



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

Stock Code: 2600 (HKSE) ACH (US) 601600 (China)

2019 Social Responsibility and Environmental, Social and Governance Report



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

The company logo is composed of letter A and L, like a pyramid, symbolizing the company's stability as Tai Mountain, and also the spirit of "striving for excellence, innovation and strength". The combination of industrial blue and silver gray shows the characteristics of the aluminum industry, and at the same time reflects the company's stability and rigor, giving people a sense of reliability and trust.

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Statement from the Leadership

Enhance overall competitiveness and Strive to build a world-class aluminum company

In 2019, Chalco thoroughly implemented Xi Jinping's thoughts of socialism with Chinese characteristics in the new era, steadily carried out the theme education of "Remain true to our original aspiration and keep our mission firmly in mind", unwaveringly held the work philosophy of "low cost, high quality, excellent mechanism and good returns", and accelerated the construction of a world-class aluminum company, which continuously boosted our industry leading advantage.

We insisted on improving quality and efficiency. Our business performance continued to improve, and our operating income has steadily increased. The output scale of alumina, refined alumina, high purity aluminum, and anode carbon has leapt to the top in the world.

We adhered to comprehensive benchmarking against best practice and carried out initiative of "three reductions and three increases", enhanced competitiveness through "three years to reduce costs" explored our full potential, improved quality and efficiency, and continued to consolidate our competitive advantage. The cost competitiveness of major products has continued to improve.

We persisted in optimizing company's layout structure, transformation and opening-up policy, accelerating the development of green hydropower aluminum, actively responding to the "Belt and Road" initiative. The "two seas" strategy was rapidly advanced, and significant progress was made in overseas projects.

We adhered to the drive of technological innovation and continued to improve the quality of supply. The development and application of new technologies and products have significantly accelerated. The national and industrial standards we led in formulation and revision have reached more than 85%, which allowed us to become a true leader in technical standards.

We persisted in deepening management reform, expanding the scope of management reform pilots, categorizing and authorizing the implementation of negative list management, improving market-oriented operating mechanisms, optimizing corporate governance, and improving management and control efficiency. The vitality of business operations was thus significantly enhanced.

We adhered to the implementation of environmental protection, strived to build a beautiful China, promoted green and clean production, and built resource-saving and environment-friendly enterprises. Seven mines have been selected into the national green mine list, and two companies have been rated as national green factories.

Statement from the Leadership (Continued)

We persisted in fulfilling our social responsibilities, being an excellent corporate citizen, strengthening enterprise and local community cooperation, and exporting advanced management experience. We have created a new model for central enterprises to help local governments eradicate poverty, which has been promoted as good practice for experience sharing by the State-owned Assets Supervision and Administration Commission of the State Council.

We adhered to open cooperation, constantly strengthened our responsibilities, and worked together with our partners to achieve mutual growth. We have attracted many institutional investors and have been given the highest global non-ferrous metal industry rating by the international rating agency Fitch.

In 2020, we will continue to adhere to the work philosophy of “low cost, high quality, excellent mechanism, and good returns”, comprehensively improve quality and efficiency, accelerate high-quality development, enhance core competitiveness, and work hard to build a world-class aluminum company, in order to give back to society with better performance, more returns to shareholders, and benefits to employees.

We would like to express our heartfelt thanks to all sectors of society for their attention and support.

Lu Dongliang
Chairman of the Board
Aluminum Corporation of China Limited

He Zihui
President
Aluminum Corporation of China Limited



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- 1 About this Report
1.1 REPORTING PERIOD
1.2 REPORTING SCOPE
1.3 REPORTING CYCLE
1.4 REPORTING GUIDELINES
1.5 REPORT DATA SPECIFICATION
1.6 REPORTING SPECIFICATIONS
1.7 ACCESS TO THE REPORT
1.8 RESPONSE TO THE REPORT



About this Report

This Report covers Aluminum Corporation of China Limited's ("Chalco" or the "Company") and its branches' and subsidiaries' (collectively referred to as the "Group") environmental, social and governance performances, communication with various stakeholders and responses to the needs of stakeholders. The board is fully responsible for the company's sustainable development work, and this report has been reviewed and approved by the Board.

1.1 REPORTING PERIOD

This Report covers the period from 1 January 2019 to 31 December 2019 (the "Reporting Period" or the "Year"), unless otherwise specified.

1.2 REPORTING SCOPE

This Report covers Chalco and its branches and subsidiaries, focusing on reporting on the environmental, social and governance performances and related policy.

1.3 REPORTING CYCLE

Chalco's Social Responsibility and Environmental, Social and Governance Report is an annual report, which is issued regularly every year. This is our 12th report.



About this Report (Continued)

1.4 REPORTING GUIDELINES

This Report was prepared with reference to: the Environmental, Social and Governance Reporting Guide (the “ESG Guide”) contained in Appendix 27 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited; the Notice on Strengthening Listed Companies’ Assumption of Social Responsibility and the Guidelines on Listed Companies’ Environmental Information Disclosure of the Shanghai Stock Exchange; Sustainability Standards 2018 issued by the Global Reporting Initiative (“GRI”); and the International Organization for Standardization (ISO)’s Guidance on Social Responsibility (ISO26000:2010). The materiality assessment results according to the reporting principles in the above-mentioned guidelines and standards also serve as the basis for identifying information to be disclosed. This Report is available in both Chinese and English. Should there be any discrepancy between the Chinese version and the English version, the Chinese version shall prevail.

1.5 REPORT DATA SPECIFICATION

The data quoted in this Report is final statistics. If there are any discrepancies between the financial disclosures in this Report and the Company’s Annual Report, the figures in the Annual Report shall stand. The financial data in this Report is in Renminbi (“RMB”) unless otherwise specified.

1.6 REPORTING SPECIFICATIONS

In this Report, the following terms shall have the following meanings unless otherwise specified:

“China”	refers to	The People’s Republic of China
“CPC” or the “Party”	refers to	The Communist Party of China
“SASAC”	refers to	State-owned Assets Supervision and Administration Commission
“Federal Reserve”	refers to	Federal Reserve System
“SEHK”	refers to	The Stock Exchange of Hong Kong Limited

About this Report (Continued)

"GRI"	refers to	Global Reporting Initiative
"CSRC"	refers to	China Securities Regulatory Commission
"Chalco" or the "Company"	refers to	Aluminum Corporation of China Limited.
The "Group"	refers to	Aluminum Corporation of China Limited. and its branches and subsidiaries
"Chinalco"	refers to	Aluminum Corporation of China
"Guangxi Branch"	refers to	Guangxi Branch of Chalco
"Guizhou Branch"	refers to	Guizhou Branch of Chalco
"Qinghai Branch"	refers to	Qinghai Branch of Chalco
"Chalco Shandong"	refers to	Chalco Shandong Co., Ltd.
"Zhongzhou Aluminum"	refers to	Chalco Zhongzhou Aluminum Co., Ltd.
"Baotou Aluminum"	refers to	Baotou Aluminum Co., Ltd.
"Shanxi New Material"	refers to	Chalco Shanxi New Material Co., Ltd.
"Chalco Mining"	refers to	Chalco Mining Co., Ltd.
"Shanxi Huaxing"	refers to	Shanxi Huaxing Alumina Co., Ltd.
"Zhengzhou Research Institute"	refers to	Chalco Zhengzhou Nonferrous Metal Research Institute Co., Ltd.
"Xinghua Technology"	refers to	Shanxi Jiaokou Xinghua Technology Co., Ltd.
"Shanxi Zhongrun"	refers to	Shanxi Chalco Huarun Co., Ltd.

About this Report (Continued)

"Guangxi Hualei"	refers to	Guangxi Hualei New Material Co., Ltd.
"Qinghai Aluminum Electricity"	refers to	Chalco Qinghai Aluminum Electricity Co., Ltd.
"Chalco Logistics"	refers to	China Aluminum Logistics Group Corporation Co., Ltd.
"Guizhou Huaren"	refers to	Guizhou Huaren New Material Co., Ltd.
"Inner Mongolia Huayun"	refers to	Inner Mongolia Huayun New Material Co., Ltd.
"Shandong Huayu"	refers to	Shandong Huayu Alloy Materials Co., Ltd.
"Shanxi Huasheng"	refers to	Shanxi Huasheng Aluminum Co., Ltd.
"Chalco Materials"	refers to	Chalco Materials Co., Ltd.

1.7 ACCESS TO THE REPORT

Electronic copies are available as follows:

The Stock Exchange of Hong Kong: <https://www.hkex.com.hk>
The Shanghai Stock Exchange: <https://www.sse.com.cn>
The Securities Times: <https://www.zqrb.cn/>
Chalco Website: <https://www.chalco.com.cn>

1.8 RESPONSE TO THE REPORT

The Group values the suggestions or opinions from various stakeholders in order to continuously improve. If you have any comments on this report, please contact us:

Phone no.: 8610-8229 8332
Fax no.: 8610-8229 8158
Email: ir@chalco.com.cn

Besides, a feedback questionnaire is attached at page 91-92 of this Report, and you are welcome to fill in and send it to the email address above.

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- 2 About Chalco
 - 2.1 COMPANY PROFILE
 - 2.2 CORE PHILOSOPHY
 - 2.3 HONORS AND AWARDS

About Chalco

2.1 COMPANY PROFILE

1. Company basic information

Company Name	Aluminum Corporation of China Limited	Chairman of the Board	Lu Dongliang
Date of Establishment	September 10, 2001	Secretary of the Board (Company Secretary)	Wang Jun
Registered Address	No. 62, Xizhimen North Street, Haidian District, Beijing, China	Total Equity	17,022,672,951 shares
Controlling Shareholder	Aluminum Corporation of China		
The Actual Controller	State-owned Assets Supervision and Administration Commission	Company Website	www.chalco.com.cn
		Email Address	ir@chalco.com.cn

2. Operating business segment



About Chalco (Continued)

3. Listed on three exchanges

The company's shares are listed on the Hong Kong, New York and Shanghai Stock Exchanges.

			
Time to Market	2001.12	2001.12	2007.04
Stock Code	2600.HK	ACH.NY	601600.SH

4. Market presence



About Chalco (Continued)

Chalco has always been committed to ensuring the development and utilization of national strategic resources. Chalco has always been playing a very important role in critical industries like aerospace, rail transportation, and high-end civilian alloys. Chalco has provided a large number of high-quality key profiles for China's first artificial satellite, Long March series rocket, Shenzhou series spacecraft, Chang'e project, large aircraft, high-speed trains, construction and transportation.

2.2 CORE PHILOSOPHY

Corporate Social Responsibility philosophy:	Turning Stone into Gold and Benefiting Mankind
Core values:	Responsibility, Integrity, Openness, and Excellence
Chalco's vision:	To Become a World-class Global Company with Global Competitiveness in the Non-ferrous Industry
Corporate's spirit:	Striving for Better Performance and Innovating for Prosperity
Corporate's mission:	Bringing Benefits to the Country, Shareholders, Employees, Customers, Communities and Environment
Corporate's image:	Responsible, Integrity, Ecological, Rule of Law, Peaceful, and Harmonious
Operation philosophy:	Creating Value and Maximizing Returns
Management philosophy:	Striving for Excellence and Collaborating for Efficiency
Cultural atmosphere:	Transparency, Honesty, Simplicity, and Open-mindedness
Business conduct concept:	Working without Corruption and Performing with Virtues
Safety concept:	Safety determines corporate efficiency and returns while employees are our wealth

2.3 HONORS AND AWARDS



**The 9th China Securities
Golden Bauhinia Award
"Best Corporate Governance
Listed Company"**



**"Golden Wing Award" Hong
Kong Stock Connect
Company Value Strength
Ranking**



**"HK Top 100 Comprehensive
Strength listed Companies"
by the Top 100 Hong Kong
Listed Companies Research
Centre**



**"China Top 100 Enterprises
Award" by China Business
Top 100**



**China's Top 500 Credit
Companies in Listed
Companies in 2019**



**Won the Innovation Award of
Property Exchange of
Shanghai United Property
Exchange**



A



B



C



D



E



F

V



3 Stakeholder Engagement

3.1 COMMUNICATION CHANNELS

3.2 MATERIALITY ASSESSMENT AND RESULT



Stakeholder Engagement

Through this report, Chalco expects to address the concerns of different stakeholders on our environmental and social responsibilities and incorporate the opinions of various stakeholders into the management of sustainable development of the company. During the reporting period, the Group conducted a materiality questionnaire survey among a diverse group of stakeholders on various environmental and social issues to understand their opinions on the Group's sustainable development work.

3.1 COMMUNICATION CHANNELS

Chalco fully considers the requirements of various stakeholders, maintains good communication with the main stakeholders through various channels, and takes appropriate actions in response to their expectations of the main issues. In the future, the Group will further enhance the depth and breadth of stakeholder engagement.

Communication channels

Stakeholders	Communication Channels	Expectations and Concerns
Major Shareholders	Annual General Meeting	Protecting the rights and interests of shareholders
	Corporate announcements	Improving corporate governance
	On-site investigation	Improving business performance

Stakeholder Engagement (Continued)

Stakeholders	Communication Channels	Expectations and Concerns
Governments and Regulators	Regular reporting and submission of information Regular communication with regulatory authorities Participation in Meetings/ Seminars	Operating in compliance with laws and regulations Fulfilling tax obligation according to law Promoting local economic development Creating local job opportunities Ensuring occupational health and safety for employees Producing and operating safely
Employees	Workers congresses Suggestions boxes Participation in Forums	Occupational health Remuneration and benefits Career development Employee caring
Customers	Business communication Customer feedbacks	Sound quality assurance system Providing quality products and services

Stakeholder Engagement (Continued)

Stakeholders	Communication Channels	Expectations and Concerns
Peer Companies	Communication with local labour departments Participation in industry forums Visits and inspections with industry peers	Promoting industry development
Potential Investors and Financial Institutions	Listing information disclosures Briefings for investors Roadshows and reverse roadshow Briefings for analysts	Disclosing information timely and accurately Actively answer investor questions
Suppliers	Tendering	Entry management
Contractors	Seminars and Conferences Entry requirements and evaluation On-site investigation	Continuous evaluation
Communities	Charitable activities Stakeholder engagement	Improving community environment Supporting community welfare Targeted Poverty Alleviation

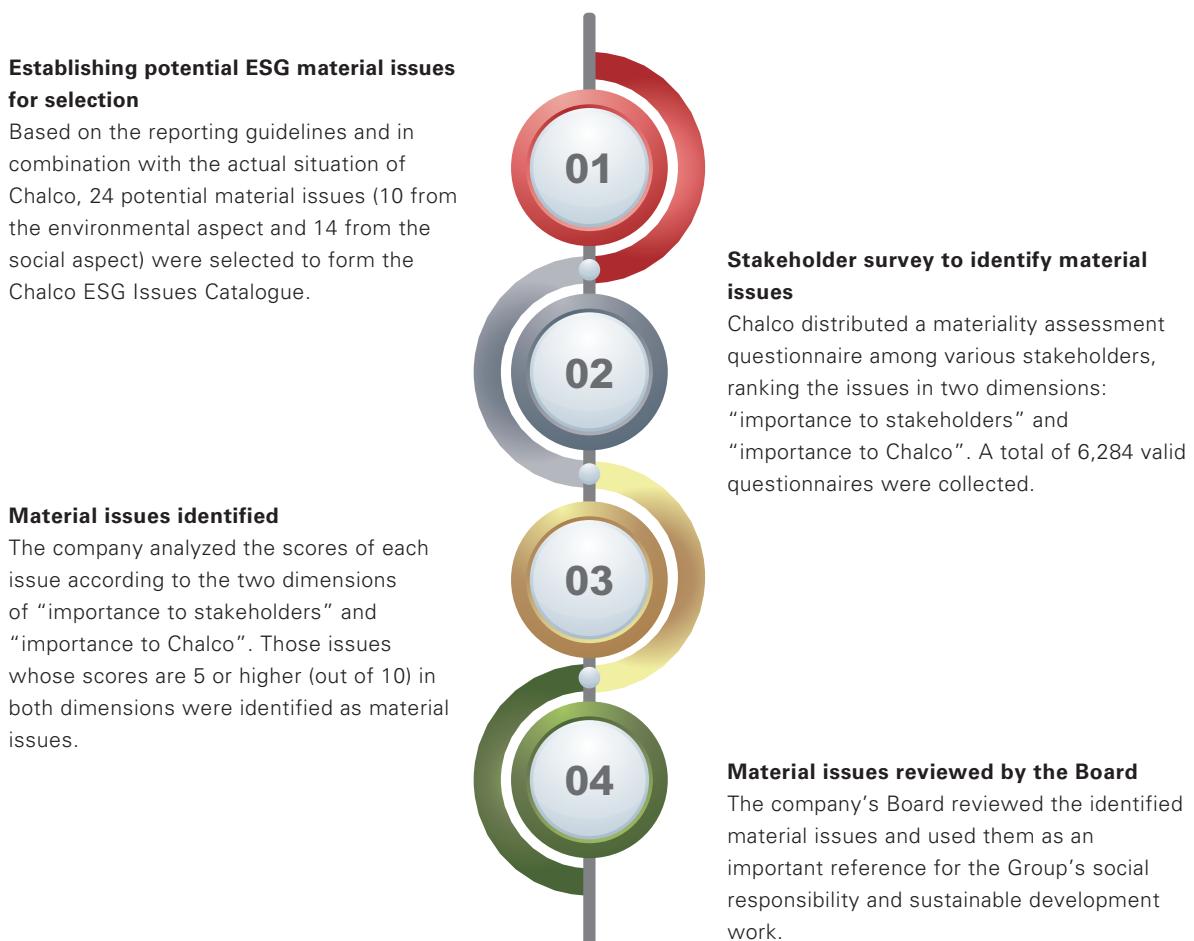
Stakeholder Engagement (Continued)

3.2 MATERIALITY ASSESSMENT AND RESULT

In addition to the above-mentioned main communication channels, Chalco conducted stakeholder surveys during the reporting period. The environmental and social materiality matrices of Chalco were illustrated from the two dimensions of the "Importance to Stakeholders" and the "Importance to Chalco".

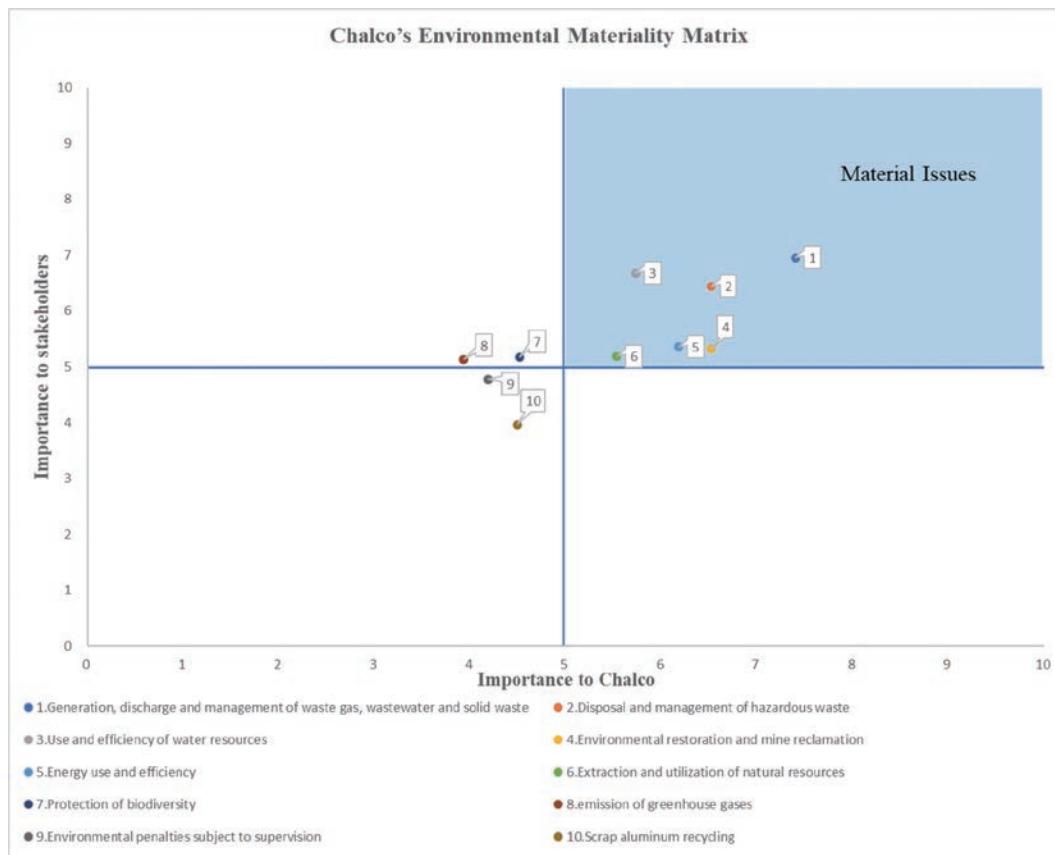
During this questionnaire survey, Chalco invited stakeholders including "Major Shareholders", "Board of Directors", "Board of Supervisors", "Management", "Employees", "Government and Regulators", "Customers", "Peer companies", "Business Partner", "Contractors", "Suppliers", "Communities", "NGOs" and "Media". A total of 6,284 valid questionnaires were collected from internal and external stakeholders.

The survey process of this materiality assessment is as follows:

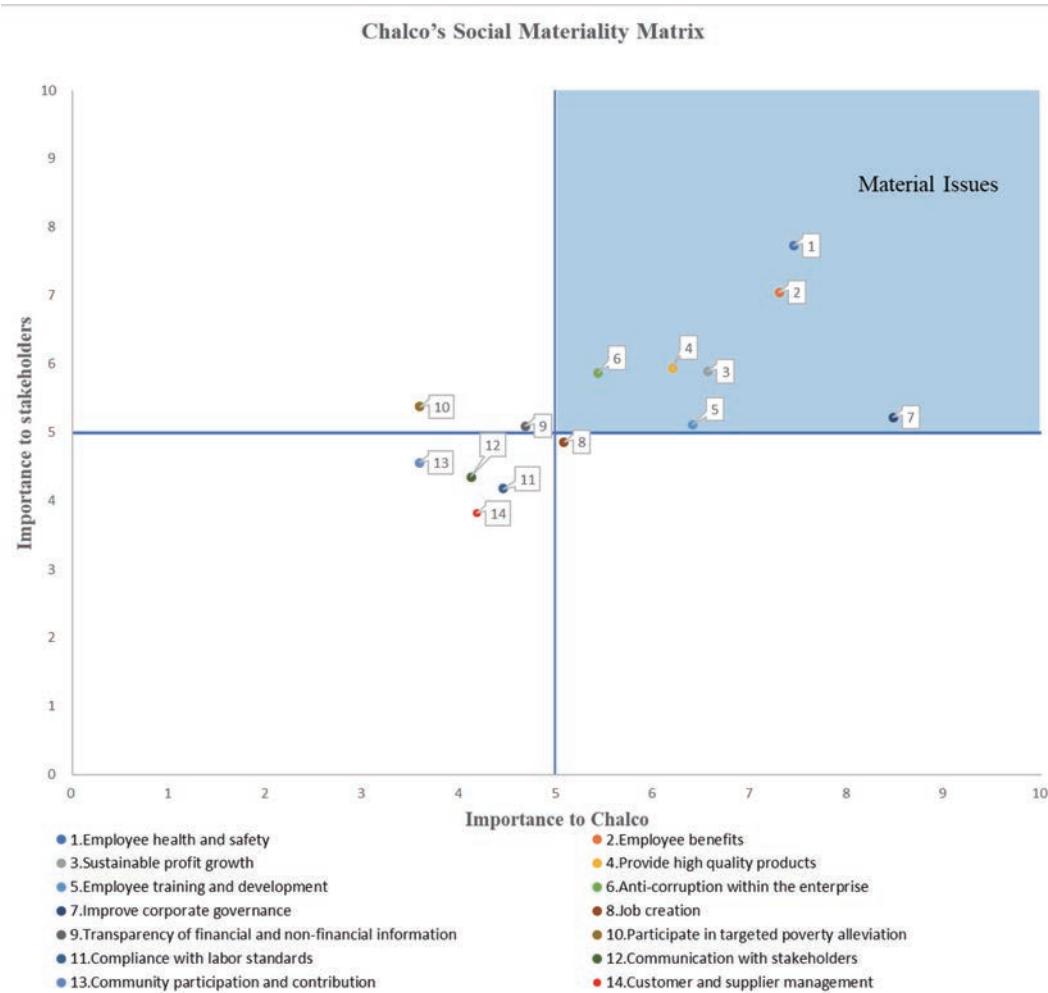


Stakeholder Engagement (Continued)

This materiality assessment survey identified 13 material issues, of which 6 issues were from the environmental aspect and 7 issues were from the social aspect. Chalco's Environmental and Social Materiality Matrices are as follows:



Stakeholder Engagement (Continued)



Stakeholder Engagement (Continued)

Material issues and their respective responding sections in this report are as follows:

Environmental Aspects	Responding Section
Generation, discharge and management of waste gas, wastewater and solid waste	Drinking Water and Never Forget the Source – Building Ecological Civilization
Disposal and management of hazardous waste	
Environmental restoration and mine reclamation	
Use and efficiency of water resources	
Energy use and efficiency	
Extraction and utilization of natural resources	

Social Aspects	Responding Section
Improve corporate governance	Governance Improvement to Create Continuous Development
Sustainable profit growth	
Provide high quality products	
Anti-corruption within the enterprise	
Employee health and safety	People-oriented Caring for Employee Development
Employee benefits	
Employee training and development	

- 
- 4 Governance Improvement
to Create Continuous
Development
- 4.1 PROMOTING THE CORPORATE GOVERNANCE
 - 4.2 STRENGTHENING ANTI-CORRUPTION
 - 4.3 PROMOTING SUSTAINABLE GROWTH
 - 4.4 IMPROVING PRODUCT QUALITY
 - 4.5 COMMITTED TO PRODUCTION SAFETY

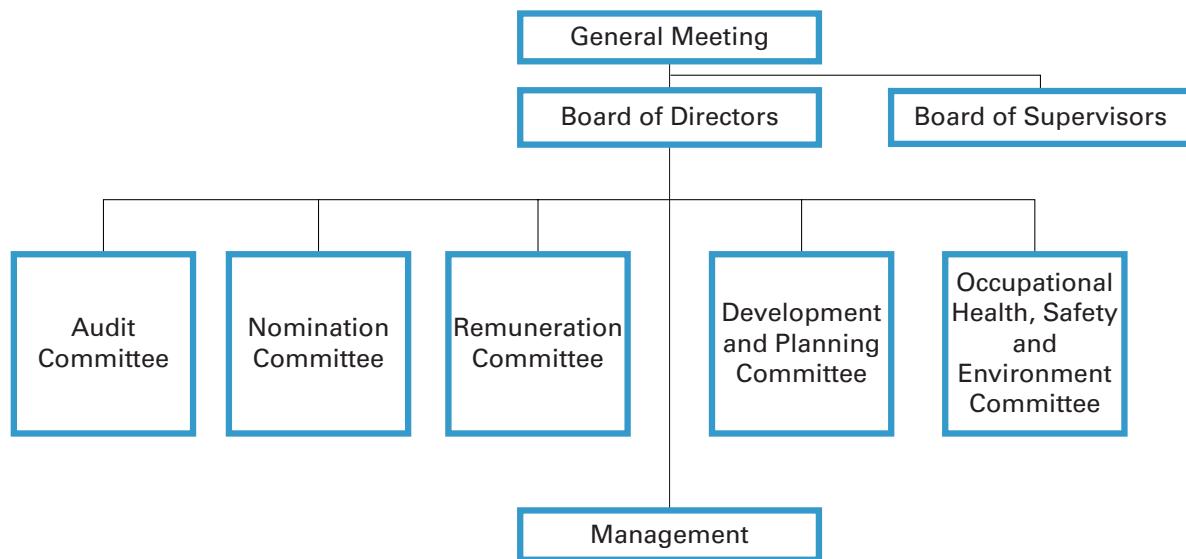


Governance Improvement to Create Continuous Development

4.1 PROMOTING THE CORPORATE GOVERNANCE

As a leading company in China's non-ferrous metal industry, Chalco strictly complies with laws and regulations including the "Company Law of China" and the "Code of Corporate Governance for Listed Companies in China" issued by the CSRC. Chalco also strictly abides by the "Rules Governing the Listing of Stocks on Shanghai Stock Exchange", "Rules Governing the Listing of Securities on SEHK" and "The New York Stock Exchange Listed Company Manual" and other securities regulatory requirements.

During the reporting period, Chalco continued to optimize its corporate governance capabilities, continued to formulate clear corporate governance systems, rules of procedure and work processes, and continued to deepen and improve the "Three Boards and One Layer" framework composed of shareholders' meetings, the Board, the Board of supervisors and management, and also other various governance systems, committed to upholding a high level of corporate governance capabilities to effectively lead Chalco to achieve long-term development, and to reward society and stakeholders with good performances.



Governance Improvement to Create Continuous Development (Continued)

General Meeting

The general meeting is the highest authority of Chalco, legally exercising its rights: to decide on the Company's management principles and investment plans; to review and approve profit distribution and loss recovery plans; and to revise the Company's constitution and the rules and procedures for general meetings, meetings of the Board of Directors and Board of Supervisors.

During the reporting period, Chalco held 4 general meetings, and reviewed and passed 26 proposals.

Board of Directors

Board of Directors is the operating decision-making body of Chalco, accountable to the general meeting. The Board of Directors legally exercises its duties including but not limited to the following items: executing the resolutions of general meetings; deciding on the Company's development strategies, business plans and investment plans; and formulating the Company's annual financial budget, financial statement, profit distribution plan, loss recovery plan, as well as any proposal to increase or decrease registered capital. The Board also determines basic management systems, including policies and processes for the management of risk, internal controls and compliance, equity incentive plans etc., as well as supervises the implementation of the Company's regulatory obligations.

At the end of the Reporting Period, the Company's seventh session of Board of Directors consisted of 9 directors: Mr. Lu Dongliang, Chairman and Executive Director; Mr. He Zihui, Mr. Jiang Yinggang, and Mr. Zhu Runzhou, Executive Directors; Mr. Ao Hong, and Mr. WangJun, Non-Executive Directors; and Ms. Chen Lijie, Mr. Hu Shihai and Mr. Li Dazhuang, Independent Non-Executive Directors. The Board held 12 meetings, reviewed and passed 51 proposals during the Reporting Period.

Governance Improvement to Create Continuous Development (Continued)

In order to facilitate the external Directors' understanding of various production and operation conditions and also the construction and development of the key projects, every month the Company compiles the industry market conditions and production and operation conditions and key project progress, etc. in order to prepare a "Director's Newsletter" for the company's external Directors' references. In addition, the Company arranges external Directors to visit and inspect the site of the affiliated companies or key construction projects every year, which provides good conditions for the external directors to better perform their duties as directors. During the year, the Company arranged the external directors to conduct investigations on Guinea's Boffa project and Yunnan hydropower and aluminum companies in May and September respectively.



External directors inspected
Guinea's Boffa project for
lighter port construction



External directors investi-
gated site construction of
Guinea Boffa project



Governance Improvement to Create Continuous Development (Continued)

Board of Supervisors

The Board of Supervisors is the Company's supervisory body, accountable to the general meeting. The Board of Supervisors legally exercises its duties to inspect and investigate the Company's financial and risk management and internal controls, to supervise and appraise the performance of the Board of Directors, senior management and their members, as well as to give opinions and make recommendations.

As of the end of the Reporting Period, the Board of Supervisors consisted of 5 Supervisors, including Mr. Ye Guohua, Chairman of the Supervisory Board, Mr. Ou Xiaowu, Ms. Shan Shulan, Mr. Guan Xiaoguang, and Mr. Yue Xuguang, supervisors. In 2019, the Company held 7 supervisory committees, 5 of which were on-site meetings and 2 were held in written subpoenas. The company's regular financial reports, internal controls and other relevant important issues were carefully reviewed and reviewed. A total of 13 proposals were reviewed and approved.

Management

The main functions of management include being in charge of the Company's production and other operations, organizing the implementation of the Board of Directors' resolutions and the Company's development strategies, annual business plan, investment plan, financial budget plan, as well as formulating and carrying out performance appraisals and the remuneration incentive scheme. The Board of Directors reviews the functions and performance of management to protect the interest of the Company as a whole. Executive management reports on the signing and implementation of major contracts, the use of funds, and the Company's profit and loss situation.

At the end of the reporting period, the company's key senior management personnel include: President Mr. He Zhihui, Senior Vice President Mr. Jiang Yinggang, Vice President Mr. Zhu Runzhou, Mr. Tian Yong, Chief Financial Officer and Secretary of the Board (Company Secretary) Mr. Wang Jun, and Vice President Mr. Wu Maosen. Reaching the legal retirement age, Mr. Tian Yong resigned as vice president of the company on February 27, 2020.

For specific and latest information on management, please see the Company's website:
http://www.chalco.com.cn/chalco/gsgk/glry/A120110web_1.htm

Governance Improvement to Create Continuous Development (Continued)

4.2 STRENGTHENING ANTI-CORRUPTION

Chalco has been continuously strengthening its business ethics education and the management of relevant person and has always adopted "zero tolerance" for illegal acts such as bribery, extortion, fraud and money laundering. The Group strictly abides by the "Anti-Money Laundering Law of the People's Republic of China" and the "Criminal Law of the People's Republic of China" and other related laws, and signed the "Anti-Commercial Bribery" with the supplier.

Chalco has established a collective decision-making mechanism and a responsibility system for integrity in the industry, perfected the credit management system, and give play to the role of the supervision of discipline inspection departments at all levels, closely integrated integrity construction with production and operation, and carried out integrity risk prevention and control. Continuously control risks in all aspects of operations to effectively prevent and investigate commercial bribery cases.

In 2019, the Group studied and formulated the "Rules of Procedure of the Disciplinary Inspection Committee of the Chalco (Trial)" to further standardize the disciplinary committee's deliberative procedures and lay the institutional foundation for strengthening the role of organization and coordination in the construction of the Party's work style, clean government, and anti-corruption. At the same time, the Group attached great importance to strengthening the education of employees' integrity. In 2019, the Group organized a special organization meeting for members of the Disciplinary Committee to conduct a check on politics, work, integrity and work style construction, and formulated the Group's 2019 Anti-Corruption and Integrity Education Month. The plan, innovative activities and methods, infiltrated the consciousness and concept of integrity and clean governance into the employees' minds.

Case: "Anti-corruption and Integrity Education Month"

In June 2019, the Group organized an "Anti-Corruption and Integrity Education Month" event in order to strengthen the anti-corruption education of internal management and employees, and thoroughly implemented anti-corruption work. During the event, various forms of propaganda and education activities on party style and clean government were carried out to fulfill the requirements of the event. Party organizations at all levels took the theme of strengthening the construction of party conduct and clean government and promoting the

Governance Improvement to Create Continuous Development (Continued)

strict governance of the party. Combining party discipline requirements, the Group's business characteristics, and the prevention and control of integrity risks, the organization of a clean and honest government warning education conference organized the conduct of clean government. Activities such as Party lesson learning, clean government education knowledge competitions, and "good family practices, good family training" sharing sessions, etc., further strengthened the Party members' sense of integrity and professionalism, and strengthened the spirits of Party members. The motto "Do what you can, and forever maintain the true nature of Communist Party members" has been spread among Party members. These education activities created a good environment of "Pride in integrity, shame on corruption", and provided a strong ideological guarantee for the building of the Party's work style, clean governance, and anti-corruption work.



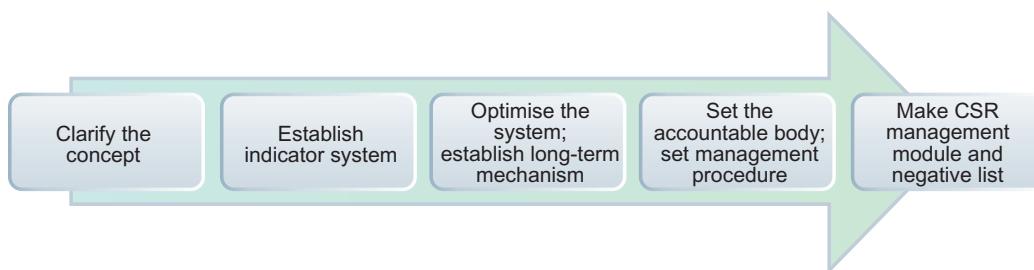
"Anti-corruption and Integrity Education Month" series of activity photos

Governance Improvement to Create Continuous Development (Continued)

In 2019, the Group further strengthened the assessment system, including work style construction, supervision, and rectification of issues, into the party construction assessment, and the indicator system was gradually improved. The Group paid more attention to daily supervision, established a working mechanism of “one prompt in one month, one supervision in one quarter” in the Party construction work, urged the assessment to be strict and efficient, gave accurate and direct feedback to problems, and highlighted the guiding role of the assessment, truly turned the soft constraints into hard requirements, and promoted the implementation of key tasks in the party construction work of the company. During the reporting period, the Company has not violated any laws or regulations related to bribery, extortion, fraud and money laundering that have a significant impact on the Company.

4.3 PROMOTING SUSTAINABLE GROWTH

The Company's board of directors is committed to achieving high-level corporate sustainable development, and believes that a good sustainable development strategy can effectively lead us to establish and achieve long-term strategies and goals, and lead the Group to grasp the sustainable development opportunities and respond to various development risks. To this end, Chalco actively integrates social responsibility into management, puts sustainable development as its long-term strategic goal, maintains the competitiveness of successful corporate development, and assumes responsibility to stakeholders such as employees, customers, society and the environment. During the reporting period, Chalco continued to promote the company's social responsibility concept of “point stone into gold for the benefit of mankind”, continued to implement the “Five Steps” work guide for integrating social responsibility into management, and embedded social responsibility into the company's daily management system. All departments are also included in performance evaluation.



Chalco's Five Steps of Integrating CSR into Management

Governance Improvement to Create Continuous Development (Continued)

Organisational System Building for Fulfilling Responsibilities

In 2019, in order to further improve the level of social responsibility management and promote the construction of a world-class aluminum company with global competitiveness, the Company established a social responsibility working committee (hereinafter referred to as the "Committee") on the basis of the original social responsibility working leadership group. The committee is the highest management organization of corporate social responsibility, and the company's main leaders¹ serve as directors of working committees. Committee according to GB/T36000 "Social Responsibility Guidelines" and SASAC "Guiding Opinions on State-owned Enterprises to Better Perform Social Responsibility" and Chinalco the "Social Responsibility Management Approach (2019 revision)", formulated and issued the "Chalco social responsibility management rules" (hereinafter referred to as "social responsibility management rules"), to further promote the performance of the Group's social responsibility and clarify the specific scope of the Group's social responsibility: "The company puts integrity as the basis for everything and compliance as the bottom line. Through transparency and ethical business conduct, it assumes responsibility for the impacts on stakeholders in production and management decisions as well as activities. Through establishing an interactive and harmonious relationship with stakeholders, it promotes sustainable development both at the company level and the society level"; at the same time, the Group's important stakeholders are identified as: the government, shareholders, employees, suppliers and customers, the environment, communities, communities (non-governmental organizations) and so on.

The main duties of the committee are:

1. Reviewing the corporate social responsibility work development plan and major projects.
2. Reviewing related policies and systems of corporate social responsibility management.

¹ The company's social responsibility working committee is composed as follows:

Director: Lu Dongliang

Deputy Director: He Zhihui;Jiang Yinggang

Member: the head of each department (including the shared department) of the company

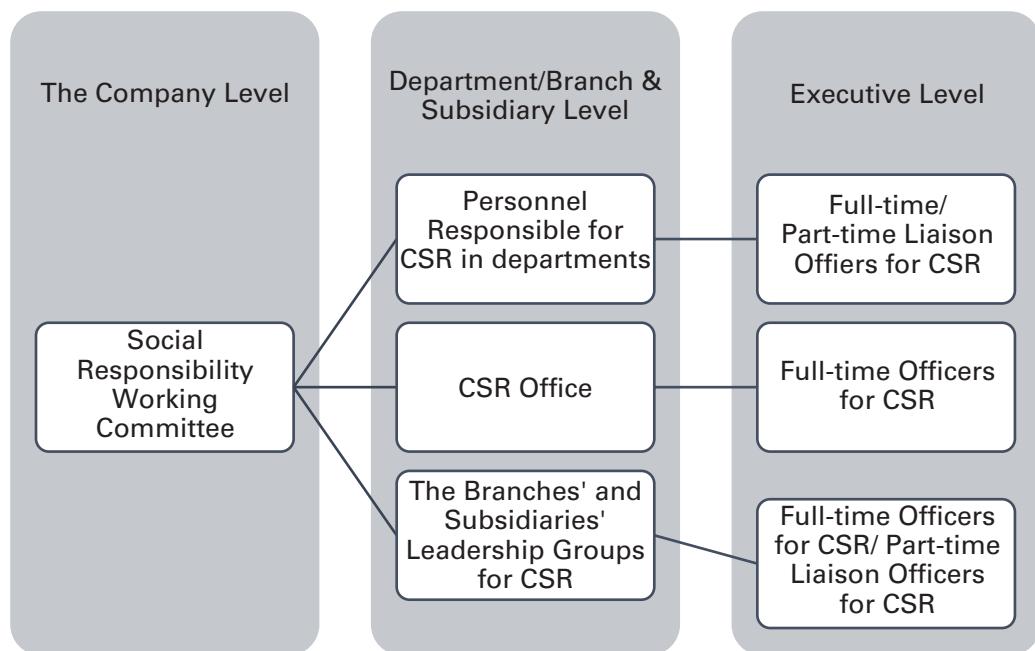
The committee has an office, which is located in the president's office (the office of the party committee (disciplinary commission)).

Director: General Manager (concurrently) of President's Office

Deputy Director: Deputy General Manager (concurrently) of the President's Office (Office of the Party Committee)

Governance Improvement to Create Continuous Development (Continued)

3. Reviewing the company's annual social responsibility work plan and project adjustment plan.
4. Reviewing and approving special reports such as the company's annual social responsibility report.
5. Examining other matters of corporate social responsibility work.



Chalco's CSR Management Structure

Governance Improvement to Create Continuous Development (Continued)

The Group is committed to rooting sustainable development elements into the company's business model and daily operations. To this end, the Group actively carries out various sustainable development practices and integrates various sustainable development elements into the daily work of the department.



Chalco's CSR Responsibilities and Corresponding Departments

Governance Improvement to Create Continuous Development (Continued)

Social Responsibility Management Module

The Committee effectively integrated social responsibility management into the company's business management system (CBS) in accordance with the requirements of the social responsibility management rules, achieved full coverage of the company's main business units, established a social responsibility management module, and issued the relevant documents of the "Social Responsibility Management Module" which clearly identifies the five major areas of responsibility of the Group: corporate governance, employee rights, environmental protection, fair operation, and community support. At the same time, a negative list was established for each of the five major performance areas, with a total of 80 prohibited items. In 2019, the Group has not violated any item in the negative list.



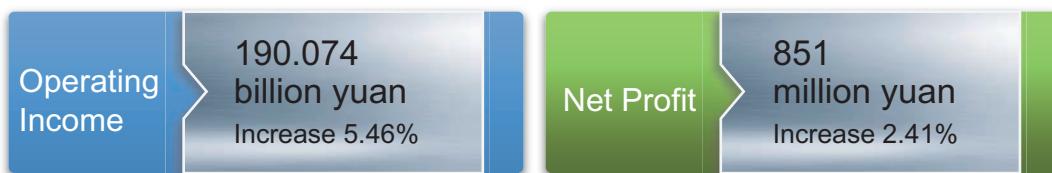
Chalco's Social Responsibility Management Module Structure

Governance Improvement to Create Continuous Development (Continued)

Sustainable development effectiveness

During the reporting period, under the leadership of the Committee, Chalco achieved remarkable results in various sustainable development efforts, steadily improved performance, and continued an increase in customer satisfaction, benefiting all major stakeholders of the company. Good results have been achieved in performance, customer satisfaction, business philosophy and community building, which further consolidated the base of Group's sustainable development work, promoted the Group's sustainable development process, and effectively improved the sustainability of all departments and units of the company.

Steadily Improve Performance	<ul style="list-style-type: none">Production of main products ranked first in the industry. The cost control of some products has reached the advanced level of the industry. The business performance has been steadily improved.
Continuously Improve Customer Satisfaction	<ul style="list-style-type: none">Comprehensive solutions and products are welcomed by domestic and overseas customers.
Constantly Evolve Management Philosophy	<ul style="list-style-type: none">The requirements of CSR are integrated into corporate operations; the stakeholders' expectations and needs are incorporated into daily management.
Benefit Stakeholders	<ul style="list-style-type: none">Maintaining the investor rights; focusing on environmental protection; Caring the employees; Actively participating in Community building and target poverty alleviation.



Governance Improvement to Create Continuous Development (Continued)

Case 1: Social responsibility management module achievements in 2019

In 2019, the Company's Social Responsibility Management Module was fully established and effectively operated, achieving full coverage of the five major performance areas and the company's main business units, and the social responsibility work was promoted systematically:

1. According to the five major areas, the Company clarified the scope of responsibilities and the corresponding performance departments and detailed the responsibilities into specific operational indicators. Each department claimed responsibility and indicators implementing them in daily management.
2. The subsidiaries of the Group have established organizational units – a social responsibility work leading group to determine the lead department, full-time and part-time staff, and liaison officers. According to the content of the responsibility and the main body of the responsibility determined by the management module, the five major areas of responsibility indicators are formed to clarify their respective social responsibility implementation plans and extensive social responsibility practice activities and have achieved a series of social responsibility results: independent operation of Chalco Materials, construction of a professional procurement platform and supply chain ecosystem, and continuous expansion of centralized procurement and strategic procurement. In addition to improving the supply guarantee and cost reduction capabilities, we achieved sunny procurement and transparent procurement. In 2019, the Group shut down non-competitive electrolytic aluminum companies. The capacity of Shanxi Huasheng and Shandong Huayu electrolytic aluminum were withdrawn from production, and employees were properly placed.

Governance Improvement to Create Continuous Development (Continued)

4.4 IMPROVING PRODUCT QUALITY

The Group always puts product quality first, insists on providing customers with high-quality products and services, and is committed to building a quality brand that is "good aluminum and Chinalco". While continuously improving product quality, the Group has in-depth communication with customers, understands market needs, provides customers with personalized comprehensive solutions, and strives to create more value for customers. The company has passed GB/19001-2016 & ISO9001: 2015 quality management system certification.

Institutional guarantee

In order to ensure product quality, the Group has promulgated the "Quality Management Measures", which stipulates for using the methods of self-inspection, mutual inspection and special inspection to control the quality of intermediate products and final products to ensure that the production products meet relevant quality standards and contract requirements. At the same time, for the products that have problems, the company's "Quality Control Measures" stipulates that when a quality objection occurs, the company should promptly and actively respond to customers, and actively deal with it according to the disposal method of the enterprise quality objection or the contracted treatment method. The handling of quality objections should fully reflect the idea of respect and understanding of customers, and "products in compliance with national standard requirements" cannot be used as a reason for stifling customer requirements. In 2019, in order to continue to improve product quality and strengthen the institutional guarantee, the Group issued the "Regulations on the Management of High Quality and Good Price of Metallurgical Alumina of Chalco".

Governance Improvement to Create Continuous Development (Continued)

Raising employee product quality awareness

In 2019, the Group organized the “High-quality Development Seminar and Quality Storytelling Contest” event. Each subsidiary company conducted 5,012 “quality lessons” activities, revised 37 technical standards, 1,762 operating standards, and organized operating tests 8,351 times. 205,100 employees from the Group have taken the test.

In 2019, the Group issued the “Chalo High Performance Implementation Guide”. Guangxi Branch and Baotou Aluminum’s high-performance pilot work progressed smoothly, and employees’ product quality awareness was further enhanced.

Product safety and consumer health protection

Product health and safety policies and systems are formulated by the Group with reference to international standards, such as Quality Control System Certification, Environmental Management System Certification, and Occupational Health and Safety Management System Certification. At the same time, according to customer needs, the Group conducted relevant safety and health control work in the production process, such as conducted scientific research and through controlling at the raw material side removed heavy metals from high-purity aluminum products. The Group strictly complied with national safety production and environmental protection requirements, strictly complied with national standards for the content of product elements, and provided “quality certificates” to eliminate the addition of harmful elements such as lead, mercury, arsenic and ensure the health of end consumers. During the reporting period, the Group has not violated any laws and regulations related to the health and safety of products and services that have a significant impact on the Group. At the same time, the products provided by the Group have not been recycled for reasons such as safety and health and no customer complaint case has been received.

Governance Improvement to Create Continuous Development (Continued)

Customer privacy management

The Group strictly abides by relevant laws and regulations such as the "Protection of State Secrets of the People's Republic of China", "Interim Provisions on the Protection of Trade Secrets of Central Enterprises", and the corresponding marketing plan stipulates: "Marketers at all levels must consciously abide by the company's confidentiality requirements, strengthen the awareness of confidentiality of sales and market information, and strictly prohibit the disclosure of company trade secrets." At the same time, the Group was committed to strengthening the confidentiality of the sales business, and there would be corresponding confidentiality clauses in purchase and sales contracts signed with customers. During the reporting period, the Group has not violated any laws and regulations related to customer privacy, trade secret protection, product advertising and trademarks, and has not received any reported cases related to the above matters.



Actively conduct quality control of the last process

Governance Improvement to Create Continuous Development (Continued)

4.5 COMMITTED TO PRODUCTION SAFETY

The Group attaches great importance to production safety, and puts production safety as the top priority of the Group's operation and production. In 2019, the Group strictly controlled the implementation of safety in all aspects of production and focused on safety management at the grassroots level. At the same time, we have issued the document "Strengthening Safety Supervision and Management Regulations", which clarified that: the primary leaders of all companies as the first responsible persons for safe production shall fulfill the responsibility of safety subjects; relevant leaders and relevant departments that supervise safety work within the scope of the business shall perform straight line management responsibilities; the safety director and the safety supervision department shall be responsible for safety supervision, and supervise the main body responsibility at all levels and the implementation of straight line responsibilities. During the reporting period, the Group has not violated any laws and regulations related to production safety that have a significant impact on the Group.

Strengthening system construction and basic management

In 2019, the Group formulated six methods and regulations including radioactive source management, hazardous waste management, "two-catch, two-scrutiny strict supervision" standardization guidelines, strengthened safety supervision and management regulations, and safety management of coal companies during the safety responsibility period. All enterprises have improved safety Environmental protection agency settings and staffing. The Group has established the "List of Laws and Regulations Applicable to Chinalco Corporation", and each production enterprise has established the "List of Laws and Regulations Applicable to Enterprises", which organizes and learns relevant requirements every year to improve the awareness of compliance and compliance of all employees. In 2019, the Group formulated the "Implementation Plan for Safe and Environmental Protection Quality of Chalco in 2019", and each manufacturing enterprise formulated the "Implementation Plan for Safe and Environmental Protection Quality of Enterprises in 2019", setting the environmental protection goals, work plans and safeguard measures, and urging the realization of the goals through performance appraisal.

Governance Improvement to Create Continuous Development (Continued)

Promoting safety awareness for all employees

In 2019, the Group organized employees to participate in the “Safety Emergency Law Popularization Knowledge Contest” organized by the National Emergency Management Department and the Office of the Popularization of Legal Affairs, and finally achieved the best score of both the total group score and the per capita score within Chinalco. Chalco participated in the national finals and won the outstanding organization award, and employees’ safety emergency knowledge was generally improved.

Developed the “Measures for the Implementation of Contractor Safety Management Standardization”

In regards to the main responsibility of the contractor should assume in safety, the Group has formulated the “Measures for the Implementation of the Contractor’s Security Management Standardization”, which emphasizes the supervision responsibility of each department of the Group to the contractor. At the same time, the contractor is included in the Group’s management to strengthen the contractor’s implementation of their main safety responsibilities. Contractor’s safety management standards have been continuously improved.

Case: “Safety Month” walked into the community

In order to implement the national production safety laws and regulations, Qinghai Branch took the “Safe Production Month” event as an opportunity to vigorously carry out safety education activities. Qinghai Branch carried out content-rich publicity and consultation activities in the factory area, living area, and Datong County Square, and sent enlarged batch of promotional materials. Each second-level unit carried out the walk-into the employee’s family activity. According to the division of labor, managers at all levels walked into each employee’s family in person, signed safety commitments with employees and their families, and communicated the company’s safety management concepts and requirements to employees and families.

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- 5 Drinking Water and Never
Forget the Source –
Building Ecological Civilization
- 5.1 HAZARDOUS WASTE DISPOSAL
 - 5.2 ACHIEVING GREEN PRODUCTION
 - 5.3 PROMOTING ENERGY CONSERVATION
AND EMISSION REDUCTION
 - 5.4 PROMOTING GREEN MINING
 - 5.5 ADVOCATING A CIRCULAR MODEL
 - 5.6 ENVIRONMENT PERFORMANCE



Drinking Water and Never Forget the Source – Building Ecological Civilization

As a company with high potential impacts on the environment, Chalco attaches great importance to the protection of the environment. At the same time, protecting the environment is also one of the important ways for the Group to achieve sustainable development. During the reporting period, Chalco focused on environmental protection in the areas of hazardous waste disposal, green production, energy saving and emission reduction, green mining, and recycling. In order to strengthen the management of the environment, the Group has established an environmental management system in accordance with GB/T24001–2016 & ISO14001: 2015, and operates the system in accordance with the requirements. The Group obtained the certificate from China Quality Certification Center.

5.1 HAZARDOUS WASTE DISPOSAL

Chalco attaches great importance to the compliance treatment of hazardous wastes, and complies with the relevant provisions of the "People's Republic of China's Law on the Prevention and Control of Solid Waste Pollution" and the "Administrative Measures for the Transfer of Hazardous Wastes", from safe storage, compliance transfer, and reasonable disposal strict management of hazardous waste.

Compliance with hazardous waste disposal

The Company implements classified disposal of hazardous wastes, stores hazardous wastes and general industrial solid wastes in separate areas, adopts measures such as preventing rain and seepage in hazardous waste storage places, and posts waste storage signs. If there is a hazardous waste landfill, the landfilling process is carried out in compliance with relevant regulations; if there is a harmless treatment production line, the harmless treatment is performed; the landfill and the harmless treatment production line are regularly submitted to a qualified third party for processing and submitted according to the prescribed procedures Hazardous waste transfer document, transfer records, to ensure the safe and compliant transfer and disposal of hazardous waste. Hazardous waste mainly includes aluminum ash, carbon slag and dregs (waste tank and waste cathode) produced during the production of electrolytic aluminum. In 2019, the company generated and safely disposed 1,667 tons of oily hazardous waste, produced and disposed 19,007 tons of aluminum ash, and reused 11,562 tons; generated and safely disposed 45,400 tons of carbon slag, and 26,756 tons were reused; generated and safely disposed 20,837 tons of waste tank lining, and 10,108 tons were reused.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Harmless treatment of hazardous waste

In order to reduce the discharge of hazardous waste and its impact on the ecological environment, Baotou Aluminum has built the first domestic and international aluminum electrolytic waste cathode resource test line with a design capacity of 4,000 tons/year. The test line was completed by the end of October 2019. In December, waste cathodes were added for dealing the harmless and resource using.

5.2 ACHIEVING GREEN PRODUCTION

During the reporting period, Chalco continued to strictly abide by various national and environmental protection laws and regulations, such as the "Environmental Protection Law of the People's Republic of China", "The Law of the People's Republic of China on Cleaner Production Promotion", "Action Plan for Comprehensive Air Pollution Control in the Autumn and Winter of 2019–2020 in the Beijing-Tianjin-Hebei Region and Surrounding Area", and at the same time carefully combed the advanced environmental protection standards of the aluminum industry at home and abroad, investigated the current status of domestic counterparts and the company's green production, analyzed the latest national environmental protection policies and development trends, and formulated the company's environmental protection strategy. The strategy clarifies the goal of being an industry benchmarking company.

In 2019, the Group clarified the management ideas of environmental protection A, B, and C classification standards based on the company's affiliated company areas and environmental protection facilities, formulated the company's environmental protection leading "one enterprise, one policy" implementation plan, established a weekly reporting system, and urged the company to implement environmental protection transformation and report the project progress to the Company's management every week. In 2019, a total investment of more than 2 billion yuan was implemented, and 63 environmental protection upgrading projects were implemented, which effectively avoided the phenomenon of affecting the company's normal production and operation due to environmental issues.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Case 1: Qinghai Branch successfully passed the second round of the Central Eco-Environmental Supervision Team's inspection work in Qinghai Province in 2019, cooperated with the Datong County Pollution Source Census Office to conduct a year-round pollution source survey, and completed the third round of clean production audits. Chalco Shandong and Guangxi Branch were recognized as national green factories. Qinghai Branch and Zunyi Aluminum were recognized as provincial green factories.



The Company advocates building a garden-style factory

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Case 2: Shanxi Huaxing and Shanxi Zhongrun carried out afforestation activities around the plant area and invested 220,000 yuan to afforest the plant area and build green factories.



Shanxi Huaxing and Shanxi Zhongrun carried out afforestation activities around the plant

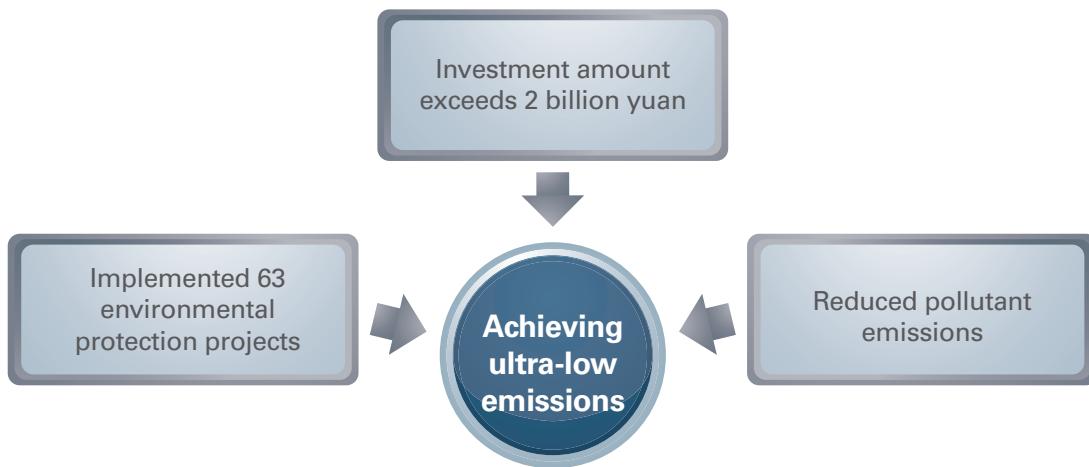
5.3 PROMOTING ENERGY CONSERVATION AND EMISSION REDUCTION

Energy saving and emission reduction has been the eternal development theme of Chalco. The Company has always adhered to the sustainable development path of energy saving and emission reduction and actively increased investment in environmental protection, in a view to create a green production enterprise with low consumption, low emissions and high input-output ratio. The Group strictly complies with relevant laws and regulations and local policies such as the “Law of the People’s Republic of China on Air Pollution Control”, “the Law of the People’s Republic of China on Energy Conservation”, “the Law of the People’s Republic of China on the Prevention of Water Pollution” and “the Law of the People’s Republic of China on Soil Pollution Control”, and also complies with the “Chalco Environmental Protection Management Measures” and other rules and regulations to improve the environmental management system, increase investment in environmental protection, and also implements new technological transformations to improve energy efficiency and promote cleaner production. During the reporting period, the Group has not violated any laws and regulations related to pollutant emissions and energy that have a significant impact on the Group.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Ultra-low emissions

In 2019, in order to reduce air pollutant emissions from various production plants, the Group had invested more than 2 billion yuan in environmental protection treatment to resolutely reduce pollutant emissions. The enterprises² in the “2 + 26” area and the key areas of the Fenwei Plain had realized the ultra-low emission transformation of all thermal power boilers, the dust removal ultra-low emission transformation of the clinker firing kiln had been completed, and the aluminum hydroxide baking furnace had basically completed the dust reduction ultra-low emission transformation.



2. Four Chalco's alumina companies located in “2 + 26” cities: Chalco Shandong, Chalco Mining, Zhengzhou Research Institute, Zhongzhou Aluminum and three companies located in “Fenwei Plain”: Shanxi New Materials, Shanxi Huaxing, Xinghua Technology.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

New Energy

In 2019, Chalco built 200MW/year of wind power capacity, and the new energy industry continued to grow. In 2019, the installed capacity of wind power was 1,605.8MW and the installed capacity of solar power was 203.33MW.

Energy Management

Chalco attaches great importance to energy management. According to the requirements of energy-saving and emission-reduction, as well as cost-saving and efficiency enhancement of enterprises national-wide, Chalco has set annual cost reduction targets in reducing energy consumption and energy costs of main products, improving energy management systems, and reducing power generation costs. In order to meet these goals, Chalco has different task forces that are responsible for the implementation of relevant projects and at the same time, Chalco checked and evaluated these projects in a timely manner. In 2019, the Group saved approximately 685,816 tons of standard coal through measures such as technological transformation, replacement of energy-intensive equipment, and optimization of system operation.

At the beginning of the reporting year, the Company issued strict energy consumption indicators for major products, and tracked them monthly to eliminate fluctuations in a timely manner. The company's leading products such as alumina and electrolytic aluminum have significantly optimized in energy consumption levels.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Table: Chalco's 2019 Annual Energy Consumption Targets and Performance

Indicators	Unit	2019 Targets	2019 Performance
Energy Consumption per RMB10,000 of production value (2015 price)	Metric Tons of Standard Coal per RMB10,000	2.73	2.45
Aluminium electrolytic AC power consumption	kWh per Metric Ton	13,187.81	13,161.84
Total Energy Consumption for Alumina	Kilogram of Standard Coal per Metric Ton	405.42	358.60
Standard Coal Consumption for Electricity Supply	Grams of Standard Coal per kWh	335	334.12
Total Energy Consumption for Carbon	Metric Tons of Standard Coal per Metric Ton	1.05	1.02



Well blending coal to reduce energy consumption

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Case:

Lower energy consumption aluminum electrolysis technology, aluminum electrolysis and carbon clean production, high-efficiency environmental protection technology, low-cost high-quality anode technology, and efficient green aluminum electrolysis technology have been studied and applied.

Zhongzhou Aluminum, Chalco Mining, Shanxi New Materials, Shanxi Huaxing, and Xinghua Technology have completely or partially modified the Bayer process system for imported ore, and the overall energy consumption has been significantly reduced. Among them, the energy consumption of Zhongzhou Aluminum has decreased by 33% year-on-year. In 2019, the Group continued to promote the "FHEST technology"³. Qinghai Branch used the current advanced "slot control machine-host computer system-network monitoring system" three-level network management and control integrated control technology to transform 802 pre-baked aluminum electrolytic cells. Significant energy saving benefits have been made after this transformation. The FHEST slot technology that has been promoted in recent years has saved more than 40 million yuan in electricity savings in 2019. In addition, the Group carried out work to improve the quality of anodes, created an electrolytic "carbon-free slag-free demonstration zone", selected electrolytic aluminum enterprises such as Shanxi New Materials and Zunyi Aluminum, and conducted pilot activities of "carbon-free slag" for self-use anodes, which have now formed preliminary results.

5.4 PROMOTING GREEN MINING

Mining resources are the most important natural resources of Chalco. In order to reduce the Group's impact on mining resources during the operation (mainly the sustainable use of minerals and pollutant emissions), the Group has always upheld the concept of "responsible mining" and focused on the balance between production development and ecological protection. The Group strictly abides by relevant laws and regulations such as the "Mineral Resources Law of the People's Republic of China" and the "Land and Resources Protection Law of the People's Republic of China", implements scientific mining and responsible site selection, and is committed to mine reclamation, creating "green mines" and mining areas ecology protection. The Group has formulated related systems such as the "Administrative Measures for Mining and Stripping Technology Plan" and "Guidelines for Standardization of the Design of Single-site Mining Units" to promote resource development in order to achieve efficient use of resources, scientific mining methods and reduce environmental impact.

³ "Flow Heat Energy Saving Technology" (referred to as "First technology"), this technology can make the series of original ton aluminum DC power consumption $\geq 13,000 \text{ kwh/t-A1}$ average power and save more than 500 kwh/t-A1, and significantly reduce carbon dioxide emissions.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

In 2019, in order to fully promote the construction of green mines, the Group formulated the “Incentive Measures for Strengthening Mine Management in 2019” and “Bauxite Green Mine Construction Plan”. In addition, the Group completed land reclamation of 12,000 mu⁴, with a reclamation rate of 86%. In 2019, on the basis of the Guangxi branch mine becoming the first batch of national-level green mines, six new mines, such as Xiangwang Mine of Shanxi New Materials and Luoyang Mine of Chalco Mining and Ningxia Energy Wangwa Second Mine, have been selected by green mines. At the end of 2019, the Group has a total of 7 mines selected into the national green mines list.

Case:

The Guangxi Branch continued to promote the green mine construction and reclamation standards and further upgraded, and prepared the “Pingguo Bauxite Long-term Plan (2014–2023)”, “Pingguo Bauxite Mine 2011–2020 Land Temporary Land Reclamation Plan” “Working Plan for Mining Rehabilitation and Reforestation in 2019”, “Working Plan for Mining Companies’ Rehabilitation and Reforestation in the Fourth Quarter of 2019”, in order to ensure a systematic implementation of reclamation. The project reclamation project shall be implemented in strict accordance with the requirements of such documents as “Technical Scheme for Temporary Land Reclamation of Pingguo Bauxite Mining”, “Land Reclamation Regulations”, “Reclamation Technical Standard (trial)” and “Acceptance Standard for Reclamation of Gob Engineering of Pingguo Bauxite Mine in Guangxi” approved by the Ministry of Land and Resources.



⁴

1 mu=0.0667 hectares

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

5.5 ADVOCATING A CIRCULAR MODEL

Chalco has been committed to building a green recycling production system, focusing on turning waste into treasure, and emphasizing the reuse of resources. For general solid waste, the Group strictly complies with the relevant laws and regulations such as the "Law for the Prevention and Control of Environmental Pollution by Solid Wastes of the People's Republic of China" and the "Regulations on Waste Disposal", and classifies and disposes of general solid waste and regularly processes them. At present, the general solid wastes involved in the company mainly include red mud produced during the production of alumina, packaging materials used in the production and transportation process, such as straps, bags, etc., fly ash produced by power plants, and domestic waste. Strengthening the recycling of packaging materials and the development and utilization of red mud have been the focus of the Group's efforts in solid waste treatment and recycling in the past few years, which can effectively save environmental resources and reduce waste generation.

In addition, the Group actively explores to improve the efficiency of water resources utilization, and there are no issues with suitable water accessibility. During the reporting period, the Group's total water consumption was 3.001 billion tons, of which freshwater consumption was only 103 million tons, recycled water consumption reached 2.898 billion tons, and the recycling utilization rate was 96.57%.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Recycling of packaging materials

The company advocates and actively implements the recycling of packaging materials. In 2019, the Group recycled 1,897.2 tons of recycled bags and 14,597.01 tons of jumbo bags.



Red mud utilization

In response to the worldwide problem of red mud utilization, the Group organized a two-component red mud comprehensive utilization technology research in 2019, completed the expansion of test plan preparation and test line design, and completed a pilot test line. In the first half of 2020, the Group will organize pilot trials in accordance with established plans.

Recycling water and water saving measures

The Group attaches great importance to the wastewater treatment of all factories. In 2019, we launched 54 water pollutant discharge treatments, completed the rainwater separation of Zhongzhou Aluminum, and the separation and reconstruction of rainwater and sewage from the plant. The zero-discharge project of desulfurization wastewater from Lanzhou Aluminum's own power plant was conducted. A series of sewage treatment projects including the Ningxia Energy Guyuan Sewage Treatment Plant upgrade project were carried out aiming at protecting the water environment of the Yellow River Basin. These projects place ecology as the first priority and stick to green water development, protecting and promoting the Yellow River cultural heritage, and making the Yellow River a happy river benefiting its people.

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

5.6 ENVIRONMENT PERFORMANCE

The environmental performance data of the Group from 2017 to 2019 are presented in the table below.

Table: Chalco's emissions in 2017-2019

Performance Indicators	Unit	2017	2018	2019
Basic Information				
Annual Production Value	RMB10,000	9,206,729.2	10,162,954.9	9,302,483.23
Emissions				
Air Emissions				
The amount of SO ₂ emission ⁵	10,000t	4.27	4.44	4.73
The amount of NOx emission	10,000t	1.46	1.62	1.33
The amount of PM emission ⁶	10,000t	0.24	0.22	0.57
GHG Emissions				
The amount of carbon dioxide emission (in CO ₂ equivalent) ⁷	10,000 t of CO ₂ e	6,862.3	6,478.04	6,138.16
The amount of carbon dioxide emission (in CO ₂ equivalent) per RMB10,000 of production value	t/RMB10,000	7.47	6.37	6.60
Wastewater Discharge				
The amount of industrial wastewater discharged in compliance with relevant standards ⁸	10,000t	173.74	241.38	192.02
The amount of ammonia nitrogen discharged	t	44.00	22.00	7.00
The amount of wastewater circulated	100 million t	25.69	25.22	29.98

- 5. Sulfur dioxide emissions increased in 2019 due to the full-process monitoring of the emission data of the online automatic detection system for the flue gas purification of four electrolytic aluminum companies and the increase in the sulfur content of coal from some power generation companies.
- 6. Smoke and dust statistics reported in 2017 and 2018 only covered smoke related data, while in 2019, the statistics covered both categories. For 2018, the sum of smoke and dust data should be 8,588 tons.
- 7. In 2019, the Group's carbon dioxide emissions equivalent was calculated based on the total energy consumption of oil consumption, natural gas, coal, and purchased electricity, and the data for 2018 were recalculated and restated according to the same scope and calculation method.
- 8. The total amount of industrial wastewater discharged in compliance with relevant standards did not include data of Chalco Ningxia Energy Group Co., Ltd. (Ningxia Energy).

Drinking Water and Never Forget the Source – Building Ecological Civilization (Continued)

Performance Indicators	Unit	2017	2018	2019
General Industrial Solid Wastes				
The amount of general industrial solid wastes generated ⁹	10,000 t	3,316.08	3,811.47	3945.30
The amount of general industrial solid wastes generated per RMB10,000 of production value	t/RMB10,000	3.6	3.7	4.24
The amount of red mud generated	10,000 t	2,105.30	2,344.97	2,181.04
The amount of red mud utilised	10,000 t	209.80	193.09	449.18
The amount of fly ash generated	10,000 t	356.30	494.56	505.92
The amount of fly ash utilised	10,000 t	245.20	328.00	358.63
The amount of slag generated	10,000 t	87.20	141.16	170.99
The amount of slag utilised	10,000 t	61.30	101.18	143.94
Hazardous Wastes				
The amount of disposal of waste oil (including machine oil and mineral oil)	t	1,113.00	938.00	1,667.00
The amount of disposal of waste oil per RMB10,000 of production value	t/RMB10,000	0.00012	0.00009	0.00018
Use of Resources				
Comprehensive energy consumption	tce	1,876.60	2,039.21	1,956.27
Comprehensive energy consumption per RMB10,000 of production value	tce/ RMB10,000 100 million	2.03	2.01	2.10
The amount of purchased electricity	kWh	349.30	398.84	389.26
Total coal consumption	10,000t	1,292.20	1,495.95	1,368.33
Total water consumption	100 million t	26.68	26.15	30.01
In which: circulating water consumption	100 million t	25.69	25.22	28.98
Total freshwater consumption	100 million t	0.99	0.93	1.03
Water consumption per RMB10,000 of production value	t/RMB10,000	290.38	257.38	322.60
The amount of packaging material used	10,000t	1.08	1.23	1.37

9. The statistical scope of general industrial solid waste has expanded compared to that of 2018 and the increased industrial solid waste categories were coal gangue, smelting waste and other types of solid waste. Due to the implementation of ultra-low emissions, increased use of desulfurizers, and etc., general industrial solid waste emissions in 2019 had increased.

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- The image is a collage of three distinct scenes. The top right scene shows a close-up of a worker wearing a red hard hat with 'CHALCO' written on it, focused on welding a large metal structure. The bottom left scene shows a modern, glass-enclosed skyscraper against a dark blue sky. The bottom center scene shows a white high-speed train in motion, with a blurred background suggesting speed.
- 6 People-oriented Caring for Employee Development
 - 6.1 PROTECTING LEGITIMATE RIGHTS
 - 6.2 OPTIMIZING TALENT MANAGEMENT
 - 6.3 GUARANTEEING OCCUPATIONAL HEALTH
 - 6.4 FOCUSING ON EMPLOYEE DEVELOPMENT

People-oriented Caring for Employee Development

6.1 PROTECTING LEGITIMATE RIGHTS

Chalco always considers human resources as the most important resources of the Group. Chalco adheres to the talent concept of "talent is the primary resource", establishes harmonious labor relations with employees, allows the company to develop continuously and healthily, and allows employees and the company to grow together, thereby achieving shareholder value, corporate efficiency, and employee income increase.

Respecting labor standards

Chalco strictly complies with laws and regulations such as the "Labor Law of the People's Republic of China", the "Labor Contract Law of the People's Republic of China", the "Law of the People's Republic of China on the Protection of Juveniles", and the "Prohibition on the Use of Child Labor". All types of employees are hired by Chalco on a voluntary basis. They have gone through the entry procedures in accordance with the corporate system process. No illegal employees have been hired, and no child labor has been recruited. The age of all employees was also in compliance with local legal requirements and forced labor is strictly prohibited.

During the reporting period, there has been no major non-compliance with labor standards required by relevant laws and regulations.

Employment management

The Group provides employees with competitive wages, medical insurance, disability insurance, maternity leave and other compensation. The Group strictly abides by the "Labor Law of the People's Republic of China", the "Labor Contract Law of the People's Republic of China", the "Labor Dispute Mediation and Arbitration Law of the People's Republic of China", and the "Law of the People's Republic of China on the Protection of Women's Rights and Interests", established a complete employment system and norms referring to the above laws and regulations, and strived to protect the legitimate rights and interests of employees. The Group has promulgated relevant systems such as "Aluminum Corporation's talent team infrastructure construction" and other relevant systems to ensure that all employees enjoy all rights and benefits and fair treatment in accordance with the law, and protect the values, religion and privacy of employees of different nationalities, races, genders and cultural backgrounds. At the same time, the Company kept collecting and understanding employees' opinions and suggestions on the company's policies, working environment, and

People-oriented Caring for Employee Development (Continued)

the company's development strategy through different channels. The Company respected the right of employees to collective bargaining. At the same time, the Company was committed to enriching the composition of employees and building a diverse team that includes different races, educational backgrounds, work experience, nationalities, and expertise. At the end of the reporting period, the Group had a total of 52,694 employees. During the reporting period, the Group has not committed any violation of laws and regulations related to remuneration and dismissal, recruitment and promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination, and other aspects.

Table: Chalco's Employment in the year of 2019

Number of total serving employees at the end of the Reporting Period		65,507
By gender	Male	53,883
	Female	11,624
By age group	<24	2,603
	25 – 29	5,479
	30 – 34	6,823
	35 – 39	7,705
	40 – 44	12,955
	45 – 49	15,828
	50 – 54	6,609
	>55	7,505
By category	Senior management	194
	Department supervisor	955
	Other office employee	10,072
	General and technical worker	54,286
Number of total turnover employees during the Reporting Period		1,197
By gender	Male	996
	Female	201

People-oriented Caring for Employee Development (Continued)

By age group	<24	221
	25 to 29	145
	30 – 34	196
	35 – 39	134
	40 – 44	342
	45 – 49	159
	50 – 54	0
	>55	0
By category	Senior management	0
	Department supervisor	0
	Other office employee	369
	General and technical worker	828

6.2 OPTIMIZING TALENT MANAGEMENT

During the year, the Group continued to optimize its own talent management system on issues related to attracting talents, remuneration systems, incentive policies, employee care, employee benefits and other related issues. While recruiting talents and absorbing fresh blood, the Group also provided existing employees with a comprehensive, fair and competitive compensation and benefits system. The Group organized annual school surveys to investigate and analyze information such as the distribution of students, employment intentions, and expectation of benefits. The Group promoted enterprises through special lectures, mutual-selection meetings, and alumni recommendations to recruit talents. The Group organized outstanding college graduate selection activities every year, commended outstanding college graduates within 3 years of graduation, and provided corresponding vocational guidance and training. The Group implemented periodic and differentiated compensation incentive strategies and methods. The salaries of the employees of the Group were reasonably increased by reference to the average increase in the company's per capita work, so that the level of remuneration is matched with the enhancement of competence and linked to the performance contribution. The Group implemented special talents and special salaries, special posts and special salaries for high-end talents, scarce talents and hard jobs. The Group continued to replenish and reserve talents in traditional industries such as mining, metallurgy, and electricity, and focused on the introduction and cultivation of scarce talents in new materials, new energy, intelligent manufacturing, energy conservation and environmental protection. The Group continuously optimized the age structure, education structure, and professional structure of talents, and formed a pattern of talents in order and succession, with a reasonable ladder.

People-oriented Caring for Employee Development (Continued)



In the future, the Group will continue to explore recruitment plans and implementation plans that attract and retain talents, encourage more talents from different backgrounds and regions to join us, and continue to deepen Chalco's talent concept of "talent is the primary resource", and in this way, the Group's multicultural and innovative capabilities will be continuously enhanced.

Case: Caring for employees

Qinghai Branch has been placing employees at the center to improve employees' sense of happiness. In 2019, Qinghai Branch invested a total of 6.323 million yuan to care for employees and solve practical problems of employees. The main results are as follows:

1. To solve the problem of difficult parking for employees, 3.45 million yuan has been invested to build the "1 # south bicycle shed", "the front-gate parking lot" and "3 # parking lot".
2. The caring activities such as sending warmth in winter, coolness in summer, distribution of mooncake fruits during the "Mid-Autumn Festival", and rice, noodles, and oil during the Spring Festival were extensively carried out.
3. Organized a total of 2010 employees for health check-ups.

People-oriented Caring for Employee Development (Continued)

4. In 2019, educational allowance of 103,000 yuan were distributed in two batches to 103 employees whose children were admitted to the university.
5. Invested a total of 130,000 yuan to update the basic facilities such as cabinets, chairs, microwave ovens, and electric kettles in a timely manner.

6.3 GUARANTEEING OCCUPATIONAL HEALTH

As a responsible corporate citizen, Chalco strictly abides by the relevant laws and regulations such as the "People's Republic of China Work Safety Law", the "People's Republic of China Occupational Disease Prevention Law" and the "People's Republic of China Mine Safety Law". Chalco attaches great importance to guaranteeing the safety and occupational health of its employees, constantly improving its system construction, and strengthening responsibility supervision. Chalco has always put the protection of employees' safety and health first, and is committed to achieving zero accidents and injuries. Chalco adheres to the health, safety and environmental management (HSE) philosophy of "all risks can be controlled and all accidents can be prevented", and formulated the HSE policy to strictly implement safe production management and employee occupational health management, with a view to bringing people in production and operations to life. Casualties and economic losses are minimized. During the reporting period, a total of 18 companies of Chalco obtained OHSAS18001 occupational health and safety management system certification.

6.4 FOCUSING ON EMPLOYEE DEVELOPMENT

Chalco adheres to the talent using philosophy of "talent is the first resource" and attaches great importance to education and training. The Group attaches great importance to the personal development of employees. We not only create a clear career development path for various types of talents, but also inspire talents to continue to grow and improve through performance evaluation, job selection and training, and provide backup power for the sustainable and stable development of enterprises.

People-oriented Caring for Employee Development (Continued)

Table: 2019 Chalco Serving Employees' Training Performance

	Number of employees being trained	Percentage of trained employees (%)	Average trained hours (h)
Training by category			
Senior management	194	100%	120
Department supervisor	955	100%	110
Other office employee	6,478	100%	90
General and technical worker	45,067	100%	60
Training by gender			
Male	44,587	100%	67
Female	8,107	100%	58



Pictures of employee training activities

Case 1: Evaluation of “Five-level Technician” in Baotou Aluminum

From January to July 2019, Baotou Aluminum has separately carried out the assessment of technicians for main and auxiliary types of work. The assessment content consists of two parts, the theoretical exam and the practical exam. This activity fully inspired the enthusiasm and innovative spirit of the staff in the production and operation positions. The purpose of this event was to build a career development channel for production operators, and to train a group of operational talents who are based on their own jobs and proficient in professional skills, thereby driving the overall quality of the production team.

People-oriented Caring for Employee Development (Continued)

Case 2: “Star Talent” – Chalco Shandong Talent Training Plan

In the process of transformation and upgrading and high-quality development of Chalco Shandong in recent years, in order to strengthen the training of young cadres and the construction of the talent team, the three-year “Star Talent” training plan for young talents has been coordinated and launched, laying a solid foundation for the long-term development of the company Talent foundation. Chalco Shandong’s training plan aimed at the training of grassroots managers and business backbones in the post-80s generation and young talents with potential for new employment in recent years. It planned systematic training programs and trains management talents for the Group. Chalco Shandong planned to conduct training around modules such as “ideal beliefs, professionalism, execution, leadership, new knowledge and skills”. The training plan was to focus on out-of-production training for 15 days each year. It was hoped that through systematic and professional training, we would improve the mechanism for the discovery, cultivation, management and incentive of young talents in enterprises, and establish a talent training system that is more conducive to the growth of young talents and meets the development of enterprises. This plan was committed to creating a young talent team with firm faith, good discipline, excellent business skills, and integrity and pragmatic responsibility, while optimizing the Group’s talent team structure.



People-oriented Caring for Employee Development (Continued)



Photos of Chalco Shandong "Star Talent" Talent Training Program

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- 7 Harmonious Development and Promoting a Win-win Situation throughout the Industry Chain
- 7.1 ADVOCATING BUSINESS ETHICS
 - 7.2 IMPROVING OPERATIONAL EFFICIENCY
 - 7.3 ESTABLISHING A SUSTAINABLE SUPPLY CHAIN
 - 7.4 PROMOTING THE DEVELOPMENT OF THE INDUSTRY



Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain

7.1 ADVOCATING BUSINESS ETHICS

Chalco follows high standards of business ethics and is committed to creating a fair operating system. The Group strictly complies with relevant laws and regulations such as the "Anti-Unfair Competition Law of the People's Republic of China", the "Anti-Monopoly Law of the People's Republic of China" and the "General Principles of the Civil Law of the People's Republic of China". The Group opposes unfair competition, maintains a fair, just, and open market environment, and assumes responsibility for products and services within the effective period. The Group strictly abides by business ethics and market rules, resolutely resists unfair competition, and is committed to maintaining a fair and just business transaction environment.

In 2019, the Group continued to optimize its internal control system and comprehensive risk management system, and initially established a supervision system based on industry-review integration. The Group released the "Administrative Measures for Rectification of Problems Found in Audit", established a "Leading Group for the Construction of the Supervision System", and established a "Collaborative Inspection Mechanism", "Collaborative Achievement Review Mechanism", "Collaborative Issue Rectification Mechanism", and "Monthly Regular Meeting Coordination Mechanism", etc., to achieve the integration of industry review and coordinated supervision. The Group has established a "Supervision and Inspection Plan" to achieve collaborative supervision and inspection. At the same time, the Group's auditing talent pool was initially established, supplemented with 34 professional and experienced part-time auditing talents, and realized flexible teaming of audit supervision projects.

In 2019, Chalco organized 8 review committees and involved 36 proposals. Chalco held 7 supervisory committees, involved 13 proposals, completed 9 pre-reviews, and involved 9 proposals. The above meetings not only met the Company's information disclosure regulatory requirements, but also met the decision-making requirements, and provided the Group with a solid internal risk control and compliance guarantee to comply with high standards of business ethics.

Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain (Continued)

7.2 IMPROVING OPERATIONAL EFFICIENCY

In 2019, in the face of complex operating environment and changing market conditions, the Group adhered to “market-oriented” and “focused on efficiency”, strengthened market analysis, reformed marketing mechanisms, and innovated management measures to continuously reduce procurement costs and optimization of logistics and improved the Group’s operating efficiency.

Continuously optimizing marketing strategies

The Group continued to standardize marketing behaviors, reduce operating risks, and formulated scientific marketing plans based on the actual situation of product sales. At the same time, the Group has stepped up inspections on the sale of alumina, aluminum ingots and liquid aluminum products by the branch companies. In 2019, the Group has conducted spot checks on the sales of Baotou Aluminum electrolytic aluminum products, and Chalco Shandong and Chalco Mining Alumina Products, and promptly urged enterprises to rectify and correct problems existing in the sales process. In addition, in 2019, the Group vigorously promoted the strategy of “high quality and favorable price”, fully utilized the benefits of high-quality production capacity, and utilized the quality advantages of high-quality alumina production lines to enhance market competitiveness.

Promoting cost reduction in procurement

During the reporting period, the Group actively seized market opportunities and implemented flexible and effective procurement strategies. The Group relied on direct supply channels, leveraged its platform advantages, and strengthened strategic cooperation with key suppliers. The Group adopted a procurement strategy of “grabbing time, avoiding peaks and valleys, and adopting regional strategies” in the short-term, and adopted a procurement strategy of “exchanging prices for volume and strengthening negotiations” in the medium term, which helped reduce the cost of bulk materials procurement.

Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain (Continued)

Standardizing logistics management

In 2019, the Group further standardized internal logistics management, optimized the operation of newly integrated logistics enterprises, and reduced the company's logistics costs. On the basis of stabilizing traditional transportation, warehousing and distribution services, the Group accelerated the expansion of new businesses. Relying on the business development of trade and materials platform, and the strength development of Chalco Logistics, the Group has continuously increased the business volume of the logistics market, and gradually built a low-cost, high-quality, excellent system, and effective third-party logistics collaborative service platform.

7.3 ESTABLISHING A SUSTAINABLE SUPPLY CHAIN

Chalco's long-term steady development is inseparable from the joint efforts of the entire supply chain, including upstream and downstream suppliers and contractors. The Group's main supply chain business partners were suppliers of raw materials, equipment and spare parts, and strived to maintain smooth communication with all business partners. As of the end of the reporting period, Chalco had a total of 53,070 suppliers, of which 52,594 were from mainland China and 476 were from overseas. The Group has reduced the environmental and social risks caused by unqualified suppliers through three methods: "Manage suppliers' environmental and social impacts", "Develop strict supplier access rules" and "Perfect supplier assessment", so as to continuously establish the Group's sustainable supply chain system.

The Group strictly complies with the relevant provisions of the "Public Tendering Law of the People's Republic of China" and other relevant regulations. At the same time, in order to optimize the supply chain management system, the Group established the "Measures for Purchasing Management of Chalco", "Management Measures for Suppliers of Chalco" and "Management of Key Procurement Operation Modes of Chalco" and other supplier management regulations. The Group implemented comprehensive management in terms of product procurement, marketing and logistics, as well as the selection, supervision and evaluation of suppliers. In addition, the company has established an electronic procurement system business platform focusing on supply chain management, integrating the company's supplier access and management, contract management, quotation management, inventory management and other related functions, and integrating relevant resources of upstream and downstream affiliated companies, achieving online bidding and procurement of bulk raw materials and important materials.

Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain (Continued)

Managing suppliers' environmental and social impacts

According to the "Supplier Management Measures of Chalco", in the supply chain management, the Company monitored the relevant environmental protection qualifications of the suppliers to ensure that the purchasing suppliers were regular manufacturers that met the national environmental protection requirements. The company required suppliers to make full use of energy and save resources and reduce environmental pollution in the manufacturing, use, recycling, and waste disposal of raw materials. The Group confirmed that the supplier meets the requirements of Chalco's social responsibility management system, and at the same time, confirmed that it had no negative records in the society or in the industry that clearly violated relevant social responsibility regulations. Suppliers of the Group that performed poorly on social responsibility and had caused certain adverse effects in society were downgraded. Suppliers whose performance on social responsibility was very poor and which had caused serious adverse effects in society or in the industry would have their transactions terminated and be required to make corrections within a time limit, and have their accounts frozen in the company's Enterprise Resource Planning (ERP).

Tightening supplier access rules

When hiring suppliers, Chalco clearly required all suppliers to have legal and valid basic certification files, and required suppliers to comply with the "Chalco Electronic Purchasing System Business Platform Confidentiality Clause". At the same time, the Company would make inquiries on the supplier's business information. When necessary, the Company would adopt on-site investigation. Through the above methods, the Company ensured that the supplier has the ability to perform the contract, good business performance and after-sales service capabilities, and no illegal records and major legal disputes in the recent three years of operating activities, especially illegal records in environmental and labor issues.

Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain (Continued)

In addition to general requirements, the Company has also formulated corresponding management requirements for special supply areas. For manufacturing enterprises, the Company requires that they must provide a complete quality assurance system for the companies that supply the products. For traders, the Company requires proof of product sales or entrusted agency granted by the manufacturer. Regarding the transportation of dangerous goods, the Company has also made relevant regulations on the transportation of dangerous chemicals to suppliers-suppliers involved in dangerous chemicals and special manufacturing industries must have corresponding qualification certification materials. In addition, if an enterprise is engaged in the production of hazardous chemicals, the Company requires that it must have a safety production license, a hazardous chemical business license, and a hazardous chemical transportation license.

Improving supplier assessment

In terms of the evaluation of suppliers, Chalco kept to comprehensive evaluation and management with the combined forms of annually and timely. The timely evaluation and evaluation indicators were the supplier's execution of the contract and recorded in the suppliers' archives through the real-time counting and inquiry on the electronic procurement platform. The annual assessment and evaluation indicators included the overall strength of the supplier, the amount of supply, the execution of supplier contract, and the reward and punishment of supplier, and the branches and subsidiaries had to report the supplier's performance in terms of quality, price, delivery date, after-sales service and clean organisation building to the Company's Marketing and Procurement Department on an annual basis. Through the amount of supply, the contribution rate of average procurement price, the execution rate of plan, the quality and after-sales service, the suppliers were evaluated comprehensively. In addition, the Company and the enterprise discipline inspection and supervision department monitored and regularly checked the supplier's management in accordance with the scope of duties. At the end of the Reporting Period, the Group had a total of 53,070 qualified suppliers. The Company has insisted on maintaining sufficient interaction with suppliers and formed a variety of communication channels. In addition to irregular field visits and industry conference meetings, the Company also regularly organizes annual supplier meetings, summarizes the procurement work of the year, analyses the market trends of major raw materials, and commends outstanding suppliers. In the year of 2019, Chalco has selected a total of 30 outstanding suppliers and commended them.

Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain (Continued)

7.4 PROMOTING THE DEVELOPMENT OF THE INDUSTRY

As a national non-ferrous metal industry leader, Chalco has been committed to driving its industrial chain with advanced science and technology, high-quality products and services, a sound corporate governance structure and sustainable development concepts while achieving its rapid development and promoting the sustainable development of the entire industry chain.

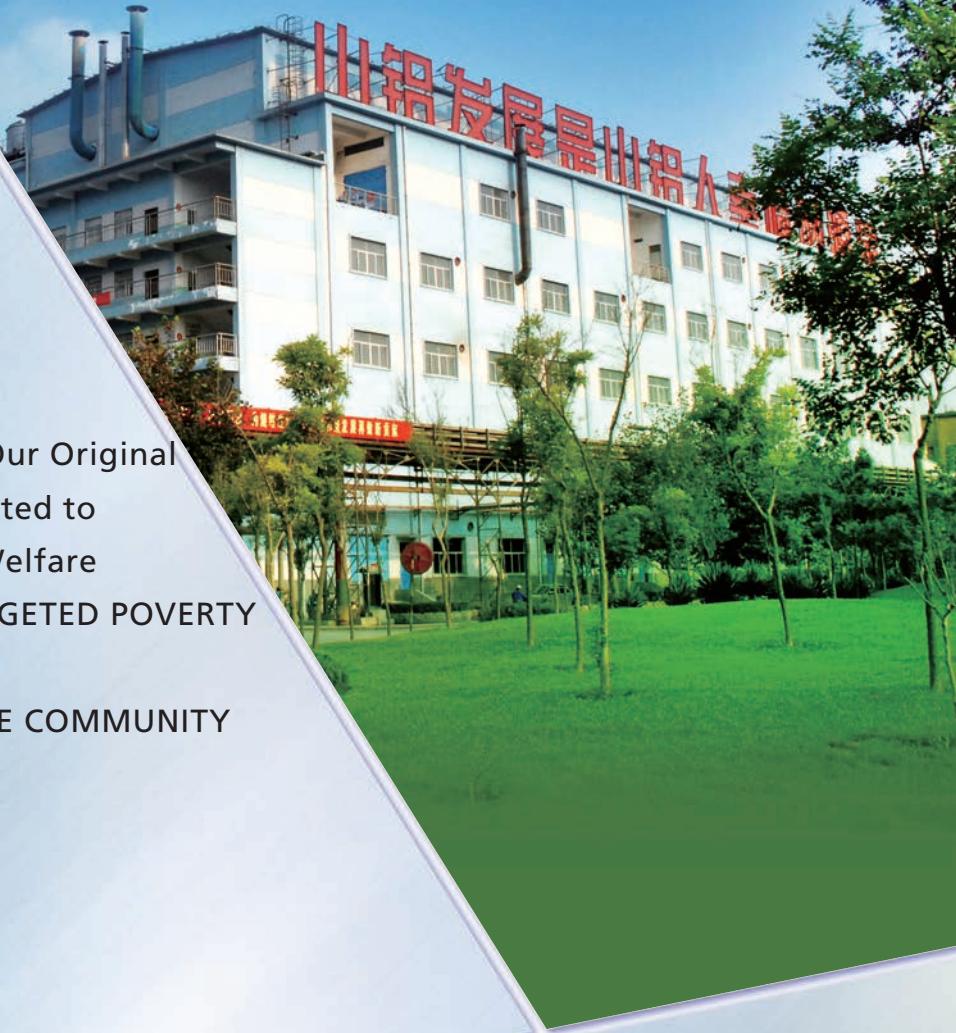
During the reporting period, Chalco continued to adhere to scientific and technological innovation to lead the development of the industry. The Group continuously improves production technology and equipment through innovative research and development, while encouraging employees to carry out innovative reforms in a deep and lasting manner. At the same time, as a state-owned holding company with the mission of being an innovation leader in the industry, Chalco continues to strengthen its creation capabilities and expand product promotion and application with the support of a sound technological innovation system. While striving to build a world-class Aluminum enterprise with global competitiveness, the Group escorted national security and people's livelihood economy. During the reporting period, the Group invested a total of 9.41 billion in research and development expenses, organized a total of 182 scientific and technological projects, including 45 key projects of the company and 137 independent research and development projects of the company. The Company has achieved a number of important scientific and technological innovation results, and has submitted 248 patent applications. As of December 31, 2019, the Company has 1,300 patents, mainly related to technology, processes, equipment and new products.

Harmonious Development, Promoting a Win-win Situation throughout the Industry Chain (Continued)

In 2019, the Group released the “Chalco Electrolytic Aluminum and Carbon Professional Technology Efficiency Demonstration and Promotion Technology Catalog (2019)”. The Group recommended more than 30 technology efficiency technologies to various enterprises. The Group organized the promotion of mature technologies (products) such as cathode carbon blocks, dry impervious materials, and electrolytic tank sealing and insulation at the company level. This has achieved the comprehensive promotion and application of mature technologies (products) such as high-quality carbon blocks, high-quality anti-seepage materials, and electrolytic tank sealing and insulation technologies in various companies affiliated to the company.

Intellectual Property Protection

The Group values the protection of intellectual property. The Group strictly manages the company's internal trademarks, patents and other intellectual property rights in strict accordance with the requirements of relevant intellectual property management systems, thereby comprehensively guaranteeing the sustainable development of the company's technology research and development. In addition, the Group has issued and implemented trademark management measures for daily monitoring of trademarks. When infringement occurs, the Group immediately took corresponding measures to safeguard its rights. At the same time, the Group authorized its affiliated enterprises to carry out trademark anti-counterfeiting activities in a certain area, thereby ensuring the uniqueness of the exclusive right of the trademark.

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- 8 Remaining True to Our Original
Aspiration and Devoted to
Community Public Welfare
- 8.1 IMPLEMENTING TARGETED POVERTY
ALLEVIATION
- 8.2 GIVING BACK TO THE COMMUNITY



Remaining True to Our Original Aspiration Devoted to Community Public Welfare

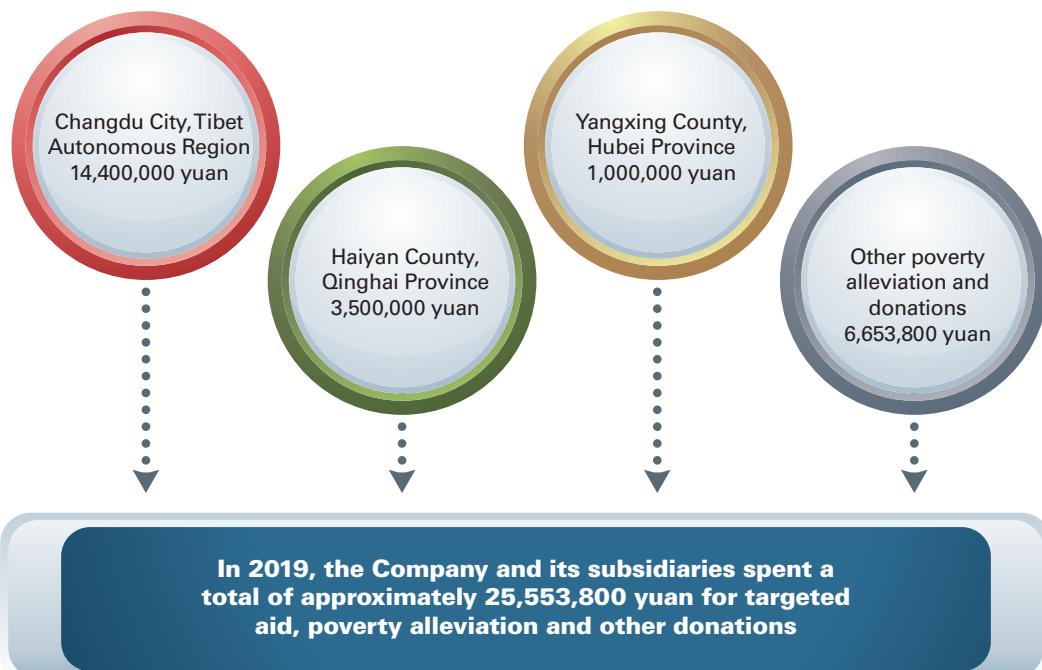
8.1 IMPLEMENTING TARGETED POVERTY ALLEVIATION

As a responsible state-owned enterprise, Chalco has been actively responding to the national call for targeted poverty alleviation. Chalco has effectively carried out poverty alleviation work in light of its own advantages and characteristics. Chalco has formulated the “Measures for the Administration of Chalco Corporation’s External Donations” and policies related to targeted poverty alleviation. It has planned to identify aid targets and scientifically planned aid projects. Chalco fully mobilized the enthusiasm of the company’s various departments, gave full play to the initiative of its employees, and ensured that the poverty reduction work was effectively promoted.

For a long time, Chalco’s counterpart assistance and poverty alleviation targets include Changdu in the Tibet Autonomous Region, Haiyan County in Qinghai Province and Yangxin County in Hubei Province. The Group has provided selfless assistance and strong support in terms of people, finance and property. The Group has gradually established a number of mechanisms such as assistance guarantees, special support, industrial development, pairing assistance, talent training, clear responsibility for project responsibilities and quality, product culture communication and promotion, etc., in order to improve local people’s livelihood and promote local development. Many subsidiary companies of the Company also actively participated in local public welfare, dedicating love and giving back to society through targeted poverty alleviation and donation to cultural and sports undertakings.

Remaining True to Our Original Aspiration Devoted to Community Public Welfare (Continued)

During the reporting period, the Company and its affiliated enterprises used a total of approximately 25,555,800 yuan for targeted aid, poverty alleviation and other donations, an increase of 1,869,800 yuan over the 26,684,800 yuan in 2018.



Remaining True to Our Original Aspiration Devoted to Community Public Welfare (Continued)

Case 1:

The Guizhou branch has been designated poverty alleviation in Sangenshu Village, Fengshan Town, Fuquan City, Guizhou Province, and raised 150,000 yuan to help the poverty alleviation pilot households build the positions of party branches, propaganda positions, and for party member education and industrial development.



Leaders of Guizhou Branch Chen Gang and Zhou Shuanglin visited the Sangenshu Village, Fengshan Town, Fuquan City

Remaining True to Our Original Aspiration Devoted to Community Public Welfare (Continued)



Leaders of Guizhou Branch Chen Gang and Zhou Shuanglin visited Poverty Alleviation Village

Case 2:

Poverty alleviation by cadres, poverty alleviation by funds, poverty alleviation by operation and management, achieving a win-win situation for enterprises and local places

The Qinghai Branch has sent three full-time poverty alleviation cadres to work in the Karuo District of Changdu City, Tibet, and to work in Yuanshuer Village, Qiaotou Town, Datong County, Qinghai. In the operation and management services, the service fees collected by Chinalco Group will be used for alleviating poverty in Qinghai Province after removing the reasonable cost. In May 2019, it has donated 1 yuan million to the poor in Haiyan County, Haibei Prefecture, Qinghai Province, which has been fully affirmed by Qinghai Province and local governments.

Remaining True to Our Original Aspiration Devoted to Community Public Welfare (Continued)

Case 3:

In 2008, Baotou Aluminum established a fixed-point poverty alleviation relationship with Hongnijing Village, Xidoupu Town, Guyang County, Baotou City, and actively invested in targeted poverty alleviation. From 2018 to 2019, the battle against poverty has entered a critical period. Baotou Aluminum first, did a good job of peasants' ideological poverty alleviation; second, fund to help infrastructure and industrial development; third, to help sell agricultural, animal husbandry, and by-products to expand the villagers' economic sources; fourth, to combine poverty alleviation and wisdom to improve the quality of poverty alleviation. In March 2019, Hongnijing Village successfully removed the poverty title.

Poverty alleviation results:

In 2017, the village was named the Fifth National Civilized Village and Town.

In March 2019, as the last 10 households of 18 villagers in Hongnijing stepped out of the poverty line, Hongnijing Village took off its poverty hat for many years at a time.

Hongnijing's per capita income in 2019 reached more than 8,000 yuan.

Remaining True to Our Original Aspiration Devoted to Community Public Welfare (Continued)

8.2 GIVING BACK TO THE COMMUNITY

The Group always pays close attention to the livelihood work of the communities where it operates, and regards improving community interests and returning to local livelihoods as an important strategy to realize corporate value. Over the years, the Group has organized various public welfare activities and encouraged employees to participate together, such as the construction of roads for the local community by Guangxi Branch and the material room for dry duck farms. The Group contributes to promoting the community environment and giving back to the local people's livelihood.

Case 1: The Company affiliated companies actively participated in the construction of the plant area and local community



Remaining True to Our Original Aspiration Devoted to Community Public Welfare (Continued)

Case 2: Chalco actively gave back to the local residents while carrying out the Boffa project in Guinea.

For example, in response to the difficulty of drinking water for local residents, the Company built wells for local residents. The Company has established China Aluminum Guinea's agricultural technology training base to conduct agricultural planting technology training for local residents.



Case 3: Environmental protection publicity activities

In 2019, in order to strengthen employees' awareness of environmental protection and guide the community to establish good environmental protection concepts, the Group launched a wealth of environmental protection community activities. The "Environmental Protection Open Day" campaign launched by the Guangxi Branch distributed more than 100 environmental protection shopping bags and more than 1,000 publicity materials on environmental protection and pollution source surveys.



9 Looking into the Future and Being the dream chaser together

Appendix 1 HKEx ESG Guide Content Index

Appendix 2 Feedback Form

Looking into the Future and Being the dream chaser together

First-class benchmarking, First-class construction

Looking ahead, in the face of a complex and changing external environment, we will adhere to Xi Jinping's new era of socialist thinking with Chinese characteristics as the guiding principle. We will continue to carry out the all-factors special action to improve quality and efficiency in accordance with the working philosophy of "low cost, high quality, excellent mechanism, and good returns". We will continue to consolidate our cost advantages, adjust and optimize the company layout structure, and accelerate green and low-carbon development. We will continue to improve corporate governance, care for the growth of employees, help local governments to eradicate poverty, and achieve mutual benefits and win-win results with stakeholders. We will strive to be an excellent corporate citizenship role model with first-class operating performances and a highly responsible social responsibility concept. We will work hard to promote high-quality development. We will benchmark against first-class construction, and open up a new situation by building a world-class aluminum company with global competitiveness!



Appendix 1 HKEx ESG Guide Content Index

Subject Areas, Aspects, General Disclosures and KPIs		
	"Comply or explain" Provisions	Section
A. Environment		
Aspect A1: Emission	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	5.1 Hazardous Waste Disposal 5.2 Achieving Green Production 5.3 Promoting Energy Conservation and Emission Reduction
	<i>Note:</i> Air emissions include NOx, SOx, and other pollutants regulated under national laws and regulations. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Hazardous wastes are those defined by national regulations.	
KPI A1.1	The types of emissions and respective emissions data.	5.6 Environment Performance
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	5.6 Environment Performance
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	5.6 Environment Performance
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	5.6 Environment Performance
KPI A1.5	Description of measures to mitigate emissions and results achieved.	5.2 Achieving Green Production 5.3 Promoting Energy Conservation and Emission Reduction 5.5 Advocating a Circular Model
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	5.1 Hazardous Waste Disposal

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs			
"Comply or explain" Provisions		Section	
A. Environment			
Aspect A2: Use of Resources	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials. <i>Note:</i> Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc	5.4 5.5	Promoting Green Mining Advocating a Circular Model
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	5.6	Environment Performance
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	5.6	Environment Performance
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	5.3	Promoting Energy Conservation and Emission Reduction
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	5.5	Advocating a Circular Model
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	5.5	Advocating a Circular Model

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs		Section
“Comply or explain” Provisions		
A. Environment		
Aspect A3: The Environment and Natural Resources	General Disclosure Policies on minimising the issuer's significant impact on the environment and natural resources.	5.2 Achieving Green Production 5.4 Promoting Green Mining
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	5.2 Achieving Green Production 5.4 Promoting Green Mining 5.5 Advocating a Circular Model

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs			
"Comply or explain"		Section	
Provisions	Recommended Disclosures		
B. Social			
Employment and Labour Practices			
Aspect B1: Employment General Disclosure			
Information on:	KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	6.1 Protecting Legitimate Right
(a) the policies; and			
(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	KPI B1.2	Employee turnover rate by gender, age group and geographical region.	6.1 Protecting Legitimate Right

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs				Section
"Comply or explain"				
	Provisions	Recommended Disclosures		
B. Social				
Aspect B2: Health and Safety	General Disclosure Information on:	KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	4.5 6.3
	(a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.			4.5 6.3
				Committed to Production Safety Guaranteeing Occupational Health Committed to Production Safety Guaranteeing Occupational Health

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs			
	"Comply or explain"		Section
	Provisions	Recommended Disclosures	
B. Social			
Aspect B3: Development			
and Training	Policies on improving employee knowledge and skills for discharging duties at work. Description of training activities.	KPI B3.1 KPI B3.2	<p>The percentage of employees trained by gender and employee category (e.g. senior management, middle management).</p> <p>The average training hours completed per employee by gender and employee category.</p> <p><i>Note:</i> Training refers to vocational training. It may include internal and external courses paid by the employer.</p>
			6.4 Focusing on Employee Development
Aspect B4: Labour Standards	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	KPI B4.1 KPI B4.2	<p>Describe measures to review recruitment practices to avoid child and forced labor</p> <p>Description of steps taken to eliminate such practices when discovered.</p>
			6.1 Protecting Legitimate Rights

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs				
"Comply or explain"				Section
	Provisions	Recommended Disclosures		
B. Social				
Operating Practices				
Aspect B5: Supply Chain General Disclosure				
Management	Policies on managing environmental and social risks of the supply chain.	KPI B5.1 KPI B5.2	Number of suppliers by geographical region. Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	7.3 7.3 7.3
				Establishing a Sustainable Supply Chain Establishing a Sustainable Supply Chain Establishing a Sustainable Supply Chain

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs				
	"Comply or explain"			Section
	Provisions	Recommended Disclosures		
B. Social				
Aspect B6: Product Responsibility	General Disclosure Information on:	KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	4.4 Improving Product Quality
	(a) the policies; and			Improving Product Quality
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	KPI B6.2	Number of products and service related complaints received and how they are dealt with	4.4 Improving Product Quality
		KPI B6.3	Description of practices relating to observing and protecting intellectual property rights	7.4 Promoting the Development of The Industry
		KPI B6.4	Description of quality assurance process and recall procedures.	4.4 Improving Product Quality
		KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	4.4 Improving Product Quality

Appendix 1 HKEx ESG Guide Content Index (Continued)

Subject Areas, Aspects, General Disclosures and KPIs				
	"Comply or explain"			Section
	Provisions	Recommended Disclosures		
B. Social				
Aspect B7: Anti-corruption	General Disclosure Information on:	KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	4.2 Strengthening Anti-Corruption
	(a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	KPI B7.2	Describe preventive measures and reporting procedures, as well as related implementation and monitoring methods	4.2 Strengthening Anti-Corruption
Community				
Aspect B8: Community Investment	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	KPI B8.1 KPI B8.2	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport). Resources contributed (e.g. money or time) to the focus area.	8.1 Implementing Targeted Poverty Alleviation 8.1 Implementing Targeted Poverty Alleviation 8.2 Give Back to The Community 8.1 Implementing Targeted Poverty Alleviation 8.2 Giving Back to The Community

Appendix 2 Feedback Form

Dear reader:

Hello! Thank you very much for taking time to read the Report. In order to continuously improve the preparation of the report and promote the Company's work in ESG, we especially hope to listen to your opinions and suggestions, please let us know!

1. What is your identity regarding to Chalco (e.g. investor, employee, etc.)?

- Government Employee Business Partner
 Environmental Organization Media Community Others (Please specify)

2. Your overall assessment to the Report is:

- Very Good Good Fair Poor Very Poor

3. How do you think of the structure of the Report?

- Very Reasonable Reasonable General Poor Very Poor

4. How do you think of the design of the Report?

- Very Good Good Fair Poor Very Poor

5. How do you think of the readability of the Report?

- Very Good Good Fair Poor Very Poor

6. How do you think of the quality of the ESG information in the Report?

- Very Good Good Fair Poor Very Poor

Appendix 2 Feedback Form (Continued)

7. Which disclosed issues do you pay attention to in the Report? (please choose 3 issues at most)

- | | |
|--|---|
| <input type="checkbox"/> Waste discharge and management | <input type="checkbox"/> Disposal and management of hazardous waste |
| <input type="checkbox"/> Environmental restoration and mine reclamation | <input type="checkbox"/> Use and efficiency of water resources |
| <input type="checkbox"/> Extraction and utilization of natural resources | <input type="checkbox"/> Sustainable profit growth |
| <input type="checkbox"/> Provide high quality products | <input type="checkbox"/> Anti-corruption within the enterprise |
| <input type="checkbox"/> Employee health and safety | <input type="checkbox"/> Employee benefits |
| <input type="checkbox"/> Employee training and development | <input type="checkbox"/> Improve corporate governance |
| <input type="checkbox"/> Others (Please specify) | |

8. What are your opinions on or suggestions to the ESG Report and our performance?

You can mail the above feedback form to the following address:

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Fax: 8610-8229 8158

Email: ir@chalco.com.cn

Website: www.chalco.com.cn

Thank you very much for your understanding on and support of our work!

Aluminum Corporation of China Limited



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