 303A.06 relating to audit committees, including the requirements relating to independence of the audit committee members. The primary duties of our audit committee as set out in the committee charter are to review our annual and interim financial reports, review and approve the selection of and remuneration paid to our independent auditors, approve audit and audit-related services, approve related party transactions, supervise our internal financial reporting, including our internal controls and disclosure controls and procedures, supervise our internal and external auditors and review management policies.

#### Remuneration Committee

Our remuneration committee consists of three independent non-executive directors, namely, Mr. Zhu Demiao, Mr. Wang Mengkui and Mr. Zhang Zhuoyuan and one non-executive director, namely, Mr. Lv Youqing. Mr. Zhang Zhuoyuan serves as the chairman of the remuneration committee.

The primary duties of our remuneration committee as set out in the committee charter include reviewing compensation policies and performance appraisals with respect to the directors and senior management. In 2011, the remuneration committee convened at one meeting, to consider and approve remuneration and performance appraisal standards for 2011 and the renewal of directors and officers liability insurance for years 2011 to 2012 for our directors, supervisors and other senior management members.

We follow our home country practice in relation to the composition of our remuneration committee in reliance on the exemption provided under NYSE Corporate Governance Rule 303A.00 available to foreign private issuers. Our home country practice does not require us to establish a remuneration committee which must be composed entirely of independent directors.

#### Nomination Committee

Our nomination committee consists of two executive directors, namely Mr. Xiong Weiping and Mr. Luo Jianchuan and three independent non-executive directors, namely Mr. Zhang Zhuoyuan, Mr. Wang Mengkui and Mr. Zhu Demiao. Mr. Xiong Weiping serves as the chairman of the nomination committee.

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The primary duties of our nomination committee as set out in the committee charter include reviewing and recommending candidates for independent directors and members of the Board committees, approving the terms of the directors' service contracts and overseeing the appointment and removal of senior executives.

We follow our home country practice in relation to the composition of our nomination committee in reliance on the exemption provided under NYSE Corporate Governance Rule 303A.00 available to foreign private issuers. Our home country practice does not require us to establish a nomination committee which must be composed entirely of independent directors.

#### Development and Planning Committee

Our development and planning committee consists of two executive directors, namely Mr. Luo Jianchuan, and Mr. Liu Xiangmin with Mr. Luo Jianchuan serving as chairman of the committee. In accordance with the committee charter, the committee reviews and assesses our strategic plans for development, fiscal budgeting, investment, business operations and investments returns.

#### Disclosure Committee

Our disclosure committee consists of the chief executive officer, the chief financial officer and other senior management members with the chief executive officer serving as the chairman of the committee. This committee implements our disclosure controls and procedures and reviews information disclosed to ensure accurate, open and timely disclosure. All information (including annual and interim results) to be disclosed is subject to the approval of the disclosure committee. For the disclosure of financial statements and related information, the chief financial officer will ensure that our results and financial position will be reflected on a true and fair basis in accordance with the relevant accounting principles and requirements.

#### Occupational Health and Safety and Environmental Committee

Our occupational health and safety and environmental committee consists of one executive director, namely Mr. Liu Xiangmin and one non-executive director, namely Mr. Lv Youqing. Mr. Lv Youqing serves as the chairman of the committee. This committee considers our annual planning on health, environmental protection and safety, supervises our implementation of the planning on health, environmental protection and safety initiatives, inquires into serious incidents and inspecting and supervising over the handling of such incidents and makes recommendations to the Board on major decisions on health, environmental protection and safety.

#### Supervisory Committee



Our supervisory committee consists of three supervisors, with one supervisor being elected from the staff as a representative of the employees. Our current supervisory committee was appointed at the annual general meeting held on June 22, 2010, and Mr. Ao Hong and Mr. Zhang Zhankui have been re-elected as chairman of the supervisory committee and a supervisor, respectively. In the election of employee representatives held in the same month, Mr. Yuan Li was re-elected as the employee representative supervisor of the fourth session of the supervisory committee.

Supervisors attend board meetings as non-voting members. The supervisory committee is responsible to the shareholders' general meeting and has the following duties and responsibilities:

- \* supervise our handling of our financial matters;
- \* supervise any acts of directors, the general manager, deputy general manager and other senior officers that are in violation of laws, administrative regulations or our Articles of Association;
- \* request directors, the general manager, deputy general manager and other senior officers to rectify their acts that are detrimental to our interests;
- \* verify such financial information as financial reports, business reports and profit distribution plans submitted by the Board to the shareholders' general meeting, and arrange certified public accountants and auditors to verify issues;
- \* propose to convene interim shareholders' general meetings; and
- \* bring lawsuits against directors on behalf of us.

#### D. EMPLOYEES

As of December 31, 2009, 2010 and 2011, we had approximately 108,493, 108,256 and 101,259 employees, respectively. The table below sets forth the number of our employees by function as of the periods indicated:

	As of December 31,					
	2009		2010		2011	
		(%)		(%)		(%)
Function:						
Alumina production	46,646	43.0	46,117	42.5	45,364	44.8

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Primary aluminum production	46,159	42.6	45,869	42.4	38,111	37.6
Aluminum fabrication	5,668	5.2	5,737	5.3	6,210	6.1
Mining	4,340	4.0	4,926	4.6	4,152	4.1
Research and development	664	0.6	650	0.6	636	0.6
Sales and marketing	700	0.6	735	0.7	730	0.7
Management and others <sup>(1)</sup>	4,316	4.0	4,222	3.9	6,056	6.0
Total	108,493	100	108,256	100.0	101,259	100

(1) Excluding our management personnel for alumina production, primary aluminum production and aluminum fabrication.

The table below sets forth the number of our employees as of December 31, 2011:

Location	Employees	% of Total
Shandong branch	9,667	9.6
Shandong Huayu	2,067	2.0
Chalco Qingdao	214	0.2
Henan		
Henan branch	8,207	8.1
Zhongzhou branch	6,670	6.6
Research Institute	636	0.6
Chalco Mining	2,012	2.0
Jiaozuo Wanfang	3,617	3.6
Henan Aluminum	1,794	1.8
Zhongzhou Aluminum	38	0.04
Henan Xincheng Construction Management Co., Ltd.	28	0.03
Guizhou		
Guizhou branch	12,910	12.8
Zunyi Aluminum	1,416	1.4
Zunyi Alumina	1,104	1.1
Guangxi		

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Guangxi branch	5060	5.0
Shanxi		
Shanxi branch	11,546	11.4
Shanxi Huasheng	2,167	2.1
Shanxi Huaze	2,581	2.6
Gansu		
Lanzhou branch	4,202	4.2
Northwest Aluminum	2,521	2.5
Gansu Hualu	1,557	1.5
Liancheng branch	3,733	3.7
Liaoning		
Fushun Aluminum	2,013	2.0

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Qinghai		
Qinghai branch	5,015	5.0
Sichuan		
Huaxi Aluminum	486	0.5
Chongqing		
Chongqing branch	1,191	1.2
Chalco Southwest Aluminum Cold Rolling	265	0.3
Chalco Southwest Aluminum	239	0.2
Fujian		
Chalco Ruimin	691	0.7
Inner Mongolia		
Baotou Aluminum	6,634	6.6
Others (including employees of subsidiaries under construction)		
	765	0.8
Headquarters	213	0.2

<b>Total</b>	<b>101,259</b>	<b>100.00</b>
	<hr/>	<hr/>

We have workers' unions at the plant level that protect employees' rights and welfare benefits, organize educational programs, encourage employee participation in management decisions and mediate disputes between individual employees and us. All employees are union members. We have not experienced any strikes or other labor disturbances that have interfered with our operations, and we believe that we maintain good relationships with our employees.

The remuneration package of our 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, we participate in pension contribution plans organized by provincial and municipal governments, under which each of our 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. We have made all required pension contributions up to December 31, 2011. Retirees who retired prior to the date of the reorganization will have their pensions paid out of the pension plans established by the PRC government. We provide to our employees various social welfare benefits through various institutions owned by Chinalco and its other affiliates or through third parties.

#### E. SHARE OWNERSHIP

None of our directors, supervisors or senior management owns any interest in any shares or options to purchase our shares.

### ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

#### A. MAJOR SHAREHOLDERS

We are a joint stock limited company organized under the laws of the PRC. Our parent company, Chinalco, a state-owned enterprise, beneficially owns 41.82% of our outstanding common shares directly and indirectly through its controlled entities. Chinalco holds a significant portion of our domestic shares in the form of state legal person shares, which do not have voting rights different from our other shares. Chinalco has substantial influence over our management, policies and corporate actions and can exercise all rights as our controlling shareholder subject to the relevant laws, rules and regulations. Approximately 58.18% of our total outstanding common shares are held by public shareholders, of which 29.16% and 29.02 % are owned by holders of H Shares and A Shares, respectively.

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The following table sets forth information regarding ownership of our issued and outstanding capital stock as of December 31, 2011. The table includes all persons who are known by us to own, either as beneficial owners or

holders of record, five percent or more of any class of shares.

As of December 31, 2011			
Holders of A Shares and H Shares	Number of shares (in millions)	% of issued share capital total	% of respective share class
<b> Holders of A Shares </b>			
Chinalco <sup>(1)</sup>	5,655.38	41.82	59.03
China Cinda Asset Management Corporation Limited	800.76	5.92	8.36
China Construction Bank Corporation Limited	686.90	5.08	7.17
Other public holders of A Shares	2,437.48	18.02	25.44
<b>Total A Shares</b>	<b>9,580.52</b>	<b>70.84</b>	<b>100.00</b>
<b> Holders of H Shares </b>			
Templeton Asset Management Ltd.	829.67	6.13	21.04
Blackrock, Inc. <sup>(2)</sup>	295.41	2.18	7.49
Other H shares holders	2,818.89	20.84	71.74
<b>Total H Shares</b>	<b>3,943.97</b>	<b>29.16</b>	<b>100.00</b>
<b>Total</b>	<b>13,524.49</b>	<b>100.00</b>	

(1) Including 5,214,407,195 A Shares held directly by Chinalco, 350,237,795 A Shares held by Baotou Group, 79,472,482 A Shares held by Lanzhou Aluminum Factory, 4,119,573 A Shares held by Guiyang Aluminum and Magnesium Design and Research Institute and 7,140,254 A Shares held by Shanxi Aluminum Plant. Baotou Group, Lanzhou Aluminum Factory, Guiyang Aluminum Magnesium Design and Research Institute and Shanxi Aluminum Plant are controlled by Chinalco.

- (2) Including 295,407,831 shares held by various corporations controlled by Blackrock, Inc.

We are not aware of any arrangement that may at a subsequent date result in a change of control of Chalco.

On April 24, 2007, we issued 1,236,731,739 A Shares by way of share exchange with the other shareholders of Shandong Aluminum and Lanzhou Aluminum, including a subsidiary of Chinalco, to acquire the existing issued shares not held by us. On the same date, China Orient Asset Management Corporation, a PRC state-owned financial enterprise, transferred all of its equity interest in us to Chinalco and ceased to be our shareholder. On December 28, 2007, we issued 637,880,000 A Shares to a subsidiary of Chinalco in exchange for 100% equity in Baotou Aluminum.

To the best of our knowledge, as of December 31, 2011, all of the outstanding ADSs were held by 87 United States holders of record.

As an owner of at least 30% of our issued and outstanding shares, the parent company is deemed a controlling shareholder and therefore may not exercise its voting rights with respect to various matters related to our shares in a manner prejudicial to the interests of our other shareholders. See "Item 10. Additional Information - B. Memorandum and Articles of Association." In accordance with our Articles of Association, each share of our capital stock has one vote and the shares of the same class have the same rights. Other than the foregoing restrictions, the voting rights of our major holders of domestic and H Shares are identical to those of any other holders of the same class of shares. Holders of domestic shares and H Shares are deemed to be shareholders of different classes for some matters, which may affect their respective interests. Other than the foregoing, holders of H Shares and domestic shares are entitled to the same voting rights.

## B. RELATED PARTY TRANSACTIONS

### Connected Transactions under Hong Kong Listing Rules

Under the Listing Rules, transactions between connected persons and us, or connected transactions, generally must be reported to the Hong Kong Stock Exchange, announced to the public and/or approved by shareholders unless the foregoing requirement are waived by the Hong Kong Stock Exchange or exempted under the Listing Rules. Each year our independent non-executive directors must review our non-exempt continuing transactions and confirm that these transactions have been entered into:

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- (i) in the ordinary and usual course of our business;
- (ii) the terms of the transactions are fair and reasonable as far as our shareholders are concerned;
- (iii) either on normal commercial terms or, if there are not sufficient comparable transactions to judge whether they are on normal commercial

terms, on terms no less favorable to us than terms available to or from (as appropriate) independent third parties; and

- (iv) in accordance with the relevant agreement governing them on terms that are fair and reasonable and in the interests of our shareholders as a whole.

Although the definition of connected transactions is not synonymous with the definition of related party transactions, the concepts are sufficiently similar that the following description of our connected transactions would satisfy disclosure requirements under U.S. securities laws:

- \* Provision of Engineering, Construction and Supervisory Services Agreement with Chinalco;
- \* Comprehensive Social and Logistics Service Agreement with Chinalco;
- \* Mutual Supply Agreement with Chinalco;
- \* Mineral Supply Agreement with Chinalco;
- \* Land Use Rights Lease Agreement with Chinalco;
- \* Building Lease Agreement with Chinalco;
- \* Provision of Alumina and Aluminum Alloy Ingots and Aluminum Fabrication Services Agreement with Xinan Aluminum;
- \* Joint venture agreement to establish Shanxi Jiexiu;
- \* Framework agreement for aluminum products fabrication services with Chinalco;
- \* Financial services agreement with Chinalco Finance Co., Ltd;
- \* Acquisition of 9.5% interest in China Aluminum International Trading Co., Ltd.; and
- \* Counter guarantee to Chinalco.

Provision of Engineering, Construction and Supervisory Services Agreement with Chinalco

The Provision of Engineering, Construction and Supervisory Services Agreement with Chinalco dated November 5, 2001 has been extended to December 31, 2012. Pursuant to this agreement, Chinalco will provide certain engineering, construction and supervisory services to us at the state guidance price and, where there is no state

guidance price, at market price. Such services are mainly provided by subsidiaries of Chinalco including China Aluminum International Engineering Corporation Limited. The annual cap for the continuing connected transactions under this agreement was set at RMB12,200 million for 2009. On November 13, 2009, our shareholders increased the annual caps of this agreement to RMB13,500.0 million, RMB14,900.0 million (US\$2,367.4 million) and RMB16,400.0 million for 2010, 2011 and 2012, respectively.

#### Comprehensive Social and Logistics Service Agreement with Chinalco

We have entered into a Comprehensive Social and Logistics Services Agreement with Chinalco to receive a broad range of social and logistics services including education and schooling, public transportation and property management. In 2009, our shareholders approved the increase in the annual cap for this agreement to reflect our growing demand for the social and logistics services provided under this agreement as our business expands and Chinalco's expected increase in costs associated with providing these services.

#### Mutual Supply Agreement with Chinalco

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Chinalco provides ancillary production supplies and services which include, among other things, various raw materials required in alumina and primary aluminum production, transportation and loading services and production supporting service. To support its aluminum fabrication business, Chinalco purchases primary aluminum and other alumina products from us. Chinalco transferred to us (a) operating assets and businesses for the production of alumina, primary aluminum, scrap materials, coal and pitch, and (b) assets and businesses for the provision of ancillary production supplies and services which include, among other things, the supply of electricity, gas, heat and water, spare parts and the provision of repair and maintenance services. Such businesses and operating units continue to provide ancillary production supplies and services to Chinalco.

This Mutual Supply Agreement dated July 1, 2001 has been extended to December 31, 2012. For 2009, 2010, 2011 and 2012, the annual cap on sales by us to Chinalco is RMB7,300 million, RMB9,500.0 million, RMB10,500.0 million (US\$1,668.3 million) and RMB11,500.0 million, respectively, and the annual cap on the purchases by us from Chinalco is RMB3,800 million, RMB4,450.0 million, RMB4,900.0 million (US\$778.5 million) and RMB5,200.0 million, respectively.

#### Mineral Supply Agreement with Chinalco

We entered into a Mineral Supply Agreement with Chinalco on November 5, 2001, which has been extended every three years since then. Pursuant to this agreement, Chinalco provides us bauxite and limestone from several mines that it operates. Chinalco also purchases bauxite and limestone from other mines that it jointly operates with third parties and re-sell such bauxite and limestone to us at cost.

#### Land Use Rights Lease Agreement with Chinalco

On November 5, 2001, we entered into the Land Use Rights Leasing Agreement with Chinalco for the lease of 459 parcels of land covering an aggregate area of approximately 61.9 million square meters and spanning across eight



provinces in the PRC. This agreement is for a term of 50 years expiring on June 30, 2051. The annual rent paid to Chinalco in 2009, 2010 and 2011 was approximately RMB690 million, RMB572 million and RMB603 million (US\$95.8 million), respectively.

The cap for annual rental of the land use rights in connection with the leased properties was RMB1 billion, RMB1.1 billion and RMB1.2 billion for 2009, 2010 and 2011, respectively.

#### Building Lease Agreement with Chinalco

We entered into the Building Lease Agreement with Chinalco on November 5, 2001 for a term of 20 years expiring on June 30, 2020. At our special general meeting held on February 27, 2007, our shareholders approved to aggregate the rental payable to Chinalco under this agreement and apply for an aggregate annual cap of RMB100 million, RMB110 million and RMB110 million for 2009, 2010 and 2011, respectively.

Pursuant to this agreement, we leased to Chinalco and Chinalco leased to us a number of buildings and properties for ancillary uses, which include buildings and properties mainly for offices, dormitory, canteen and storage purposes. The buildings and properties we lease to Chinalco comprise 59 buildings with an aggregate gross floor area of 62,819 square meters. In turn, the buildings and properties Chinalco leases to us for ancillary uses comprise 100 buildings with an aggregate gross area of 273,637 square meters.

On March 28, 2005, we entered into a tenancy agreement with China Aluminum Development Company Limited, a wholly-owned subsidiary of Chinalco, in respect of the office premises at 12th to 16th floors and 18th to 31st floors of No. 62 North Xizhimen Street, Hai Dian District, Beijing, PRC with an aggregate gross floor area of 30,160.81 square meters for a term of three years. The annual rent amounts to RMB61.6 million, determined according to the prevailing market rate. On October 15, 2008, we renewed the tenancy agreement to extend it for another three years commencing on October 16, 2008. Under the renewed tenancy agreement the aggregated gross floor area we lease was increased to 30,187.9 square meters for an annual rent of RMB61.7 million payable each six months. In 2011, we paid RMB62 million (US\$9.9 million) under the renewed tenancy agreement.

#### Provision of Aluminum and Aluminum Alloy Ingots and Aluminum Fabrication Services Agreement between us and Xinan Aluminum

Xinan Aluminum (including its subsidiaries and associates) purchases products from us and provides products and services to us. Xinan Aluminum is our connected person because it is a substantial shareholder of one of our subsidiaries, Chalco Southwest Aluminum. We entered into the Mutual Provision of Products and Services Framework Agreement with Xinan Aluminum on October 20, 2008, which was effective until December 31, 2009. The annual cap for our sales to Xinan Aluminum for 2008 and 2009 was RMB9,000 million and RMB7,000 million, respectively, while our purchase from Xinan Aluminum was RMB4,600 million and RMB4,000 million, respectively. On December 30, 2009, our shareholders approved the extension of the term of this agreement to December 31, 2012 and set the annual cap on sales by us at RMB8,000.0 million, RMB8,500.0 million (US\$1,350.5 million) and RMB9,000.0 million, respectively, for 2010, 2011 and 2012 respectively and the annual cap on the purchases by us at RMB4,200.0 million, RMB4,800.0 million (US\$762.6 million) and RMB5,200.0 million respectively. In 2010 and 2011, our total sales to Xinan Aluminum amounted to RMB4,453 million and RMB4,850 million (US\$771 million), respectively, and our total purchases from Xinan Aluminum amounted to RMB2,473 million and RMB2,195 million (US\$649 million), respectively.

#### Joint venture agreement to establish Shanxi Jiexiu

In January 2011, we established Shanxi Jiexiu with Luxin Company, Shanxi Aluminum Plant, a subsidiary of Chinalco, and three individuals to integrate coal resources in Shanxi Province by investing in and reorganizing five coal mining companies in the Jiexiu area, Shanxi Province. We and Shanxi Aluminum Plant held approximately 34% and 16%, respectively, of the equity interest in Shanxi Jiexiu upon its establishment. The remaining equity interest was held by Luxin Company and the other investors, who are independent of and not related to us. As Shanxi Aluminum Plant is the subsidiary of Chinalco, our controlling shareholder, the establishment of Shanxi Jiexiu by us and Shanxi Aluminum Plant constitutes a connected transaction. In April 2012, the shareholders of Shanxi Jiexiu adjusted their shareholding percentages and capital contributions. After the adjustment, the equity interest held by Shanxi Aluminum Plant was reduced from 16% to 15%, while our equity interest in Shanxi Jiexiu remains at 34%. The amount of our capital contribution was increased from the original RMB537 million to RMB692 million (US\$110 million). As of the date of this annual report, we contributed RMB610 million (US\$96.9 million) in cash. As of the date of this annual report, Shanxi Jiexiu has not commenced commercial operation.

#### Framework agreement for aluminum products fabrication services with Chinalco

Shandong Aluminum, a wholly-owned subsidiary of Chinalco, has been providing aluminum products fabrication services to our Shandong branch since 2009. In addition, Qinghai Aluminum Co., Ltd., a wholly-owned subsidiary of Chinalco, has been providing aluminum products fabrication services to Chalco Ruimin since 2010. In 2009, 2010 and 2011, an aggregate of approximately RMB51 million, RMB138 million and RMB214 million (US\$34.0 million) was paid by our relevant branch and subsidiary to these two subsidiaries of Chinalco for the provision of aluminum fabrication services. To better regulate the aluminum products fabrication services to be provided by Chinalco, we and Chinalco executed a framework agreement on provision of aluminum products fabrication services by Chinalco on February 28, 2011. This agreement is for a term of two years starting from January 1, 2011. The annual cap for aluminum products fabrication services to be provided by the subsidiaries of Chinalco to our relevant branch and subsidiary is approximately RMB240 million (US\$38.1 million) for each year.

#### Financial Services Agreement with Chinalco Finance

On August 26, 2011, we entered into a Financial Services Agreement with Chinalco Finance Co., Ltd. ("Chinalco Finance"). Chinalco Finance is a wholly owned subsidiary of Chinalco and is a non-banking financial institution legally established with the approval of the China Banking Regulatory Commission. Chinalco Finance is engaged in providing corporate financial services. Pursuant to the Financial Services Agreement, Chinalco Finance has agreed to provide us with deposit services, credit services and miscellaneous financial services. Upon the signing of the Financial Services Agreement by both parties and completion of the relevant legal process, the Agreement is valid for a term of one year.

Pursuant to the Financial Services Agreement, we have the right to choose the financial institution for financial services and the financial institution for deposit services and loan services as well as the amounts of loans and deposits with reference to our own needs. Chinalco Finance undertakes that the terms for the provision of financial services to us at any time was no less favorable than those of the same type of financial services provided by Chinalco Finance to Chinalco and other members of our group or those of the same type of financial services that may be provided to us by other financial institutions. During the term of the Financial Services Agreement, the maximum daily balance (including accrued interests) of our Group on the settlement of account in Chinalco Finance

must not exceed RMB2.8 billion(US\$0.4 billion). In addition, during the term of the Financial Services Agreement, the credit facility limit to be provided by Chinalco Finance to us must not exceed RMB5 billion (US\$0.8 billion) (including accrued interests). As of December 31, 2011, we have deposits with Chinalco Finance amounting to RMB261 million (US\$41 million). For the year ended December 31, 2011, we paid RMB771 million (US\$122 million) to Chinalco Finance for its financial services provided to us.

#### Acquisition of 9.5% interest in China Aluminum International Trading Co., Ltd.

In compliance with the relevant laws and regulations on transfer of state-owned properties in the PRC, China Aluminum Development Limited ("CAD"), a subsidiary of Chinalco, listed the 9.5% of the equity interest held by it in China Aluminum International Trading Co., Ltd ("CIT"), in which we held 90.5% of the equity interest, for open bidding on China Beijing Equity Exchange Group. On December 21, 2010, we submitted a bid for the 9.5% CIT equity interest for RMB115,346,929, and won the bid. Upon approval by the shareholders at the 2010 annual general meeting, we as the purchaser and CAD as the vendor entered into the relevant equity transfer agreement. Pursuant to the equity transfer agreement, CAD is entitled to the profit generated by CIT between the agreed valuation benchmark dates and respective equity transfer dates. Accordingly, we paid to CAD an additional amount of RMB45 million on February 14, 2012. Upon completion of the acquisition of the 9.5% of the equity interest in CIT in June 2011, CIT became a wholly owned subsidiary of our Company.

#### Counter Guarantee to Chinalco

Upon consideration at the 2010 annual general meeting convened on May 31, 2011, the shareholders approved the grant of a counter guarantee to Chinalco in respect of the guarantee provided by Chinalco in favor of Rio Tinto in the Simandou iron ore project in Guinea.

We provide the following additional information on material related party transactions during the periods indicated:

	Year Ended December 31,			
	2009	2010	2011	2011
(1)				
	RMB	RMB	RMB	US\$
	(in thousands)			
Sales of materials and finished goods to:				
Chinalco Group <sup>(1)</sup>	2,792,167	6,101,643	5,618,282	892,655
Jointly-controlled entities	-	-	7,596	1,207
Associates	396	-	5,983	951

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Other related parties	3,638,739	4,452,683	4,835,662	768,309
Provision of products processing service to				
Other related parties	-	-	13,969	2,219
Provision of utility services to:				
Chinalco Group	350,744	340,857	347,917	55,278
Other related parties	1,510	-	453	72
Provision of engineering, construction and supervisory services by:				
Chinalco Group	4,947,307	3,503,363	3,259,624	517,902
Other related parties	19,740	5,894	22,681	3,604
Purchase of key and auxiliary materials and finished goods from:				
Chinalco Group	2,705,653	4,556,204	1,785,053	283,616
Jointly-controlled entities	911,462	1,321,202	1,499,136	238,189
Associates	4,665	1,458	39	6
Other related parties	2,595,829	2,483,173	2,195,191	348,781
Provision of social services and logistics services by:				
Chinalco Group	502,999	264,049	281,956	44,798
Jointly-controlled entities	-	-	-	-
Other related parties	5,565	475	624	99
Provision of utilities services by:				
Chinalco Group	212,312	171,371	130,112	20,673
Other related parties	73,369	100,952	145,778	23,162
Rental expenses for land use rights and buildings charged by Chinalco Group	762,278	643,432	665,105	105,675
Commission processing by Chinalco Group and its subsidiaries	50,687	137,601	213,553	33,930
Disposal of an available-for-sale investments to Chinalco	-	164,697	-	-
Acquisition of non-controlling interest from a fellow subsidiary	-	-	160,271	25,464
Borrowing from a fellow subsidiary	-	-	500,000	79,442
Interest expense on borrowing from a fellow subsidiary	-	-	4,009	637
Entrusted loan/shareholder's loan to:				

A jointly controlled entity	-	-	605,041	96,131
Other related parties	-	-	63,665	10,115
Interest income on entrusted loan/shareholder's loan to				
A jointly controlled entity	-	-	4,361	693
Other related parties	-	-	1,140	181

(1) For purpose of this table, the Chinalco Group refers to Chinalco, its subsidiaries (other than us) and associates.

#### Guarantees

In 2004, we and Shanxi Aluminum Plant Subbranch, China Construction Bank, entered into a guarantee contract, pursuant to which the Company provided joint liability guarantee for the eight-year loan of RMB1.12 billion made to Shanxi Huaze, a subsidiary controlled by us. The guarantee will expire following two years upon the expiry of the debt performance period under the principal contract. As of March 31, 2012, the outstanding balance of the loan was RMB0.42 billion.

On July 29, 2011, we entered into a joint development agreement with Rio Tinto and Rio Tinto Atlantic for the development and operation of the Simandou Project in west Africa. Pursuant to the Joint Development Agreement, Chinalco guarantees to the joint venture the performance by us of all our obligations under the Simandou joint development agreement. We, in consideration of Chinalco's guarantee, granted Chinalco a counter guarantee by way of credit security and with a term of the counter guarantee contemporaneous with performance period of the joint development agreement. Resolutions relating to the provision of counter guarantee for the guarantee provided by Chinalco in respect of the Simandou Project were approved by our Board on October 25, 2011 and by the shareholders at the 2011 annual general meeting on May 31, 2011, respectively.

The table below sets forth information on guarantees with certain related parties in 2011, which were made for working capital and capital investment purposes.

Guarantor	Guarantee	Interest Rate	Largest Amount Outstanding in 2011 (RMB)	Amount Outstanding as of March 31, 2012 (RMB)	
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0

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Long	The Company	Shanxi Huaze	5.940%	100,000,000	0
Long	The Company	Shanxi Huaze	5.940%	50,000,000	50,000,000
Long	The Company	Shanxi Huaze	5.940%	100,000,000	100,000,000
Long	The Company	Shanxi Huaze	5.940%	100,000,000	100,000,000
Long	The Company	Shanxi Huaze	5.940%	100,000,000	100,000,000
Long	The Company	Shanxi Huaze	6.120%	70,000,000	70,000,000
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0

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Long	The Company	Shanxi Huaze	5.940%	50,000,000	0
Long	The Company	Shanxi Huaze	5.940%	100,000,000	0
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0
Long	The Company	Shanxi Huaze	5.940%	50,000,000	0
Long	Lanzhou Aluminum Factory	Lanzhou Branch	3.550%	32,000,000	28,000,000
Long	Lanzhou Aluminum Factory	Xibeilv Branch	2.550%	4,200,000	3,600,000
Long	Chinalco	Henan Aluminum	6.120%	92,000,000	74,000,000

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Long	Chinalco	Henan Aluminum	6.345%	94,000,000	76,000,000
Long	Chinalco	Henan Aluminum	6.400%	90,000,000	20,000,000
Long	Chinalco	Henan Aluminum	6.345%	50,000,000	50,000,000
Long	Chinalco	Henan Aluminum	6.345%	100,000,000	100,000,000
Long	Chinalco	Henan Aluminum	5.940%	50,000,000	50,000,000
Long	Chinalco	Henan Aluminum	6.120%	68,380,000	68,380,000
Long	Chinalco	Henan Aluminum	6.345%	164,257,691	68,518,599
Long	China Nonferrous Metals Technology	Henan Aluminum	6.345%	37,084,755	15,469,567
Long	Chinalco	Henan Aluminum	6.345%	300,000,000	300,000,000
Long	Chinalco	Henan Aluminum	6.345%	148,250,000	148,250,000
Long	Chinalco	Henan Aluminum	6.210%	100,000,000	0

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Long	Chinalco	Henan Aluminum	6.210%	100,000,000	0
Long	Chinalco	Henan Aluminum	6.120%	46,900,000	23,500,000

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Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	5.760%	100,000	0
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	5.346%	100,000	100,000
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	5.346%	100,000	100,000
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	5.346%	49,700,000	49,700,000
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	3.523%	29,802,150	0
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	3.523%	29,802,150	0
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	3.523%	6,622,700	6,289,100
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	3.523%	23,179,450	22,011,850
Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	3.523%	29,802,150	28,300,950
Long	Chinalco		3.523%	29,802,150	28,300,950



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Chalco  
Southwest  
Aluminum Cold  
Rollings

Long	Chinalco	Chalco Southwest Aluminum Cold Rollings	3.523%	29,802,150	28,300,950
Long	The Company	Chalco Trading	2.500%	308,914,854	309,126,051
Long	The Company	Chalco Trading	2.500%	308,914,854	309,126,051
Long	The Company	Chalco Trading	2.500%	308,914,854	309,126,051
Long	The Company	Chalco Trading	2.688%	308,914,854	309,126,051
Long	The Company	Chalco Trading	2.625%	308,914,854	309,126,051
Short	Chinalco	Henan Aluminum	6.310%	60,000,000	0
Short	Chinalco	Henan Aluminum	6.310%	70,000,000	0
Short	Chinalco	Henan Aluminum	6.310%	70,000,000	0

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Short	Chinalco	Henan Aluminum	5.576%	50,000,000	0
Short	Chinalco	Henan Aluminum	5.679%	200,000,000	0
Short	Chinalco	Henan Aluminum	5.679%	100,000,000	0
Short	Chinalco	Henan Aluminum	5.310%	60,000,000	0

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Short	Chinalco	Henan Aluminum	5.310%	60,000,000	0
Short	Chinalco	Henan Aluminum	5.310%	60,000,000	0
Short	Chinalco	Henan Aluminum	5.679%	100,000,000	0
Short	Chinalco	Henan Aluminum	4.779%	50,000,000	0
Short	Chinalco	Henan Aluminum	5.679%	100,000,000	0
Short	Chinalco	Henan Aluminum	6.310%	50,000,000	0
Short	Chinalco	Henan Aluminum	6.310%	50,000,000	0
Short	Chinalco	Henan Aluminum	6.310%	30,000,000	0
Short	Chinalco	Henan Aluminum	6.941%	40,000,000	0
Short	Chinalco	Henan Aluminum	6.560%	60,000,000	0
Short	Chinalco	Henan Aluminum	6.560%	50,000,000	0
Short	Chinalco	Henan Aluminum	6.560%	80,000,000	0
Short	Chinalco	Henan Aluminum	6.560%	60,000,000	0
Short	Chinalco	Henan Aluminum	6.560%	60,000,000	0
Short	Chinalco		6.101%	60,000,000	50,000,000

Henan  
Aluminum

Short	Chinalco	Henan Aluminum	6.560%	60,000,000	60,000,000
Short	Chinalco	Henan Aluminum	6.560%	10,000,000	10,000,000
Short	Chinalco	Henan Aluminum	6.363%	50,000,000	0

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Short	Chinalco	Henan Aluminum	6.363%	50,000,000	0
Short	Chinalco	Henan Aluminum	6.363%	50,000,000	0
Short	Chinalco	Henan Aluminum	6.560%	200,000,000	200,000,000
Short	Chinalco	Henan Aluminum	6.560%	100,000,000	100,000,000
Short	Chinalco	Henan Aluminum	6.560%	200,000,000	200,000,000
Short	Chinalco	Henan Aluminum	6.888%	50,000,000	50,000,000
Short	Chinalco	Henan Aluminum	6.888%	70,000,000	70,000,000
Short	Chinalco	Henan Aluminum	6.888%	70,000,000	70,000,000
Short	Chinalco	Henan Aluminum	6.888%	60,000,000	60,000,000
Short	Chinalco	Henan	7.216%	40,000,000	40,000,000

## Aluminum

Short	Chinalco	Henan Aluminum	6.888%	60,000,000	60,000,000
Short	Chinalco	Henan Aluminum	6.888%	80,000,000	80,000,000
Short	Chinalco	Henan Aluminum	6.626%	60,000,000	60,000,000
Short	Chinalco	Henan Aluminum	6.626%	0	70,000,000
Short	Chinalco	Henan Aluminum	6.889%	0	60,000,000
Short	Chinalco	Henan Aluminum	6.889%	0	50,000,000
Short	Chinalco	Henan Aluminum	6.889%	0	50,000,000
Short	Chinalco	Henan Aluminum	6.889%	0	50,000,000
Short	The Company	Chalco Trading	2.500%	315,045,000	314,715,000

## Loans

The table below sets forth information on loans with certain related parties in 2011, which were made for working capital and capital investment purposes.

Lender	Borrower	Interest Rate	Largest Amount	Amount
			Outstanding in 2011	Outstanding as of March 31, 2012
			(RMB)	(RMB)
_____	_____	_____	_____	_____

The Company	Fushun Aluminum	5.310%	228,000,000	228,000,000
The Company	Fushun Aluminum	5.310%	100,000,000	-
The Company	Fushun Aluminum	5.310%	137,000,000	-
The Company	Henan Aluminum	5.229%	285,000,000	285,000,000

## ITEM 8. FINANCIAL INFORMATION

### A. CONSOLIDATED FINANCIAL STATEMENTS

We have appended our consolidated financial statements filed as part of this annual report on Form 20-F.

#### Legal Proceedings

We are not currently a party to any pending legal proceedings which are expected to have a significant effect on our financial position or results of operations, nor are we aware of any proceedings that are pending or threatened which may have a significant effect on our financial position or results of operations. We may from time to time become a party to various legal or administrative proceedings arising in the ordinary course of our business.

#### Dividend Policy

Our Board declares dividends, if any, in Renminbi with respect to H Shares on a per share basis and pays such dividends in HK dollars. Any final dividend for a fiscal year is subject to shareholders' approval. The Bank of New York Mellon, as depositary, converts the HK dollar dividend payments and distributes them to holders of ADSs in U.S. dollars, less expenses of conversion. Under the Company Law of the PRC and our Articles of Association, all of our shareholders have equal rights to dividends and distributions. The holders of the H Shares share proportionately on a per share basis in all dividends and other distributions declared by our Board.

We believe that our dividend policy strikes a balance between two important goals providing our shareholders with a competitive return on investment and assuring sufficient reinvestment of profits to enable us to achieve our strategic objectives. The declaration of dividends is subject to the discretion of our Board, which takes into account the following factors:

- \* our financial results;
- \* capital requirements;
- \* contractual restrictions on the payment of dividends by us to our shareholders or by our subsidiaries to us;
- \* our shareholders' interests;

- \* the effect on our creditworthiness;
- \* general business conditions; and
- \* other factors our Board may deem relevant.

Pursuant to PRC laws and regulations, dividends may only be distributed after allowance has been made for: (1) recovery of losses, if any and (2) allocations to the statutory surplus reserve. The allocations to the statutory surplus reserve is 10% of our net profit determined in accordance with PRC Generally Accepted Accounting Principles. Our distributable profits for the current fiscal year will be equal to our net profits determined in accordance with IFRS, less allocations to the statutory surplus reserve. See "Item 10. Additional Information - E. Taxation" for a discussion of the tax consequences of receipt of dividends.

## B. SIGNIFICANT CHANGES

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Except as disclosed elsewhere in this annual report, we have not experienced any significant changes since the date of our audited consolidated financial statements which is included in this annual report.

## ITEM 9. THE OFFER AND LISTING

The Shanghai Stock Exchange is the principal trading market for our A Shares, and the Hong Kong Stock Exchange is the principal trading market for our H Shares. The ADSs have been issued by the Bank of New York Mellon, acting as depositary bank, and are listed on the New York Stock Exchange under the symbol "ACH" with each ADS representing 25 H Shares.

The following table sets forth, for the periods indicated, the reported high and low closing prices for our shares on the New York Stock Exchange and the Hong Kong Stock Exchange:

Calendar Period	NYSE		Hong Kong Stock Exchange	
	High	Low	High	Low
	(US\$ per ADS)		(HK\$ per H Share)	
2007	90.95	21.50	26.35	6.60
2008	49.75	7.31	16.12	2.17
2009	32.79	9.91	10.36	3.15

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2010	34.27	18.03	10.66	5.66
First Quarter	34.27	22.77	10.66	7.11
Second Quarter	28.88	18.03	9.09	5.82
Third Quarter	24.77	18.18	7.84	5.66
Fourth Quarter	26.80	22.08	8.30	6.71
2011	25.88	10.34	7.98	3.20
First Quarter	25.88	22.71	7.98	7.00
Second Quarter	24.89	19.70	7.80	6.22
Third Quarter	22.05	10.41	6.83	3.39
Fourth Quarter	15.29	10.34	4.90	3.20
October	15.29	10.39	4.90	3.20
November	14.97	10.91	4.68	3.40
December	12.46	10.34	3.90	3.25
2012				
First Quarter	13.88	10.77	4.45	3.22
January	13.61	10.77	4.17	3.22
February	13.88	12.08	4.45	3.70
March	13.69	11.54	4.28	3.62
April (through April 26),	12.61	11.37	3.93	3.60
2012				

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Note: Effective October 2006, our ADS ratio was changed from one ADS representing 100 H Shares to one ADS representing 25 H Shares.

## ITEM 10. ADDITIONAL INFORMATION

### A. SHARE CAPITAL

Not applicable.

### B. MEMORANDUM AND ARTICLES OF ASSOCIATION

A copy of the English translation of our Articles of Association was filed with the SEC as an exhibit to the registration statement on Form F-1 (Registration No. 333-14068) under the Securities Act in connection with a global offering of our H Shares and American depository shares on December 5, 2001. Amendments to our Articles of Association are subject to approval by the SASAC. We filed a copy of the English translation of our Articles of Association as of June 30, 2007 as an exhibit to our 20-F filed on June 20, 2007. Since June 20, 2007, our Articles of Association underwent the following amendments:

\* Our Articles of Association were amended and approved at special general

shareholders' meeting on October 12, 2007. We have deleted the requirement that the quorum of any class meeting shall be at least one-third of the total number of issued shares of that class. The Board is of the view that the one-third shareholding quorum requirement is unduly restrictive. Such provision is not a requirement of the mandatory provisions and is not common among large-scale H share companies listed on the Hong Kong Stock Exchange. Moreover, the requirement to reply by returning the reply slip 20 days before the date of the class meeting as provided in Article 99 has already provided the mechanism to ensure that the class shareholders receive the notice of the class meeting. We have also amended the Articles of Association in accordance with the merger of Baotou Aluminum with us by way of share exchange through issuance of new A Shares. The revised Article 99 reads: "The Company shall, 45 days before the date of class meeting of shareholders (including the date of meeting), send written notice of the class meeting and inform all registered shareholders of that class of the matters to be considered at the class meeting and the date and venue of the class meeting. Those shareholders of the class who intend to attend shall send the written reply to the Company 20 days before the class meeting. If the number of voting shares represented by shareholders who intend to attend the meeting amount to more than one-half of the Company's total voting shares, the Company may hold the meeting; if not, the Company shall within five days notify the shareholders, again by way of public announcement, of the matters to be considered at, and the place and date for, the meeting. The Company may then hold the meeting after such announcement."

\* Our Articles of Association were amended and approved at the general shareholders' meeting held on May 9, 2008 to (1) expand the business scope; and (2) add additional conditions for effectiveness of share certificates and obtaining the authorization from the Board to imprint the Company seal on the share certificates. The revised Article 39 reads:

"Share certificates shall be signed by the legal representative. In case other members of the senior management are also required to sign by the stock exchange on which the Company's shares are listed, such other members of the senior management shall also sign. The share certificates shall become valid after applying the Company's seal (including the share seal of the Company) or after being imprinted with the seal. Authorization from the Board should be obtained to affix the Company seal (including the share seal) or to imprint the Company seal on the share certificates. The signature of the chairman or other member of the senior management may also be in imprinted form."

The revised Article 13, which set forth our business scope, was subsequently amended.



- \* Our Articles of Association were amended and approved at the special general shareholders' meeting held on October 28, 2008 to expand our business scope set forth in Article 13, which was subsequently amended.
- \* Our Articles of Association were amended and approved at the annual general shareholders' meeting held on May 26, 2009 to (1) expand the business scope and (2) revise the requirement on the provision of corporate communication to the shareholders. The original Article 232 was deleted in its entirety and the numbers of the articles and the numberings of the articles mentioned in the text were adjusted accordingly upon this deletion. The revised Articles 70, 183, 211 and 229 read:

- \* Article 70

Notice of shareholders' general meeting shall be sent to shareholders (whether or not such shareholder is entitled to vote at the meeting), by personal delivery or prepaid post to the address of the shareholder as shown in the register of shareholders.

For the holders of domestic shares, notice of the meetings may also be given by way of public announcement. Such announcement shall be published in one or more national newspapers designated by the securities regulatory authority of the State Council of China within the interval between 45 days and 50 days (including the 45th and 50th day) before the date of the meeting; after the publication of such announcement, the holders of domestic shares shall be deemed to have received the notice of the relevant shareholders' general meeting.

For holders of H Shares, the notice of the general meeting may also be sent or provided in other ways as provided in Article 229 of the Articles of Association, to the extent permitted under all applicable laws and regulations and the listing rules of the stock exchange of the place where the Company's shares are listed.

- \* Article 183

The Company's financial reports should be prepared 20 days before the shareholder's annual meeting for their reference. Each shareholder has the right to receive such financial reports mentioned in this Chapter.

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The Company should post above-mentioned reports to the holders of H Shares in pre-paid post 21 days before the shareholder annual meeting;

the addressee's address should follow the shareholder register.

For holders of H Shares, such reports may also be sent or provided to holders of H Shares in other ways as provided in Article 229 of the Articles of Association, to the extent permitted under all applicable laws and regulations and the listing rules of the stock exchange of the place where the Company's shares are listed.

\* Article 211

If the Company dismisses or does not continue the re-appointment of the accountancy firm, it should advise the accountancy firm ten days in advance, and the latter has the right to state its opinions in the shareholders' meeting. When the accountancy firm considers it is improper to dismiss or not to continue the re-appointment, it can raise appeal to the competent securities department of the State Council of China and China Chartered Accountants Association. If the accountancy firm resigns, it should explain whether there are improper affairs to the shareholders' meeting.

The accountancy firm can resign its position by placing the written resignation advice at the Company address. The advice should come into effect on the date when it places the advice or on the date indicated in the advice. The advice should include the following statements:

- (1) declaration that it considers its resignation has nothing to do with any matters that should be explained to the Company shareholders or creditors; or
- (2) any such statement of matters that should be explained.

The Company should send the copy of the advice to the related competent department within 14 days after receiving the written advice in the above-mentioned Article. If the advice carries the statement mentioned in the two clauses of the preceding Article, the Company should also make the statements available for inspection by the Company's shareholders and post it to each holder of H Shares by pre-paid post, the addressee's address should follow the address of shareholders' register. However, such notice may also be sent or provided to holders of H Shares in other ways as provided in Article 229 of the Articles of Association, to the extent permitted under all applicable laws and regulations and the listing rules of the stock exchange of the place where the Company's shares are listed.

If the accountancy firm resignation advice contains any statement that should be explained, the accountancy firm can request the Board to convene a special shareholders' meeting and listen to its explanation on

the resignation.

\* Article 229

The company's notices ("notices" include meeting notices, corporate communication or other written materials issued by the Company to shareholders in this Chapter) shall be sent by the following means: (1) by personal delivery; (2) by mail; (3) by public announcement; (4) any other means as accepted by the securities regulatory authority and the stock exchange where the Company' shares are listed or as prescribed in the Articles of Association.

The company's notices given by public announcement shall be published on newspapers (if any) and/or other media (including websites) designated by the securities regulatory authority and the stock exchange where the Company' shares are listed.

In respect of issue or supply of corporate communications by the Company to holders of H Shares under the Hong Kong Listing Rules, the Company may send or supply corporate communications to holders of H Shares by means of electronic means or published on the website, to the extent permitted under all applicable laws and regulations and the listing rules of the stock exchange of the place where the Company's shares are listed.

Corporate communication refers to any documents issued or to be issued by the Company for the information or action of any holders of its securities, including but not limited to:

- (1) annual reports, including reports of the Board, annual accounts of the Company together with auditor's reports and (where applicable) summary financial reports;

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- (2) interim reports and (where applicable) summary of interim reports;
- (3) notices of meetings;
- (4) listing documents;
- (5) circulars; and

(6) proxy forms.

- \* Our Articles of Association were amended and approved at the annual general shareholders' meeting held on June 22, 2010 to expand our business scope set forth in Article 13, which was subsequently further amended on February 28, 2011 at the extraordinary general meeting.
- \* Our Articles of Association were amended and approved at the extraordinary general shareholders' meeting held on February 28, 2011 to expand our business scope set forth in Article 13. The revised Article 13 reads:

"The business scope of the Company include: exploration and mining of bauxite and other metal mines, limestone mines and coal mines; production and sale of bauxite and magnesite products, and other metal mines, smelted products and processed products; production and sales of coal; production and sale of carbon products, relevant non-ferrous products, water and electricity, industrial oxygen and nitrogen; production, sales, loading, unloading and transportation of autoclaved fly ash brick; production and sales of sulphuric acid(or hazardous chemical); electricity generation and sales; research and development, production and sales of comprehensive product utilization of ore tailings (including red mud); exploration design, construction and installation; manufacture, installation and maintenance of mechanical equipment, spare parts, non-standard equipment; repair of automobile and engineering machinery, manufacture and sale of automobile of special process; road transportation for cargo; installation, repair, inspection and sales of telecommunication and testing instruments; automatic measurement control, network, software system design and installation debugging; material inspection and analysis; operation of office automation and instruments; relevant technological development and technical service."

The following are summaries of material provisions of our Articles of Association insofar as they relate to the material terms of our shares.

Our objects and purposes

Our Articles of Association as amended from time to time are filed with the Hong Kong Companies Registrar. Our business scope can be found in Article 13 of our Articles of Association, as amended at the shareholders' general meeting held on May 26, 2009 and set forth above.

Directors' power to vote on matters in which he or she has an interest

Under Article 169, a director shall not vote in any resolution of the board of directors for approving any contract, transaction or arrangement in which such director or any of his associates (as defined in the applicable rules governing the listing of securities amended from time to time) is materially interested, and shall not be either counted into the quorum of the meeting. Unless the interested director has disclosed his or her interest to the board of directors

in accordance with the Article 169 and the contract, transaction or arrangement has been approved by the board of directors at a meeting in which the interested director is not counted in the quorum and has refrained from voting, a contract, transaction or arrangement in which such director is materially interested is voidable at the instance of our Company except as against a bona fide party thereto acting without notice of the breach of duty by such director.

#### Borrowing powers

Subject to compliance with applicable laws and regulations of the PRC, we have the power to raise and borrow money which power includes (without limitation) the issuance of debentures and the charging or mortgaging of part or whole of our business or properties and other rights permitted. The Articles of Association do not contain any specific provision in respect of the manner in which borrowing powers may be exercised by the directors nor do they contain any specific provision in respect of the manner in which such powers may be varied, other than (a) provisions which give the directors the power to formulate proposals for the issuance of debentures by us; (b) Article 86(2) provides that the issuance of bond must be approved by the shareholders in a general meeting by way of a special resolution; and (c) Article 108(4) provides that the directors have the power to formulate our annual final financial budgets and final accounts which shall be passed by over half of the directors.

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#### Age limit for retirement

There is no provision pertaining to the retirement of directors pursuant to an age limit requirement in our Articles of Association.

#### Directors' qualifying shares

Under Article 103, the directors are not required to hold any qualifying shares.

#### Dividend rights

Article 54(1) provides that holders of our common shares have the right to receive dividends and distribution of profits in other forms, in proportion to the number of shares held. Under Article 48, when we convoke a general shareholders' meeting, allocate dividends, liquidates or perform other activities that require the verification of equity rights, the Board or the general meeting convener must specify a date as the equity rights determination date. The shareholders registered in the shareholder roster after closing as at the equity rights determination date are the Company's shareholders entitled to appropriate rights and interests.

#### Voting rights

Article 54(2) provides that holders of our ordinary shares have the right to lawfully request, convene, chair, attend in person or appoint a proxy to attend and vote at general meetings of shareholders in respect of the number of shares held.

#### Rights to share profits

Article 60(7) provides that a plan for profit distribution and a plan for making up for losses formulated by the Board in accordance with Article 108(6) must be approved by way of the shareholders' general meeting.

#### Rights to share surplus in the event of liquidation

Article 54(6) provides that the shareholders have the right to participate in the distribution of our surplus assets in proportion to the number of shares held in the event of the termination or liquidation of us.

#### Redemption provisions; sinking fund provisions and liability to further capital calls

Article 29 provides that we may repurchase issued shares in accordance with the procedures provided in the Articles of Association and with the approvals from the relevant governing authorities of PRC under the following circumstances: (1) cancellation of shares for the purpose of reducing our capital; (2) amalgamation with other company which owns our shares; (3) granting bonus shares to our employees; (4) shareholders disagreeing with our general meeting's resolution on merger or division and requiring us to acquire the shares in their possession; (5) other purposes permitted by law and administrative regulations.

No securities issued by us are redeemable, entitled to a sinking fund or subject to liability for further capital calls.

#### Actions necessary to change the rights of holders of our shares or holders of a class of shares

Under Article 86(5), revision of any rights of class shareholders, e.g., rights to dividends, share profits or surplus in the event of liquidation or voting rights, requires a special resolution of the shareholders' general meeting. Under Article 79, a special resolution must be passed by votes representing more than two-thirds of the voting rights represented by the shareholders (including proxies) present at the meeting.

The rights attached to any class of shares may be varied or abrogated only with the sanction of a special resolution passed at the shareholders' general meeting and by holders of shares of the affected class passed at a separate general meeting of the class convened in accordance with the Article 97 to Article 101 respectively. The circumstances which are deemed to be a variation or abrogation of the class rights are set forth under Article 96. Except for the circumstances under Article 88 (1), (9) and (10), shareholders of the affected class, whether or not otherwise having the right to vote at shareholders' general meetings, have the right to vote at class meetings but Interested Shareholders (as defined under Article 97) are not entitled to vote at class meetings.

Resolutions of a class meeting shall be passed by two-thirds or more of the shares with voting rights held by the class shareholders who, according to Article 97, are entitled to vote at that class meeting. Written notice must be given to all shareholders who are registered as holders of that class in the register of shareholders 45 days before the date of the class meeting. Such notice must contain the matters to be considered at such meeting, the date and the place of meeting. Those shareholders of the class who intend to attend send the written reply to us 20 days before the class meeting.

The proceedings of a class meetings shall be conducted as nearly as possible as that of a shareholders' general meetings. The provisions in the Articles of Association relating to the proceedings of shareholders' general meetings shall apply to class meetings.

The special procedures for approval by a class of shareholders do not apply where we issue, upon the approval by special resolution of shareholders in general meeting, either separately or concurrently once every 12 months, not more than 20% of each of our existing issued Domestic-Invested Shares and Overseas-Listed Foreign-Invested Shares (as defined under Article 18).

Provisions discriminating against any existing or prospective shareholder as a result of owning a substantial number of shares

Chinalco, as our controlling shareholder, shall not exercise its voting rights in a manner prejudicial to the interest of all or some part of the shareholders when making decision on the following matters:

- \* to relieve a director or supervisor of his duty to act honestly in our best interest;
- \* to approve the expropriation by a director or supervisor (for his own benefit or for the benefit of another), our assets, in any manner, including but not limited to an opportunity beneficial to us; or
- \* to approve the expropriation by a director or supervisor (for his own benefit or for the benefit of another ) the individual rights of other shareholders, including but not limited to rights to distributions and voting rights save and except our restructuring, submitted for approval by the shareholders in general meeting in accordance with the Articles of Association.

Conditions governing the manner in which annual general meetings and extraordinary general meetings of shareholders are convoked

Shareholders' general meetings can be held as annual general meetings or extraordinary general meetings. Annual general meetings are held once a year within six months after the end of the preceding fiscal year.

The Board is required to convene an extraordinary general meeting within two months of the occurrence of any of the following circumstances:

- (1) the number of directors falls below the number required by the PRC Company Law or two-thirds of the number required by the Articles of Association;
- (2) our unrecovered losses amount to one-third of the total amount of its paid-in-capital;

- (3) upon the request of shareholder(s) holding 10 percent or more of our shares for more than ninety consecutive days (the number of shares held shall be the figures as of the date of the written request from shareholder); and
- (4) whenever the Board deems necessary or the supervisory committee proposes to convene the same.

We shall, within 45 days (inclusive of date of meeting) before the date of meeting, send written notices of the shareholders' general meeting and inform all registered shareholders of the matters to be considered at the meeting and the date and venue of the meeting. Those shareholders who intend to attend the meeting shall send the written reply to the Company 20 days before the meeting.

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Motions put forward at the general meeting shall be specific and shall relate to the matters to be considered at a shareholders' general meeting. Motion raised at a general meeting shall satisfy the following requirements:

- (1) be free of conflicts with the provision of laws, administrative regulations and Articles of Association, and fall within our business scope and the terms of the reference of the shareholders' general meeting;
- (2) have definite topics to discuss and specific matters to resolve; and
- (3) be submitted in writing or served to the convener.

Limitations on the rights to own securities

Under Article 18, the shares issued to domestic investors and denominated in Renminbi are Domestic-Invested Shares whereas the shares issued to overseas investors and denominated in foreign currency are Foreign-Invested Shares. Under Article 17, our Domestic-Invested Shares can be held only by PRC shareholders and our Foreign-Invested Shares, such as H Shares and ADSs can be held only by foreign shareholders and other shareholders from regions of Hong Kong, Macau and Taiwan.

Provisions having an effect of delaying, deferring or preventing a change in control

Under Article 111, decisions in respect of market development, merger and acquisition, and investment in a new field, where the consideration to be paid or the assets to be acquired exceed 10% of our total assets, the Board is required to engage relevant professional consultants to provide professional opinions, which shall serve as the key reference for the decision of the Board concerning such investment, merger or acquisition.

Under Article 86(3), division, merger, dissolution and liquidation of us and material acquisitions and disposals by us must be approved by a special resolution at a shareholders' general meeting.



There are no provisions under the Articles of Association pertaining to the ownership threshold above which shareholder ownership must be disclosed.

#### Conditions governing changes in registered capital

Under Article 108(7), any proposal for the increase or decrease of our registered capital must be formulated by the Board. Article 86(1) further provides that any increase or reduction in share capital requires adoption of a special resolution at a shareholders' general meeting.

### C. MATERIAL CONTRACTS

For the two years immediately preceding the date of this annual report, we have not entered into any additional material contracts other than in the ordinary course of business and other than those described in "Item 4. Information on the Company - History and Development of the Company" and "Item 7. - Major Shareholders and Related Party Transactions - B. Related Party Transactions."

### D. EXCHANGE CONTROLS

The existing foreign exchange regulations have significantly reduced government foreign exchange controls for transactions under the current account, including trade and service related foreign exchange transactions and payment of dividends. We may undertake current account foreign exchange transactions without prior approval from the State Administration of Foreign Exchange by producing commercial documents evidencing such transactions, provided that they are processed through Chinese banks licensed to engage in foreign exchange transactions. The PRC government has stated publicly that it intends to make the Renminbi freely convertible in the future. However, we cannot predict whether the PRC government will continue its existing foreign exchange policy and when the PRC government will allow free conversion of Renminbi to foreign currency.

Foreign exchange transactions under the capital account, including principal payments in respect of foreign currency-denominated obligations, continue to be subject to significant foreign exchange controls and require the approval of the State Administration of Foreign Exchange. These limitations could affect our ability to obtain foreign exchange through debt or equity financing, or to obtain foreign exchange for capital expenditures.

Since 1994, the conversion of Renminbi into HK and U.S. dollars has been based on rates set by the People's Bank of China, which are set daily based on the previous day's PRC interbank foreign exchange market rate and current exchange rates on the world financial markets. From 1994 to July 20, 2005, the official exchange rate for the conversion of Renminbi to U.S. dollars was generally stable. On July 21, 2005, the PRC government introduced a managed floating exchange rate system to allow the value of the Renminbi to fluctuate within a regulated band based on market supply and demand and by reference to a basket of currencies. Since then, the PRC government has made, and may in the future make, further adjustments to the exchange rate system. In April 2012, the PRC government took a milestone step in turning the Renminbi into a global currency by doubling the size of its trading band against the U.S. dollar, pushing through a crucial reform that further liberalizes its financial markets. The PBOC allows the Renminbi to rise or fall 1% from a mid-point every day, effective April 16, 2012, compared with its previous 0.5% limit. The People's Bank of China announces the closing price of a foreign currency traded against the Renminbi in

the inter-bank foreign exchange market after the closing of the market on each working day, and makes it the central parity for the trading against the Renminbi on the following working day. Fluctuations in exchange rates may adversely affect the value, translated or converted into U.S. dollars or HK dollars, of our net assets, earnings and any declared dividends. We cannot give any assurance that any future movements in the exchange rate of the Renminbi against the U.S. dollar and other foreign currencies will not adversely affect our results of operations and financial condition.

## E. TAXATION

### PRC Taxation

The following summary of the material PRC and United States federal income tax provisions relating to the ownership and disposition of H Shares or ADSs held by the investor as capital assets is based upon laws and relevant interpretations thereof in effect as of the date of this annual report, all of which are subject to change, and does not constitute legal or tax advice. This summary does not deal with all possible tax consequences relating to an investment in our common shares, such as the tax consequences under state, local and other tax laws.

#### Dividends Paid to Individual Investors

According to the PRC Individual Income Tax Law, as amended, dividends paid by Chinese companies to a domestic individual are ordinarily subject to a PRC withholding tax levied at a flat rate of 20%. For a foreign individual who is not a resident of China, the receipt of dividends from a company in China is normally subject to a withholding tax of 20% unless specifically exempted by the tax authority of the State Council of China or reduced by an applicable tax treaty. The PRC State Administration of Taxation issued the Notice on the Issues Concerning the Collection and Administration of Individual Income Tax Following the Repeal of Circular 45, under which Hong Kong residents will generally be subject to a dividend withholding tax of 10% pursuant to the arrangement for the avoidance of double taxation signed between the PRC and Hong Kong.

#### Dividends Paid to Non-PRC Enterprises

According to the Enterprise Income Tax Law and its implementation rules, which became effective on January 1, 2008, dividends derived from the revenues accumulated from January 1, 2008 and are paid by Chinese companies to non-resident enterprises, which are established under the laws of non-PRC jurisdictions and have no establishment or residence in China or whose dividends from China do not relate to their establishment or residence in China, are ordinarily subject to a Chinese withholding tax levied at a flat rate of 10% unless exempted or reduced pursuant to an applicable double-taxation treaty or other exemptions. Dividends paid by PRC companies to resident enterprises, including enterprises established under the laws of non-PRC jurisdictions but whose "de facto management body" is located in the PRC, are not subject to any PRC withholding tax, unless the dividends are derived from the publicly traded shares which have been held continuously by the resident enterprises for less than twelve months. Before the effectiveness of the Enterprise Income Tax Law and its implementation rules, a foreign enterprise with no permanent establishment in China receiving dividends paid with respect to a Chinese company's Overseas Shares was temporarily not subject to the 10% withholding tax according to the Tax Notice. This exemption has been abolished by the Enterprise Income Tax Law and its implementation rules. However, the withholding tax rate could be reduced under an applicable double-taxation treaty.

## Tax Treaties

Non-PRC shareholders who are residents or citizens of a country that has entered into a double-taxation treaty with China may be entitled to a reduction in the amount of tax withheld, if any, imposed on the payment of dividends. China currently has such treaties with a number of countries, including:

- \* the United States;
- \* Australia;
- \* Canada;
- \* France;
- \* Germany;
- \* Japan;
- \* Malaysia;
- \* Singapore;
- \* the United Kingdom; and
- \* the Netherlands.

Under each one of such treaties, the rate of withholding tax imposed by China's taxation authorities is generally reduced. For example, under the double taxation treaty between China and the United States, China may tax dividends paid by us to an eligible U.S. holder up to a maximum of 10% of the gross amount received by such person. Under the treaty, an eligible U.S. holder is a person who, by reason of domicile, residence, place or head office, place of incorporation or any other criterion of similar nature is subject to taxation in the United States, as applicable under the treaty's "treaty shopping provisions".

## Capital Gains

According to the Enterprise Income Tax Law and its implementation rules, which became effective on January 1, 2008, capital gains realized by foreign enterprises, which are established under the laws of non-PRC jurisdictions and have no establishment or residence in China or whose capital gains from China do not relate to their establishment or residence in China, are ordinarily subject to capital gains tax at the rate of 10%. The capital gains realized by resident enterprises, including enterprises established under the laws of non-PRC jurisdictions but whose "de facto management body" is located in the PRC, upon the sales of overseas-listed shares are subject to the PRC enterprise

income tax. Before the effectiveness of the Enterprise Income Tax Law, gains realized by foreign enterprises that are holders of Overseas Shares of a PRC company excluding the shares held through their PRC domestic establishment or residences were, temporarily, exempted from the withholding tax according to the Tax Notice. However, the effectiveness of such exemption granted by the Tax Notice becomes uncertain in light of the provisions under the Enterprise Income Tax Law and its implementation rules. With respect to individual holders of H Shares, the Provisions for Implementation of Individual Income Tax Law of China, as amended, or the Provisions, stipulated that income tax on gains realized on the sale of equity shares shall be regulated in separate rules to be drafted by the Ministry of Finance. However, no income tax on gains realized on the sale of equity shares has been collected. Gains on the sale of shares by individuals were temporarily exempted from individual income tax pursuant to notices issued jointly by the Ministry of Finance and the PRC State Administration of Taxation dated March 30, 1998. According to the Tax Notice, individual holders of Overseas Shares, such as H Shares, are temporarily not subject to capital gains tax.

#### Additional China Tax Considerations

Under the Provisional Regulations of the PRC Concerning the Stamp Duty, a stamp duty is not imposed by China on the transfer of shares, such as the H Shares or ADSs, of Chinese publicly traded companies that take place outside of China.

#### United States Federal Income Taxation

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Each potential investor is strongly urged to consult his or her own tax advisor to determine the particular United States federal, state, local, treaty and foreign tax consequences of acquiring, owning or disposing of the H Shares or ADSs.

The following is a general discussion of material United States federal income tax consequences of purchasing, owning and disposing of the H Shares or ADSs if you are a U.S. holder, as defined below, and hold the H Shares or ADSs as capital assets within the meaning of Section 1221 of the Internal Revenue Code of 1986 as amended (the "Code"). This discussion does not address all of the tax consequences relating to the purchase, ownership and disposition of the H Shares or ADSs, and does not take into account U.S. holders who may be subject to special rules including:

- \* tax-exempt entities;
- \* partnerships or other entities treated as partnerships for United States federal income tax purposes;
- \* banks, financial institutions, and insurance companies;
- \* real estate investment trusts, regulated investment companies and grantor trusts;

- \* dealers or traders in securities, commodities or currencies;
- \* U.S. holders liable for alternative minimum tax;
- \* U.S. holders that own, actually or constructively, 10% or more of our voting stock;
- \* persons who receive the H Shares or ADSs as compensation for services;
- \* U.S. holders that hold the H Shares or ADSs as part of a straddle or a hedging or conversion transaction;
- \* certain U.S. expatriates; or
- \* U.S. holders whose functional currency is not the U.S. dollar.

Moreover, this description does not address United States federal estate, gift or alternative minimum taxes or any state or local tax consequences of the acquisition, ownership and disposition of the H Shares or ADSs.

This discussion is based on the Code, its legislative history, final, temporary and proposed United States Treasury regulations promulgated thereunder, published rulings and court decisions as in effect on the date hereof, all of which are subject to change, or changes in interpretation, possibly with retroactive effect. In addition, this discussion is based in part upon representations of the depository and the assumption that each obligation in the deposit agreement and any related agreements will be performed according to its terms.

You are a "U.S. holder" if you are a beneficial owner of H Shares or ADSs and are:

- \* an individual citizen or resident of the United States for United States federal income tax purposes;
- \* a corporation, or other entity treated as a corporation for United States federal income tax purposes, created or organized under the laws of the United States or any political subdivision thereof;
- \* an estate the income of which is subject to United States federal income tax without regard to its source; or
- \* a trust:
  - \* subject to the primary supervision of a United States court and the control of one or more United States persons; or
  - \* that has elected to be treated as a United States person under applicable

United States Treasury regulations.

If a partnership (including any entity treated as a partnership for United States federal tax purposes) is a beneficial owner of the H Shares or ADSs, the treatment of the partner in such partnership will generally depend upon the status of the partner and the activities of the partnership. If an investor is a partner in a partnership that holds H Shares or ADSs, such investor should consult its tax advisor. We urge you to consult your tax advisors regarding the United States federal, state, local and non-United States tax consequences of the purchase, ownership and disposition of the H Shares or ADSs.

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In general, if you hold ADRs evidencing ADSs, you will be treated as the owner of the H Shares represented by the ADSs. Exchanges of H Shares for ADRs, and ADRs for H Shares, generally will not be subject to United States federal income tax.

**INVESTORS SHOULD CONSULT THEIR TAX ADVISORS AS TO THE PARTICULAR TAX CONSIDERATIONS APPLICABLE TO THEM RELATING TO THE PURCHASE, OWNERSHIP AND DISPOSITION OF THE H SHARES OR ADSs, INCLUDING THE APPLICABILITY OF U.S. FEDERAL, STATE AND LOCAL TAX LAWS OR NON-U.S. TAX LAWS, ANY CHANGES IN APPLICABLE TAX LAWS AND ANY PENDING OR PROPOSED LEGISLATION OR REGULATIONS.**

Distributions on the H Shares or ADSs

Subject to the discussions below under "- Passive Foreign Investment Company", the gross amount of any distribution (without reduction for any PRC tax withheld) we make on the H Shares or ADSs out of our current or accumulated earnings and profits (as determined for United States federal income tax purposes) will be includible in your gross income as ordinary dividend income when the distribution is actually or constructively received by you, or by the depositary in the case of ADSs. Distributions that exceed our current and accumulated earnings and profits will be treated as a return of capital to you to the extent of your basis in the H Shares or ADSs and thereafter as capital gain. We, however, may not calculate earnings and profits in accordance with U.S. tax principles. In this case, all distributions by us to U.S. holders will generally be treated as dividends. Any dividend will not be eligible for the dividends-received deduction generally allowed to United States corporations in respect of dividends received from United States corporations. The amount of any distribution of property other than cash will be the fair market value of such property on the date of such distribution.

Subject to certain exceptions for short-term and hedged positions, the U.S. dollar amount of dividends received by an individual, trust or estate in a taxable year beginning prior to January 1, 2013 with respect to the H Shares or ADSs will be subject to taxation at a maximum rate of 15% if the dividends are "qualified dividends." Dividends paid on H Shares or ADSs will be treated as qualified dividends if either (i) we are eligible for the benefits of a comprehensive income tax treaty with the United States that the Internal Revenue Service, or IRS, has approved for the purposes of the qualified dividend rules, or (ii) the dividends are with respect to ADSs readily tradable on a U.S. securities market, provided that we were not, in the year prior to the year in which the dividend was paid, and are not, in the year in which the dividend is paid, a passive foreign investment company, or PFIC. The Agreement Between the Government of the United States of America and the Government of the People's Republic of China for the Avoidance of Double Taxation and the Prevention of Tax Evasion with Respect to Taxes on Income PFIC rules (the "Treaty") has been approved for the purposes of the qualified dividend rules, and we expect to qualify for benefits

under the Treaty. We are considered a qualified foreign corporation with respect to the ADSs because our ADSs are listed on the New York Stock Exchange. Finally, based on our audited financial statements and relevant market data, we believe that we did not satisfy the definition for PFIC status for U.S. federal income tax purposes with respect to our 2011 taxable year. In addition, based on our audited financial statements and our current expectations regarding the value and nature of our assets, the sources and nature of our income, and relevant market data, we do not anticipate becoming a PFIC for our 2012 taxable year or any future year. However, our status in the current year and future years will depend on our income and assets (which for this purpose depends in part on the market value of the H Shares or ADSs) in those years. See the discussion below under "- Passive Foreign Investment Company."

The U.S. Treasury has announced its intention to promulgate rules pursuant to which holders of common stock and intermediaries through whom such stock is held will be permitted to rely on certifications from issuers to establish that dividends are treated as qualified dividends. Because such procedures have not yet been issued, it is not clear whether we will be able to comply with them. Holders of H Shares or ADSs should consult their own tax advisers regarding the availability of the reduced dividend tax rate in light of their own particular circumstances.

If we make a distribution paid in HK dollars, you will be considered to receive the U.S. dollar value of the distribution determined at the spot HK dollar/U.S. dollar rate on the date such distribution is received by you or by the depositary, regardless of whether you or the depositary convert the distribution into U.S. dollars. Any gain or loss resulting from currency exchange fluctuations during the period from the date the dividend payment is includible in your income to the date you or the depositary convert the distribution into U.S. dollars will be treated as ordinary income or loss from U.S. sources.

Subject to various limitations, any PRC tax withheld from distributions in accordance with the Treaty will be deductible or creditable against your United States federal income tax liability. Dividends paid by us generally will constitute income from sources outside the United States for U.S. foreign tax credit limitation purposes and will be categorized as "passive income" or, in the case of certain U.S. holders as "general category income" for U.S. foreign tax credit purposes.

In the event we are required to withhold PRC income tax on dividends paid to U.S. holders on the H Shares or ADSs (see discussion under "-PRC Taxation - China"), you may be able to claim a reduced 10% rate of PRC withholding tax if you are eligible for the benefits under the Treaty. You should consult your own tax advisor about the eligibility for reduction of PRC withholding tax.

You may not be able to claim a foreign tax credit (and instead may claim a deduction) for non-United States taxes imposed on dividends paid on the H Shares or ADSs if you (i) have held the H Shares or ADSs for less than a specified minimum period during which you are not protected from risk of loss with respect to such shares, or (ii) are obligated to make payments related to the dividends (for example, pursuant to a short sale). The rules relating to the U.S. foreign tax credit are complex. U.S. holders should consult their own tax advisors regarding the effect of these rules in their particular circumstance.

Sale, Exchange or Other Disposition

Subject to the discussions below under "- Passive Foreign Investment Company", upon a sale, exchange or other disposition of the H Shares or ADSs, you will generally recognize capital gain or loss for United States federal income tax purposes in an amount equal to the difference between the U.S. dollar value of the amount realized and your tax basis, determined in U.S. dollars, in such H Shares or ADSs. The rules relating to the U.S. foreign tax credit are complex. U.S. holders should consult their own tax advisors regarding the effect of these rules in their particular circumstance. Any gain or loss will generally be United States source gain or loss for foreign tax credit limitation purposes and as a result of the U.S. foreign tax credit limitation, foreign taxes, if any, imposed upon capital gains in respect of H Shares or ADSs may not be currently creditable. Under that Treaty, if any PRC tax was to be imposed on any gain from the disposition of H Shares or ADSs, the gain may be treated as PRC-source income. U.S. holders are urged to consult their tax advisors regarding the tax consequences if a foreign withholding tax is imposed on a disposition of H Shares or ADSs, including the availability of the foreign tax credit under their particular circumstances.

If you are paid in a currency other than U.S. dollars, any gain or loss resulting from currency exchange fluctuations during the period from the date of the payment resulting from sale, exchange or other disposition is made to the date you convert the payment into U.S. dollars will be treated as United States source ordinary income or loss.

#### Passive Foreign Investment Company

In general, a foreign corporation is a PFIC for any taxable year in which, after applying relevant look-through rules with respect to the income and assets of subsidiaries:

- \* 75% or more of its gross income consists of passive income, such as dividends, interest, rents, royalties, and gains from the sale of assets that give rise to such income; or
- \* 50% or more of the average quarterly value of its assets consists of assets that produce, or are held for the production of, passive income.

Passive income does not include rents and royalties derived from the active conduct of a trade or business. If we own at least 25% (by value) of the stock of another corporation, we will be treated, for purposes of the PFIC tests, as owning our proportionate share of the other corporation's assets and receiving our proportionate share of the other corporation's income.

Based on the composition of our assets and income and the current expectations regarding the price of the H Shares and ADSs, we believe that we should not be treated as a PFIC for U.S. federal income tax purposes with respect to our 2012 taxable year and we do not intend or anticipate becoming a PFIC for any future taxable year. The determination of PFIC status is a factual determination that must be made annually at the close of each taxable year and therefore, there can be no certainty as to our status in this regard until the close of the 2012 taxable year. Changes in the nature of our income or assets or a decrease in the trading price of the H Shares or ADSs may cause us to be considered a PFIC in the current or any subsequent year.

If we were a PFIC in any taxable year that you held the H Shares or ADSs, you generally would be subject to special rule" with respect to "excess distributions" made by us on the H Shares or ADSs and with respect to gain from your disposition of the H Shares or ADSs. An "excess distribution" generally is defined as the excess of the distributions you receive with respect to the H Shares or ADSs in any taxable year over 125% of the average annual distributions you have received from us during the shorter of the three preceding years, or your holding period for the H Shares or



ADSs. Generally, you would be required to allocate any excess distribution or gain from the disposition of the H Shares or ADSs ratably over your holding period for the H Shares or ADSs. The portion of the excess distribution or gain allocated to a prior taxable year, other than a year prior to the first year in which we became a PFIC, would be taxed at the highest United States federal income tax rate on ordinary income in effect for such taxable year, and you would be subject to an interest charge on the resulting tax liability, determined as if the tax liability had been due with respect to such particular taxable years. The portion of the excess distribution or gain that is not allocated to prior taxable years, together with the portion allocated to the years prior to the first year in which we became a PFIC, would be included in your gross income for the taxable year of the excess distribution or disposition and taxed as ordinary income.

These adverse tax consequences may be avoided if the U.S. holder is eligible to and does elect to annually mark-to-market the H Shares or ADSs. If a U.S. holder makes a mark-to-market election, such holder will generally include as ordinary income the excess, if any, of the fair market value of the H Shares or ADSs at the end of each taxable year over their adjusted basis, and will be permitted an ordinary loss in respect of the excess, if any, of the adjusted basis of the H Shares or ADSs over their fair market value at the end of the taxable year (but only to the extent of the net amount of previously included in income as a result of the mark-to-market election). Any gain recognized on the sale or other disposition of the H Shares or ADSs will be treated as ordinary income. The mark-to-market election is available only for "marketable stock," which is stock that is traded in other than de minimis quantities on at least 15 days during each calendar quarter on a qualified exchange or other market, as defined in the applicable Treasury regulations. The H Shares or ADSs may qualify as "marketable stock" because the ADSs are listed on the New York Stock Exchange.

A U.S. holder's adjusted tax basis in the H Shares or ADSs will be increased by the amount of any income inclusion and decreased by the amount of any deductions under the mark-to-market rules. If a U.S. holder makes a mark-to-market election it will be effective for the taxable year for which the election is made and all subsequent taxable years unless the H Shares or ADSs are no longer regularly traded on a qualified exchange or the IRS consents to the revocation of the election. U.S. holders are urged to consult their tax advisors about the availability of the mark-to-market election, and whether making the election would be advisable in their particular circumstances.

Alternatively, a timely election to treat us as a qualified electing fund could be made to avoid the foregoing rules with respect to excess distributions and dispositions. You should be aware, however, that if we become a PFIC, we do not intend to satisfy record keeping requirements that would permit you to make a qualified electing fund election.

If you own the H Shares or ADSs during any year that we are a PFIC, you must file IRS Form 8621. The reduced tax rate for dividend income, as discussed above under "- Distributions on the H Shares or ADSs," is not applicable to a dividend paid by us if we are a PFIC for either our taxable year in which the dividend is paid or the preceding year. We encourage you to consult your own tax advisor concerning the United States federal income tax consequences of holding the H Shares or ADSs that would arise if we were considered a PFIC.

#### Additional Taxes After 2012

For taxable years beginning after December 31, 2012, U.S. Holders that are individuals, estates or trusts and whose income exceeds certain thresholds generally will be subject to a 3.8% Medicare contribution tax on unearned income, including, among other things, dividends on, and capital gains from the sale or other taxable disposition of, the H

Shares or ADSs, subject to certain limitations and exceptions. U.S. Holders should consult their own tax advisors regarding the effect, if any, of such tax on their ownership and disposition of our securities.

#### Backup Withholding and Information Reporting

In general, information reporting requirements will apply to dividends in respect of the H Shares or ADSs or the proceeds of the sale, exchange, or redemption of the H Shares or ADSs paid within the United States, and in some cases, outside of the United States, other than to various exempt recipients, including corporations. In addition, you may, under some circumstances, be subject to "backup withholding" with respect to dividends paid on the H Shares or ADSs or the proceeds of any sale, exchange or transfer of the H Shares or ADSs, unless you

- \* are a corporation or fall within various other exempt categories, and, when required, demonstrate this fact; or
- \* provide a correct taxpayer identification number on a properly completed IRS Form W-9 or a substitute form, certify that you are exempt from backup withholding and otherwise comply with applicable requirements of the backup withholding rules.

Any amount withheld under the backup withholding rules generally will be creditable against your United States federal income tax liability provided that you furnish the required information to the IRS in a timely manner. If you do not provide a correct taxpayer identification number you may be subject to penalties imposed by the IRS.

For taxable years beginning after March 18, 2010, legislation requires certain U.S. Holders who are individuals to report information relating to stock of a non-U.S. person, subject to certain exceptions (including an exception for stock held in custodial accounts maintained by a U.S. financial institution). U.S. Holders are urged to consult their tax advisors regarding the effect, if any, of this legislation on their ownership and disposition of the H Shares or ADSs.]

#### Hong Kong Taxation

The following discussion summarizes the material Hong Kong tax provisions relating to the ownership of H Shares or ADSs held by you.

#### Dividends

Under current Hong Kong Inland Revenue Department practice, no Hong Kong tax is payable by the recipient in respect of dividends paid by us.

#### Taxation of Capital Gains

Hong Kong profits tax is currently charged at the rate of 16.5% for corporations and at a maximum rate of 15% for individuals.

No Hong Kong tax is imposed on capital gains arising from the sale of property (such as H Shares) acquired and held as investment assets. However, if a person carries on a business in Hong Kong that includes trading and dealing in securities, and derives trading gains from that or business from Hong Kong sources, Hong Kong profits tax will be payable. Gains from sales of H Shares effected on the Hong Kong Stock Exchange are considered to be from a Hong Kong source for this purpose. The source of gains from off exchange transactions is less clear and, generally, will depend on whether the purchase and sale contracts were negotiated and, in substance, concluded. Tax exemption will apply for certain classes of taxpayers, including non-residents who do not otherwise carry on business in Hong Kong, subject to compliance with various other requirements.

The Hong Kong tax position with respect to gains from the disposal of ADSs is similar. However, no Hong Kong tax will apply on trading gains arising from the sale of ADSs where the purchase and sale were effected on the NYSE.

#### Hong Kong Stamp Duty

Hong Kong stamp duty is payable by each of the seller and the purchaser for every sold note and every bought note created for every sale and purchase of the H Shares. Stamp duty is charged at the total rate of 0.2% of the value of the H Shares transferred (the buyer and seller each paying half of such stamp duty). In addition, a fixed duty of HK\$5 is currently payable on an instrument of transfer of H Shares. If one of the parties to a sale is a non-resident of Hong Kong and does not pay the required stamp duty, the stamp duty not paid will be assessed on the instrument of transfer (if any), and the transferee will be liable for the full payment of such stamp duty.

If the withdrawal of H Shares when ADSs are surrendered or the issuance of ADSs when H Shares are deposited results in a change of beneficial ownership in the H Shares under Hong Kong law, Hong Kong stamp duty at the rate described above for sale and purchase transaction will apply. The issuance of ADSs for deposited H Shares issued directly to the depository or for the account of the depository should not lead to a Hong Kong stamp duty liability. Holders of the ADSs are not liable for the Hong Kong stamp duty on transfers of ADSs outside of Hong Kong so long as the transfers do not result in a change of beneficial interest in the H Shares under Hong Kong law.

#### H. DOCUMENTS ON DISPLAY

We are subject to the periodic reporting and other informational requirements of the Exchange Act. Under the Exchange Act, we are required to file reports and other information with the SEC. Specifically, we are required to file an annual report under Form 20-F no later than four months after the close of each of our fiscal years, which is December 31, for fiscal years ended after December 15, 2011. Copies of reports and other information, when so filed, may be inspected without charge and may be obtained at prescribed rates at the SEC's public reference room located at 100 F Street, NE, Washington, D.C. 20549. The public may obtain information regarding the Washington, D.C. Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website at [www.sec.gov](http://www.sec.gov) that contains reports and other information regarding registrants that make electronic filings with the SEC using its EDGAR filing system. As a foreign private issuer, we are exempt from the rules under the Exchange Act prescribing the furnishing and content of quarterly reports and proxy statements, and officers, directors and principal shareholders of ours are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act.

#### ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to various types of market risks, including credit risk relating to financial assets and changes in foreign exchange rates, interest rates and the prices of alumina and primary aluminum, in the normal course of business.

We borrow short-term, medium-term and long-term funds, including variable rate debts, principally denominated in Renminbi. We hedge a limited amount of our sales through the trade of futures contracts on the SHFE and LME. Our hedging activities are subject to policies approved by our senior management. Substantially all of the financial instruments we hold are for purposes other than trading.

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The following discussion, which contains "forward-looking statements" that involve risks and uncertainties, summarize our market-sensitive financial instruments. Such discussions address markets risk only and do not present other risks, which we face in the normal course of business.

#### Credit Risk

Credit risk arises from bank balances, other receivables as well as credit exposures of customers, including outstanding receivables and committed transactions. We also provide financial guarantees to certain subsidiaries. The carrying amounts of these receivables and amounts of financial guarantees represent the our maximum exposure to credit risk in relation to our financial assets and guarantees.

We maintain a significant majority of our bank balances and cash in several major state-owned banks in the PRC. The directors are of the opinion that these assets are not exposed to significant credit risk.

With regard to receivables, the marketing department assesses the credit quality of the customers, taking into account their financial positions, past experience and other factors. We perform periodic credit evaluations of our customers and believe that adequate provisions for impairment of receivables have been made in the financial statements. Management does not expect any further losses from non-performance by these counterparties. In 2011, we entered into an agreement with Jiexiu Coal to provide a three year entrusted loan to Jiexiu Coal totaling to RMB1,000 million. Pursuant to the Agreement, the 51% equity interest of Jiexiu Coal held by Shanxi Province Jiexiu Luxin Coal Gas Co. Ltd, is pledged as collateral for this entrusted loan. As of December 31, 2011, RMB300 million was provided to Jiexiu Coal. We do not hold any other collateral as security for these receivables.

As of December 31, 2010 and 2011, none of the customers individually accounted for more than 10% of our total revenues. Therefore, we are not exposed to any significant concentration of credit risk.

#### Foreign Exchange Rate Risk

We conduct our business primarily in Renminbi, which is our functional and reporting currency. We convert a portion of our Renminbi revenues into other currencies to meet foreign currency obligations and to pay for imported equipment and materials.

Many foreign currency exchange transactions involving Renminbi, including foreign exchange transactions under our capital account, are subject to foreign exchange controls and require the approval of the State Administration of Foreign Exchange. Actions taken by the PRC government could cause future exchange rates to vary significantly from current or historical exchange rates. On July 21, 2005 the People's Bank of China announced a reform of its exchange rate system. Under the reform, the RMB is no longer effectively linked to the U.S. dollar but instead is allowed to fluctuate within a narrow and managed band against a basket of foreign currencies, according to market demand and supply conditions. Fluctuations in exchange rates could adversely affect the value, translated or converted into U.S. dollars or Hong Kong dollars, of our net assets, earnings and any declared dividends. We cannot assure you that any future movements in the exchange rates of Renminbi against the U.S. dollar and other foreign currencies will not adversely affect our operating performances and financial condition.

As of December 31, 2011, we had certain foreign currency denominated loans with principal amount of RMB47 million (US\$7.5 million) in Japanese Yen, RMB2,628 million (US\$417.5 million) in U.S. dollars and RMB6 million (US\$1.0 million) in Euro. In addition, our foreign currency denominated short-term bank deposits amounted to RMB327.9 million (US\$52.1 million), of which RMB296.9 million (US\$47.2 million) was denominated in U.S. dollars, RMB6.4 million (US\$1.0 million) was denominated in Australian dollars, RMB18.2 million (US\$2.9 million) was denominated in HK dollars and RMB6.4 million (US\$1.0 million) was denominated in Euros. Most of our sales are domestic and as such we have a limited amount of foreign currency denominated trade and notes receivable.

As of December 31, 2011, if RMB had appreciated by 5% against US dollar with all other variables held constant, profit for the year would have been approximately RMB101 million higher, mainly as a result of foreign exchange gains on translation of US dollar-denominated borrowings. Profit is more sensitive to fluctuations in the exchange rate between RMB and US dollar in 2011 than 2009 and 2010, mainly due to the increase in US dollar-denominated borrowings.

As the assets and liabilities denominated in foreign currencies other than US dollar are minimal relative to our total assets and liabilities, our directors are of the opinion that we are not exposed to any significant foreign currency risk arising from such foreign currency denominated assets and liabilities as of December 31, 2009, 2010 and 2011.

#### Interest Rate Risk

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We are exposed to interest rate risk resulting from fluctuations in interest rates on our debts, primarily on our long-term debt obligations. Our debts consist of fixed and variable rate debt obligations with original maturities ranging from 1 to 30 years. We undertake debt obligations to support general corporate purposes including capital expenditures and working capital needs. Upward fluctuations in interest rates increase the cost of new debts and the interest cost of outstanding variable rate borrowings. We do not currently use any derivative instruments to modify the nature of our debts so as to manage our interest rate risk. Instead, our treasury department closely monitors the market interest rates and maintains proper portfolio of variable rate and fixed rate debts in order to reduce the exposure to any one form of interest rate risk.

The table below sets forth information about our interest rate sensitive financial instruments, including debt instruments denominated in foreign currency that are sensitive to foreign currency exchange rates. The table presents principal cash flows and related weighted average interest rates by expected maturity dates. The information is presented in Renminbi equivalents. We do not have any capital lease obligations. The information below should be

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read in conjunction with our audited statement of financial position and Note 21 to our audited consolidated financial statements.

	Expected Maturity						Total	Fair value	
	2012	2013	2014	2015	2016	Thereafter		(RMB in thousand)	
Short-term loans:									
Fixed rate (RMB)	31,435,575	-	-	-	-	-	-	31,435,575	31,435,575
Average interest rate	5.67%								
Fixed rate (US\$)	881,275	-	-	-	-	-	-	881,275	881,275
Average interest rate	2.41%								
Fixed rate (EURO)	5,944	-	-	-	-	-	-	5,944	5,944
Average interest rate	4.91%								
Short-term bonds:									
Fixed rate (RMB)	10,000,000	-	-	-	-	-	-	10,000,000	10,000,000
Average interest rate	5.00%								
Long-term loans:									
Fixed rate (Japanese Yen)	3,144	3,255	3,255	3,255	3,255	3,255	30,999	47,163	55,289
Average interest rate	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%		
Variable rate (RMB)	4,132,976	6,257,209	6,576,066	2,361,584	1,003,926	1,304,600	1,304,600	21,636,361	21,636,361
Average interest rate	5.79%	5.81%	5.74%	5.57%	5.47%	5.40%	5.40%		

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Variable rate (US\$)	28,354	28,354	1,572,928	72,611	44,682	-	1,746,929	1,746,929
Average interest rate	2.08%	2.01%	2.20%	5.16%	5.88%	-		
Medium-term notes and long-term bonds:								
Fixed rate (RMB)	-	5,000,000	7,000,000	2,000,000	800,000	2,000,000	16,800,000	16,448,844
Average interest rate	-	4.92%	6.12%	4.27%	6.85%	4.64%		

Note: Data in Renminbi equivalents

Commodity Price Risk

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We are exposed to fluctuations in the prices of alumina, primary aluminum and aluminum fabrication products. We import a portion of our alumina supply from suppliers outside China. Such purchases are made at market prices. In addition, all our sales of alumina, primary aluminum and aluminum fabrication products are made at market prices. Therefore, fluctuations in the prices of alumina and primary aluminum have a significant effect on our operating performances.

We use mainly futures contracts and option contracts traded on the Shanghai Futures Exchange and London Metal Exchange to hedge against fluctuations in primary aluminum prices. We have policy in place which limits the total quantity of primary aluminum related to these futures and option contracts to 30% of the our annual production or 50% of our committed purchase or sales for our trading business. As of December 31, 2011, the fair value of outstanding future contracts amounting to RMB3.9 million and RMB1.8 million was recognized in financial assets and liabilities at fair value through profit or loss respectively. And the fair value of outstanding option contracts amounting to RMB0.5 million was recognized in financial liabilities at fair value through profit or loss.

The fair value of futures contracts are based on quoted market prices. As of December 31, 2010 and 2011, our position in futures contracts was as follows:

As of December 31, 2010				As of December 31, 2011					
Tonnes	Contract value	Market value	Unrealized gain/(loss)	Maturity	Tonnes	Contract value	Market value	Unrealized gain/(loss)	Maturity

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	RMB'000	RMB'000	RMB'000		RMB'000	RMB'000	RMB'000		RMB'000	
Futures Contracts: Primary aluminum										
-Short	34,305	562,569	571,118	(8,549)	January to	1,825	29,302	29,182	120	January 2012
					November 2011					
-Long	1,000	16,557	16,790	233	March 2011	60,890	935,633	938,518	2,885	Jan-Jun 2012
Zincum										
-Long	-	-	-	-	N/A	3,900	58,284	57,528	(756)	Mar-Apr 2012
Copper										
-Short	675	47,829	47,547	282	January 2011	2900	160,407	160,544	(137)	Feb 2012

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