



2024

Social Responsibility

Environmental, Social and Governance Report

Stock Code: 2600 (The Stock Exchange of Hong Kong)

601600 (The Shanghai Stock Exchange)



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About this report

This report constitutes the Corporate Social Responsibility and ESG (Environmental, Social, and Governance) report issued by Aluminum Corporation of China Limited. It adheres to the principles of standardization, transparency, objectivity, and comprehensiveness, offering stakeholders a clear overview of our practices and performance in domains such as compliant operation, environmental protection, social responsibility, and governance.

Reporting guidelines

This report is prepared in accordance with the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)* and the Hong Kong Stock Exchange's *Environmental, Social, and Governance (ESG) Reporting Code*. It also references the "Core Option" of the *Global Reporting Initiative (GRI Standards)* issued by the Global Sustainability Standards Board (GSSB) and the *Guidelines 4.0 on Corporate Social Responsibility for Chinese Enterprises (CASS-CSR4.0)* issued by the Chinese Academy of Social Sciences (CASS), among other established reporting standards. The evaluation results from the materiality analysis, following the principles outlined in these guidelines and standards, also serve as the basis for selecting the disclosed information.

Reporting scope

This report focuses on Aluminum Corporation of China Limited, including its subsidiaries and branches.

Reporting period

This is an annual report, covering the period from January 1, 2024, to December 31, 2024.

Data sources

Unless otherwise indicated, all financial data presented in this report originates from the annual financial statements of Aluminum Corporation of China Limited and its subsidiaries. Other data is derived from internal statistics and manually compiled information. Monetary values in this report are presented in RMB unless otherwise stated.

Reporting reliability assurance

This report has been compiled by the ESG management team of Aluminum Corporation of China Limited, deliberated and approved by the Company's Board of Directors, the Audit Committee, the ESG Committee, and the Board of Supervisors. The Board of Directors and all its members affirm that this report contains no false statements, misleading claims, or material omissions and assume full individual and joint responsibility for its authenticity, accuracy, and completeness.

Clarification of terms

For ease of reference and reading, "Aluminum Corporation of China Limited" is referred to as "Chalco," "the Company," or "we" in this report.

Reporting specification

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

SASAC	refers to	State-owned Assets Supervision and Administration Commission of the State Council
"The 14th Five-Year Plan"	refers to	The Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China
"30.60"	refers to	The statement made by General Secretary Xi Jinping at the General Debate of the 75th session of the UN General Assembly that "China will scale up its Intended Nationally Determined Contributions (INDCs) by adopting more vigorous policies and measures and aim to have CO ₂ emissions peak before 2030 and achieve carbon neutrality before 2060", which is "Carbon peaking and carbon neutrality"
"Chalco", the "Company", "we", "us", or "our"	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
"Chalco Trading Group"	refers to	China Aluminum International Trading Group Co., Ltd
"Chalco Logistics"	refers to	China Aluminum Logistics Group Corporation Co., Ltd.
"Chalco Materials"	refers to	Chalco Materials Co., Ltd.
"Three Platforms"	refers to	Chalco Trading Group, Chalco Logistics, Chalco Materials
"Zunyi Aluminum"	refers to	Zunyi Aluminum Co., Ltd.
"Baotou Aluminum"	refers to	Baotou Aluminum Co., Ltd.
"Inner Mongolia Huayun"	refers to	Inner Mongolia Huayun New Material Co., Ltd.
"Guangxi Branch"	refers to	Guangxi Branch of Chalco
"Zhongzhou Aluminum"	refers to	Zhongzhou Aluminum Co., Ltd.
"Ningxia Energy"	refers to	Chalco Ningxia Energy Group Co., Ltd.
"Zhengzhou Research Institute"	refers to	Chalco Zhengzhou Nonferrous Metal Research Institute Co., Ltd.
"Chalco Shandong"	refers to	Chalco Shandong Co., Ltd.
"Shanxi New Material"	refers to	Chalco Shanxi New Material Co., Ltd.
"Qinghai Branch"	refers to	The Qinghai Branch of Chalco
"Guizhou Branch"	refers to	The Guizhou Branch of Chalco
"Fushun Aluminum"	refers to	Fushun Aluminum Co., Ltd
"Lanzhou Aluminum"	refers to	Lanzhou Aluminum Co., Ltd
"Chalco Guinea"	refers to	Chalco Guinea Company S.A
"Guangxi Huasheng"	refers to	Guangxi Huasheng New Material Co., Ltd
"Guizhou Huajin Aluminum"	refers to	Guizhou Huajin Aluminum Co., Ltd
"Shanxi Zhongrun"	refers to	Shanxi Chalco Huarun Co., Ltd

"Xinghua Technology"	refers to	Shanxi Jiaokou Xinghua Technology of Aluminum Corporation of China Co., Ltd
"Shanxi Huaxing"	refers to	Shanxi Huaxing Aluminum Co., Ltd
"Yunnan Aluminum"	refers to	Yunnan Aluminum Co., Ltd.
"Yunnan Wenshan Aluminum"	refers to	Yunnan Wenshan Co., Ltd.
"Yunnan Haixin Aluminum"	refers to	Yunnan Haixin Co., Ltd.
"Yunnan Runxin Aluminum"	refers to	Yunnan Runxin Co., Ltd.
"Yunnan Yongxin Aluminum"	refers to	Yunnan Yongxin Co., Ltd.
"Yunnan Aluminum Yangzonghai Smelter Branch"	refers to	Yunnan Aluminum Yangzonghai Smelter Branch
"Chalco New Materials"	refers to	Chalco New Materials Co., Ltd
"Wangwa Coal Industry"	refers to	Ningxia Wangwa Coal Industry Co., Ltd.
"Yinxing Coal Industry"	refers to	Ningxia Yinxing Coal Industry Co., Ltd.

Access to the report

This report is available in both printed and online versions. The online version can be accessed at:

The Stock Exchange of Hong Kong
<https://www.hkex.com.hk>

The Shanghai Stock Exchange
<https://www.sse.com.cn>

Chalco Website
<https://www.chalco.com.cn>

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A feedback questionnaire is attached on page 100 of this report, and you are welcome to fill in and send it to the email address above.

Message from the Company's Leadership

The year 2024 marked a defining milestone in the development and history of Chalco. Guided by our unwavering commitment to responsibility and driven by the strategic vision of "building a world-class company with four major competitive advantages", we forged ahead with resolve, making significant progress while continuously improving. We steadfastly deepened the practice of building Chalco into a global leader in the aluminum industry and pioneered a new chapter in our journey toward high-quality development.

Green and Low-Carbon practice is an essential path toward our transformation and upgrading. The Company has accelerated the adjustment of its energy mix and innovatively developed a new model for green and low-carbon development that combines electrolytic aluminum production with the "generation-grid-load-storage integration". Through continuous technological and management optimization, we have spearheaded energy conservation and carbon reduction initiatives, achieving industry-leading resource efficiency. Moreover, Chalco has established a wide array of green factories and green mines, contributing our efforts to environmental protection.

Optimizing governance is the solid foundation upon which our steady progress rests. Chalco has continuously improved its modern corporate governance system with Chinese characteristics, optimized management and control models, and advanced organizational and institutional reforms, which has generated a continuous release of internal growth momentum. Furthermore, the Company has enhanced information disclosure and investor relations management, effectively increasing market recognition and facilitating the realization of its corporate value.

Assuming responsibility is integral to our enduring mission of a long-lasting career. The Company has stayed committed to incorporating the responsibility philosophy of "turning stones into gold and benefiting mankind" into its development, embedding it throughout the entire production and operational process. In 2024, Chalco made cumulative donations exceeding RMB 25 million, supporting rural revitalization and disaster relief efforts. It has also conducted extensive volunteer service activities to foster community harmony and development, earning recognition as one of the "Top 50 Central Enterprises" in the ESG Golden Bull Award, epitomizing the philanthropic ethos of central state-owned enterprises.

Value creation is the fundamental pursuit of our long-term sustainability. In the face of a complicated and volatile market environment, the Company has proactively pursued high-quality operational practices, systematically implemented strategic plans, and comprehensively deepened structural adjustments. Our production volumes of key products continue to lead the global market, while significant efficiency and effectiveness indicators have achieved historic breakthroughs. This has propelled the Company into its best growth period, driven by exceptional operational capabilities.

Innovation is the powerful engine that drives our leaps and growth. The Company has accelerated a deeper integration of technological and industrial innovation, providing robust support for the upgrading of traditional industries and the nurturing of emerging industries. The construction of smart factories has also advanced at an accelerated pace, while smart operations and management capabilities continue to boost. In addition, Chalco has established multiple national-level digital benchmark factories, underscoring the strength of intelligent manufacturing.

The future is upon us, and our mission is clear. Looking ahead to 2025, we will remain firmly anchored to our strategy of "building a world-class company with unrivaled excellence in technological innovation, market competitiveness, sustainable development, and corporate cohesion", adopting an even more open approach to implementing ESG principles. Together with our partners, we will continue our efforts to foster a green and low-carbon ecosystem and embark on a new chapter in sustainable development.

He Wenjian
Secretary of Party Committee and General Manager
Aluminum Corporation of China Limited
March 2025



Statement from the Board of Directors

The Board of Directors of Chalco continues to enhance its Environmental, Social, and Governance (ESG) management system. As outlined in the *Rules of Procedure for the Board of Directors of Aluminum Corporation of China Limited*, the Board is responsible for making decisions on the Company's major environmental, social, and governance matters. In 2024, the Company restructured the Occupational Health, Safety, and Environmental Committee under the Board of Directors, transforming it into the ESG Committee. In addition to its previous responsibilities, the ESG Committee now oversees ESG-related duties. The Committee is responsible for reviewing the Company's Social Responsibility and ESG Report, examining and deliberating on the Company's safety, environmental, and health policies and action plans, inspecting major safety and environmental incidents, and providing opinions and suggestions to the Board for the reference of decision-making on key ESG issues, including green and low-carbon initiatives and environmental efforts, occupational health and safety, social responsibility, and corporate governance. Furthermore, in accordance with the *Implementation Rules of Aluminum Corporation of China Limited for Work on Social Responsibilities*, the Company has established a Social Responsibility Committee under its management. This Committee is responsible for driving the execution of specific ESG initiatives and ensuring the implementation of directives from the ESG Committee. Chalco regularly partners with third-party organizations each year to conduct focused ESG-related training programs and ad-hoc specialized sessions for the Board of Directors, thereby enhancing their ESG management capabilities.



The Company has integrated ESG risk management into its daily risk management system. Under the management of the Audit Committee, all business departments and subsidiary manufacturers of the Company actively identify and mitigate major ESG risks. The Audit Committee conducts regular reviews of these risks and reports on the progress of risk management to the Board of Directors. In 2024, the Company conducted a comprehensive ESG risk identification and assessment process, introducing two new emerging ESG-related risks: risk of reforms and business transformation, and risk of international operations with mineral resource supply security. In response, we have strengthened and refined our risk management and control mechanisms, developed targeted countermeasures, and enhanced our overall risk control to address the potential impacts of these emerging risks on the Company's business development.

The Company continuously sets annual ESG targets related to its business areas. The Board of Directors regularly reviews the development and attainment of these targets and ensures that the Company maintains sustained efforts to achieve carbon emission peaking by 2030 and carbon neutrality by 2060. For further details, please refer to Chapters 2 and 3 of this report. Additionally, ESG metrics have been incorporated into the performance assessments of the Board and senior management. Each senior executive has signed a *Performance Accountability Agreement* that assesses

performance against key indicators, such as product output and quality, technological innovation, capital operations, green and low-carbon initiatives, safety and environmental protection, cybersecurity and data integrity, and legal and regulatory compliance. Performance is assessed and rewarded in accordance with the *Measures for Senior Executives of the Remuneration Management of Aluminum Corporation of China Limited*.

In 2024, the Company has developed effective strategies to maintain a balance between its business objectives and environmental and social impact, with the aim of achieving sustainable development by enhancing its ESG capabilities. The Board of Directors routinely reviews the ESG strategies we have formulated to ensure their alignment with our overarching development plans. Additionally, the Board of Directors periodically evaluates the significance of ESG issues, with the details of the evaluation process and outcomes outlined in the "ESG management" section of this report, which has been thoroughly reviewed by the Board.

This Report has disclosed ESG issues as mentioned above. It was reviewed and approved by the Board of Directors on March 26th, 2025.

About Chalco

Company Profile

Founded on September 10, 2001, Aluminum Corporation of China Limited is the world's largest supplier of alumina, electrolytic aluminum, fine alumina, high-purity aluminum, gallium and anodes for aluminum production. Chalco has been listed in the Stock Exchange of Hong Kong (stock code: 2600) and the Shanghai Stock Exchange (stock code: 601600) since December 2001, and April 2007 respectively.

General information

-  Company name: Aluminum Corporation of China Limited
-  Date of foundation: September 10, 2001
-  Registered address: No. 62 Xizhimen North Street, Haidian District, Beijing
-  Total capital stock: 17,155,632,078
-  Controlling shareholder: Aluminum Corporation of China Limited
-  Company website: www.chalco.com.cn
-  Actual controller: State-owned Assets Supervision and Administration Commission of the State Council
-  Email: ir@chinalco.com.cn

Business segments

Chalco is engaged in the development of mineral resources, the production of alumina, electrolytic aluminum, aluminum alloys, carbon products, and coal, as well as the application and promotion of high-tech. The Company is also involved in international trade, material supply, logistics and transportation, energy, power, and other sectors. Chalco is the only large-scale international company that embraces a complete industrial chain in the global aluminum industry.

Alumina segment

Mining and purchase of bauxite and other raw materials; production and sales of alumina to electrolytic aluminum manufacturers and trading companies within the Group, as well as external customers; production and sales of fine alumina and gallium metal.

Primary aluminum segment

Purchase of alumina, raw and auxiliary materials, and electric power; production of primary aluminum by alumina electrolysis, and sales of primary aluminum to internal trading companies within the Group, and external customers; production and sales of carbon, aluminum alloy and other electrolytic aluminum products.

Trading segment

Supply of crude fuels, raw and auxiliary materials, such as coal, alumina, primary aluminum, other non-ferrous metal products to internal manufacturers within the Group, and external customers; logistics services.

Energy segment

The main business activities include coal mining, thermal power generation, wind power generation, photovoltaic power generation, and manufacturing of new energy equipment, among others. sales of coal to manufacturers within the Group, and external customers; sales of thermal, wind, and photovoltaic power generated to local grid companies; new energy equipment manufacturing.

Headquarters and other operating segments

Management functions of the Company; research, development and other activities related to aluminum business verticals.

Market presence

In recent years, Chalco has accelerated its layout optimization and structural adjustment, actively fostering emerging industries, continuously enhancing its capabilities to create value, and working to become a "source" for original technological innovation and a "leader" in the modern aluminum industrial chain. Chalco's core strategic position within Chinalco has become increasingly prominent, the Company's production capacity of alumina, fine alumina, electrolytic aluminum, high-purity aluminum, carbon products for aluminum production, and gallium metal all rank first in the world, highlighted by our maintenance of the highest credit rating by Fitch across the global non-ferrous metal industry for six consecutive years.

Chalco's Key Performance Indicators

Alumina production capacity	Primary aluminum production capacity	Fine alumina production capacity
16.87 million tons	7.61 million tons	4.31 million tons
Asset scale	Revenue	Total profit
215.90 billion yuan	237.07 billion yuan	22.32 billion yuan

Chalco's Corporate Culture

Become a world-class global aluminum company with four major competitive advantages



A leading venture in scientific and technological innovation, mineral resources, high-end advanced materials, green, low-carbon, cost-effective, digital and intelligent technologies

Has achieved remarkable results in accelerating the construction of a world-class aluminum company and cultivating specialized, sophisticated, characteristic and innovative enterprises. The features of "excellent products, outstanding brands, leading innovation, and modern governance" have become more prominent

Externally, it is manifested in rapid business profit growth, broad market expansion space, sufficient talent and technology reserves, significant industry-leading role, and a good corporate brand image. Internally, it is reflected in strong scientific management capabilities, strong technological innovation capabilities, strong resource control capabilities, strong international operation capabilities, and strong market competitiveness

Our mission | Pay back to shareholders | Benefit customers | Cherish the environment
Help employees succeed | Contribute to society

Our cultural atmosphere | Transparency | Simplicity
Honesty | Open-mindedness

Our corporate image | Responsible | Ecological | Harmonious
Integrity | Peaceful

Our core values | Responsibility | Openness
Integrity | Excellence

Our corporate spirit | Strive for better performance
Innovate for prosperity

Our operation philosophy | Create value
Maximize returns

Our management philosophy | Strive for excellence
Collaborate for efficiency

Our social responsibility philosophy/our brand slogan | Turn stones into gold
Benefit mankind





Honors in 2024

“中央企业上市公司ESG-先锋100指数(2024)”榜单

排名	企业名称	ESG得分	ESG评级	榜单名称	行业
1	国家电网	88.0	A+	“中央企业上市公司ESG-先锋100指数(2024)”榜单	电力
2	中国移动	87.0	A+	“中央企业上市公司ESG-先锋100指数(2024)”榜单	通信
3	中国石化	86.0	A+	“中央企业上市公司ESG-先锋100指数(2024)”榜单	石油
4	中国铝业	85.0	A+	“中央企业上市公司ESG-先锋100指数(2024)”榜单	有色金属

ESG Champions 100: China's Leading Listed Enterprises



ESG Pioneers 100: China's Leading Listed Enterprises



The 2nd Guoxin Cup ESG Golden Bull Award Top 100
The 2nd Guoxin Cup ESG Golden Bull Award Top 50 Central SOEs



2024 Best Practice Award of the Board of Directors issued by China Association for Public Companies



The 4th Boao Carbon Neutrality Conference - Science and Technology Progress Award for Energy Conservation and Emission Reduction



2024 EY Sustainability Excellence Awards - Special Jury Award & Outstanding Enterprise Recognition



Ranked #747th on the 2024 "Forbes Global 2000 List of the World's Largest Public Companies"

2024中国创新品牌500强榜单

排名	企业名称	品牌	品牌得分	品牌影响力
1	比亚迪	比亚迪	91.86	7.9
2	阿里巴巴	阿里	87.85	8.9
3	腾讯	腾讯	86.07	7.9
4	华为	华为	78.14	8.0
5	京东	京东	87.96	8.8

Ranked 101st on the "2024 China's Top 500 Innovative Brand List"

2024年(第十九届)《亚洲品牌500强》排行榜(201-300)

排名	品牌英文名称	品牌中文名称	所在国家/地区	行业	品牌得分	品牌影响力	品牌忠诚度	品牌美誉度
201	MEITIAN	美天	中国大陆	生活服务	4	5	4	4
202	FLUPKANT	福康	中国	零售	4	5	4	4
203	ACER	宏碁	中国台湾	信息技术	4	5	5	3
204	TOTO	东陶	日本	建材	4	4	5	4
205	TOKIO MARINE	东京海上	日本	金融	4	5	4	4
206	CHALCO	中国铝业	中国大陆	冶金	4	5	4	3

Ranked #236th on World Brand Lab's "Asia's 500 Most Influential Brands of 2024"

2024中国上市公司品牌500强排行榜

排名	企业名称	品牌得分	品牌影响力	品牌美誉度
1	阿里巴巴	92.0	92.16	82.00
2	腾讯	89.0	89.11	82.21
3	华为	87.0	87.09	80.94
4	京东	86.0	86.00	80.41
5	百度	85.0	85.00	79.91

Rank #66th on the list of "2024 Top 500 Chinese Listed Companies Brands"



#179th on the 2024 Top 500 Chinese Enterprises in Charity and Public Welfare



#133rd on the 2024 Top 500 Chinese Enterprises in Rural Revitalization

2024 Performance Highlights

	Key indicators	Unit	2024
Governance performance	Percentage of independent and external directors	%	55.56
	Total hours of anti-Corruption training for employees	Hours	1,680
Environmental performance	Environmental investment	RMB Hundred million	22.52
	Percentage of green power used in electrolytic aluminum production	%	45.5
	CO ₂ equivalent reduction	Ten thousand tons	130
	Number of green factories	/	24
	Number of green mines	/	23
	Mine land reclamation rate	%	100
Innovation Performance	Wastewater utilization rate	%	97.9
	R&D investment	RMB Hundred million	57
	Number of R&D personnel	/	939
Social Performance	Number of cumulative authorized patents	/	1,068
	Number of emergency drills of safety production	Times	7,950
	Number of participants in emergency drills of safety production	/	139,435
	Total hours of volunteer service for the Year	Ten thousand hours	50
	Total hours of employee training	Hours	2,933,213

Sustainable Development Management

Chalco views sustainable development management as a key driver for the Company's long-term growth. The Company has established a comprehensive framework and system for sustainable governance, leveraging the leadership of the Board of Directors and its specialized committee to improve the efficiency of departmental operations. The Company actively engages with stakeholders and identifies material issues based on their significance and impact on stakeholders. Additionally, we are committed to aligning with the United Nations Sustainable Development Goals (SDGs) and translating these commitments into actionable practices.

ESG Governance

Chalco continues to refine its sustainable development framework by establishing an ESG management system led by the Board of Directors and its ESG Committee, overseen by senior management and the Social Responsibility Committee, and implemented by functional departments and subsidiaries. This approach ensures that the Company's sustainability needs are effectively addressed and that material ESG issues are properly managed.

Chalco's ESG Governance Structure

	<p>Board of Directors and its ESG Committee</p> <p>Review the strategies, policies, regulations and objectives of ESG management; identify and manage material ESG issues of the Group; identify, assess, and manage ESG-related risks and opportunities;</p> <p>Supervise and inspect the identification and assessment of ESG management issues, and ensure the progress and fulfillment of ESG objectives as scheduled.</p>
	<p>Senior Management and the Social Responsibility Committee</p> <p>Execute ESG arrangements and annual plans issued by the Board of Directors, and ensure all ESG policies and measures are implemented effectively;</p> <p>Communicate with all departments over ESG objectives, set applicable ESG objectives, and conduct regular reviews to track progress against the plan.</p>
	<p>Functional departments</p> <p>Implement the work deployment arranged by management and the Social Responsibility Committee, and perform specific tasks effectively;</p> <p>Collect, sort, and report the ESG performance information of their own departments.</p>
	<p>Subsidiary companies</p> <p>Prepare annual ESG plans according to their respective operation conditions;</p> <p>Set up their respective Social Responsibility Committees or leading groups to perform ESG management duties and be responsible for implementing the company's relevant work arrangements.</p>

Adhering to the social responsibility core philosophy of "turning stones into gold, and benefiting mankind," Chalco has established conceptual, organizational, institutional, assessment, and management systems in accordance with the *Social Responsibility Management Module of Aluminum Corporation of China Limited*. The Company has identified five major areas of responsibility, namely corporate governance, rights and interests of employees, environmental protection, fair operation, and community support. To fulfill these responsibilities, Chalco has defined the scope of responsibility, designated responsible individuals/entities, allocated responsibility indicators to departments, branches and subsidiaries, and established a negative list of prohibited items. These efforts ensure that Chalco effectively and consistently fulfills its social responsibilities.

Chalco integrates ESG indicators into the performance evaluations of senior management across all levels, with executives signing Performance Accountability Agreements. In addition to financial targets, this year, we have further detailed indicators in domains such as green development, safety and environmental protection, and product quality. These indicators are assessed and rewarded in accordance with the *Measures for Senior Executives of the Remuneration Management of Aluminum Corporation of China Limited*. Besides, we have set strategic goals for our branches and subsidiaries from green, low-carbon, safety and environmental protection dimensions.

Chalco's Social Responsibility Management System



Communication with stakeholders

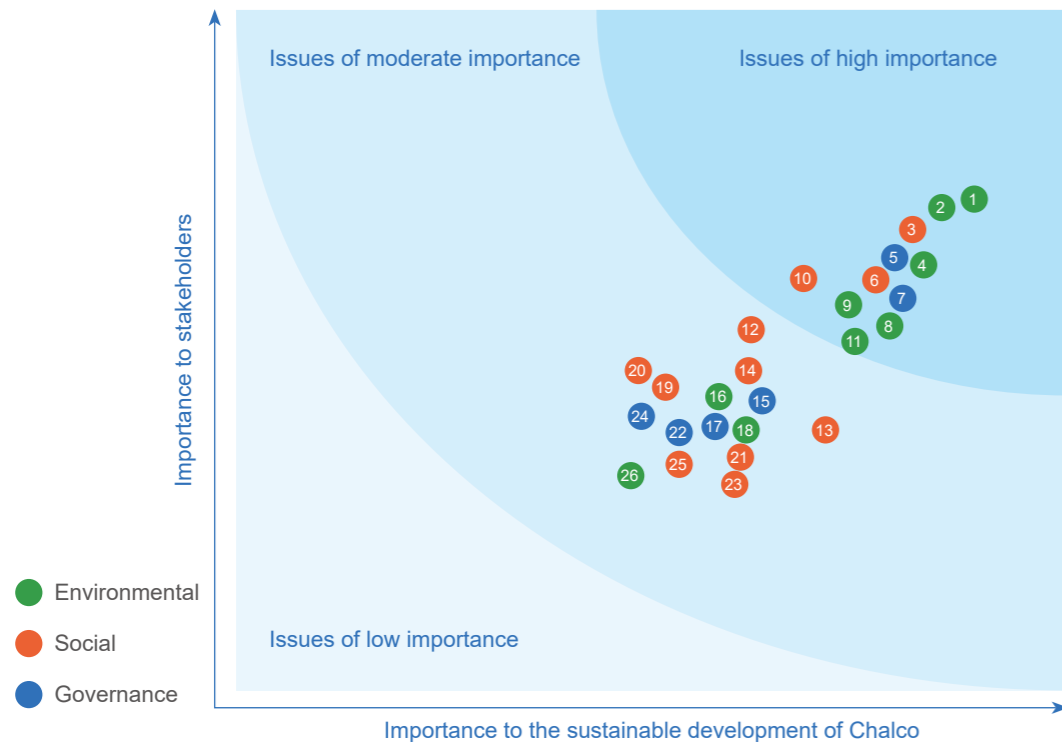
Chalco places great emphasis on communication with stakeholders, consistently maintaining an open approach to understanding the issues they focus on. These insights serve as a critical reference for carrying out the Company's ESG initiatives. Chalco has established effective communication and feedback channels and developed a comprehensive list of key stakeholders based on the results of stakeholder engagement and the characteristics of its business, so as to identify the focus for the Company's sustainability efforts.

Chalco's Communication System with Stakeholder

Stakeholder	Means of communication	Expectations and requirements
Major shareholders	General meeting of shareholders, company announcements, performance roadshow, and field visits, visitors reception and phone calls answering	Safeguarding the rights and interests of shareholders, improving corporate governance, enhancing business performance, operating in compliance with laws and regulations, conduct profit distribution as well as safe corporate production and operation
Governments and regulators	Periodical information reports and submissions, regular sessions with regulatory agencies, and participation in conferences/seminars	Operating in compliance with laws and regulations, paying taxes in accordance with the law, driving the development of local economy, promoting local employment, safeguarding occupational health and safety of employees, as well as safe corporate production and operation
Employees	Employee representative congress, suggestion boxes, and symposiums	Occupational health, compensation and benefits, career development, and humanistic care
Customers	Business communication, and customer feedback	Improving the quality assurance system, and providing high-quality products and services
Peer companies	Participation in industry forums, exchange visits, and mutual learning	Jointly boosting the sustainable development of the industry
Potential investors and financial institutions	Information disclosure, investor presentations, roadshows, and analyst meetings	Disclose relevant information timely, enhancing business performance, and stepping up investor relationship management
Suppliers	Tendering and purchasing, organizing seminars and forums, access and evaluation, and field visits	Personnel health and safety, fair and transparent supplier management
Communities	Participating in public benefit activities, and enabling stakeholders to participate	Improving community environment, supporting community welfare, and promoting rural revitalization

Identification of Material Issues

2024 Chalco's Matrix of Material Issues



In 2024, Chalco conducted an extensive analysis of the internal and external environment of sustainable development, considering various factors including the macroeconomic climate, corporate operational conditions, future development planning, industry trends, ESG policies and standards, as well as major concerns in the capital market. This background analysis led us to identify 26 material issues from environmental, social and governance dimensions.

We solicit opinions and suggestions on the prioritization of material issues from internal and external stakeholders, including major shareholders, governments and regulators, employees, issues of moderate importance to stakeholders customers, and suppliers by in-depth internal assessments to have an in-depth and well-rounded understanding of their ESG related insights. In reference to the material issues in 2023, we have developed 2024 Chalco's matrix material issues. Through this analysis, we developed a matrix of material issues, which clearly presented the issues primarily concerning our stakeholders, along with their expectations and insights regarding our sustainable development efforts. Such surveys enable us to enhance our sustainable development initiatives and ensure that we meet the requirements and expectations of our stakeholders effectively.

Chalco's Material Issues List

No.	Materiality	Content
1	Issues of high importance	Pollutant discharge management
2		Mineral resource management and mine reclamation
3		Health and safety of employees
4		Resource utilization efficiency
5		Compliance and risk management
6		Product quality control
7		Corporate governance
8		Response to climate change
9		Renewable energy application
10		Remuneration and benefits of employees
11	Issues of moderate importance	Carbon Emissions Management
12		Fair competition
13		Intellectual property protection and technological innovation
14		Employment management, and protection of employees' rights and interests
15		Business ethics and anti-corruption
16		Prevention and response to environmental emergencies
17		Sustainable growth of profits
18		Ecology and biodiversity conservation
19		Customer management and privacy protection
20		Promoting to industrial development
21		Employee development and training
22		Transparency of financial and non-financial information
23		Sustainable supply chain
24		Communication with stakeholders
25		Community involvement and contribution
26		Use of packaging materials

Support for SDGs

Chalco fully acknowledges the profound economic, environmental, and social challenges confronting humanity and understands that sustainable development is not just an option but a necessity. In alignment with the pressing global call for sustainable practices, we have seamlessly integrated sustainability initiatives into our daily operational strategies and have fervently pursued the United Nations' Sustainable Development Goals (SDGs). The table below lists our major practices and fruits in relation to these 17 SDGs:

Chalco's Responses to SDGs



We have actively engaged in rural revitalization and charitable initiatives, including donations and consumption assistance, to solidify the achievements of poverty alleviation and prevent local residents or targeted vulnerable groups from falling back into poverty.



We have been committed to driving agricultural transformation in rural areas as part of our efforts to promote rural revitalization. We have worked diligently to enhance the local agricultural ecological environment by restoring and improving soil quality, optimizing water resource efficiency, promoting agricultural planting techniques and promoting agricultural modernization. Our goal is to inject new vitality into rural development.



We have organized a variety of cultural, sports, and lifestyle activities for employees to promote work-life balance and enhance their sense of happiness and belonging. We have prioritized digital and intelligent transformation to enhance intrinsic safety, and implemented additional safety protocols to ensure the well-being and health of our employees.



We have launched educational aid programs and contributed sports facilities, learning materials, and living supplies to create a conducive learning and growth environment for children and teenagers.



We have implemented a gender equality employment policy and strived to cultivate an inclusive and equitable workplace environment. Our goal is to ensure that all employees enjoy their rights and interests, and receive fair and just treatment under the law.



We have optimized our water consumption structure and intensified our daily water conservation management efforts to ensure the safety and sustainability of water resources.



We have vigorously developed renewable energy industries such as photovoltaic and wind power generation, and increased the proportion of clean energy to upgrade the energy utilization structure. We have supported residents near our operational sites in constructing clean power generation facilities, ensuring access to clean energy and fostering environmental benefits for local communities.



We remain steadfast in our commitment to safeguarding the rights and interests of our employees, and to fostering a positive and healthy workplace environment. We have devised attractive employee development programs, and introduced compensation and incentive mechanisms to stimulate the potential and creativity of employees.



We have accelerated major scientific research, and transformation and application of research achievements to provide solid support for high-quality development. In addition, we have contributed to the construction of infrastructure such as roads and bridges in the communities where we operate (e.g., Ningxia Hui Autonomous Region in China and Guinea) to enhance local economic development.



We are committed to eradicating all forms of discrimination based on nationality, gender, race, or cultural background, ensuring that all employees receive fair treatment and respect.



We have devoted ourselves to the application and development of clean energy, and played our part in building sustainable cities and communities where we operate. We have actively engaged in community development, public welfare initiatives, and assistance programs for remote areas, along with charitable donations.



We have continued our efforts to conduct scientific research and commercialize new energy-saving technologies and environmentally friendly waste disposal methods. We have expedited the development of new energy industries to promote resource sustainability.



In response to the national "30.60" goal, we have focused on optimizing the energy utilization structure among our enterprises. This includes increasing the share of new energy, implementing energy-saving measures, and reducing overall energy consumption. We have made concerted efforts to reduce carbon emissions and improve energy utilization efficiency, aiming to mitigate the impact of climate change and contribute to the establishment of a green and low-carbon society.



We are committed to protecting water resources and advancing our green and sustainable development initiatives. To achieve this, we have implemented advanced water circulation systems to attain "zero discharge" of wastewater from our production processes.



We have employed responsible site selection methods, developed scientifically sound mining processes, and implemented mine site rehabilitation practices to ensure environmentally friendly mine development. We have carried out organized storage and comprehensive utilization of waste materials to maximize resource utilization and minimize environmental impact.



We have intensified efforts to uphold clean and transparent governance practices. We have continuously enhanced our corporate governance capabilities, and refined our compliance management, internal control and legal systems.



We have fostered mutually beneficial relationships with our suppliers, establishing effective communication channels and forms to build a stable and sustainable supply chain. We have actively engaged in communication with stakeholders and the identification of material issues.





Law-Based Operations, Building Excellence

Strictly adhering to national laws, regulations, and the regulatory requirements for listed companies, Chalco has established a robust corporate governance structure that clearly defines the roles and responsibilities of each governance body, and fully leveraged the diverse expertise of the Board of Directors in decision-making processes, working towards building a “world-class aluminum company with global competitiveness.” The Company stays committed to operating in compliance with regulations, conducting regular internal control audits, and strengthening its risk management framework to prevent and respond to various risks. It firmly upholds business ethics, opposing any corruption and unfair competition. Furthermore, Chalco prioritizes the protection of information security by implementing multiple measures to safeguard both internal company information and customer privacy, ensuring the effective security of both corporate and client data.

Corporate Governance

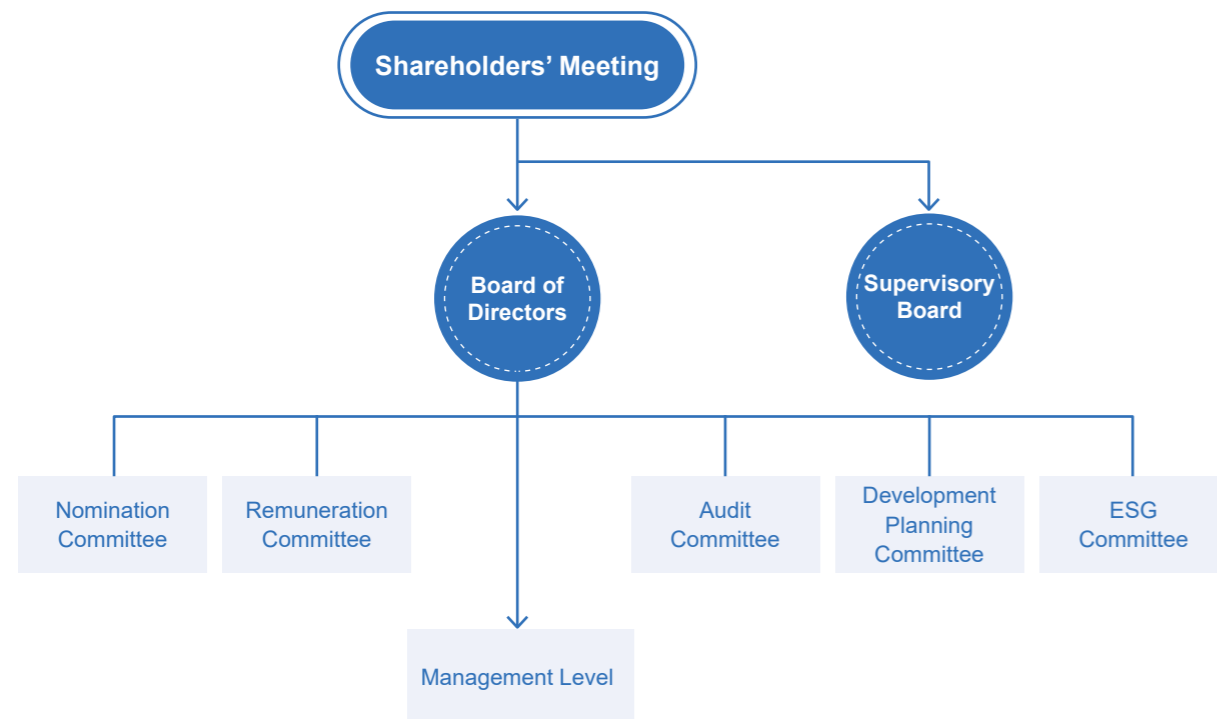
Chalco continually enhances its corporate governance framework by refining the governance structure, promoting board diversity, and strengthening director training. These measures contribute to the continuous improvement of the Company's governance, ensuring its stable and efficient operations.

Governance framework

Chalco has established and improved the "Three Meetings and One Management" governance framework, including the shareholders' meeting, the board of directors, the board of supervisors and the management. Recognizing the crucial role of sound governance in fostering robust corporate development, Chalco remains steadfast in upgrading its corporate governance framework. The shareholders' meeting, the highest authority of the Company, holds the ultimate decision-making power over major corporate matters. The Board of Directors serves as the decision-making body of the Company and is responsible to the shareholders' meeting. It is legally responsible for deliberating or submitting significant operational matters for shareholder approval. Under the Board of Directors are several special committees, namely the Audit Committee, Nomination Committee, Remuneration Committee, Development Planning Committee, and ESG Committee. Among these, the ESG Committee is responsible for strategic planning on environmental, social, and governance matters, setting related goals, and overseeing their achievement. Directors on the Board are elected every three years. As of the end of the reporting period, the average tenure of Chalco's directors is 2.5 years. In 2024, the Board of Directors held 11 meetings and passed a total of 58 proposals, with 100% attendance from the directors.

In 2024, Chalco

held **11** meetings and passed a total of **58** proposals, with **100%** attendance from the directors



Chalco's Governance Framework

Diversity of the Board of Directors

Chalco attaches great importance to the diversity of its Board of Directors and adheres to a policy of board diversity. When selecting candidates for the Board and making appointments, factors such as gender, age, educational background, industry experience, and professional qualifications are carefully considered to assess the candidates' overall capabilities.

Chalco's Board of Directors Diversity Policy

- At least **1** female director on the Board
- At least **1** independent non-executive director permanently residing Hong Kong SAR
- At least **1** financial expert on the Board, possessing professional qualifications and experience in finance and auditing recognized by regulatory authorities
- Non-executive directors (including independent non-executive directors) must constitute more than **half** of the total number of directors, with independent non-executive directors making up at least **one-third** of the Board

In 2024, the Board of Directors consisted of 7 members, including 2 executive directors, 2 non-executive directors, and 3 independent non-executive directors. All incumbent directors bring with them rich experience and extensive expertise in their respective fields. Notably, 4 of directors hold doctorate degrees. During the reporting period, the Board included one female director, representing 14.29% of the total.

Board Diversity Information as of 2024 Year-End

Name	Director type	Gender	Age	Financial Expert	Industry Expert	Risk Management Expert
Shi Zhirong ¹	Executive Director, and Chairman	Male	50		✓	✓
Jiang Tao	Executive Director	Male	50		✓	✓
Li Xiehua	Non-executive Director	Male	54		✓	✓
Chen Pengjun	Non-executive Director	Male	54	✓		
Qiu Guanzhou	Independent Non-executive Director	Male	76		✓	
Yu Jinsong	Independent Non-executive Director	Male	71			✓
Chen Yuanxiu	Independent Non-executive Director	Female	54	✓		✓

¹ Due to work commitments, Mr. Shi has resigned from his positions as Chairman of the Company, Executive Director, and all roles in the various committees under the Board of Directors effective February 24, 2025.

In accordance with the *Measures for the Administration of Independent Directors of Listed Companies* and other relevant laws and regulations, Chalco published the *Special Opinion on the Independence of Independent Non-Executive Directors* during the reporting period, clarifying the Board's independence requirements.

As of 2024

the Company has **5** non-executive directors representing **71.4%** of the Board with **3** independent non-executive directors accounting for **42.9%**

The Audit Committee consists

100% of independent directors

Chalco's Board Committees Composition

Committee Name	Committee Chairman	Percentage of Independent Directors
Nomination Committee	Yu Jinsong	60%
Remuneration Committee	Qiu Guanzhou	66.7%
Audit Committee	Chen Yuanxiu	100%
Development Planning Committee	He Wenjian ²	20%
ESG Committee	He Wenjian	0

² At the First Extraordinary General Meeting of 2025 held on February 28, 2025, Mr. He was elected as Executive Director of the 8th Board of Directors of the Company. During the 31st Meeting of the 8th Board of Directors convened on the same date, Mr. He was unanimously nominated by all directors to assume the duties of acting Chairman and legal representative until the election of a new Chairman.

Compliance Operation

Chalco continues to strengthen its legal and compliance framework, intensifying compliance supervision and control, improving the internal control system, and ensuring the Company operates in full compliance with the law, thereby facilitating steady and sustainable development.

Compliance management

Chalco has established a compliance management framework with a clear structure and defined responsibilities, comprising the Legal Construction and Compliance Management Leading Group, various specialized committees, and functional departments. In 2024, the Company developed several compliance policies based on national laws and regulations, including the *Measures for the Management of the Legal System*, *Measures of the Tender Management*, and the *Work Plan for Trademark Management*. Furthermore, the Company revised the *Measures of Compliance Management* and *Compliance Management Manual*, further refining the regulatory framework and enhancing the compliance management system. In addition, Chalco engages external legal advisors to provide consulting services on daily compliance management, compile a risk control list for administrative penalties in key areas, and further strengthen legal compliance management for both domestic and overseas operations, so as to improve management efficiency.

Chalco has also made significant progress in enhancing compliance management for its overseas operations, improving the compliance systems of its overseas subsidiaries. During the reporting period, the Company systematically reviewed the legal and regulatory framework in Guinea and produced a bilingual *Integrity and Compliance Manual* and *Compliance Management Manual* in both Chinese and French. The Company also employed overseas legal professionals to assist in reviewing foreign-related contracts. In 2024, Chalco conducted a legal risk assessment of its overseas operations, identifying legal risks and evaluating the status of legal system development in its overseas enterprises, ensuring full compliance in these operations.

Chalco places great emphasis on fostering a compliance culture, carrying out diverse training and awareness campaigns to enhance employees' compliance understanding and capabilities. In 2024, the Company leveraged its self-developed online learning platform, Chalco E-Learning, to encourage legal and compliance learning among leadership and key personnel. Additionally, the Legal Compliance Department organized two specialized legal training sessions, with over 300 participants. Furthermore, we launched a legal education column in *CHINALCO NEWS*, regularly publishing articles to promote legal education and compliance awareness.

Internal control audit

Chalco has substantially strengthened its internal audit mechanisms to ensure effective implementation of optimized audit governance. The Company enhances the oversight and safeguarding functions of internal audit by establishing an integrated, vertically aligned audit organizational structure and developing an end-to-end audit management system. Focusing on corporate governance improvement, the internal audit function adopts a risk-oriented approach and value creation strategy. It conducts systematic evaluations across six dimensions: corporate culture, governance framework, operational procedures, internal controls, enterprise risk management, and compliance systems. Through rigorous audit rectification processes and enhanced utilization of audit findings, the Company has significantly elevated the effectiveness of internal audit supervision.

Risk Management

Chalco has established a robust risk management framework that rigorously identifies, assesses, responds to, and monitors risk factors in its production and operational processes. The Company continuously cultivates a culture of risk awareness, guaranteeing stable and secure operations while laying a solid foundation for its sustainable development.

Risk management system

Chalco has developed a comprehensive risk management system with respective duties, which includes the Board of Directors and its Audit Committee, Management and Enterprise-wide Risk Management Committee, risk management department, and all functional departments within the head office and subsidiaries. This framework not only elevates the Company's risk management and control capabilities, but also helps avoid major risk events.

Chalco's Risk Management Structure

Board of Directors, and its Audit Committee	Reviews and approves business policies, deliberates and supervises the progress of annual major risk management strategies and preventive measures, reviews assessment reports on major decision-making risks and annual comprehensive risks, manages other major issues related to risk management, and oversees the handling of significant risk management issues.
Management and Enterprise-wide Risk Management Committee	Convenes timely leadership group meetings to review reports on major risk management situations, deliberate risk prevention and control strategies, and other important issues; timely reports material risk developments and significant matters to the Party Committee and Board of Directors, seeking instructions; Formulates risk control plans specifying response measures, implementation timelines, accountable units as well as designated personnel, and ensures the implementation according to the plan; Strengthens the inspection and guidance of the company's comprehensive risk management work, consolidates the risk management responsibilities of business departments and units, and oversees the implementation of measures.
Risk Management Department	Responsible for formulating or revising policies, engaging in the development of the risk management system, coordinating risk management activities across all units, compiling annual risk management reports, and inspecting execution effectiveness. This department provides guidance, supervision, and evaluation to the risk management departments at lower levels within the Company regarding comprehensive risk management.
Departments at the Headquarter and Subsidiaries	Serve as the primary entities responsible for comprehensive risk management. Their key duties include establishing and refining management systems and control processes within their business to build a comprehensive risk management framework for specialized fields, integrating overall risk management requirements into organizational processes and business information systems to enforce management responsibilities. Responsible for collecting and assessing information of risks, formulating and implementing risk management strategies and measures, and ensuring effective risk monitoring, early warning, mitigation, and reporting. Conduct specialized risk assessments, prepare risk reports for major decisions, organize self-assessment and targeted inspections, guide lower-level divisions in their work, accept supervision and evaluation, and take corrective actions as needed, thereby continuously improving the comprehensive risk management practices within specialized business areas.
Internal Audit Oversight Department	Responsible for formulating risk management evaluation systems; As the apex governance entity responsible for specialized risk oversight at the operational level, oversees enterprise-wide risk management effectiveness; Responsible for identifying hidden risks and deficiencies, correcting errors and problems, driving the rectification of identified deficiencies, supervising the progress of rectification to ensure corrective actions are implemented, and promoting the continuous improvement of internal comprehensive risk management.

Chalco adheres to the principles of "combining layered management with targeted measures", "integrating comprehensive management with focused prevention "aligning risk management with internal control evaluation", and "integrating risk management with business management" in risk management efforts. These principles have resulted in the establishment of a reliable and effective risk management process, improving the effectiveness of the Company's risk management practices.

Chalco's Risk Management Process



Identification of risks

We conduct annual risk assessments to identify potential hindrances to corporate development. In 2024, the Company identified 46 risk categories in the *Measures of Comprehensive Risk Management* and summarized the effectiveness of its risk identification efforts. During the reporting period, two emerging risks were identified: the risks associated with reform and business transformation, and the risks related to international operations and mineral resources security. We have refined our risk control mechanisms, defined response measures, and enhanced risk management practices to mitigate the potential impacts of these risks on the Company's business development.

Chalco's Emerging Risks in 2024

Risk Category	Description	Response Measure
Reform and Business Transformation	<p>During the reform, risks may arise from policy changes or significant shifts in the external environment, which could prevent the completion of set goals or achievement of the intended outcomes of the reform.</p> <p>Additionally, risks may also emerge from losses due to contract breaches, labor arbitration, and asset disposals during the optimization of the industrial layout.</p>	<ul style="list-style-type: none"> Strengthening top-level design and leadership of reform initiatives, regularly reviewing key reform issues, planning for and pushing forward major reform projects, and coordinating solutions to challenges and difficulties occurred during the reform; Enhancing collaborative efforts by focusing on key challenges and difficulties of the reform and improving coordination; Improving communication to increase efficiency and quality of reform efforts; Strengthening task supervision to ensure reforms are completed on schedule, while leveraging performance assessments to supervise the implementation of tasks; Implementing closed-loop management by establishing tracking records for specialized reform tasks and completion lists, conducting strict audits, and ensuring effectiveness of the reform.
International Operations and Mineral Resource Security	<p>Due to increased geopolitical conflicts, trade barriers, global economic fluctuations, and adjustments to national macroeconomic policies, the global market for bulk raw materials and non-ferrous metals is expected to experience significant volatility in 2025. This could narrow the profit margin for the Company's products.</p>	<ul style="list-style-type: none"> Establishing a systematic research framework to enhance macroeconomic and industry analysis for major products of the Company, thereby improving market assessment and strategy formulation; Building a communication mechanism for market change to continuously track fluctuations of commodity prices, production capacity, inventories, and operational rates further down the industrial chains, while strengthening monitoring of annual changes in the overseas aluminum industrial chain to provide more information support for the Company's decision-making; Conducting in-depth research on the impact of major emergencies to prevent risks arising from such incidents.

Chalco actively advances its risk evaluation initiatives. In 2024, the Company identified and assessed 10 major risks, which were incorporated into the annual risk report and submitted to the Board of Directors for deliberation following the decision-making process. We monitor the implementation of risk assessments and response measures monthly and continually refine the major risk monitoring mechanism. Additionally, Chalco compiled internal reports such as the *Report on Safety Matching Evaluation of Overseas Branches of Aluminum Corporation of China Limited* and the *Report on Risk Assessment of Safety for Boffa Bauxite Project in Guinea*. On this basis, the Company carried out various efforts including conducting comprehensive risk assessments on safety, advancing evaluations of security, and revising emergency response plans to better address risks faced by the overseas subsidiaries, such as political instability, terrorism, social security, public opinion, economic and financial matters, natural disasters, diseases, legal and regulatory changes, and geopolitical tensions. In 2024, Chalco conducted a thorough risk assessment for all overseas subsidiaries, covering all overseas entities and employees.

Cultivation of risk-related culture

Chalco attaches great importance to enhancing employees' awareness of risk prevention and has taken a wide range of measures to improve the Company's compliance management.

- Implementation of Risk Management Standards**
 - Integrating risk management standards into the Company's operations, product development, and other processes
- Performance Evaluation**
 - Establishing a differentiated performance evaluation system in the assessment framework for subsidiary enterprises by highlighting key tasks, strengthening risk prevention and control, and compiling a list of performance indicators related to risk control, which are included in employees' performance evaluations
- Training Activities**
 - Organizing focused training for employees engaged in high-risk businesses
 - Regularly providing risk management education for directors, including non-executive directors, and all employees
- Encouraging Timely Reporting by Employees**
 - Encouraging employees to proactively identify and report potential risks

Case: Video Conference on Promoting Risk Management System

In May 2024, Chalco organized a training session that engaged 178 participants, including risk management leaders, department heads, and full-time/part-time staff across its subsidiaries for the promotion of the risk management system. This training aimed to promote their understanding of Chalco's latest risk management systems and policies, as well as the core principles, requirements, methods, and techniques for comprehensive risk management, so as to further advance the development and refinement of Chalco's risk management system.

Business Ethics

Chalco adheres to high business ethics and has established a robust anti-corruption system. To prevent corruption, the Company has taken proactive measures such as enhancing political supervision, strengthening risk management, combating corruption among suppliers, and providing anti-corruption training. Simultaneously, Chalco closely monitors unfair competition across its businesses and resolutely opposes any form of unfair competition in commercial activities.

Anti-corruption system

Chalco has developed an anti-corruption system in which the Board of Directors directly oversees anti-corruption issues and the Party Conduct and Anti-corruption Leading Group with Coordination Group manage day-to-day operations. In 2024, in response to leadership changes, the Company promptly adjusted the structure of the Party Conduct and Anti-corruption Leading Group and worked with the Board of Directors or Audit Committee to conduct regular supervisions and reviews on business ethics, thereby ensuring the smooth operation of the anti-corruption system.

Anti-corruption regulations

In 2024, Chalco updated its list of anti-corruption regulations, developing various related regulations, including the *Measures for the Management of Supervision System Construction and Operation of Aluminum Corporation of China Limited* and the *Management Rules of the Integrity Records of the Leading Cadres of Aluminum Corporation of China Limited*. These policies focus on key areas and critical roles, enhancing the anti-corruption supervision mechanism to ensure compliance and sustainable development of the Company.

Prevention and control of integrity risks

Chalco has continually worked on improving its primary supervision system in line with its business plans with operational realities. In 2024, the Company diligently maintained prevention and control records of major integrity risks and identified 10 major integrity risks across key operational areas. Focusing on departments and positions with significant powers, funds, resources, and assets, Chalco has developed targeted integrity risk management measures and disciplinary supervision strategies to effectively strengthen the integrity risk management framework. The Company tracks and monitors its efforts on integrity risk prevention and control quarterly, thoroughly considering the development trends of these risks, with special attention given to newly identified risk points.

To consolidate the achievements of the "Integrity Action 2.0", Chalco launched multiple three-year specialized campaigns, such as Clean Mine and Clean Trusteeship. Every three years, the Company audits anti-corruption policies across all operational locations and anti-corruption practices within business departments. Regarding any potential issues identified during this process, Chalco issues disciplinary recommendations to the relevant subsidiaries or business departments and ensures that rectification measures are promptly implemented, thereby continuously enhancing the effectiveness of anti-corruption efforts.

Supplier supervision

Chalco strictly follows the *Corporate Supplier Management Measures*, maintaining zero tolerance for supplier bribery misconduct in key processes such as supplier access and evaluation to ensure the integrity and compliance of the supply chain. During supplier qualification assessment and admission, the Company rigorously scrutinizes the supplier shortlist against the blacklist of enterprises identified in the *Enterprises Run by Cadres' Relatives* to avoid related-party transactions; during contract signing, Chalco and its subsidiaries incorporate *Integrity Clauses* in contracts and provide whistleblowing channels to enhance anti-corruption supervision with suppliers. In 2024, all suppliers of Chalco signed standardized contracts containing the *Integrity Clauses*. Suppliers found violating business ethics will be immediately disqualified, with a five-year ban on re-admission, and the results will be promptly disclosed on the supplier network platform.

Whistle-blowing management

The Company has established an anti-fraud work organization system. The Audit Committee of the Board of Directors is responsible for guiding anti-fraud efforts, while the Internal Audit Department serves as the designated administrative department overseeing anti-fraud work. The Company has formulated the *Anti-Fraud Work Management Regulations of Aluminum Corporation of China Limited*, which clarifies the types of fraud, key areas of focus, and standardizes procedures for handling fraud reports. Additionally, the Company has set up a fraud reporting hotline and published a dedicated email address to ensure smooth reporting channels.

Furthermore, the company adheres to relevant regulations, such as the *Procedures for Handling Whistleblowing and Complaints by the Disciplinary Inspection and Supervision Team of Aluminum Corporation of China Limited*, to ensure the standardized implementation of whistleblowing management. Measures include establishing written procedures, allowing employees and external individuals to report incidents anonymously or with their real names, specifying whistleblower protection clauses, and maintaining written records to enhance the effectiveness of whistleblowing management. In 2024, the Company did not encounter any embezzlement-related cases.

Chalco's Whistle-blowing Channels		
Whistle-blowing hotline	Email	Mail address
010-82298446	zlgfjw@chinalco.com.cn	The Party Discipline Committee of Aluminum Corporation of China Limited, Chinalco Building, No. 62 Xizhimen North Street, Haidian District, Beijing

Anti-corruption education and training

Chalco actively conducts anti-corruption education campaigns, continuously promoting a culture of integrity and enhancing employees' awareness of self-discipline and ethical behaviors to ensure the Company's sustainable development. In 2024, Chalco organized a warning education conference on party conduct and integrity building for its Party Committee and a warning conference for newly appointed leader officials to strengthen the awareness of ethical business practices and the ability to resist corruption among the Board and management. The participation rate of leaders at all levels (including all executive directors) reached 100%. During the reporting period, 100% of the Board of Directors, the Board of Supervisors, all employees (including interns and labor dispatch employees), and suppliers participated in anti-corruption training.

Anti-Corruption Training Performance Data			
Training hours on anti-corruption for directors	Training hours on anti-corruption for senior/mid-level management	Training hours on anti-corruption for frontline employees	Anti-corruption training coverage
120 hours	59 hours	1,680 hours	100 %

Anti-Unfair Competition

Chalco is strongly opposed to any form of unfair competition. We closely monitor activities involving false advertising, monopolistic behavior, and the infringement of commercial secrets. The Company strictly manages such practices through written warnings, orders to cease actions, or legal proceedings against individuals or companies engaged in unfair competition. In 2024, Chalco developed the *Work Plan for Trademark Management and Usage* to enhance the rules of trademark usage and prevent trademark infringement of others' or the Company's own trademark rights. During the reporting period, the Company did not face any lawsuits or significant administrative penalties due to unfair competition practices.

Information Security

Chalco has established a sound information security system and management framework, implementing effective management measures to safeguard cybersecurity. The Company strictly protects customer privacy and trade secrets, ensuring the security of both company and customer information.

Information security protection

Chalco observes the *Data Security Law of the People's Republic of China*, the *Personal Information Protection Law of the People's Republic of China*, and the *Law of the People's Republic of China on Guarding State Secrets to protect privacy*. In 2024, the Company revised the *Cybersecurity Management Measures of Aluminum Corporation of China Limited (Trial)*, clarifying the organizational structure and responsibilities for cybersecurity, as well as identifying issues related to the security of network, data, supply chain, system, and equipment, emergency management, and evaluation and penalties. Moreover, Chalco has established a robust information security management framework. The Cyber Security and Information Technology Committee of the Company is responsible for considering and coordinating security work. The Secretary of the CPC Committee serves as the primary leader in information security, and the General Manager is the direct leader. In 2024, the Company obtained 27 Level II certifications regarding the protection of information systems and 14 Level III certifications.

Chalco continues to enhance its cybersecurity defense system by implementing a wide array of measures such as the IT asset vulnerability monitoring and early warning platform, cybersecurity patrols, full-level penetration testing, data security assessments, vulnerability detection and rectification, and emergency response protocols. In 2024, the Company updated its *Emergency Plan for Cybersecurity Incident*, improving the classification standards and response procedures for cybersecurity incidents. Additionally, we conduct regular cybersecurity vulnerability scans and track the progress of vulnerability remediation to ensure timely resolution. During the reporting period, the company did not experience any major or higher-level cybersecurity incidents and did not suffer any financial losses due to cybersecurity issues.

Information Security Management Measures

Security monitoring

- Monitor network traffic and abnormal activities by using the real-time monitor and analysis system
- Make backups for key data and systems to ensure data integrity and security

Emergency plan

- In the event of unexpected situations such as network system interruption or network security attacks, the emergency disposal process will be initiated according to the network security emergency plan. The security risks are eliminated through incident reporting, emergency investigation, system recovery and other links

Security inspection

- Establish a mechanism for network security inspections and conduct on-site or remote inspections focused on cyber security management systems, protection, detection, and operational capabilities, by reference to the cyber security checklists

Overseas support

- We have guided Chalco Guinea to reinforce its cyber security system, and work out management regulations on cyber security and data security
- Conduct cybersecurity training for overseas subsidiaries

Chalco continuously conducts information security training and emergency drills to enhance its information security governance. In 2024, the Company leveraged both online and offline training channels, regularly distributed the *Cyber Security and Digital Development Briefings*, and organized three training sessions on cybersecurity protection and cybersecurity awareness, covering all subsidiaries. We also organized activities such as Cybersecurity Week and cybersecurity knowledge quizzes to increase employee participation and deepen their awareness and understanding of cybersecurity. To strengthen the Company's overall defense capabilities and ensure the security of network systems, Chalco held two cybersecurity emergency drills, conducting penetration testing on its business systems, networks, and workplaces to ensure that employees are capable of handling cybersecurity issues promptly and effectively.

Privacy Protection

In strict compliance with national laws and regulations, the Company has introduced the *Measures for Implementing the Responsibility System of Leading Cadres for Confidentiality Work in Aluminum Corporation of China Limited*. This document prohibits employees from illegally acquiring, disclosing or using the privacy or business secrets of others. When entering into contracts with clients in written or electronic form, the Company has established the *Confidentiality Agreement* and requires both parties to sign it, which clearly outlines the rights and obligations regarding client privacy protection. During the reporting period, we further refined the classification management system of client information and optimized the emergency handling procedures for potential leaks of customer information, ensuring well-rounded protection of client privacy and the Company's interests. Additionally, the Company organized various privacy protection promotional activities to continuously raise employees' awareness of safeguarding client privacy and business secrets. During the reporting period, the Company did not experience any incidents of client privacy breaches.



Green Aluminum Industry, Building Sustainable Future

Chalco remains steadfast in advancing its “green and ecological development” philosophy. Anchored by its strategic objectives of green, low-carbon, cost-efficient, digital and intelligent ventures, the Company continuously enhances its environmental management systems, boost resource efficiency, strictly controls pollution controls, and actively addresses climate challenges, striving for coordinated development between the business and the environment.

Comprehensive Environmental Governance

Chalco views environmental governance as the cornerstone of its sustainable development. By continuously improving its environmental management system, optimizing management strategies, and rigorously implementing best practices, the Company has effectively elevated its environmental management capabilities, laying a solid foundation for its green development.

Environmental management system

Chalco has established a comprehensive environmental governance framework to ensure efficient and compliant environmental management efforts. In 2024, the Company further strengthened the implementation of its environmental management initiatives by incorporating key environmental protection indicators, such as carbon emissions and environmental compliance, into the management performance evaluation system, with environmental compliance indicators included in a negative list for evaluation. These efforts effectively reinforce the management’s awareness and accountability for environmental governance.

In 2024

Chalco achieved

100% compliance with ISO 14001 Environmental Management System Certification.

Chalco's Environmental Management System

Board of Directors	As the highest authority for the Company’s accountability and decision-making regarding environmental governance, it is responsible for formulating overall environmental strategies and policies and coordinating material issues such as energy and water resource management, pollutant emission control, mineral resource management, and mine reclamation.
ESG Committee	Led by the Secretary of the Party Committee and the General Manager of the Company, it is responsible for researching and formulating ecological and environmental strategies and overall objectives, and providing comprehensive coordination and guidance for the orderly implementation of environmental initiatives.
Safety, Environment and Health Department	Responsible for allocating environment tasks, and supervising their implementation
Departments, Branches and Affiliated Enterprise	Responsible for implementing specific tasks, and reporting progress on a regular basis, fostering an interconnected and collaborative work mechanism.

Environmental management strategy

Chalco strictly adheres to the *Law of the People’s Republic of China on Prevention and Control of Radioactive Pollution*, and has established the *Environmental Risk Prevention and Control Manual and Mandatory Requirement for Ecological Environmental Controls of Aluminum Corporation of China Limited*, among other policies. In 2024, Chalco also revised several key regulations, including the *Work and Management Rules for the Occupational Health, Safety, and Environment Committee*, *Management Measures for Ecological Environment Protection*, *Regulations on the Reporting and Investigation of Emergency Environmental Incidents*, *Regulations on the Identification and Mitigation of Ecological Environmental Hazards*, *Measures for Accountability for Ecological Environmental Protection* to further clarify specific guidelines and standards for corporate environmental risk prevention and control.

Rectification Goals and Achievement of Ecological and Environmental Problem

Indicator	Ecological Environment Hazard (Potential Risk) Rectification
2024 Target	Annual completion rate reached 100%
2024 Completion Status	Completed
2025 Target	0 major or higher level environmental incidents

Environmental management practices

Chalco implements a variety of measures such as environmental audits, environmental hazard remediation, and facility upgrades to ensure the efficient operation and continuous improvement of its environmental management system. In 2024, the Company did not experience any major environmental incidents or incur environmental administrative penalties.

Environmental supervision and hazard mitigation

In 2024, Chalco adhered to the principle of the Plan-Do-Check-Act (PDCA)³ cycle and conducted an annual internal environmental audit covering all branches and subsidiaries. The Company organized environmental system evaluations based on Chalco’s Precision Management System for Ecological and Environmental Protection. All secondary companies of Chalco completed the internal evaluations, achieving a 100% compliance rate. For issues identified during the evaluation, the Company required relevant enterprises to formulate corrective measures and monitored the rectification progress to ensure effective resolution. The Company also established three specialized inspection teams for alumina mining, electrolytic carbon, and coal energy, conducting quarterly supervisory visits with inspection and support for affiliated enterprises. In 2024, a total of 1,074 environmental and safety issues were identified during inspections, and 40 issues were subject to the accountability of relevant enterprises. Additionally, Chalco conducted a comprehensive ecological and environmental risk inspection in 2024, covering construction projects compliance, ecological protection and restoration of mining, environmental pollution management, and environmental risk control. Based on this inspection, an issue-tracking list was developed, with regular follow-ups on rectifications so as to effectively mitigate environmental risks.

In 2024

a total of

1,074 environmental and safety issues were identified during inspections

40 issues were subject to the accountability of relevant enterprises

Environmental investment and facility upgrades

Chalco continued to increase its investment in environmental protection, focusing on improving the efficiency and adaptability of coal-fired power generation units, while accelerating the implementation of the Three Reform Linkage⁴ Initiative. In 2024, the Company completed multiple major renovation projects, including the replacement of liquid ammonia with urea in thermal power units, the deep treatment and purification of flue gas from electrolytic aluminum production at Yunnan Zexin Aluminum and hydraulic support system upgrades for Ningxia Energy. These efforts ensure compliance with new environmental requirements of local governments and stable production operations. In 2024, Chalco further expanded its environmental management investment, with total environmental protection expenditure amounting to approximately RMB 2.252 billion.

In 2024

Chalco further expanded its environmental management investment, with total environmental protection expenditure amounting to approximately RMB

2.252 billion

In 2024, three Chalco subsidiaries, including Inner Mongolia HuayunCo., Ltd. and Shanxi New Materials Co., Ltd., achieved Class A enterprise of environmental performance certification, while two other companies, including Baotou Aluminum, were certified as Class B environmental performance enterprises. Additionally, four models of high-whiteness aluminum hydroxide micropowder product from Zhongzhou Aluminum were listed as provincial-level green design products in Henan Province.

³ PDCA refers to Plan, Do, Check, Act.

⁴ The Three Reform Linkage Initiative refers to reforms in three respective areas: energy saving and carbon reduction upgrades, flexibility retrofits, and heating system modifications for coal power generation units.

Case: Chalco Promotes Ecological and Environmental Awareness

Chalco actively engaged its subsidiaries to organize campaigns for environmental protection initiatives such as "World Environment Day and National Ecological Day", showcasing the Company's positive contributions and significant achievements in ecological civilization construction. The subsidiaries actively participated, spreading typical cases and advanced deeds in ecological civilization, encouraging all employees to take part in environmental protection activities to raise their awareness and sense of responsibility towards environmental protection. These activities effectively fostered an environmental protection culture within the Company and improved Chalco's sustainable development brand image.



World Environment Day on June 5

Green office

Chalco incorporates the philosophy of a green office into its daily operations, striving to optimize office processes, promote eco-friendly technologies and equipment, and create a greener and more efficient work environment for employees.

<p>Actively promote the application of online office systems</p>	<ul style="list-style-type: none"> • Such as OA, and facilitate a paperless workplace.
<p>Manage energy-saving equipment</p>	<ul style="list-style-type: none"> • Ask employees to turn off computers, printers, copiers, water dispensers and other electrical equipment, unplug cell phone chargers, and switch off lights after work. • Install sensor switches in the public area of the headquarters. • Use air-conditioner switches that enable precise temperature control. • Replace traditional turbo-worm drive mechanisms with advanced permanent magnet synchronous motors for freight elevators in the headquarters to improve drive efficiency by 20% and reduce energy consumption by 40%.
<p>Equipment and facility maintenance</p>	<ul style="list-style-type: none"> • Fix damaged valves, taps and other equipment and facilities timely to reduce resource consumption.

Resource Utilization Optimization

Chalco places great emphasis on resource efficiency by optimizing resource management, expanding access to domestic and international mineral resource, and adhering to a low-carbon and green operational philosophy. The Company actively promotes resource conservation and circular regeneration, contributing to its sustainable development.

Water resource management

The Company has continuously improved its water resource management framework, with the ESG Committee under the Board of Directors responsible for the strategic planning. The General Manager assumes ultimate responsibility for supervising the effective implementation of water resource management efforts. Frontline departments at all levels and affiliated enterprises tailor their water resource management strategies based on their specific operational characteristics, ensuring a robust foundation for water conservation efforts within the Company.

Chalco observes applicable laws and regulations of water resource management, such as the *Water Law of the People's Republic of China*, the *Law of the People's Republic of China on Prevention and Control of Water Pollution*, and the *Opinions of the State Council on Applying the Strictest Water Resources Control System*. In line with these documents, the Company has continued to classify water resource management, and improve water utilization efficiency, so as to achieve its goal of water recycling and zero discharge. The Company has successfully implemented a preliminary rainwater filtration system, ensuring the comprehensive recovery and reuse of all water resources within its facilities through a pressing and filtration process of rainwater at the initial stage. Additionally, it has launched a mine water comprehensive utilization project, signing related agreements with relevant enterprises to ensure a stable water supply while achieving zero external discharge of mine water so as to significantly boost the comprehensive utilization rate of mine water. These initiatives have significantly improved overall mine water utilization rates. In 2024, Yunnan Wenshan Aluminum achieved recognition as a "leader of water efficiency" in the alumina industry, with a unit water intake of 0.95 cubic meters per ton of product, while Yunnan Haixin Aluminum was also regarded as a "leader of water efficiency" in the electrolytic aluminum sector, with a unit water intake of 0.46 cubic meters per ton of product.

Case: Yunnan Haixin Aluminum's Initiatives for Efficient Water Resource Utilization

Yunnan Haixin Aluminum has deeply incorporated water conservation into its corporate development strategy, implementing an integrated clean production approach that prioritizes energy efficiency and environmental protection at all fronts. The Company has undertaken extensive upgrades focused on energy and water conservation, as well as emission reduction. It has established a range of comprehensive environmental facilities including wastewater treatment system covering both domestic and industrial wastewater, and optimized its rainwater-sewage separation system as well as initial rainwater collection system. These efforts have ensured 100% recycling of both production and domestic water, achieving zero wastewater discharge. Furthermore, Yunnan Haixin Aluminum continues to enhance water reuse rates, reduce per-unit water consumption in production, and implement advanced wastewater treatment and recycling technologies. As a result, its unit water intake and water recycling rates have reached industry-leading benchmarks, significantly improving resource efficiency and setting a standard for green development in the sector.



To ensure sustainable water resource utilization and efficient management, Chalco regularly conducts water resource risk assessments across its subsidiaries. These assessments evaluate the likelihood, impact, and risk level of potential water-related issues. In 2024, none of Chalco's production and operational sites were located in water-stressed regions, and no water-related disputes occurred. Building upon this foundation, the Company has prioritized raising employee awareness of water resource management through specialized water efficiency training programs to further enhance its overall water governance.

Key Performance Indicators for Water Resource Management

Performance indicator	Unit	2022	2023	2024
Water resource management				
Total water consumption	100 million tons	42.96	40.79	44.95
Of which: Circulating water volume	100 million tons	42.02	39.85	44.01
Freshwater consumption	100 million tons	0.94	0.94	0.94
Water consumption/10,000 yuan of operating revenue ⁵	Ton/10,000 yuan	147.63	181.03	189.61
Fresh water consumption/10,000 yuan of operating revenue ⁶	Ton/10,000 yuan	3.23	4.17	3.97



⁵ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.

⁶ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.

Energy management

Chalco is dedicated to building a comprehensive energy management system and has integrated the green electricity utilization ratio into the performance evaluation framework of all its production enterprises. In 2024, the proportion of green electricity used in electrolytic aluminum production reached **45.5%**, marking an increase of **0.3%** year-on-year. Additionally, during the reporting period, all **18** power generation enterprises of the Company have successfully obtained **ISO 50001** Energy Management System Certification, further strengthening the foundation for energy management and providing strong support for the Company's green and low-carbon development.



Energy Management System Certificate for Chalco Shandong

Energy Management System Certificate for Baotou Aluminum

The Company actively promotes technological innovation and equipment upgrades to enhance energy efficiency across all business segments. In 2024, Chalco coordinated stronger efforts to optimize product quality, reduce costs, and improve energy efficiency, implementing 110 equipment upgrade projects with an approved investment of RMB 0.32 billion.

Electrolytic Aluminum Business Segment

Implemented the "12300" energy-saving integrated technology for **1,162** electrolyzers, achieving a **76%** auxiliary equipment modernization rate and upgrading **1,544** units, reducing comprehensive AC power consumption by **77 kWh per ton**.

Alumina Business Segment

Advanced the Three Reform Linkage project for power generation units through biomass co-firing, reducing coal consumption by **4.48 grams of coal consumption**.

Power Generation Business Segment

Upgraded the evaporation and roasting processes by adopting seven-effect falling film evaporators and waste heat recovery technology, resulting in a **5.6 kg per ton** reduction in comprehensive energy consumption.

Chalco remains committed to China's "dual carbon" strategic goals and has adopted a development model of "generation-grid-load-storage integration" to advance new energy projects systematically. The Company has strategically deployed distributed photovoltaic (PV) power systems by utilizing the rooftops of production facilities and idle land at its production sites. In 2024, Chalco prioritized the low-carbon transformation demonstration project, successfully connecting the 1,200 MW "generation-grid-load-storage integration" new energy project in Darhan Muminggan United Banner, Inner Mongolia of China, to the grid. This project is expected to supply 3.9 billion kWh of clean electricity annually to Baotou Aluminum. Throughout 2024, Chalco continued to enhance the efficiency of its existing renewable energy capacity. The Company phased in capacity expansion and upgraded aging wind farms, implementing high-power wind turbine upgrades and grid performance optimizations to improve the utilization of the resource efficiency in existing wind farms. As of the end of the reporting period, Chalco had increased 1,410 MW of newly installed renewable energy capacity, comprising 1,000 MW of wind power and 410 MW of solar PV power. Throughout 2024, the total new energy power generation of Chalco amounted to 3.696 billion kWh.

Throughout 2024

the total new energy power generation of Chalco amounted to

3.696 billion kWh

Energy-saving Targets and Achievements

Indicator	Energy
Target	Maintained the average AC power consumption per ton of liquid aluminum below 13,300 kWh by 2025
Completion Status of 2024	Completed with the average AC power consumption per ton of liquid aluminum of 13,285 kWh

Energy Consumption Performance

Performance Indicators	Unit	2022	2023	2024
Basic Information				
Alumina Production	10,000 tons	1,764	1,667	1,687
Electrolytic Aluminum Production	10,000 tons	688	679	761
Energy Consumption				
Total Energy Consumption	10,000 tons of standard coal	2,823.00	2,760.74	2,896.98
Energy Consumption per RMB 10,000 Revenue ⁷	Tons of standard coal / RMB 10,000	0.97	1.23	1.22
Purchased Electricity	100 million kWh	807.64	1,132.00	933.64
Total Coal Consumption	10,000 tons	2,945.00	2,949.00	2,886.13

⁷ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.

Green packaging

Chalco continues to optimize packaging solutions for alumina, taking into account factors such as loading and unloading conditions, transportation methods, and shipping distances. The Company focuses on promoting sustainable packaging including reusable bags, bulk truck transportation, and innovative dry bulk containers. For eligible transportation routes, Chalco has optimized loading methods to enhance efficiency and environmental performance. Additionally, it has established an internal incentive mechanism in terms of improving packaging to encourage production enterprises and logistics partners to participate in promoting green packaging.

In 2024

Chalco successfully reduced the use of **2.498** million disposable packaging bags, cutting total packaging material consumption by approximately **6,494.92** tons

Key Performance Indicators of Packaging Material Management

Performance Indicators	Unit	2022	2023	2024
Packaging Material Volume	10,000 tons	2.76	2.12	1.91
Packaging material Volume per RMB 10,000 Revenue ⁸	Tons / RMB 10,000	0.00095	0.00094	0.00081

Mineral resource management

Chalco is committed to establishing a well-rounded mineral resource management system by forming a dedicated leadership group and enterprise-level specialized team to enhance mineral resource security mechanisms as well as strengthen vertical oversight of specialized operations and overall coordination and strategic planning. As part of the mid-term adjustments to the Company's 14th Five-Year Plan, mineral resources have been formally recognized as a core sector. In this regard, Chalco has developed and issued the *2024 Work Plan for the Resource Security Project* and the *2024-2030 Action Plan for Resource Acquisition*, alongside key regulatory frameworks such as the *Management Measures for the Mineral Resource Acquisition and Mining Rights*, the *Implementation Rules for Incentive of Bauxite Resource Acquisition*, and the *Management Measures for Domestic Bauxite Procurement*. These measures introduce effective incentive mechanisms and standardized business processes to drive systematic and structured progress in mineral resource acquisition in all respects.

The Company continues to broaden its access to domestic mining rights, advancing resource acquisition strategies tailored by region and resource type to enhance long-term resource security. Through strengthening high-level engagement and deepening cooperation with local governments, Chalco coordinates its regional enterprises to implement strategic agreements with resource-rich provinces, leveraging its industrial value chain advantages to secure government support and policy backing. The Company is also actively exploring resource potential by expanding mining boundaries and closely monitoring national and regional mining policies. Additionally, it systematically tracks mining rights transfer plans and early plans its participation in competitive bidding for mining concessions. In 2024, Chalco secured an additional 73.55 million tons of bauxite resources, significantly reinforcing its resource reserves security.

In 2024

Chalco secured an additional

73.55 million tons of bauxite resources

⁸ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.



Strengthening the Management of Three Industrial Wastes

Chalco continues to strengthen the management of three industrial wastes, namely, industrial wastewater, waste gas, and solid waste, by refining its management framework, optimizing technological processes, and closely monitoring emission to minimize pollutant discharge. The Company is committed to enhancing the treatment efficiency of industrial wastes and promoting resource efficiency, thereby advancing the recycling of resources.

Chalco observes applicable laws and regulations, such as the *Water Pollution Prevention and Control Law of the People's Republic of China*, the *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*, and the *Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes*. The Company continuously improves its internal waste emission management system regarding industrial wastewater, waste gases and residues, so as to ensure that all operational activities comply with national environmental regulations. In 2024, Chalco actively implemented pollution prevention measures in water, gas, noise, and residue management and integrated the inspection and rectification performance of various departments into its corporate performance evaluation system to ensure the effective execution of every waste management measure.

Waste gas management

The primary atmospheric pollutants generated from Chalco's production and operations mainly include sulfur dioxide (SO₂), nitrogen oxides (NO_x), and soot. The Company continues to strengthen waste gas management, increase investment in technological innovation, and implement targeted air pollution control measures.

Waste Gas Management Targets and Achievement

Indicator	2024 Target	Completion Status of 2024	2025 Target
SO ₂ emissions	4% reduction from 2020	The SO ₂ emission intensity of electrolytic aluminum production decreased from 8.22 kg/t-Al in 2020 to 6.61 kg/t-Al in 2024, achieving a 19.59% reduction in sulfur dioxide emissions per metric ton of aluminum output	5% reduction from 2020 levels
NO _x emissions	4% reduction from 2020	Target achieved with a 4.22% reduction from 2020	5% reduction from 2020
Soot emissions	4% reduction from 2020	Target achieved with a 20.75% reduction from 2020	5% reduction from 2020

Major measures for waste gas management:

- Fuel optimization and equipment upgrades** Upgraded calcination furnaces in alumina plants with new energy-saving and emission-reduction technologies, significantly reducing particulate matter emissions in flue gas.
- Advanced treatment in flue gas of electrolytic aluminum** Installed lime-gypsum desulfurization systems to achieve ultra-low emissions of sulfur dioxide, particulate matter, and fluorides in electrolytic aluminum flue gas.
- Upgrading and renovation** Upgraded the waste gas pollution control facilities for aging carbon production lines to ensure compliance with emission standards. This initiative addresses the issue of unstable pollutant emissions from calcining and roasting furnaces after production resumption, effectively achieving ultra-low emissions.

Control of fugitive emissions

Completed the upgrade of fugitive dust collection systems at the line-frequency furnace casting station in the anode assembly workshop and transformed uncontrolled fugitive emissions into controlled emission systems, effectively resolving onsite fugitive dust dispersion issues.

Commissioning of enclosed coal storage facilities

Launched a fully enclosed coal storage facility to prevent fugitive emissions from open-air coal storage.

Boiler dust collection system upgrades

Upgraded dust collection systems in multiple boilers, reducing particulate matter concentrations in flue gas to below 5 mg/m³, further minimizing emissions of atmospheric pollutants.

Case: Shanxi Huaxing Optimized Management on Air Pollutant Emission

Shanxi Huaxing has made significant progress in reducing atmospheric pollutant emissions by implementing an air pollutant audio-visual warning system, which has enhanced real-time monitoring and early warning capabilities for pollutant emissions. Additionally, the boiler denitrification and ammonia supply system was upgraded, replacing liquid ammonia with urea to further reduce pollutant emission intensity. In 2024, Shanxi Huaxing reduced its particulate matter (PM) emission intensity by 42.56% on year-on-year basis, while SO₂ emissions decreased by 17.26%, and NO_x emissions declined by 15.67%.

The 2024 pollution discharge indicators of Chalco are shown below:

Number of discharge outlets	Waste gas	1,852
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Air Emission Performance Indicators

Performance Indicators	Unit	2022	2023	2024
SO ₂ emission intensity	Tons/ RMB million revenue	0.19	0.26	0.25
NO _x emission intensity	Tons/ RMB million revenue	0.04	0.05	0.05
Soot emission intensity	Tons/ RMB million revenue	0.02	0.02	0.02

The emissions intensity of NO_x generated from electrolytic aluminum in 2024

0.39 kg per ton,
with
15.22% reduction
year-on-year

The emissions intensity of PM generated from electrolytic aluminum in 2024

0.34 kg per ton,
with
8.11% reduction
year-on-year

The emissions intensity of SO₂ generated from electrolytic aluminum in 2024

6.61 kg per ton,
with
8.70% reduction
year-on-year

Waste water management

Chalco strictly abides by the relevant laws and regulations in each of its operating regions and continues to enhance its internal management procedures on wastewater discharge. Through technological innovation and process improvements, the Company has further enhanced water resource recycling efficiency, ensuring zero discharge of industrial wastewater. After treatment, 100% of the industrial wastewater is reused in production operations, effectively ensuring the recycling of wastewater.

Wastewater Management Targets and Achievement

Indicator	Industrial wastewater
2024 Target	No discharge of industrial wastewater
2024 Completion status	Achieved
2025 Target	No discharge of industrial wastewater

Chalco has implemented a wide range of key measures for wastewater treatment

Comprehensive treatment of coal gasification wastewater	A two-stage biological treatment process (A/O) with denitrification functions has been used to treat coal gasification wastewater, which is then returned to the production process. This effectively addresses the direct discharge of industrial wastewater and improves water resource recycling efficiency.
Initial rainwater collection and treatment	The Company operates an initial rainwater collection system with a total effective volume of 11,000 cubic meters and associated water treatment facilities. This system improves the rainwater and sewage separation process, significantly enhances risk management, and ensures that treated rainwater can be safely reused.
Initial rainwater pressure filtration system	Chalco has completed the preliminary construction of an initial rainwater pressure filtration system. After pressure filtration and treatment, rainwater can be returned to production, realizing the comprehensive recycling of water resources in the plant and reducing dependency on external water sources.
Mine water treatment facility renovation	The Company completed the integrated pretreatment project of mine water on the surface. This involved removing and replacing equipment and pipelines in the existing lift pump house, dosing room, sludge dewatering room, and biochemical pool. The renovation of the film filtration process for wastewater treatment effectively addresses non-compliant external wastewater discharge, ensuring that mine water meets discharge standards after treatment.



Case: Shanxi Huasheng Optimized Flue Gas Purification Process

Shanxi Huasheng has adopted a combined technology of integrated wet dedusting and desulfurization process with wet electrostatic precipitation (ESP) process to optimize the flue gas purification desulfurization and dust removal processes for the roasting furnace, enabling in-depth treatment of the generated flue gases. The upgrade has led to cost savings of RMB 1.4 million in 2024.

Case: Yunnan Aluminum Achieved Zero Wastewater Discharge

Yunnan Aluminum has implemented a classification method for treating wastewater generated during production and daily operations based on its characteristics. After being treated by various facilities, part of the wastewater was reused in the production process, while the rest was used for irrigation, achieving zero wastewater discharge.

Wastewater Discharge Performance Indicators

Performance Indicators	Unit	2022	2023	2024
Industrial wastewater	10,000 tons	0	0	0
Number of discharge outlets	/	23	23	26

Waste management

Chalco has developed a series of regulations, including the *Measures for Hazardous Waste Management of Aluminum Corporate of China Limited* and *Management Rules for Industrial Solid Waste and Hazardous Waste Outsourcing Disposal of Aluminum Corporate of China Limited*, which clearly outline requirements for bauxite procurement, industrial solid waste outsourcing disposal, hazardous waste outsourcing disposal, and production planning management, providing a solid institutional foundation for waste management.

Waste Management Targets and Achievement

Indicators	Hazardous Waste	Non-hazardous Waste
2024 Target	100% compliant disposal rate	Striving for a red mud comprehensive utilization rate of 18%
Completion Status of 2024	Achieved	Achieved, with the comprehensive utilization rate of red mud reaching 20.02%.
2025 Target	100% compliant disposal rate	Striving for a red mud comprehensive utilization rate of 21%

Enhancing cleaner production review

For enterprises included in the mandatory cleaner production audit list, Chalco mandates their strict compliance with the *Measures for Cleaner Production Review* and related laws. These enterprises are required to diagnose and assess production and service processes and develop pollution reduction plans. Non-listed enterprises are encouraged to conduct their own cleaner production reviews to explore energy-saving and emission-reduction potential.

Non-hazardous waste management

Non-hazardous waste generated by Chalco primarily includes general industrial solid waste such as red mud, coal gangue, fly ash, slag, and flue gas desulfurization gypsum that originate from the production. The Company intensively explores integrated recycling channels for non-hazardous waste, transforming waste into valuable resources through technological innovation and management optimization. This helps achieve resource recycling and minimize environmental impact while improving resource efficiency and economic benefits. In 2024, Chalco continued to promote quality-based classification and alkali reduction technology for red mud at Zunyi Aluminium, recovering 19,800 tons of sodium hydroxide. A total of 5.59 million tons of red mud (excluding source reduction) was recycled and utilized across 11 alumina subsidiaries, achieving a comprehensive utilization rate of 20.02%.

In 2024

recovering

19,800 tons of

sodium hydroxide

achieving a comprehensive utilization rate of

20.02%

Case: Chalco Shandong Promoted Red Mud Comprehensive Utilization

Chalco Shandong has actively explored resource utilization pathways for red mud through key technical research projects, such as the "High-speed Railway Red Mud Large-scale Quality-based Classification Utilization Technology Research Project" and the "Red Mud Pre-treatment and Production Characteristics Cementing Materials Project." In 2024, Chalco Shandong achieved significant results in red mud utilization, with the comprehensive utilization volume reaching 1.3553 million tons, improving the utilization rate to 37.27%, a historical high.

Hazardous waste management

In 2024, Chalco and its subsidiaries implemented the following hazardous waste management measures:

Aluminum ash pollution control and alumina recovery

Yunnan Wenshan Aluminum's two-stage aluminum ash pollution treatment and alumina recovery technology was selected for inclusion in the Ministry of Ecology and Environment's *Catalog of Advanced Pollution Control Technologies (Solid Waste and Soil Contamination Prevention Domain)*.

Electrolytic aluminum's three industrial waste disposal

Chalco took a lead in working with the Zhengzhou Research Institute and various electrolytic aluminum enterprises to prepare the *Report on the Three Wastes' Disposal of Electrolytic Aluminum and Comprehensive Utilization Layout*, providing pathways for the disposal and utilization of industrial wastewater, waste gases and residues of electrolytic aluminum. In 2024, the resource utilization of the "three wastes" from electrolytic aluminum reached 80,300 tons.

Aluminum ash residue resource utilization technological upgrades

The Company is advancing collaboration across strategic units within the Group, applying the fully-quantitative technology for secondary aluminum ash wet-process to the 30,000-ton per year aluminum ash residue resource utilization line at Southwest China's aluminum construction, thereby enhancing the efficiency of resource utilization.

Continued promotion of recycled aluminum

Chalco has commenced the construction of multiple new material projects of high-purity and aluminum-base alloy. Throughout 2024, the Company recycled 220,000 tons of scrap aluminum from the public. Specialized aluminum recycling projects and pre-treatment bases will gradually begin operations.

Increasing resource recycling

Chalco collaborates with leading resource recycling companies to expand resource recycling channels both domestically and internationally.

Case: Shanxi New Materials Overcame Aluminum Ash Resource Utilization Challenges

Shanxi New Materials has developed technologies for the co-utilization of calcining kilns and classified resource utilization to address secondary aluminum ash and overhaul slag generated during aluminum smelting. By applying innovative processes such as precise material formulation, dry-method briquetting, and secondary aluminum ash conveying systems, the Company successfully achieved resource utilization of aluminum ash. In 2024, Shanxi New Materials' waste-free model for solid waste circular utilization in the aluminum industry was successfully listed as a national typical case of "Waste-Free Enterprise".

Case: Yunnan Aluminum Promoted Green and Circular Economic Chain

Yunnan Aluminum actively explores the development of a "green and circular economic chain", with a focus on intensifying the treatment of aluminum ash, electrolytic overhaul slag, and carbon residue from electrolytic solid waste. Leveraging the advantages of the Company's technology innovation center platform, Yunnan Aluminum continues to promote the recovery and utilization of valuable components in red mud blending combustion, iron selection, and aluminum calcification. It has also developed a series of recycled products at its Yunnan Yangzonghai Aluminum as a pilot project, providing terminal support for the consumption of recycled aluminum. In 2024, Yunnan Aluminum achieved 100% safe disposal of solid waste, a 51% year-on-year increase in red mud comprehensive utilization, and recycled over 80,000 tons of aluminum, achieving 100% self-disposal of electrolytic aluminum hazardous waste.

In 2024, the Company achieved a comprehensive utilization rate of **35.47%** for general industrial solid waste, and a disposal and utilization rate of **92.22%** for hazardous waste, marking a year-on-year increase of **7.63%** in hazardous waste disposal and utilization.

Waste Disposal and Utilization Performance

Performance Indicators	Unit	2022	2023	2024
General Industrial Solid Waste				
Total generation of industrial solid waste	10,000 tons	4,698.20	4,604.49	5,278.87
Generation of industrial solid waste per RMB 10,000 of operating revenue ⁹	Tons/RMB 10,000	1.61	2.04	2.23
Fly ash generation	10,000 tons	511.83	510.65	493.19
Fly ash utilization	10,000 tons	399.98	393.47	364.93
Slag generation	10,000 tons	175.78	169.24	176.32
Slag disposal	10,000 tons	154.29	117.9	92.09
Hazardous Waste				
Total generation of hazardous waste	Tons	392,700	541,200	354,082
Generation of hazardous waste per RMB 10,000 of operating revenue ¹⁰	Tons/RMB 10,000	0.01350	0.02402	0.01494
Waste oil (motor oil, mineral oil) generation	Tons	1,700	1,157	1,738
Waste oil (motor oil, mineral oil) disposal	Tons	2,800	1,177 (including disposal of the previous year's storage of 126)	1,543 (including disposal of the previous year's storage of 87)
Aluminum ash generation	Tons	74,200	68,232	59,010
Aluminum ash disposal	Tons	69,300	99,479 (including disposal of the previous year's storage of 43,175)	67,928 (including disposal of the previous year's storage of 12,793)
Overhaul slag generation	Tons	212,300	265,427	196,821
Overhaul slag disposal	Tons	236,400	319,515 (including disposal of the previous year's storage of 90,691)	235,666 (including disposal of the previous year's storage of 52,024)
Carbon slag generation	Tons	98,700	103,745	86,185
Carbon slag disposal	Tons	104,700	137,832 (including disposal of the previous year's storage of 50,874)	97,456 (including disposal of the previous year's storage of 20,468)
Red mud generation ¹¹	10,000 tons	2,680	2,632	2,792
Red mud utilization ¹²	10,000 tons	287.7	438	559

⁹ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.

¹⁰ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.

¹¹ The company reorganized the data collection pathways related to red mud and adjusted the historical data. The adjusted data now aligns with the relevant target settings for that year.

¹² The company reorganized the data collection pathways related to red mud and adjusted the historical data. The adjusted data now aligns with the relevant target settings for that year.

Response to Climate Change

Chalco actively implements the national "dual carbon" strategic goals and integrates climate change response as a core element of its corporate strategy. The Company stays committed to pursuing low-carbon development and building a greener Chalco in all respects, thus injecting more momentum to achieve carbon emission peaking by 2030 and carbon neutrality by 2060.

Climate governance

Chalco is dedicated to implementing a comprehensive emission reduction strategy and actively addressing the challenges of climate change by clearly defining responsibilities at all levels, thereby driving the Company's green and low-carbon development.



Board of Directors	The highest responsible body and decision maker of climate change
ESG Committee	Responsible for discussing and devising ecological environment strategies and overall objectives, and holistically planning and guiding environment-related practices
Carbon Peak and Carbon Neutrality Leadership Group	Responsible for organizing and coordinating the day-to-day operation of various functional departments. The group comprises the CEO, Vice Presidents, and department heads
Production Quality Control Department	Responsible for leading the company's carbon peak carbon neutral management, studying the company's energy structure optimization and implementation ways, centralizing management of carbon emission data
Safety, Environment and Health Department	Responsible for allocating environment tasks, and supervising their implementation
Technology and Development Department	Responsible for research and application of new low-carbon technologies
Departments, Branches and Affiliated enterprise	Responsible for implementing specific tasks, and reporting progress on a regular basis

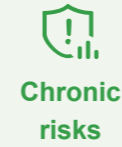
Chalco has fully implemented the *Measures for Carbon Emission Management Measures of Aluminum Corporation of China Limited* and issued the *2024 Action Plan for Green and Low-Carbon Transformation of Aluminum Corporation of China Limited*. The Company has also worked with subsidiaries to formulate the *Action Plan for Power Consumption Reduction* and signed the *Responsibility Statement of Overhaul Cell Energy Consumption Objectives*. Through regular monitoring, Chalco ensures that relevant plans are executed across all enterprises according to the requirements, further improving the mechanism for implementing the "dual carbon" efforts. Additionally, Chalco employs weekly follow-ups and monthly evaluations to conduct benchmarking activities in areas such as electrolytic aluminum, alumina, and power generation, promoting the effective implementation of various measures.

Climate risk management

Chalco has integrated the “dual carbon” strategic goals and the risks associated with extreme weather events into its overall risk management system. The Company continuously strengthens its climate change risk management framework and, in line with its business characteristics, assesses both physical and transition risks, based on their potential impacts on operations and the opportunities they may present.

Physical Risk Identification and Countermeasures



Risk Categories	Risk	Risk Description	Countermeasures
 <p>Acute risks</p>	Typhoon	<ul style="list-style-type: none"> Operations in coastal areas may be exposed to risks from typhoons such as strong winds, heavy rainfall, and flooding, which may damage buildings and equipment and cause production disruptions and transportation obstacles 	<ul style="list-style-type: none"> Convene a special meeting before the typhoon arrives, activate the emergency response plan, issue typhoon warnings, and define specific measures Conduct a comprehensive inspection of the plant, including windows, drainage systems, and emergency supplies, to ensure timely corrective measures toward hazards
	Flood	<ul style="list-style-type: none"> Flooding may submerge production facilities or cause tailings dam breaches, compromising production safety and the surrounding environment 	<ul style="list-style-type: none"> Stock up on flood prevention resources, such as sandbags and water pumps, to ensure normal equipment operation Consolidate tailings dams and ensure a smooth drainage systems to prevent dam failure
	Extreme Heat	<ul style="list-style-type: none"> High temperatures may lead to heatstroke among employees and equipment overheating failures, impacting production efficiency and employee health 	<ul style="list-style-type: none"> Develop an emergency heatstroke response plan, provide specialized education and regular training to increase employees' ability to cope with extreme heat In the event of heatstroke, immediate first aid measures should be implemented, such as providing ventilation, cooling, oxygen, CPR, and ensuring timely medical referral.
	Extreme Cold	<ul style="list-style-type: none"> Extremely cold weather may cause equipment to crack, block pipelines, and disrupt operations, posing a risk to employee safety 	<ul style="list-style-type: none"> Conduct frost protection inspections and maintenance on production equipment and pipelines to ensure their optimal operation Provide heating supplies for employees, arrange appropriate work hours, and reduce outdoor work time
 <p>Chronic risks</p>	Rising Sea Level	<ul style="list-style-type: none"> Rising sea level may cause erosion and submersion to production facilities and infrastructure in coastal areas to be eroded or submerged, affecting operations and the surrounding ecosystem Rising sea level could also lead to saltwater intrusion, affecting the supply of freshwater resources 	<ul style="list-style-type: none"> Diversify water supply sources to reduce dependence on a single water source and address potential water shortages Regularly assess risks to production facilities in coastal regions, strengthen monitoring and early warning systems, and ensure timely countermeasures





Global Warming

- Global warming may increase the frequency of extreme weather events, such as high temperatures, droughts, and heavy rainfall, affecting operations and the stability of the supply chain
- Climate change may also increase the Company's cooling demands, resulting in higher energy consumption and, consequently, increased operational costs
- Optimize production processes to improve energy efficiency and reduce energy consumption per unit of product;
- Increase the proportion of renewable and clean energy usage, such as distributed photovoltaic power generation
- Formulate and implement measures for carbon emission management to promote transition to green and low-carbon development, reducing greenhouse gas emissions
- Promote the construction of green factories and mines to enhance the overall environmental performance of the Company

Transition Risk Identification and Mitigation Measures

Risk Type	Risk Description	Countermeasures
 <p>Policy and Law</p>	<ul style="list-style-type: none"> With the adjustment of national industrial policies and tightening environmental regulations, companies may face increasing costs of environmental investment With the establishment of carbon emission trading systems and carbon markets in China and other regions where the Company operates, the Company will face stricter carbon emission regulations, leading to increased operational costs 	<ul style="list-style-type: none"> Implement the <i>Carbon Emission Management Measures</i> to standardize carbon emission management mechanisms and strengthen carbon emission management efforts Actively participate in the national carbon emissions trading market, using economic incentives of the market to optimize resource allocation and reduce emission costs
 <p>Reputation</p>	<ul style="list-style-type: none"> Failure to effectively implement emission reduction measures or environmental incidents may attract public attention, damage the Company's reputation, and increase compliance costs 	<ul style="list-style-type: none"> Strengthen brand development, improve product quality and service levels, and establish a green, low-carbon corporate image Establish a crisis management system to promptly address negative events and minimize reputational damage
 <p>Market</p>	<ul style="list-style-type: none"> Growing demands for low-carbon products and the limitation of high-carbon product markets could lead to reduced market share and revenue if the Company does not adapt its product structure to these changes 	<ul style="list-style-type: none"> Enhance market research, adjust product structures in a timely manner, increase the supply of low-carbon aluminum products, and continuously optimize the layout of high-quality recycled aluminum products Expand markets in the Belt and Road countries and regions to reduce dependence on a single market
 <p>Technology</p>	<ul style="list-style-type: none"> Responding to climate change requires advanced low-carbon technologies. Therefore, the Company may face risks such as failures in new technology R&D, rapid technological advances, and a shortage of skilled labor 	<ul style="list-style-type: none"> Upgrade alumina and electrolytic aluminum production processes and increase investment in low-carbon smelting, clean technologies, and other fields Continue advancing the development of distributed photovoltaic projects to increase the use of clean energy Introduce and cultivate technical professionals to enhance the overall clean technology capabilities of the Company

Opportunities Faced by Chalco and Coping Measures

Opportunity Name	Opportunity Description	Coping Measures
 <p>Growth in demand for low-carbon products</p>	<ul style="list-style-type: none"> The implementation of the EU carbon tariff and the rising global demand for low-carbon products have significantly increased the competitiveness of green aluminum products in international markets. By developing recycled aluminum, the Company can meet market demand and enhance product value 	<ul style="list-style-type: none"> Increase R&D efforts for green aluminum products and services Improve resource efficiency and adopt cleaner processes of production
 <p>Expansion of carbon emission trading market</p>	<ul style="list-style-type: none"> With the inclusion of the electrolytic aluminum industry in the national carbon emission trading market, the industry's layout is expected to shift towards the southwestern regions that are rich in hydroelectric resources. Thus, optimizing the industrial layout will help reduce energy costs and enhance overall competitiveness 	<ul style="list-style-type: none"> Promote the transfer of electrolytic aluminum production capacity to regions abundant in renewable resources, such as the southwest China, and increase the usage of clean energy Strengthen cooperation with local governments to gain support for clean energy projects

Climate change response strategies

Chalco fully implements national energy policies, participates in the formulation of greenhouse gas emissions and verification standards, and promotes the adjustment of energy structures, the application of new technologies, and benchmarking management. These efforts have resulted in significant energy-saving and carbon-reduction outcomes.

Upgrading of low-carbon technologies

In 2024, Chalco actively advanced environmental design for new and expanded projects. The 500,000-ton electrolytic aluminum technical upgrade project in Qinghai subsidiary and the 2-million-ton Phase II expansion project at Guangxi Huasheng were designed in strict compliance with environmental performance standards for Class A enterprises, ensuring meeting ultra-low emission standards and driving the Company's low-carbon green development.

Case: Zhengzhou Research Institute's Achievements in Technological Carbon Reduction

Based on energy-saving technologies for new stable-flow insulated aluminum electrolytic cells, Zhengzhou Research Institute successfully developed an integrated technology for "Aluminum Electrolysis Direct Current Energy Consumption of 12,300 kWh per ton of aluminum". This significantly reduced energy consumption during the electrolytic aluminum production process. The Institute's achievements, including "Resource Classification and Comprehensive Utilization Technology of Aluminum Electrolysis Overhaul Slag", "Improving the Oxidation Resistance of Aluminum Carbon Anodes", and "Key Technologies for Green Energy-saving and Equipment of Aluminum Carbon Roasting", were successfully included into the list of the "Achievements in Green and Low-carbon Advanced Technology in Henan Province". Since the application of the integrated technology, it has saved 855,532 MWh of electricity annually, reducing CO₂ emissions by approximately 497,000 tons per year, and delivering economic benefits amounting to 182.33 million yuan.

Case: Yunnan Aluminum's Promotion of Green and Low-Carbon Production

Yunnan Aluminum actively promotes low-carbon, low-consumption production throughout its manufacturing processes. At the front end of the industry chain, the Company integrates the actual needs of bauxite and alumina production, adopting various energy-saving technologies such as fuel substitution, pipeline-based model control, energy-saving renovation for circulating pumps, energy efficiency improvements for the boiler system, and fan variable-frequency retrofits. These efforts have effectively explored the potential for energy conservation and consumption reduction. During the electrolytic aluminum and carbon production, Yunnan Aluminum has fully implemented energy-saving initiatives in its structure, management, and technology.

Less carbon footprint in products

Chalco stays committed to taking an active part in the development of the green aluminum market by standardizing the pricing models for green aluminum products and leveraging the upcoming European Union carbon tariff to develop new green aluminum customers.

By the end of the reporting period

8 Chalco subsidiaries had received low-carbon aluminum certification

Chalco strengthened its benchmarking efforts, further exploring energy-saving and carbon-reducing potential in its production processes, and organized low-carbon product certification for electrolytic aluminum products from its subsidiaries. In 2024, eight types of electrolytic aluminum alloy products underwent carbon footprint certification. By the end of the reporting period, eight Chalco subsidiaries had received low-carbon aluminum certification, with Guangxi Huasheng and Zhongzhou Aluminum awarded as the leaders of energy efficiency in China and Yunnan Wenshan Aluminum and Yunnan Haixin Aluminum were also recognized as the leaders of water efficiency in China.

Low-carbon standard development

In 2024, Chalco participated in the development of national standards for *Quantification Methods and Requirements for Greenhouse Gas Product Carbon Footprint of Electrolytic Aluminum* and *Greenhouse Gas Emission Accounting and Reporting Requirements: Part 4 - Aluminum Smelting Enterprises*, as well as *Progress Report of China's National Carbon Market (2023-2024)*. Among these policies, Chalco's electrolytic aluminum standard received the Second Prize of Technical Standards by the National Nonferrous Metals Standards Committee. The Company also earned awards as an Outstanding Enterprise in the National Carbon Market, Best Practice of Service Enterprise, Energy-saving Award, and Technology Competition Award, demonstrating its outstanding performance and leadership in low-carbon development within the industry.



Chalco's Awards in Low-Carbon Achievement



Case: Organizing “Dual Carbon” Management Training

In October 2024, Chalco held a “dual carbon” management training session at Peking University, inviting renowned scholars and industry experts to give lectures. The training covered domestic and international regulations and policies of “dual carbon”, the development and outlook of China’s carbon market, the low-carbon transition pathways and policy impacts on the aluminum industry, the energy-saving and carbon-reduction paths and strategies for the aluminum and power generation industries, as well as carbon market development and carbon trading. This training significantly enhanced the professional competence and skills of “dual carbon” management staff, with 66 participants, including carbon emission managers and relevant business personnel from Chalco and its subsidiaries.



“Dual Carbon” Management Training

Targets and indicators

Carbon asset management

In alignment with the national “dual carbon” strategic objectives, Chalco has established a Carbon Asset Management team to guide the various departments and subsidiaries in strengthening carbon asset management efforts. The team calculates the surplus and deficit of carbon allowances for the Company’s power generation subsidiaries, defines the requirements for quota compliance and trading mechanisms, and develops strategies for quota trading. Surplus companies are encouraged to trade a portion of their allowances with those facing deficits. By 2024, the Company has successfully completed its 2023 carbon emissions compliance, achieving a **100% compliance rate**.

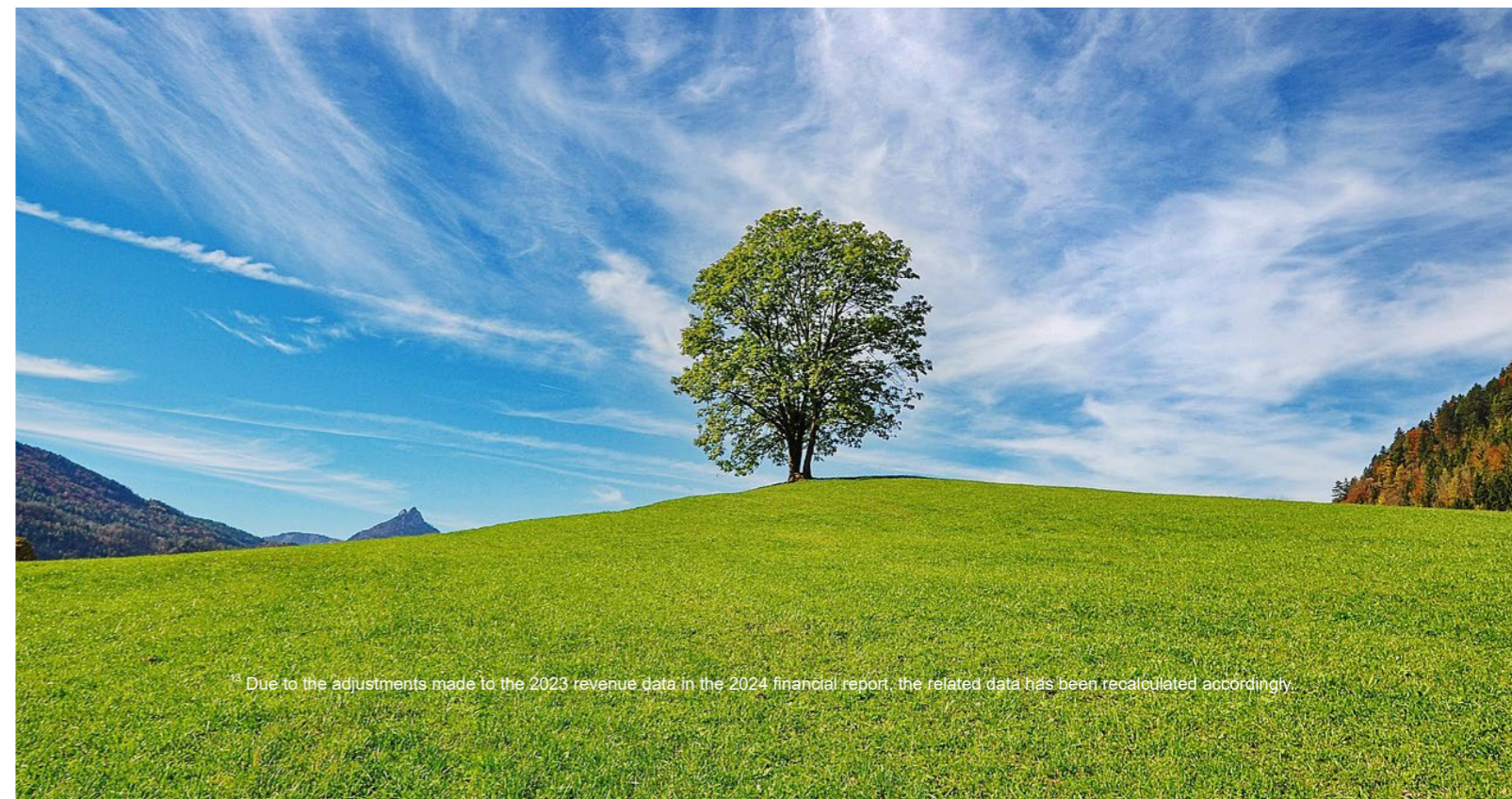
The Company encouraged its companies to participate in the mock trading contest of the national carbon market and facilitated the participation of leaders and managers responsible for carbon emissions in carbon asset management training programs and certification exams to enhance their proficiency in carbon asset management. In 2024, six subsidiaries of Yunnan Aluminum were awarded the Outstanding Trading Performance, Excellent Trading Performance, and Active Participation awards in the inaugural National Carbon Market Simulation Trading Competition.

Greenhouse Gas (GHG) Emission Reduction Targets and Achievement

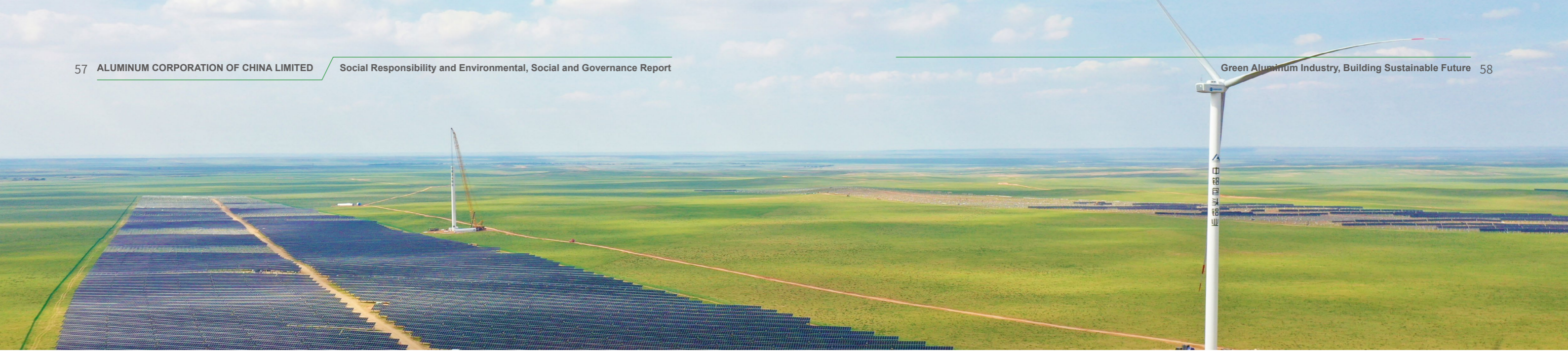
Indicator	GHG
2024 Target	Reduced GHG emissions by 1.25 million tons
The Completion Status of 2024	Achieved
2025 Target	To reduce GHG emissions by 1.3 million tons

Greenhouse Gas Emissions Performance

Performance Indicators	Unit	2022	2023	2024
General information				
Alumina production output	10,000 tons	1,764	1,667	1,687
Electrolytic aluminum production output	10,000 tons	688	679	761
GHG emissions				
Total GHG emissions	10,000 tons	11,764.00	11,409.00	11,639.95
Total CO ₂ emissions in Scope 1	10,000 tons	6,920.00	6,677.36	6,870.14
Total CO ₂ emissions in Scope 2	10,000 tons	4,844.00	4,731.64	4,769.81
Total CO ₂ equivalent emissions/10,000 yuan of operating revenue ¹³	Ton/RMB 10,000	4.04	5.06	4.91
Total CO ₂ emissions of alumina sector	10,000 tons	2,561.00	2,372.14	2,264.58
CO ₂ emission intensity of alumina sector	Ton/Ton of alumina production output	1.45	1.42	1.34
Total CO ₂ emissions of electrolytic aluminum sector	10,000 tons	7,864.00	7,639.76	7,993.14
CO ₂ emission intensity of electrolytic aluminum sector	Ton/Ton of electrolytic aluminum production output	11.43	11.25	10.50



¹³ Due to the adjustments made to the 2023 revenue data in the 2024 financial report, the related data has been recalculated accordingly.



Ecological Environment Protection

Chalco upholds the principle of ecological protection, actively participates in biodiversity conservation activities, and engages in mine reclamation efforts. The Company strives to minimize the impact of its operations on the ecological environment, fostering harmony between business and nature.

Biodiversity protection

Chalco strictly adheres to the *Regulations of the People's Republic of China on Nature Reserves*, develops internal biodiversity management systems, and continuously strengthens its ecological protection management framework. In 2024, the Company implemented the following ecological protection and biodiversity management measures:

Compliance with ecological conservation red lines

Chalco clearly requires that all operations comply with restrictions set for nature reserves, water source conservation areas, scenic spots, parks, cultural heritage sites, prime farmland, critical wetlands, public welfare forests, and military control zones. The Company strives to minimize disruptions to the ecological environment to the greatest extent possible.

Installation of pollution source monitoring equipment

The Company has installed automatic monitoring equipment at pollution sources, enabling real-time monitoring of major pollutants across its facilities.

Strict control of invasive species

In close collaboration with local agricultural and forestry authorities, Chalco has reinforced measures to mitigate the risk of invasive species, with a focus on potential entry points such as land transport vehicles, packaging materials, and other related channels.

Biodiversity risk assessment

The Company systematically assesses the likelihood, severity, and risk levels of potential threats such as air pollution, water contamination, and invasive species, with the assessment covering all subsidiaries.

Mine reclamation

Chalco complies with the *Mineral Resources Law of the People's Republic of China*, the *Law of the People's Republic of China on the Protection of Land Resources*, and other related laws and regulations, as well as industry standards such as the *General Requirements for Mineral Exploration*, *Specification for Quality Management of Geological Exploration Activities*, and *Specification for Green Geological Survey and Mineral Exploration*. On this basis, the Company has also developed the *Management Measures for Mineral Geological Survey of Aluminum Corporation of China Limited* and the *Management Rules for Mine Production and Operation of Aluminum Corporation of China Limited*, which emphasize green exploration practices and ensure the coordinated development of mineral resource exploitation and environmental protection.

Mine Reclamation Target and Achievement

Indicator	Mine Reclamation
2024 Target	Land reclamation plan of 4,500 mu, with a 100% mine reclamation rate
The Completion Status of 2024	The area of land reclamation totaled 6,976 mu, with 100% mine reclamation rate
2025 Target	Land reclamation plan of 4,000 mu, with a 100% mine reclamation rate

Chalco is advancing mine compliance management and green mine creation by using mine rights maps to guide legal and compliant operations. The company adopts a “one mine, one protocol” approach to identify and track issues at each mine and develops tailored remediation plans based on the principle of “one mine, one solution.” These efforts focus on strengthening ecological restoration and environmental management at the mines, fostering sustainable mine development.

In 2024, Chalco successfully completed a total of **6,976 mu** of land reclamation, achieving **155%** of the annual target, and ensuring that the mine areas in need of reclamation were returned to arable land. Six subsidiaries, including Guangxi Huasheng, Liancheng Branch, Yunnan Yuxin Aluminum, Yunnan Wenshan Aluminum, Baotou Aluminum, and Zhongzhou New Materials, successfully achieved national-level Green Factory. Furthermore, three mines—Yunnan Aluminum’s bauxite mine in Malipo County, Ningxia Energy’s Wangwa Coal Mine, and its Yindonggou Coal Mine—were designated as provincial-level Green Mines. Moreover, a total of **23** mines have been included in the national or provincial-level green mine directory.



Responsibility in Action, Building a Harmonious Future

Chalco follows the philosophy that “Responsibility Leads, Harmony Thrives.” The Company is dedicated to building a comprehensive quality management system, pushing the boundaries of technology, practicing responsible procurement principles, formulating diversified talent development strategies, and committing to achieving high-quality collaborative development between the enterprise and society.

Strengthening Independent Innovation

As a leader in China's aluminum industry, Chalco regards independent innovation as the core driver of growth and competitiveness. The Company promotes industrial upgrading and transformation by enhancing innovation management, setting clear technological goals, encouraging industry collaboration, and safeguarding intellectual property.

Technology management system

In 2024, Chalco revised eight internal management systems, including the *Science and Technology Innovation Management Measures of Aluminum Corporation of China Limited*, *R&D Project Management Implementation Rules of Aluminum Corporation of China Limited*, and *Science and Technology Awards Management Implementation Rules of Aluminum Corporation of China Limited*. These revisions further standardized innovation management and improved incentives for scientific achievements, laying a solid foundation for sustained innovation.

Chalco's Science and Technology Innovation Platforms

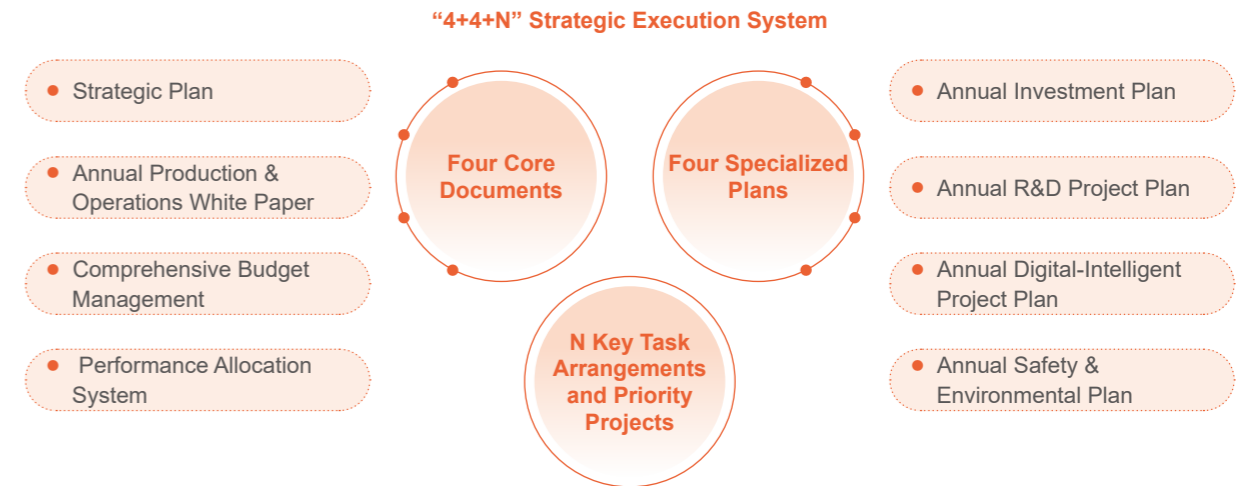
Research Institutes	Internal Platforms	Government-Approved Platforms	Collaborative Platforms with Academia
Centered on the Zhengzhou Research Institute, Chalco has brought together 35 researchers and 181 assets from Chalco Shandong and Zhongzhou Aluminum to establish the Fine Alumina Branch.	The Company operates 13 specialized technology centers, including the Red Mud Comprehensive Utilization Technology Center, Aluminum Electrolysis Energy Conservation and Carbon Reduction Technology Center, and Aluminum Dross Recycling Technology Center.	In 2024, the Company has newly approved one national-level research platform and four provincial-level research platforms, namely the "Henan Provincial Enterprise Technology Center", "Henan Provincial High-Purity Gallium Material Development Engineering Technology Research Center", "Yunnan Provincial Aluminum Deep Processing Engineering Research Center", and "Qihe Laboratory". By the end of 2024, the Company will have a total of 13 national-level platforms and 51 provincial-level platforms.	In 2024, the Zhengzhou Research Institute partnered with Shanghai Jiao Tong University and other universities to establish 4 innovation platforms and 1 joint laboratory with external Institute.

Highlights in 2024

Achieved over 30 scientific and technological innovations	Invested RMB 5.7 billion in R&D, with an R&D intensity of 3.20%	Awarded RMB 7.1 million for outstanding achievements and RMB 3.312 million for scientific and technological achievements and intellectual property	and RMB 2.6956 million for government project applications
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Scientific and technological R&D layout

Chalco actively advances its R&D layout by implementing the annual "4+4+N" strategic execution system. The company formulated and executed the 14th Five-Year *Science and Technology Development Plan*, deploying 6 key research directions, 75 major projects, and 14 national-level projects.



Key Green and Low-Carbon Initiatives

- Green and efficient utilization of complex resources.
- Decarbonization and greening of alumina, electrolytic aluminum, and carbon anode processes.
- High-value and ecological integration of tailings.
- Efficient enrichment and comprehensive utilization of metallurgical resources.
- Recycling and upgrading of recycled metals.
- Construction of next-generation smart factories for non-ferrous metals.

In 2024, Chalco made significant strides in technological innovation and green development. The Company successfully introduced a lime-free digestion process for diasporite-type bauxite, marking a key breakthrough in alumina production. It also launched the world's first industrial-scale lithium carbonate extraction line integrated with alumina systems, reaching full production capacity. In terms of energy conservation and emission reduction, Chalco completed Phase I of the electrolytic aluminum deep energy conservation project. This achievement increased the comprehensive utilization rate of red mud to 20% and expanded hazardous waste resource utilization to 100,000 tons annually. Chalco also independently developed cutting-edge technologies. Innovations included online alumina detection and analysis equipment, automated sampling systems for aluminum and aluminum alloys, and integrated solutions for automatic welding and repair of anode rod groups. These advancements significantly boosted production automation. Additionally, the Company achieved major breakthroughs in digital electrolytic cell technology, showcasing its strength in intelligent manufacturing.

Honors and Awards

- 2 patents shortlisted for the 25th China Patent Excellence Award.
- 1 project awarded the Second Prize at the 4th SASAC Central Enterprise Innovation Competition.
- 6 first prizes and 6 second prizes from industry associations.
- 2 first prizes, 5 second prizes, 1 outstanding team award, 1 top contributor, 3 innovation leaders, and 5 outstanding individuals from Chalco.
- 45 scientific achievements validated by subsidiaries, with 18 rated as "internationally leading," 20 as "internationally advanced," and 4 as "domestically leading."

Industry exchange and cooperation

Chalco remains committed to open cooperation and mutual benefit, actively fostering industry partnerships and exchanges. By engaging in diverse, high-level platforms, the Company encourages information sharing, technological collaboration, and mutual learning of best practices, working with peers to explore new pathways for the sustainable development of the aluminum sector.

- March 2024: Chalco participated in the Red Mud Green Utilization Exchange in Baise, Guangxi. During the event, the Company released the Baise Practice on Red Mud Green Utilization white paper and signed joint research projects. The event attracted over 260 representatives, driving innovation in red mud resource utilization.
- October 2024: At the China International Aluminum Week in Kunming, Chalco joined over 1,000 stakeholders from upstream/downstream enterprises, traders, service providers, and media to discuss industry trends and promote high-quality development of the aluminum sector.
- November 2024: Chalco initiated and hosted the International Forum on Red Mud Comprehensive Utilization, welcoming 578 global professionals. Attendees explored the latest advancements in red mud utilization technologies and visited demonstration sites, contributing to more sustainable alumina production worldwide.



International Forum on Red Mud Comprehensive Utilization

Intellectual property protection

Chalco rigorously implements intellectual property (IP) protection, complying with the *Patent Law of the People's Republic of China* and establishing internal regulations such as the *Patent and Technical Standard Management Rules of Aluminum Corporation of China Limited* and *Patent and Trade Secret Management Rules of Aluminum Corporation of China Limited*. These frameworks standardize the creation, application, protection, and management of IP. In external collaborations, contracts clearly define IP rights allocation, confidentiality obligations, and compliance monitoring. In 2024, no IP infringement incidents occurred.

Chalco's 2024 Intellectual Property Achievements

1,068

Annual patent applications

18%

Year-on-year growth

448

Invention patent applications

512

New patents authorized

1.6%

Year-on-year growth

93

Invention patents authorized

2,997

Cumulative Valid Patents

1,073

Core Business Patents

Case: "Advancing Patent Industrialization to Empower New Quality Productivity" Training

On August 3, 2024, in response to the spirit of the 20th National Congress of the Communist Party of China, Chalco organized a specialized training session titled "Advancing Patent, industrialization to Empower New Quality Productivity". Vice President of the China Patent Protection Association, led a training session at Chalco. The session focused on strengthening IP management and improving patent conversion efficiency. Over 540 employees from strategic units attended, supporting national innovation-driven development goals.



Pursuing Excellent Quality

Chalco adheres to rigorous quality standards, continuously optimizing management models and customer service systems to deliver industry-leading products and services.

Quality management system

The Company strictly complies with laws and regulations including the *Product Quality Law of the People's Republic of China* and revised the *Quality Management Measures of Aluminum Corporation of China Limited* in 2024. This update ensured full coverage of all quality management processes and established a PDCA closed-loop management system. Through the "Quality Enhancement Year" campaign, Chalco strengthened its "Interactive Grid-Based" quality management model, creating a solid "1+5+7" framework. This approach ensured 100% compliance with seven quality indicators for its core products—alumina, electrolytic aluminum, and prebaked anodes. All targets were fully met, including zero Category A quality incidents, the quantity of provincial/ministerial-level and above quality awards, the improvement rate of quality management maturity, and the target attainment rate of quality research projects.

Interactive Grid-Based Quality Management Model

One Goal	Enhancing quality competitiveness
Five Mechanisms	Supervision, Capability Building, Best Practice Sharing, Continuous Improvement, and Incentives
Seven Initiatives	Benchmarking, Maturity Enhancement, Quality Breakthroughs, Award Pursuits, QC ¹⁴ Team Activities, Profit Doubling, Technical Standards
Seven Initiatives	
Benchmarking	Established a "5N3" Integrated Quality Benchmarking System to guide subsidiaries in conducting systematic, end-to-end comparisons with industry leaders. This process identified gaps, formulated improvement strategies, and drove comprehensive enhancements in quality management capabilities
Maturity Enhancement	Structured around planning evaluation frameworks, on-site practical training, field assessments, result communication, and closed-loop corrective actions, the initiative elevated the maturity of its quality management systems.
Quality Breakthroughs	Addressed critical quality challenges, pain points, and technical bottlenecks, to improve overall product and service quality.
Award Pursuits	Aligned with the Excellence Performance Model, conducted gap analyses, developed tailored action plans, and strengthened weak areas.

¹⁴ QC: Quality Control.

QC Team Activities

Encouraged full employee participation in QC Team activities

Profit Doubling

Set ambitious quality-driven profit doubling goals.

Technical Standards

Ensured the Company's technical standards remain at the forefront of technological and operational excellence.

Quality management certification

Chalco has continuously enhanced its quality management system. In 2024, 40 subsidiaries obtained the GB/T 19001 Quality Management Improvement Certification, 13 achieved IATF¹⁵ 16949 Automotive Quality Management System certification, 19 passed the Measurement Management System Certification, and 7 secured dual ASI¹⁶ certifications (Performance Management System and Chain of Custody Management System). Additionally, some subsidiaries attained specialized certifications including the Weaponry Equipment Quality Management System, IRIS¹⁷ Railway Industry Standard, and SCS¹⁸ Recycled Content Certification.

Quality culture

Chalco prioritizes building a strong quality culture by offering diverse training programs to deepen employees' understanding of core quality values and enhance their management skills. In 2024, Chalco organized 11 quality and technical standards exchange meetings covering 28 subsidiaries and branches, conducted two quality training sessions with 300 participants, and published 103 articles on quality awareness through both Chalco News and external media platforms.

The Company's quality management practices gained wide recognition in 2024. The Company was invited by the China Association for Quality to share insights on "Enhancing Quality Management System Maturity to Facilitate World-Class Enterprise Development" at two key forums: the "2024 Enterprise Management System Capacity Building Forum" and the "2024 Annual Conference".

Customer service

Chalco upholds the business philosophy of "Integrity as Foundation, Service as Priority", continuously improving its service management system to optimize the customer experience across pre-sales, in-sales, and post-sales stages. The goal is to build stronger partnerships through consistent, high-quality service.

The Company prioritizes post-sales service quality, promulgating the *Sales Return, Replacement, and Allowance Operation Guidelines of China Aluminum International Trading Group Co., Ltd.* and establishing a structured feedback resolution mechanism with standardized procedures.

In 2024

Chalco conducted regular customer satisfaction surveys, achieving a

98.6% satisfaction rate, while maintaining zero complaints or recall incidents related to product services.

¹⁵ IATF: International Automotive Task Force.

¹⁶ ASI, which stands for Aluminium Stewardship Initiative, is a global non-profit organization aimed at promoting the sustainable development of the aluminum industry. The main goal of ASI is to enhance the environmental, social, and economic performance of aluminum production and supply chains by establishing and implementing a set of standards.

¹⁷ IRIS: International Railway Industry Standard.

¹⁸ SCS: Scientific Certification Systems.

Safeguarding Safety and Health

Chalco steadfastly upholds the principle of “Safety Primacy, Health Supremacy”, proactively advancing the development of its Occupational Health and Safety Management System. Through continuous optimization of occupational health and safety controls, the Company is committed to building a secure and healthy working environment that where employees can manage risks effectively and work confidence.

Safety management system

Chalco continues to prioritize and refine its safety management framework. In 2024, the Company released the *Work Management Detailed Rules for the Occupational Health, Safety, and Environment (OHSE) Committee of Aluminum Corporation of China Limited*. This update strengthened the committee’s management framework, clearly defining responsibilities and roles.

Management Structure and Responsibilities of the Occupational Health and Safety and Environment Committee

Department	Responsibilities
Safety and Environment Committee	<ul style="list-style-type: none"> Chairman: held by the Company’s Party Secretary and General Manager. Vice Chairman: Held by the Vice General Manager responsible for occupational health, safety, and environmental protection. Members: Composed of members of the Company’s leadership team. <p>The Safety and Environment Committee is the core decision-making body for safety production and environmental protection. Its primary responsibilities include: promoting and implementing Xi Jinping Thought on Ecological Civilization and relevant national laws and regulations; approving major HSE¹⁹ plans and programs; handling accident disposal and investigations; and leading, guiding, and supervising the HSE inspection team to ensure effective implementation of safety and environmental tasks.</p>
Safety and Environment Committee Office	<p>The Safety and Environment Committee Office serves as the administrative body for the Committee’s daily operations. Its key responsibilities include organizing and implementing occupational health, safety, and environmental protection activities, as directed by the Committee. It also supervises and monitors the execution of these activities, organizes Committee meetings and major events, and follows up on critical issues. Additionally, the Office develops plans and measures, manages accident investigations and responses, recognizes outstanding units and individuals, and oversees the HSE inspection team to ensure the effective implementation of the Committee’s decisions.</p>

Chalco strictly adheres to laws and regulations such as the *Work Safety Law of the People’s Republic of China* and the *Mine Safety Law of the People’s Republic of China*. In 2024, the Company revised nine internal management regulations, including the *Safety Production Management Measures Aluminum Corporation of China Limited* and the *Occupational Health Management Measures Aluminum Corporation of China Limited*, as well as the *Safety and Environmental Management Specifications for Outsourced Business in Production Aluminum Corporation of China Limited*. These revisions comprehensively cover all levels, departments, employees, and contractors, further strengthening oversight and management in quality safety and occupational health, standardizing safety production processes, enhancing incident handling procedures.

¹⁹ HSE: Health, Safety, and Environment.

Guided by the core strategy of the “Three-Year Root-Cause Work Safety Campaign”, Chalco has established a robust safety management system. The Company implemented effective safety measures, advanced the management of critical safety issues, and worked towards fully achieving its established safety production goals.

In 2024

All Chalco’s subsidiaries obtained ISO 45001 Occupational Health and Safety Certification, achieving **100%** coverage.

Chalco’s Safety Production Goals and Completion Status in 2024

Indicator	Target	Completion Status
Major and above work safety accidents	0	0
The rate of standardized safety production	96%	99%
Qualified and certified rate for operational staff safety training	100%	100%
Annual plan correction rate for major accident hazards	100%	100%
Pre-job physical examination rate for employees exposed to occupational health hazards	100%	100%

In 2024, Chalco adopted the approach of “enterprise self-assessment + company inspection” to review its safety and environmental systems. The Company carried out thorough inspections of the CAHSE system²⁰ systems across its nine subsidiaries. The audit was conducted by interviews, document reviews, on-site inspections, behavioral observations, and targeted safety and environmental checks. After the audit, the Company compiled detailed evaluation reports for each subsidiary. The feedback highlighted existing issues, pinpointed areas for improvement, and offered actionable suggestions. These efforts have contributed to raising awareness and strengthening health, safety, and environmental management across all subsidiaries.



²⁰ CAHSE System refers to the assessment and evaluation of a precise management system for occupational health, safety, and environmental protection.

Safety management measures

To further enhance its health and safety management, Chalco has introduced a range of safety management measures focused on operating standards, supervision, occupational health, and contractor management. These initiatives have helped build a comprehensive, multi-layered safety protection system, ensuring the stable operation of the Company.

Formulating Operating Standards

- Established Standard Operating Procedures (SOP) across subsidiary companies by implementing risk control measures to address operational hazards and standardizing workflows, thereby enhancing overall work quality and efficiency;

Enhanced Supervision and Inspection

- Established three inspection groups for alumina mines, carbon products, and coal energy to conduct "inspection + service" supervision over affiliated enterprises;
- Implemented a risk-based, hierarchical control system for hazard inspections, paying close attention to critical periods like flood seasons, winter, holidays, and the transition between years to identify and rectify hidden risks promptly;
- Established a hierarchical database to track major accident hazards, implemented a list-based management system for major accident hazards, dynamically updated rectification progress, and addressed each item, thereby achieving "zero dynamic";
- Conducted safety and environmental system audits and ranked the safety and environmental systems of 48 subsidiaries.

Occupational Health Protection

- Conducted regular occupational hazard detection in the plant to continuously improve workplace occupational health conditions;
- Supplied essential labor protection gear to employees and monitored its use to safeguard their safety;
- Organized comprehensive health check-ups for all employees, ensuring they stayed informed about their physical health. Employees exposed to occupational risks underwent targeted health screenings, maintaining 100% coverage.

Contractor Safety Management

- Strengthened safety management of contractors and overseas projects, with a focus on contractor ADID assessments²¹;
- Conducted contractor evaluations of contractors during construction projects, promoting improvements in their safety management practices;
- Continuously implemented an information-based management system for contractors, achieving full coverage of management information to improve management efficiency and accuracy.

²¹ The ADID evaluation system assesses contractors' safety performance within the group's affiliated companies. It operates through four key step: Accumulate (A): Contractors earn points based on their overall safety performance, Deduct (D): Points are deducted through routine site assessments and evaluations, focusing on construction and operational areas . Incentivize (I): Contractors demonstrating strong safety management and excellent performance are rewarded to encourage continued excellence. Drop (D): Contractors with consistently poor safety management and performance are evaluated for potential removal from projects.

Intrinsic safety of equipment

Chalco is committed to enhancing the intrinsic safety of its equipment by embedding safety principles into every stage of equipment modification. In 2024, the Company completed over 150 projects aimed at strengthening equipment safety. These efforts significantly reduced safety risks, effectively preventing incidents and leading to a notable decrease in both safety incidents and personnel casualties.

Chalco's work safety performance

Indicators	Unit	2024
Number of employee deaths due to work-related causes	Persons	2
Rate of work-related deaths	%	0.003
Waste time due to work-related injuries	Days	12,000

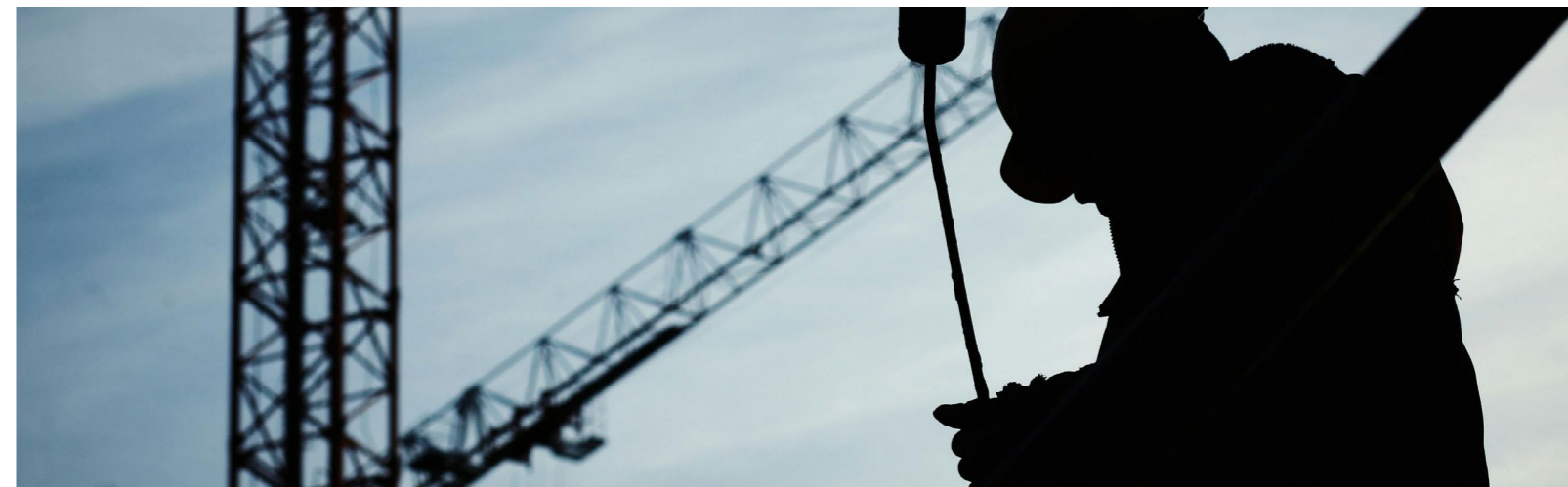
Safety culture development

Chalco prioritizes safety culture development and has established the *Comprehensive Emergency Plan of Aluminum Corporation of China Limited*. The Company adopted a "theory + practice" approach, actively conducting safety production management training and emergency drills.

In 2024, Chalco:

Conducted various safety training activities involving a total of **873,506** participants;

Conducted **7,950** safety production emergency drills, with **139,435** participants.



Case: Training for Frontline and Mid-level Safety Management Personnel

In 2024, Chalco organized four training sessions for frontline and mid-level safety management personnel, under the theme “Strengthening Standardized Management, Advancing Risk Prevention, and Reinforcing Grassroots Foundations”. The program engaged 220 participants, including plant/mine division managers, workshop supervisors, safety officers, and team leaders. All participants successfully completed post-training assessments, resulting in improved professional competencies and heightened risk awareness. The training also reinforced the implementation of standardized management protocols and laid a stronger foundation for workplace safety practices.



Training for Frontline and Mid-level Safety Management Personnel

Case: 2024 National Fire Safety Promotion Month

During the 2024 National Fire Safety Promotion Month, Chalco organized employees at all levels to study the important instructions and directives of President Xi Jinping on safety production and fire safety. To strengthen understanding and awareness, the Company organized four thematic workshops, 204 department-specific briefings, and 91 guidance sessions. These activities reinforced accountability frameworks and emergency response readiness across all management and staff levels.



Meetings held in Fire Safety Promotion Month

Promoting Talent Growth

Chalco prioritizes employee rights and is committed to creating a fair and transparent work environment. This ensures that every employee has equal access to employment opportunities, reasonable remuneration, and benefits, and ample opportunities for professional development.

Legal Employment

Chalco adheres to the principle of legal employment and strictly complies with relevant laws and regulations, including the *Labor Law of the People's Republic of China*. The Company also aligns with international human rights standards, such as the *Universal Declaration of Human Rights* and the *International Convention on the Elimination of All Forms of Racial Discrimination*. To strengthen and regulate labor management, Chalco has established internal management policies such as the *Labor Management Rules of Chalco* and the *Open Recruitment Management Rules*. These policies are designed to safeguard human rights, eliminate child and forced labor, and promote equal employment. Discrimination based on nationality, race, gender, religion, or other factors is strictly prohibited. Chalco actively encourages local employment to build stable and harmonious labor relations. The Company also emphasizes human rights in security practices, ensuring that security personnel operate with respect for human rights. This approach helps protect the safety and rights of employees, communities, and stakeholders. Moreover, Chalco faces a low potential risk of human rights issues such as child labor and forced labor, making it unnecessary to establish remedial measures. In 2024, there were no incidents of child labor or forced labor reported within the company.

Chalco upholds the principle of “equal pay for equal work” and “contribution-based remuneration.” In 2024, the Company refined its remuneration and benefits management system, introducing policies like the *Company Remuneration and Benefits Management Rules* and the *Senior Management Remuneration Management Rules*. A performance-linked mechanism was introduced, connecting total wages to key performance indicators (KPIs) such as overall costs and profits. ESG factors, including environmental protection, corporate governance, and risk control, were also integrated into the annual performance evaluation for senior management. To motivate and reward employees, Chalco adopted various incentive programs, including performance-based bonuses, rewards for exceeding targets, term-based incentives, and special bonuses, to increase the proportion of performance-based remuneration for leadership.

Furthermore, in accordance with the Chalco's *2021 Restricted Stock Incentive Plan*, the Company successfully completed the vesting of 54.82 million restricted shares for 1,192 eligible participants in 2024. This initiative allowed employees to share in the Company's growth and success, reinforcing a culture of collective progress.



Chalco's employment in 2024

Indicators		Unit	2024
Total number of employees	Total number	Persons	63,133
Total number of employees by gender(Person)	Male	Persons	53,947
	Female	Persons	9,186
Total number of employees by age group (Person)	30 years old and below	Persons	7,934
	30 years old to 49 years old (inclusive)	Persons	34,591
	50 years old and above	Persons	20,608
Total number of employees by employment category (Person)	Senior management	Persons	177
	Department heads	Persons	992
	Other office employees	Persons	8,057
	General and technical workers	Persons	53,907
Total number of employees by region (Person)	Chinese mainland	Persons	62,484
	Others	Persons	649

Chalco's turnover rate in 2024

Indicators		Unit	2024
Total number of employees who left by gender	Male	Persons	3,625
	Female	Persons	1,024
Employee turnover rate by gender	Male	%	6.72
	Female	%	11.15
Total number of employees who left by age group	30 years old and below	Persons	556
	30 to 49 years old	Persons	765
	50 years old and above	Persons	3,328
Employee turnover rate by age group	30 years old and below	%	7.01
	30 to 49 years old	%	2.21
	50 years old and above	%	16.15
Total number of employees who left by region	Chinese mainland	Persons	4,592
	Overseas	Persons	57
Employee turnover rate by region	Chinese mainland	%	7.35
	Overseas	%	8.78
Total number of employees who left by employment category	Senior management	Persons	21
	Department heads	Persons	38
	Other office employees	Persons	375
	General and technical workers	Persons	4,215
Employee turnover rate by employment category	Senior management	%	11.86
	Department heads	%	3.83
	Other office employees	%	4.65
	General and technical workers	%	7.82

Talent development

Chalco believes that talent is a key driver of enterprise development. To strengthen talent acquisition, the Company has introduced policies such as the *Talent Attraction Incentive Measures of Aluminum Corporation of China Limited* and the *Talent Team Construction Plan (2024-2026) of Aluminum Corporation of China Limited*. These initiatives focus on developing three key talent groups: leadership, scientific and technical talent, and skilled talent. In 2024, campus recruitment added 572 new talents, including 231 individuals with postgraduate degrees, accounting for 40% of the total.

Achievements of Chalco's Talent Development in 2024

Leadership Team

Chalco continuously refined its leadership structure, adjusting **168** leadership roles and selecting **16** promising young leaders to join its leadership team.

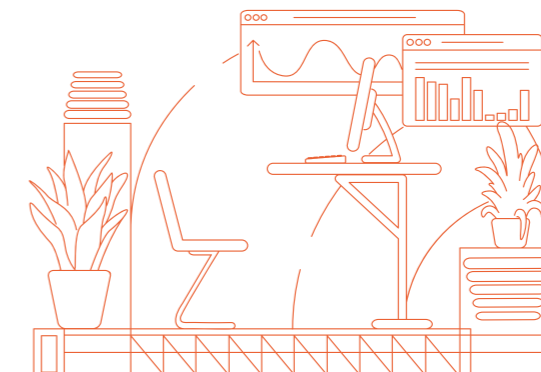
Scientific and Technical Talent

Under the Scientific and Technical Talent Plan, Chalco identified and nurtured key professionals, including **8** top industry experts, **20** leading industrial talents, and **30** outstanding young professionals. Individualized training plans were developed to ensure targeted skill development and effective implementation.

Skilled Talent

Chalco introduced the High-Skilled Talent Development and "Five-Tier Technician Certification Plan", conducting skill qualification assessments for frontline production employees. The Company strengthened its efforts in selecting, training, and rewarding high-skilled professionals, resulting in the certification of **275** experts and **365** Five-Tier Technicians. Additionally, Chalco led industry-academia collaboration programs with **5** enterprises, including Baotou Aluminum and Yunnan Aluminum, to further advance skilled workforce development.

Chalco is committed to building a comprehensive and systematic talent development system. The Company actively provides training in four key areas: leadership, scientific and technical personnel, overseas talent, and professional skills. The goal is to unlock each employee's potential, foster professional growth, and support personal development.



Summary of Chalco's Talent Training in 2024



Chalco launched its Young & Mid-Career Leadership Development Program in collaboration with Peking University, establishing Cohort 1 and Cohort 2. The program integrates intensive workshops, e-learning modules, and project-based research, structured around a "1+N" curriculum (1 core leadership track + N interdisciplinary electives). Coursework covers leadership, political economy, humanities, STEM, and corporate governance, aligning closely with Chalco's management frameworks. So far, one session for Cohort 1 and two sessions for Cohort 2 have been completed.



Utilizing the Zhengzhou Research Hub, Chalco conducted its first technical workshops in alumina production, electrolytic aluminum (carbon anode), and analytical testing. The sessions attracted over 300 participants, including plant managers, technical directors, and engineers from subsidiaries. The training aimed to deepen expertise in core industrial processes, bridge the gap between theoretical knowledge and R&D innovation, and accelerate the commercialization of technological breakthroughs.



Under the "Dual Horizons" Strategy (domestic excellence & global expansion), subsidiaries were organized to select 20 and 13 outstanding young professionals in relevant fields to participate in a two-month full-time French and English training program at Beijing Foreign Studies University. This initiative enhanced employees' language communication skills for overseas operations.



Chalco partnered with Peking University's Institute of Carbon Neutrality to deliver a "Dual Carbon" Executive Program, training 70+ senior leaders from HQ and subsidiaries. The program provided technical insights into decarbonization pathways, strategic frameworks for green transitions, and guidance for advancing energy conservation, emissions reduction, and sustainable, high-quality development

Chalco's employee training performance in 2024

Categories	Number of trainees (people)	Percentage (%)	Average hours of training ²² (hour)	
Training by gender	Male	50,123	94.1	51
	Female	8,020	91	47
Training by employment category	Senior management	161	100	149
	Department heads	961	100	117
	Other office employees	7,786	95.1	62
	General and technical workers	49,235	90.2	47

²² Average hours of training: Round to the nearest integer.

Case: "Craftsman Day", "Craftsman Week", and "Craftsman Month" Activities

From September 10 to October 17, 2024, Chalco launched a series of "Craftsman Day", "Craftsman Week", and "Craftsman Month" activities, including releases, evaluations, and promotions to commend 10 "Master Craftsmen", 10 "Outstanding Apprentices", 10 advanced apparatus and operating methods named after employees, and 15 "Model Employee Innovation Studios". On October 17, the second "Craftsman Day" presentation was successfully held at the Guangxi branch, with the live broadcast attracting over 47,100 views.



The Second "Craftsman Day" Presentation

Employee welfare

Chalco adheres to a people-oriented development philosophy, focusing on democratic communication and welfare assurance to provide comprehensive support and care for employees. These efforts aim to enhance employees' sense of happiness, belonging, and engagement.

Democratic communication

Chalco promotes democratic management through a structured three-tier employee communication framework. This includes centralized proposals from employee representatives, broad-based suggestions from the wider workforce, and real-time resolution of employee concerns. Feedback is collected through multiple platforms, including the Employees' Representative Meetings, pulse surveys, face-to-face discussions, mini-programs, and email. All feedback is subject to mandatory response timelines.

In 2024, Chalco held the second session of its 1st Employees' Representative Meeting, gathering 14 proposals from employee representatives. These proposals covered key areas such as value creation, transformation and development, safety and environmental protection, technological innovation, risk control, and team building. After addressing these proposals with formal, documented responses, post-resolution surveys showed 100% satisfaction among participants.

Welfare security

Chalco is committed to improving its welfare assurance system, strictly adhering to national laws and regulations and ensuring full payment of social insurance and housing provident funds and full coverage of the “five social insurance and one housing fund”. In addition to statutory benefits, Chalco continues to enhance non-wage welfare initiatives, focusing on areas such as employee health, childbirth support, and team-building activities. These efforts aim to foster a supportive and comfortable work environment for all employees. Chalco also values the rights and interests of retired employees by establishing a comprehensive pension and retirement benefits system, and organizing regular retirement farewell events and visits to retired employees during major holidays. These initiatives help retirees feel appreciated and maintain a sense of connection with the company.

Chalco is dedicated to safeguarding the rights and interests of female employees, strictly complying with the *Law of the People’s Republic of China on the Protection of Women’s Rights and Interests* and implementing the *Outline for Women’s Development in China (2021-2030)*. Moreover, the Company requires its subsidiaries to sign the *Special Collective Contract for the Protection of Female Workers’ Rights and Interests*. In 2024, Chalco implemented several initiatives to protect and promote the well-being of female employees. These included organizing legal awareness lectures, special health checkups, establishing caring rooms, and recognition programs to celebrate female employees across its subsidiaries, comprehensively safeguarding the rights and health of female employees.

Non-salary benefits for all employees

- **Health support:** Pre-employment physical examination; Annual physical examination
- **Insurance guarantee:** Five insurances: old-age insurance, medical insurance, unemployment insurance, work injury insurance, and maternity insurance; Enterprise annuity Housing provident fund; Supplementary medical insurance
- **Maternity support:** Maternity leave “Four periods”; protection for female employees
- **Union benefits:** Movie vouchers; Birthday cake vouchers; Holiday greetings for Spring Festival, Dragon Boat Festival, and Mid-Autumn Festival
- **Entertainment:** Sports activities: baseball, cycling; Cultural and artistic activities: poetry recitation competitions, etc.

Team Construction Activities

- **Female Employees’ City Walk:**
City Walk themed “Happiness in Chalco, Charm in Life” for female employees
- **Spring and Autumn team construction activities themed “Active Chalco ensures your healthy life”:**
Cycling along the Grand Canal in Tongzhou
Baseball competition
- **Mid-Autumn Festival Activities themed “Active Chalco ensures your healthy life”:**
DIY Snowy moon cakes



Chalco Team Construction Activities

Adherence to Responsible Procurement

Supply Chain Management

Chalco continues to refine its supplier management system by establishing comprehensive regulations such as the *Administrative Measures for Suppliers of Aluminum Corporation of China Limited* and the *Materials Procurement Management Measures of Aluminum Corporation of China Limited*. These documents outline the entire lifecycle of supplier management, from classification and qualification scoring to performance evaluations, annual tiered assessments, and mechanisms for rectification or exit.

Chalco’s Comprehensive Supplier Management

Qualification Scoring

- Suppliers are categorized into production and project material suppliers, comprehensive e-commerce platform suppliers, self-operated trade suppliers, and service suppliers (including warehousing, logistics, and other service providers).
- Scoring templates are tailored to each supplier type, assessing factors such as registered capital, years of establishment, management system certifications, and past legal violations. Suppliers are also required to submit relevant qualifications, including safety production permits and special industry certifications.
- The Company verifies all submitted documents and completes the *Supplier Access Scoring Approval Form*.

Performance Evaluation

- Supplier performance is assessed through regular and real-time evaluations. These include dynamic monthly assessments, semi-annual reviews, and annual performance scoring.

Tiered Management

- Suppliers are categorized into three tiers based on the importance of materials in production, procurement volume, dependency, and annual evaluation results. Core suppliers are those with an annual score of 80 and above, qualified suppliers score between 60 and 80, while unqualified suppliers receive a score below 60. The proportion of core suppliers is generally limited to no more than 20% of total suppliers.
- High-performing core suppliers are eligible for the “Star Supplier” award and individual item awards, and may receive credit rating bonuses for advance payments.

Rectification and Exit

- Suppliers with poor social responsibility performance or negative social impacts are subject to demotion and required to undergo timely rectification under Chalco’s audit and rectification mechanism.
- Exit mechanisms include voluntary withdrawal, business unit requests, failure to meet annual evaluation standards, and blacklisting for severe violations.

2024 Supplier Portfolio: Class A (Core): 8.17%, Class B (Qualified): 21.59%, Class C (Unqualified): 70.24%.

Supplier Performance Metrics

Metric	Unit	Data
Total First-Tier Suppliers	-	3,284
Suppliers from the Chinese Mainland	-	3,256
Suppliers from Hongkong, Macao, and Taiwan	-	1
Overseas Suppliers	-	27
Strategic First-Tier Suppliers	-	750
Spend Allocation to Strategic Suppliers	%	83.56

In 2024, Chalco developed the “Green Star Chain 2.0” supply chain management system based on the “Five Unification” design principle. The system comprises 13 functional modules covering material management, supplier qualification and management, procurement planning, and budget management. By digitizing the entire supply chain, from unified material management, planning, sourcing, to procurement execution and financial settlement, it significantly improved the standardization and scientific level of procurement processes.

In accordance with the *Company Law of the People’s Republic of China*, Chalco formulated the *Notice on Further Strengthening the Clearance of Overdue Accounts of Internal Enterprises*. The Company also established a monitoring mechanism to oversee overdue payment recovery, conducting monthly statistical analyses at the beginning of each month to protect suppliers’ economic interests, particularly those of small and medium-sized enterprises (SMEs), and prevent payment defaults. No cases of litigation or arbitration due to delayed payments were reported in 2024.



Responsible Supply Chain

Chalco requires all suppliers to uphold ESG responsibilities, under the supervision of the Board of Directors and the ESG Committee. The Marketing Management Department regularly conducts ESG risk assessments to ensure supplier compliance. During supplier qualification, certifications including ISO 9001 (Quality Management), ISO 14001 (Environmental Management), and ISO 45001 (Occupational Health and Safety) are integrated into the evaluation model. Suppliers holding ESG-related certifications are given priority.

Additionally, to further monitor supplier behavior, Chalco incorporates standardized contract templates with mandatory clauses covering safety, environmental protection, occupational health, and integrity. These contracts also outline penalties for violations to reinforce accountability.

Chalco’s Supply Chain ESG Management

Business Ethics Requirements

- The *Materials Procurement Management Measures* explicitly prohibit supply chain corruption;
- Suppliers are strictly prohibited from engaging in false advertising or infringing upon trade secrets;
- Suppliers are evaluated by their past legal violations, and suppliers with severe unethical records are disqualified.

Labor Rights Requirements

- Forced labor, child labor, and discrimination are forbidden;
- Supplier evaluations require compliance with occupational safety management systems;
- Occupational health and safety management system certification is included in supplier scoring.

Environmental Requirements

- Selects suppliers compliant with national environmental standards in bulk raw material procurement;
- Formulates waste recycling targets and plans, and actively promotes waste recycling in the aluminum industry chain to reduce environmental impact;
- Environmental management system certification is mandatory in supplier qualification scoring, with bonuses for suppliers with green production logos or green certifications;
- The Company strictly reviews environmental violation records of enterprises applying for access in their past illegal business operations, sets restrictions on the number of environmental penalties within the past two years, and establishes a single-veto criterion for severe violations.
- Suppliers can participate in the company’s annual selection for excellent star - rated suppliers and suppliers for individual awards.

Supply Chain Risk Management

Chalco is committed to ensuring supply chain security by establishing a risk prevention and control system covering procurement, trade, and logistics.

Supply Chain Risk Management System

Procurement

- Establishing a low-cost supply system based on market-oriented principles, enhancing adaptability to market fluctuations, capturing market dynamics, and continuously optimizing procurement strategies;
- Developing company-wide supplier management regulations, requiring comprehensive pre-qualification assessments for new suppliers and regular performance evaluations to identify reliable, long-term partners and mitigate supply chain risks;
- Clearly defining risk-sharing clauses in procurement contracts to ensure effective responsibility allocation.

Trade

- Establishing trade management regulations, including revised *Trade Management Rules*, *Customer Credit Management Rules*, and *Compliance Management Rules*.

Logistics

- Developing a multi-tiered risk control system;
- Creating an emergency response mechanism for logistics risks.

Chalco conducts annual supplier risk assessments, including on-site inspections of critical suppliers, to enhance oversight of trade operations.

Data of Supplier Risk Assessment Performance in 2024

Indicators	Unit	Data
Total Suppliers Assessed (Desktop/On-Site)	-	3,284
Percentage of Key Suppliers Assessed	%	15.94
Suppliers with Significant/Potential Negative Impacts	-	0



Supplier Capacity Building

To ensure supply chain stability, Chalco leverages its supplier management mechanisms to enhance supplier capabilities. In 2024, the Company conducted multiple empowerment training sessions for all Tier 1 suppliers, covering technical knowledge and onboarding topics, and 5 online training sessions through the “Green Star Chain 2.0 Platform” to promote procurement collaboration and enhance supplier portal functionalities.

Data of Chalco's Supplier Training Performance in 2024

Indicators	Unit	Data
Total Suppliers Trained	-	3,267
Key Supplier Participation Rate	%	100
Total Training Sessions	-	3
Total Training Hours	Hours	10

Fulfilling Social Responsibility

Chalco adheres to the principle of “Green Development, Shared Value”. In 2024, the Company revised *Chalco’s External Donation Implementation Rules* to standardize approval, reporting, and execution processes for overseas donations, under a “Plan + Budget” management model.

Rural revitalization

Chalco actively supports the national “Rural Revitalization” strategy, promoting rural economic development and improving living standards in rural communities to contribute to the shared goal of common prosperity.

In 2024

the Company donated RMB **26.3902** million to social initiatives and invested RMB **20.111** million in consumption-driven rural assistance programs.

Case: Rural Road Lighting Project by Yinxing Coal Industry

In 2024, the Party Committee of Yinxing Coal Industry dispatched a resident assistance team to Miaohu Village, Taole Town, Pingluo County, Shizuishan City, Ningxia Hui Autonomous Region. The team conducted household surveys and field research to advance the Rural Road Lighting Project. Key achievements of the project included, the installation of 50 solar streetlamps on village main roads, 218 solar lamps on residential alleys, and upgrading of 117 existing lamps with new solar panels and fixtures. These improvements enhanced nighttime visibility for villagers, supported the Rural Revitalization Strategy, and elevated local living standards.

Case: Yunnan Runxin Aluminum implemented targeted poverty alleviation assistance to Masas Village in Jin

In 2024, Yunnan Runxin Aluminum continued its support for the development of Masas Village in Jinping County, Honghe Prefecture, Yunnan Province. The Company provided regular funding for the resident work team and purchased poverty alleviation products worth 120,700 yuan through the “832 Platform” to promote consumption-driven poverty alleviation. To support local industry, Yunnan Runxin Aluminum assisted Masas Tea Factory in securing 2.41 million yuan from the Shanghai-Yunnan Aid Fund to expand its 1.8-acre standardized factory and helped the factory obtain a tea production license. This initiative contributed to the factory achieving an annual output value of 578,000 yuan. Furthermore, the Company funded the construction of sanitary toilets and the hardening of house floors for poverty-stricken households, further improving the living conditions of villagers.



Village Secretary and Tea Farmers are Picking Spring Tea

Public charity

Public charity is a vital part of Chalco’s commitment to fulfilling its social responsibilities and giving back to society. The Company strives to spread positive energy, support vulnerable groups, promote social harmony, and foster a more inclusive and compassionate social environment.

In 2024

Chalco employees contributed over **500,000** hours of volunteer service

Case: Yunnan Aluminum initiated the “March 5th Lei Feng Spirit” Campaign

In March 2024, 14 registered youth volunteer teams from Yunnan Aluminum partnered with local enterprises and public institutions to deliver community services, including blood donation, free health checkups, city beautification initiatives, visits to elderly individuals living alone, and care for left-behind children. Over 400 volunteers conducted environmental cleanup and emergency tasks in workshops, while over 1,000 volunteers provided community services (e.g., haircuts, key duplication, appliance repairs) across neighborhoods.

This volunteer service activity involved over 1,400 participants, repaired more than 200 small appliances, collected 38,000 milliliters of blood, donated 6,000 items of clothing, and served over 4,000 people for more than 300 hours. The event promoted the spirit of Lei Feng and fostered positive interactions between the company and the community.



Yunnan Aluminum’s “March 5th Lei Feng Spirit” Campaign

Case: Volunteers from Guangxi Subsidiary Rushed to Local Disaster Rescue

In June 2024, continuous heavy rainfall triggered road collapses and landslides in villages across Jiucheng Town, Pingguo City. Guangxi Branch swiftly mobilized a youth volunteer rescue team from its mining subsidiary, deploying 1 wheeled loader and 1 crawler excavator to support relief efforts. These resources addressed the lack of heavy machinery that had hindered progress. The rescue team completed the task of clearing 11.4 kilometers of roads and resolved over 70 potential landslide risks, fully restoring traffic in the affected areas and ensuring the safety of people and property in the disaster zone.



Volunteers from Guangxi Subsidiary Rushed to Local Disaster Rescue

Community collaboration

In Chalco's overseas operations, Guinea is not only an important business location but also a model for fulfilling corporate social responsibility and promoting the common prosperity of local communities. The Company upholds the principle of "extensive consultation, joint contribution, and shared benefits," working closely with local communities to build a better future.

Chalco Guinea's Community Co-Building Initiatives

Infrastructure Development

- Allocating special funds annually for public facilities such as road repairs (16 km completed) and drinking water projects (21 wells drilled), significantly improving local livelihoods.
- Sponsoring the renovation of Boké Grand Mosque and supporting the restoration of provincial government offices and the Governor's residence.
- Funding solar power installations for mosques, provincial government buildings, and hospitals in Boké Province.

Local Employment

- Supporting Guinea's "Local Preference" policy by prioritizing local recruitment and training, improving employment rates.
- Partnering with local companies in construction, solar installation, material supply, and transportation to promote SME growth.
- Providing vocational training in driving and mechanical maintenance, with plans to introduce woodcarving and textile dyeing programs for women, driving local economic development.

Tax Compliance

- Fully complying with Guinea's *Mining Agreement*, proactively paying taxes in full, and distributing land compensation to affected communities.

Agricultural Support

- Establishing three agricultural bases supporting nearby villages providing farming tools, technical training, and conducting cultivation of crops such as eggplants, okra, and chili peppers, with the Company repurchasing the harvested produce.

Cultural Engagement

- Visiting affected villages and government agencies during major Guinean festivals (Eid al-Fitr, Eid al-Adha, and New Year) to express support.
- Sponsoring and supporting cultural activities like the Boké Traditional Culture Festival, Boké Football Match, and Bokéi Football Match, respecting local customs and fostering positive community relations.

Community Communication

- Maintaining close communication with governments and influential religious leaders through regular visits and meetings to address community needs.
- Leveraging websites, radio, TV, and social media to share project updates and enhance public engagement.
- Inviting government community development agencies to conduct outreach programs, thereby building mutual understanding and jointly identifying community responsibility projects.

Case: Chalco Guinea's Agricultural Assistance Program

Chalco Guinea established 6-hectare agricultural support bases across six villages near the project area (Bondy, Lisso, Tamalan, Bota, Missira, and Soumourou). The program provided free agricultural tools, seeds, fertilizers, and pesticides to local residents. From 2023 to 2024, the company organized 30 on-site training sessions led by agricultural experts from Boké Province, benefiting 150 participants. Additionally, Chalco Guinea helped establish sales channels, improving living standards for 120 households in surrounding communities.



Guinean Minister of Agriculture Inspected Agricultural Support Outcome

Case: Chalco Guinea Sponsored Renovation of Boké Grand Mosque

In 2024, Chalco Guinea funded the renovation of Boké Grand Mosque after comprehensively assessing its infrastructure condition, Guinea's religious beliefs, and community demands. The project was completed on January 10, 2025. The initiative garnered widespread acclaim from all levels of Guinean government and residents, significantly strengthening community-company relations and fostering a favorable operational environment for Chalco Guinea, which was honored with Guinea's "2024 Most Socially Responsible Enterprise Award".



Renovated Boké Grand Mosque

Appendix

HKEX ESG Code Content Index

Issue	Issue description	Corresponding report chapter
Governance Structure	A statement from the board containing the following elements:	Statement from the Board of Directors
	(i) a disclosure of the board's oversight of ESG issues;	
	(ii) the board's ESG management approach and strategy, including the process used to evaluate, prioritize and manage material ESG-related issues (including risks to the issuer's businesses); and	
	(iii) how the board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the issuer's businesses.	
Reporting Principles	A description of, or an explanation on, the application of the following Reporting Principles in the preparation of the ESG report:	About this report
	Materiality: The ESG report should disclose: (i) the process to identify and the criteria for the selection of material ESG factors; (ii) if a stakeholder engagement is conducted, a description of significant stakeholders identified, and the process and results of the issuer's stakeholder engagement.	
	Quantitative: Information on the standards, methodologies, assumptions and/or calculation tools used, and source of conversion factors used, for the reporting of emissions/energy consumption (where applicable) should be disclosed.	
	Consistency: The issuer should disclose in the ESG report any changes to the methods or KPIs used, or any other relevant factors affecting a meaningful comparison.	
Reporting Boundary	A narrative explaining the reporting boundaries of the ESG report and describing the process used to identify which entities or operations are included in the ESG report. If there is a change in the scope, the issuer should explain the difference and reason for the change.	About this report
A. Environmental		
Aspect A1: Emissions		
General Disclosure	Information on:	Green Aluminum Industry, Building Sustainable Future
	(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.	
KPI A1.1	The types of emissions and respective emissions data.	Strengthening the Management of Three Industrial Wastes

Issue	Issue description	Corresponding report chapter
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Response to Climate Change
KPI A1.3	Total hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Strengthening the Management of Three Industrial Wastes
KPI A1.4	Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Strengthening the Management of Three Industrial Wastes
KPI A1.5	Description of emission target(s) set and steps taken to achieve them.	Response to Climate Change
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Strengthening the Management of Three Industrial Wastes
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Resource Utilization Optimization
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).	Resource Utilization Optimization
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Resource Utilization Optimization
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Resource Utilization Optimization
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set, and steps taken to achieve them.	Resource Utilization Optimization
KPI A2.5	Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced.	Resource Utilization Optimization
Aspect A4: Climate Change		
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Response to Climate Change
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Response to Climate Change
B. Social		
Employment and Labor Practices		
Aspect B1: Employment		
General Disclosure	Information on: (i) the policies; and	Promoting Talent Growth

Issue	Issue description	Corresponding report chapter
General Disclosure	(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.	Promoting Talent Growth
KPI B1.1	Total workforce by gender, employment type (for example, full- or part-time), age group, and geographical region.	Promoting Talent Growth
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Promoting Talent Growth
Aspect B2: Health and Safety		
General Disclosure	Information on:	Safeguarding Safety and Health
	(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.	
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years, including the reporting year.	Safeguarding Safety and Health
KPI B2.2	Lost days due to work injury.	Safeguarding Safety and Health
KPI B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Safeguarding Safety and Health
Aspect B3: Development and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Promoting Talent Growth
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Promoting Talent Growth
KPI B3.2	The average training hours completed per employee by gender and employee category.	Promoting Talent Growth
Aspect B4: Labour Standards		
General Disclosure	Information on:	Promoting Talent Growth
	(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 labor.	
KPI B4.1	Description of measures to review employment practices to avoid child and forced labor.	Promoting Talent Growth
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Promoting Talent Growth

Issue	Issue description	Corresponding report chapter
Operating Practices		
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Adherence to Responsible Procurement
KPI B5.1	Number of suppliers by geographical region.	Adherence to Responsible Procurement
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Adherence to Responsible Procurement
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Adherence to Responsible Procurement
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Adherence to Responsible Procurement
Aspect B6: Product Responsibility		
General Disclosure	Information on:	Pursuing Excellent Quality
	(a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issue relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Pursuing Excellent Quality
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	Pursuing Excellent Quality
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Pursuing Excellent Quality
KPI B6.4	Description of quality assurance process and recall procedures.	Pursuing Excellent Quality
KPI B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Pursuing Excellent Quality
Aspect B7: Anti-corruption		
General Disclosure	Information on:	Business Ethics
	(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 B7.1	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.	Business Ethics
KPI B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Business Ethics

Issue	Issue description	Corresponding report chapter
KPI B7.3	Description of anti-corruption training provided to directors and staff.	Business Ethics
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.	Fulfilling Social Responsibility
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).	Fulfilling Social Responsibility
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Fulfilling Social Responsibility

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No.	Indicator	Related section(s)
Section 1 Climate Response	Article 21 Aside from disclosing governance related to climate change tackling, including the strategies, impacts, risks, opportunities management, indicators, and targets in accordance with Chapter II of these Guidelines, a disclosing entity shall also provide information on its climate response as required by this Section.	Response to Climate Change
	Article 22 (1) The entity's assessment of how climate change impacts its strategies and business models, as well as how it responds to these impacts.	Response to Climate Change
	Article 22 (2) Significant uncertainties it has considered when assessing its climate adaptation.	Response to Climate Change
	Article 22 (3) The entity's capacity to adjust its strategies and business models over the short, medium, and long term to adapt to climate change.	Response to Climate Change
	Article 23 (1) Adjustments made in the company's current and future strategies, business models, and resource allocation to respond to climate risks and opportunities.	Response to Climate Change
	Article 23 (2) Actions taken or planned by the company to update the production processes and equipment to directly or indirectly tackle climate risks and opportunities.	Response to Climate Change
	Article 23 (3) The transition plan created by the company to address climate risks and opportunities and the fundamental assumptions underpinning the plan.	Response to Climate Change
	Article 23 (4) The resources allocated by the company to execute the transition plan.	Response to Climate Change
	Article 23 (5) The progress in executing the company's transition plan.	Response to Climate Change
	Article 24 A disclosing entity shall calculate and disclose its total GHG emissions in the reporting period, and convert different GHG emissions into metric tons of carbon dioxide equivalent. The disclosing entity is encouraged to disclose Scope 1 and Scope 2 emissions and, if able, Scope 3 emissions. Any disclosing entity that uses carbon credits shall disclose the source and amount of the carbon credits it uses. Any disclosing entity that participates in carbon emissions trading shall disclose whether it has completed settlement and whether it has been ordered to take corrective actions or is formally investigated by a government agency within the reporting period. The Exchange encourages those disclosing entities that are able to engage a third party to audit or provide assurance on the GHG emissions data and other relevant figures.	Response to Climate Change
	Article 25 (1) The company shall provide GHG emissions details at each scope level by operational unit or facility.	Strengthening the Management of Three Industrial Wastes
	Article 25 (2) The company shall provide GHG emissions details at each scope level by country or region.	Strengthening the Management of Three Industrial Wastes

No.	Indicator	Related section(s)
Section 1 Climate Response	Article 25 (3) The company shall provide GHG emissions details at each scope level by type of source (e.g., combustion, processing, electricity, heating, cooling, and steam).	Strengthening the Management of Three Industrial Wastes
	Article 26 A disclosing entity shall disclose the standards, methods, assumptions, or calculation tools used for GHG emissions accounting and state how emissions data are consolidated (such as by equity share proportion or financial and operating control). If there is a change to the accounting standards, methods, or assumptions in the reporting period, the disclosing entity shall state the reasons and specific impacts of these changes.	Strengthening the Management of Three Industrial Wastes
	Article 27 A disclosing entity shall disclose information on GHG emissions reduction practices, including its participation in the various emissions reduction initiatives, emissions reduction targets and measures (e.g., management strategies, funding, development of technologies), and the outcomes. The disclosing entity shall disclose, for each scope level, the amount of GHG emissions directly reduced by such emissions reduction measures as redesigning production procedures, updating equipment, improving manufacturing processes, and switching fuels, and convert the data into metric tons of carbon dioxide equivalent. Emissions reductions may be disclosed by each measure used to achieve the reduction. The disclosing entity shall disclose its registration and trading activities in relation to the national projects for voluntary GHG emissions reduction and the China Certified Emission Reduction (CCER), as well as its registration and trading of any other emissions reduction initiatives and emissions savings, if any.	Response to Climate Change
	Article 28 Any disclosing entity that discloses new technologies, products, and services that contribute to de-carbonization and carbon neutrality and the related R&D progress shall provide an objective and prudent account of the specifics of the technologies or services developed based on the relevant processes and technologies, the R&D investment and progress in the relevant businesses, approvals or certifications it has obtained, its mass production capacity, and its existing orders, among other information. The disclosing entity is encouraged to describe the impacts thereof on its current period's and future financial positions and operating results, as well as the possible uncertainties and risks.	Response to Climate Change
	Article 30 (1) Information on pollutant discharge, including but not limited to the types, names, total discharge, certified total discharge, over-discharge, and environmental performance grade (if any) of or in relation to the key pollutants, characteristic pollutants, and the controlled substances specified by international environmental conventions. Disclosing entities are encouraged to present details on its pollutant discharge by category in the dimensions of business units or facilities, type of source, and type of activity.	Strengthening the Management of Three Industrial Wastes
	Article 30 (2) The technologies and methods employed to treat pollutants, as well as the building, operation, and results achieved by pollution control facilities (e.g., reduction in the concentration/intensity or total amount of discharge).	Strengthening the Management of Three Industrial Wastes
Section 2 Pollution Control and Ecosystem Protection	Article 30 (3) The targets set for the amount of discharge reduction of the key pollutants and the specific actions taken to achieve these targets.	Strengthening the Management of Three Industrial Wastes
	Article 30 (4) The impact of pollutant discharge on such groups as its employees and local communities.	Comprehensive Environmental Governance
	Article 30 (5) Any major administrative penalties received by and any criminal liabilities charged against it in the reporting period for pollutant discharge, and whether there exist significant flaws in the company's environmental monitoring schemes and risk management practices.	Comprehensive Environmental Governance

No.	Indicator	Related section(s)
Section 2 Pollution Control and Ecosystem Protection	Article 31 (1) The total amounts (in metric tons) and density (e.g., per unit of revenue, unit of output, or facility) of hazardous wastes and non-hazardous wastes produced.	Strengthening the Management of Three Industrial Wastes
	Article 31 (2) The treatment methods and disposal of hazardous and non-hazardous wastes.	Strengthening the Management of Three Industrial Wastes
	Article 31 (3) The targets set for the amount of discharge of the wastes and the specific actions taken to achieve these targets.	Strengthening the Management of Three Industrial Wastes
	Article 32 (1) The discontinuation of any production and operational activities and relevant facilities that were in the ecological red zones.	Ecological Environment Protection
	Article 32 (2) Efforts and achievements in the protection and restoration of the areas around the production and operational sites, key land and marine ecological functional areas, ecological red zones, nature reserves, and other regions with critical ecological functions or ecologically fragile regions.	Ecological Environment Protection
	Article 32 (3) Efforts and achievements in the protection of wild plants and wildlife and protection and restoration of natural habitats.	Ecological Environment Protection
	Article 32 (4) Efforts and achievements in the protection, sustainable use, obtainment and benefit-sharing, monitoring and early warning, and risk management of biological genetic resources.	Ecological Environment Protection
	Article 32 (5) Efforts and achievements in reducing its products' ecological footprint and reliance on the ecosystem, biological species and their habitats, and biological genetic resources over their life cycles.	Ecological Environment Protection
Section 3 Resource Utilization and Circular Economy	Article 33 (1) Risk assessments for environmental incidents, management protocols to prevent the related risks, and the overview of contingency plans for environmental emergencies.	Comprehensive Environmental Governance
	Article 33 (2) The dates, locations, and duration of the major environmental emergencies in the reporting period; the classification of these incidents, the responses, and the outcome of these responses; their impacts on the company and the public; and its corrective actions.	Comprehensive Environmental Governance
	Article 33 (3) Details on any major administrative penalties or criminal charges received from an ecological and environmental authority or other government agencies in the reporting period for an environmental incident, including but not limited to violations, the reasons for and the amount of the penalties, the impacts on the company's production and operational activities, and its corrective actions.	Comprehensive Environmental Governance
Section 3 Resource Utilization and Circular Economy	Article 35 (1) An overview of energy usage, including but not limited to the total direct and indirect consumption (expressed in metric tons of standard coal) of energy (e.g., coal, electricity, gas, or oil) categorized by type, the energy consumption structure, and the overall energy intensity (e.g., expressed as per unit of output).	Resource Utilization Optimization
	Article 35 (2) Details on the use of clean energy, including but not limited to wind, solar, hydro, geothermal, biomass, and marine energy, as well as the types, total amounts, and proportions of clean energy used such as natural gas.	Resource Utilization Optimization

No.	Indicator	Related section(s)
Section 3 Resource Utilization and Circular Economy	Article 35 (3) Energy saving goals and the specific actions taken, including but not limited to purchasing energy-efficient production, lighting, and temperature control equipment and implementing residual heat and pressure recovery and tiered energy use, and any specific challenges (if any) encountered in the use of energy, if any.	Resource Utilization Optimization
	Article 36 (1) An overview of the usage of water resources, including but not limited to total water consumption (expressed in metric tons) and usage intensity (e.g., per unit of output).	Resource Utilization Optimization
	Article 36 (2) Water conservation goals and the specific actions taken, and any specific challenges (if any) encountered in the recycling and the use of water resources, if any.	Resource Utilization Optimization
	Article 37 (1) The specific goals and plans established to achieve a circular economy.	Resource Utilization Optimization
	Article 37 (2) The specific actions taken in the reporting period toward achieving a circular economy, including reducing the use of resources, improving resource efficiency, using renewable resources, and preventing and reducing waste creation and recycling wastes.	Resource Utilization Optimization
	Article 37 (3) The specific progress and achievements in attaining circular economy objectives in the reporting period, such as the recycling and comprehensive utilization of wastes (including the amount of waste recycled), the consumption of renewable resources, and the proportion of renewable resources in the total amount of resources consumed.	Resource Utilization Optimization
Section 1 Rural Revitalization and Social Contributions	Article 39 A disclosing entity shall disclose its contributions to rural revitalization in the reporting period, including but not limited to: (1) If a high proportion of the disclosing entity's businesses is in the rural and poverty alleviation areas, it shall, in the context of its business activities, disclose in detail how its support for rural revitalization and for current progress on poverty alleviation is integrated into its corporate strategies.	Fulfilling Social Responsibility
	Article 39 (2) The specific actions taken to support the specialty industries and local employment in rural areas in the context of its business activities in the rural and poverty alleviation areas, as well as other specific actions taken to support rural revitalization.	Fulfilling Social Responsibility
	Article 39 (3) The specific achievements, such as the total investment made and the scope and number of beneficiaries in the reporting period, and the impact on the company's brand and businesses.	Fulfilling Social Responsibility
	Article 40 A disclosing entity shall provide an overview of its contributions to the public and society in the reporting period, including but not limited to details on any charitable and volunteer activities organised, the amount of funds invested, number of personnel and time allocated, the outcomes, and the impact on its brand and businesses.	Fulfilling Social Responsibility
Section 2 Innovation-Driven Development and Ethics of Science and Technology	Article 42 (1) The strategies and objectives for technological innovation and, if investment is involved, the arrangements for fundraising and the safeguards.	Strengthening Independent Innovation
	Article 42 (2) Details on its innovation activities, such as the creation of institutional systems for R&D and innovation management, its involvement in R&D and innovation projects and technology collaboration projects, the amount and percentage of R&D expenditure relative to its operating revenue, the number and proportion of R&D personnel, and the number of invention patents applied in its principal businesses.	Strengthening Independent Innovation

No.	Indicator	Related section(s)
Section 2 Innovation-Driven Development and Ethics of Science and Technology	Article 42 (3) R&D progress and achievements, professional qualifications, and significant awards received, including the number of invention patent applications filed and granted and the number of valid patents; its certification as a high-tech enterprise; and national science and technology awards received in the reporting period.	Strengthening Independent Innovation
	Article 42 (4) Any achievements in innovation and of their application in promoting the new quality productive forces and the impact on the broader economy, society, environment, and stakeholders.	Strengthening Independent Innovation
	Article 43 (1) The fields of the company's scientific and technological activities such as research and development, and the ethical standards in science and technology it adheres to.	Strengthening Independent Innovation
	Article 43 (2) Rules within the company's internal management systems that concern the ethics of science and technology and the company's observance thereof, the establishment of any ethics (review) committee for science and technology programs and its operations, if any.	Strengthening Independent Innovation
	Article 43 (3) Any instances of a violation of the ethics of science and technology, including an overview of such violations, the penalties imposed by competent authorities, the internal investigation and accountability processes conducted, and the corrective actions taken, if any.	Strengthening Independent Innovation
	Article 43 (4) The internal and external training on ethics in science and technology and efforts to raise public awareness on the related topics.	Strengthening Independent Innovation
Section 3 Suppliers and Clients	Article 45 (1) An overview of its supply chain risk management program, including but not limited to its objectives and specific plans for supply chain risk management, risk response mechanisms, actions taken, and their outcomes.	Adherence to Responsible Procurement
	Article 45 (2) Actions, such as mergers, acquisitions, or reorganization and technological innovations, and the positive outcomes related to maintaining supply chain security and increasing the company's competitive edge in supply chain management.	Adherence to Responsible Procurement
	Article 46 If the balance of accounts payable (including notes payable) exceeds RMB30,000,000,000 or represents more than 50 percent of the total assets at the end of the reporting period, the disclosing entity shall disclose the amount of overdue accounts payable as of the end of the reporting period and the solutions it plans to implement.	Adherence to Responsible Procurement
	If a disclosing entity or one of its subsidiaries publicly indicates through the National Enterprise Credit Information Publicity System that it owes an overdue payment to a small and medium-sized enterprise ("SME"), it shall disclose the amount of the overdue payment, the payment term for SME suppliers, the reasons behind the overdue payment, whether the overdue payment has led to litigation or arbitration, and the solutions.	
	The Exchange encourages other disclosing entities to make disclosures in line with the provisions of the preceding two paragraphs.	Pursuing Excellent Quality
	Article 47 (1) The establishment, execution, and specific measures of the product and service quality management systems and policies.	
	Article 47 (2) Quality management-related certifications received by the company and the certification status of its quality management systems for the major products and services.	
	Article 47 (3) Any significant safety or quality liability incidents in the reporting period relating to its products and services, including the nature of such incidents (e.g., administrative penalties), their impact and the amount of damages, and the actions taken in response and the progress on those actions, if any.	
Article 47 (4) The establishment and implementation of after-sales service and product recall policies, the channels for receiving customer complaints, and the process and outcome of complaint handling.	Pursuing Excellent Quality	

No.	Indicator	Related section(s)
Section 3 Suppliers and Clients	Article 48 (1) The development, functioning, and specific measures of its data security management system and certifications, if any	Information Security
	Article 48 (2) Specific details of data security incidents that occurred during the reporting period, including the impact caused, the amount involved, the response measures taken, and any progress made, if any.	Information Security
	Article 48 (3) The development and functioning of its customer privacy protection system.	Information Security
	Article 48 (4) Details on any privacy breach incident that occurred in the reporting period, including its impact, the monetary amount involved, and the actions taken in response and the progress on those actions, if any.	Information Security
Section 4 Employees	Article 50 (1) Employment and compensation policies and how they are implemented, information including but not limited to job creation and flexible employment in the reporting period, a breakdown of the gender and age distribution of employees at the end of the period, as well as information on payment of salary and social security, labor disputes, employee turnover, protection of the rights of flexible employees and the compliance, fairness, and transparency of the recruitment and hiring procedures.	Promoting Talent Growth
	Article 50 (2) Basic information on occupational health and safety, including but not limited to the identification and assessment of occupational safety risks and their sources, the establishment and implementation of the occupational health and safety management systems, the obtaining of certain certifications, related training, the investment in and coverage of work-related injury insurance and workplace safety liability insurance, and the details of any safety accidents that occurred in the reporting period.	Promoting Talent Growth
	Article 50 (3) General information on employee career development and training, including but not limited to the disclosing entity's position structure, the mechanisms for employee promotion, selection, and career development, the type, frequency, and implementation of employee training, as well as the annual expenditure on training and the training coverage rate.	Promoting Talent Growth
Section 1 Sustainability-Related Governance Mechanisms	Article 52 The Exchange encourages each disclosing entity to, in line with its realities, disclose information on the due diligence it has conducted during the reporting period in relation to identifying and responding to the negative sustainability-related impacts or risks, including but not limited to the organization or personnel carrying out the due diligence, the scope of due diligence, the procedures for identifying such negative impacts or risks, and the details on its response to the relevant negative impacts and risks.	ESG Governance
	Article 53 (1) The establishment and execution of its stakeholder engagement rules.	Communication with stakeholders
	Article 53 (2) The channels for receiving and responding to stakeholder comments and suggestions and how they are implemented, e.g., the method, frequency, and content of the relevant communications.	Communication with stakeholders
Section 2 Commercial Behaviors	Article 55 (1) The establishment and operation of the anti-commercial bribery and anti-corruption risk management system, and whether a whistleblower protection policy has been established.	Business Ethics
	Article 55 (2) An assessment of the commercial bribery and corruption risks.	Business Ethics
	Article 55 (3) The total count and percentage of board members, management-level staff and other employees who received anti-commercial bribery and anti-corruption training.	Business Ethics

No.	Indicator	Related section(s)
Section 2 Commercial Behaviors	Article 55 (4) Details about all commercial bribery and corruption incidents that occurred in the reporting period, including the specifics of the resulting dismissals or disciplinary actions against any board members, management-level staff and employees, investigations by competent authorities, termination or non-renewal of contracts with business partners, and any lawsuits against the disclosing entity, its board members, management-level staff or employees (if any).	Business Ethics
	Article 56 (1) The establishment, operation, and specific measures of the management system to prevent unfair competition (e.g., untrue publicity, implementing monopoly behaviours, and infringing on commercial secrets).	Business Ethics
	Article 56 (2) If any litigation or significant administrative penalties arise from the disclosing entity's anti-competitive practices in the reporting period, it shall disclose the specifics about the litigation, the amount involved, the administrative penalties imposed, and its corrective actions.	Business Ethics

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Feedback Form

Dear readers:

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?

- 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 Good Reasonable Fair 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

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

- Pollutant discharge management Mineral resource management and mine reclamation
 Health and safety of employees Resource utilization efficiency
 Compliance and risk management Product quality control
 Corporate governance Response to climate change
 Renewable energy application Remuneration and benefits of employees
 Carbon emission management Employment management, and protection of employees' rights and interests
 Business ethics, and anti-corruption Prevention and response to environmental emergencies
 Sustainable growth of profits Ecology and biodiversity conservation
 Fair competition Intellectual property protection, and technological innovation
 Customer management and privacy protection Contribution to industrial development
 Employee development and training Transparency of financial and non-financial information
 Sustainable supply chain Communication with stakeholders
 Community involvement and contribution Use of packaging materials
 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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Thank you very much for your understanding on and support of our work!

Aluminum Corporation of China Limited