



China Hongqiao Group Limited
中國宏橋集團有限公司

(Incorporated under the laws of the Cayman Islands with limited liability)
Stock Code : 1378



**Environmental, Social and
Governance Report**

CONTENTS

ABOUT THIS REPORT	1
REPORTING SCOPE	1
REPORTING FRAMEWORK	1
REPORTING PRINCIPLES	1
INFORMATION AND FEEDBACK	1
CHAIRMAN'S STATEMENT	2
ABOUT CHINA HONGQIAO	6
CORPORATE PROFILE	6
MANAGEMENT PHILOSOPHY	7
ESG HONORS AND AWARDS	8
ESG RESPONSIBILITY MANAGEMENT	9
OCCUPATIONAL HEALTH AND SAFETY	25
PRODUCTION SAFETY MANAGEMENT	27
OCCUPATIONAL HEALTH MANAGEMENT	32
RESPONDING TO CLIMATE CHANGE	34
REALISATION OF CARBON NEUTRALITY	34
GOVERNANCE	36
STRATEGY	37
OPTIMISATION OF ENERGY STRUCTURE	42
RISK MANAGEMENT	48
INDICATORS AND TARGETS	48
PROMOTING GREEN PRODUCTION	49
PREVENTION AND CONTROL OF POLLUTION	50
ENERGY CONSERVATION AND CONSUMPTION REDUCTION	56
WASTE MANAGEMENT	64
DEVELOPMENT OF CIRCULAR ECONOMY	65
GREEN OFFICE	66
ADHERING TO PEOPLE-ORIENTED GOVERNANCE	72
RECRUITING TALENTS	72
TALENT CULTIVATION	74
CARING FOR EMPLOYEES	81
PURSUING EXCELLENCE IN QUALITY	85
SUPPLY CHAIN MANAGEMENT	85
QUALITY MANAGEMENT AND INNOVATIVE RESEARCH AND DEVELOPMENT	87
SALES AND SERVICES	93
PRIVACY PROTECTION	94
PROTECTION OF INTELLECTUAL PROPERTY	95
ANTI-CORRUPTION PRACTICE	96
CARING FOR SOCIAL WELL-BEING	97
COMMUNITY WELFARE	97
OVERSEAS CONTRIBUTIONS	106
VERIFICATION STATEMENT	111
APPENDIX I: SUMMARY OF KEY PERFORMANCE INDICATORS	114
APPENDIX II: ESG REPORTING GUIDE CONTENT INDEX	118
APPENDIX III: TCFD INDEX	123

ABOUT THIS REPORT

This report is the Environmental, Social and Governance Report (“**ESG Report**” or the “**Report**”) of China Hongqiao Group Limited (the “**Company**”) and its subsidiaries (collectively referred to as “**China Hongqiao**”, the “**Group**” or “**We**”), which provides detailed information on our efforts to fully implement the concept of sustainable development and fulfill corporate social responsibility in 2023. For details of corporate governance, please refer to the Corporate Governance Report set out in the 2023 Annual Report of the Group.

REPORTING SCOPE

The Report focuses on the environmental and social performance of the aluminum product manufacturing and sales business of China Hongqiao during the period from 1 January 2023 to 31 December 2023 (the “**Year**” or “**during the Year**”). Such business is the core business and the main source of revenue of the Group. As part of the low-carbon primary aluminum operation of China Hongqiao in Yunnan Province has been put into operation, the Group will consider including it into the reporting scope gradually according to the progress of its commissioning. The key performance indicators (“**KPIs**”) disclosed in the Report is based on the manufacturing bases of the Group in Shandong Province and Yunnan Province, the People’s Republic of China (the “**PRC**”) (data set out in Appendix I).

REPORTING FRAMEWORK

The Report has been prepared in accordance with the Environmental, Social and Governance Reporting Guide under Appendix C2 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”) and in compliance with the “mandatory disclosure” and the “comply or explain” provisions thereof. Unless otherwise specified, currency units in this Report are denominated in Renminbi (RMB).

REPORTING PRINCIPLES

The content of the ESG Report is determined based on the stakeholder engagement and materiality assessment process, which includes identifying environmental, social and governance (“**ESG**”) related issues, collecting and reviewing the management’s and stakeholders’ opinions and suggestions, assessing the relevance and materiality of the issues and preparing and validating the information reported. The ESG Report covers key issues of concern to different stakeholders.

Quantitative environmental and social KPIs are disclosed in the ESG Report so that stakeholders are able to have a comprehensive understanding of the Group’s ESG performance. Information on the calculation standards, methodologies, references and source of data related to these KPIs is set out in relevant sections. In addition, in order to facilitate comparison of the ESG reports of different years, the Group has adopted consistent reporting and calculation methodologies as far as reasonably practicable. The Group has also presented and explained any changes in methodologies in detail in corresponding sections.

INFORMATION AND FEEDBACK

For detailed information on the Group’s environmental protection, social responsibility and corporate governance, please refer to our official website (www.hongqiaochina.com).

The Group values your opinions on the Report. If you have any comments or suggestions, please feel free to email us via zghqesg@hongqiaochina.com.

CHAIRMAN'S STATEMENT



Mr. Zhang Bo, Chairman of the Board

As the global climate continues to warm, 2023 has become the hottest year on record for the earth and the average temperature is likely to exceed this level in 2024. Undoubtedly, these make climate change one of the priorities in global governance. Apart from that, there are increasingly complex issues such as the slowdown in economic growth, increased trade frictions and tense energy supply, posing unprecedented challenges to every company in the inexorable tide of history.

For China Hongqiao, we are increasingly convinced that mastering the fundamentals is essential and we will steadfastly uphold our core values of “serving the nation and benefiting the people”. Under the grand theme of common development of the whole world, we promised to do our utmost to push forward the process of net-zero carbon emissions and contribute to the health and stability of the environment and the climate. On the way of development of the business community, we will continue to embrace changes and create social values with righteousness, innovation and respect, so as to help realise the overall sustainable

development of the society.

During the Year, the Group insisted on planning from a high starting point and advancing at a high level, and solemnly announced its “dual carbon” goals and action plan to the whole society, i.e. we strive to achieve carbon peak by 2025 and net-zero emissions from its own scope of operations (scope 1 and 2) by 2055. In this regard, we carefully drew up a scientific and rigorous development roadmap and timetable, and launched 10 key initiatives, such as optimising the energy structure, building green brands, developing the circular economy, expanding downstream processing, creating innovative production processes, deepening domestic and international cooperation, and earnestly advancing the steady practice of green development.

Specifically, the Group further implemented the new development philosophy, gave full play to its leading advantages such as technology and management, continuously enhanced the added value of the power industry, optimised the industrial structure, accelerated the construction of projects in Yunnan, and promoted the replacement of old drivers with new ones, so as to lead the aluminum industrial cluster to achieve the green low-carbon and high-quality development. As the main force and leading enterprise in Yunnan’s green and low-carbon industrial park, as of the end of 2023, the production capacity of aluminum alloy products in Yunnan accounted for more than one-fifth of the overall total. On this basis, we continuously increase the investment in clean energy and expands the share of green energy. In practice, the Group has made full use of hydropower,

solar power, wind power and abundant raw material resources in the vicinity, aiming to build a green industry chain characterised by “hydropower and aluminum materials integration”, create a unique green manufacturing base where agriculture, forestry and industry coexist and develop together in harmony, and help build a brand-new core area of “China’s green aluminum valley”. Up to now, the Group has two national green factories. Yunnan Hongtai New Material Co., Ltd. (雲南宏泰新型材料有限公司) (“**Yunnan Hongtai**”), a subsidiary of the Group, was named as one of the leaders in the green aluminum industry in Yunnan during the Year.

In recent years, the applications of lightweight materials have become increasingly significant to the implementation of the “dual-carbon” strategy such as transportation and aerospace industries. In this field, the Group relied on a forward-looking layout, seized the opportunity arising from the replacement of old drivers with new ones, started from green equipment and resource recycling, accelerated the establishment of an industrial ecosystem and smoothened the downstream industrial chain of lightweight parts and components, which has already achieved gratifying positive results. Through the construction of an lightweight equipment base, we have gradually driven the formation of the world’s most influential and competitive lightweight high-end new-energy equipment manufacturing industrial cluster, and created a complete industrial chain from hot molten aluminum metal to parts research and development and manufacturing, and then to equipment assembly. During the Year, Shandong Hongcan Material Technology Co., Ltd.’s (山東宏燦材料科技有限公司) large-scale lightweight integrated die-casting project was built and put into operation, we took a solid step towards the lightweight industry. Accordingly, China’s first new green demonstration industrial chain of “hot molten aluminum metal - die-casting - equipment manufacturing - recycling” has officially been established.

While insisting on promoting our green transformation, we also continued to focus on shaping the circular economy, achieving outstanding results in our efforts to become a builder and a leader in the green ecological closed loop of industrial production. Among these achievements, the Group’s two green and low-carbon aluminum brands, HQALight and HQALoop, have been registered in China and Germany respectively. The former is low-carbon primary aluminum products produced with hydropower or other renewable energy sources, which adopts the world’s leading 600 kA electrolytic bath and RuC technology. It has already been applied in the Group’s Yunnan project. The latter HQALoop refers to products made from recycled aluminum, with 100% of the raw materials being waste aluminum. The carbon emission is only about 5% of that of primary aluminum, which achieves remarkable results in energy conservation and emission reduction. During the Year, Zouping Hongfa Aluminum Technology Co., Ltd. (鄒平宏發鋁業科技有限公司) (“**Hongfa Aluminum**”), a subsidiary of the Group, in collaboration with its partners, has completed a successful trial production of low-carbon aluminum cans that used 100% green aluminium, further increasing the possibility of aluminum becoming the most sustainable packaging material. Shandong Hongshun Recycling Technology Co., Ltd. (山東宏順循環科技有限公司) (“**Shandong Hongshun**”)’s “high-quality recycled aluminum alloy manufacturing technology and equipment” project won the “2023 Top Ten Green and Low-Carbon Scientific and Technological Achievement Award of Renewable Resources Industry” during the Year, which continuously injected strength into building an industry benchmark for the green, low-carbon utilisation of recycled aluminum.

In fact, the accelerated progress in new drivers and new economic models undoubtedly benefits from the surging power of technology and innovation. The Group has relied on the strength of scientific research institutions such as the Weiqiao (Suzhou) Lightweight Research Institute, the Weiqiao & UCAS (University of the Chinese Academy of Sciences) Joint Laboratory and the Weiqiao Lightweight Research Institute, continuously increased its scientific research efforts and accumulated data to create a “smart brain”, and accelerated the transformation of the results of industry, academia and research achievements, so as to continue to empower the innovation of new technologies and products and bear fruitful results. Among this, whether it is the new iterative technology “Aluminum Electrolysis Integrated Copper-Carbon Composite Cathode (RuC) Technology Development and Application” in the global aluminum electrolysis field, which provides important support for the “dual carbon” goals, or the new materials of six revolutionary cast aluminum alloys in three lines that have achieved “casting instead of forging”, this breakthrough marks a simultaneous improvement in aspects including high strength, high toughness and high durability, contributing a highly influential and transformative power in the upgrade of the whole industry.

In the meantime, we are happy to share our green development stories via a diversified range of national and foreign platforms and channels resources, and to carry out in-depth exchanges with various parties on low-carbon development paths. During the Year, we attended the 16th International Automotive Lightweight Conference & Exhibition and co-organised the Sino-German Lightweight Forum with our partners to showcase our innovation achievements such as cutting-edge lightweight technologies, materials and products to the rest of the world, effectively promoting exchanges and cooperation in the field of lightweighting within and beyond the industry, both domestically and internationally.

Furthermore, through the “Belt and Road Initiative”, we have established strong partnerships with numerous collaborators and consistently enhanced international cooperation in production capacity, paving the way for a novel avenue of cooperation and mutually beneficial outcomes. In particular, the Group is pioneering in alumina production with an annual production capacity of 2 million tonnes in the Republic of Indonesia (“**Indonesia**”), strongly driving local economic growth. This project has not only filled the gap in the aluminum industrial chain in Indonesia, but also become the largest alumina refining project in Southeast Asia. In Africa, SMB Winning Consortium (a company in which the Group holds equity interests), has also made significant contributions to the growth of Guinea’s GDP. In this cross-border and long journey towards cooperation and mutual benefits, the Group boosted local economic development and employment while focusing on improving the livelihood of local people by building multi-functional hospitals with advanced equipment, drilling wells for water supply, building schools, donating solar panels, and investing in a local development fund for the local government, which benefited the local community, and provided a successful model of win-win international industrial collaboration.

Continuous and pragmatic refinement and deep presence have won us positive responses from the market and society. The Group received one of the first batch of green-power aluminum product evaluation certificates at the 2023 China Aluminum Processing Industry Annual Conference. After four subsidiaries of the Group successfully passed the ASI Performance Standard certification in 2022, three more subsidiaries, namely Shandong Hongshun, Weihai Haixin New Material Co., Ltd. (威海海鑫新材料有限公司) (“**Weihai Haixin**”) and Weihai Chenxin New Material Co., Ltd. (威海辰鑫新材料有限公司) (“**Weihai Chenxin**”), made substantial progress in the professional accreditation system during the Year. Additionally, the Group successfully completed a HK\$2.3 billion sustainability-linked syndicated loan (including greenshoe option) during the Year. The KPIs and targets for the sustainability-linked loan have been set with reference to the International Aluminum Institute (IAI)’s annual targets for the reduction pathways for the greenhouse gas emissions intensity (Scope 1 & 2) available to the global aluminum sector, which have got double second-party opinions from international rating agencies Sustainalytics and S&P Global Ratings, and have been deemed to be in line with the Sustainability-Linked Loan

Principles. This is the first sustainability-linked syndicated loan in China's electrolytic aluminum industry, which was over-subscribed by 1.29 times, marking a milestone. The green medium-term notes we issued were well subscribed. Moreover, Shandong Hongqiao New Material Co., Ltd. (山東宏橋新型材料有限公司) ("**Shandong Hongqiao**"), a subsidiary of the Group, was recognised as "2023 Socially Responsible Enterprise in Shandong", and its Indonesian project won a low-carbon emission reduction award in ASEAN. The Group was recognised for its innovation in promoting business action on climate in the first-ever climate list published by TIME magazine. Leveraging our long-term steady progress and excellence in corporate, social and governance, we successively won the "2023 Forbes China ESG Innovation Enterprise" and the "ESG Leading Enterprise – Leading Environmental Initiatives Award" organised by Bloomberg Businessweek (Chinese Edition), further demonstrating our positive influence in this area.

Throughout the Year, we have continued to deeply conduct the "total factor double standard" management within the Company, enhancing both the quality and the efficiency while refining our systems. As a result, we have achieved noteworthy benefits and injected fresh momentum into our development. The Group has not only maintained its commitment to enhancing and establishing a transparent, progressive, and resilient governance framework and work environment, but it has also proactively transformed itself into a learning-oriented enterprise. This transformation includes enriching high-quality employee training programmes, actively listening to their input, effectively improving their income levels, and fostering a favorable working environment. Furthermore, we extend periodic assistance to employees facing challenges, providing them with spiritual support and assistance to the best of our abilities. These efforts aim to foster collective growth, enabling all employees to thrive, work, and live happily alongside us.

As we constantly forge ahead and contribute to economic and social development, our unwavering commitment is to become a company that earns the respect of society and translates this aspiration into action. Hence, we actively engage in various initiatives such as participating in rescue teams for landslides and earthquake relief, promoting rural revitalization, and advancing common prosperity. Meanwhile, we have continued to actively participate in charitable endeavors, shouldering our social responsibilities through projects like "Sany student aid (三一助学)" and "Building bridges for love" facilitated by the Shiping Foundation. By donating hope bathhouses, supporting primary schools and ancillary infrastructures, and participating in public welfare infrastructure projects and rural settlement upgrades, we strive to align ourselves with the nation's progress, the prosperity of its people, and their overall well-being.

As we embark on 2024, we reflect upon China Hongqiao's remarkable green journey in 2023 and take pride in the substantial progress achieved. Looking forward to the new year, we are invigorated by the Group's pursuit of sustainable development. We firmly believe that China Hongqiao bears the responsibilities and possesses the capability to cultivate innovative forces of superior quality, setting an exemplary precedent to actively lead the green transformation across the entire industrial chain. This will be accomplished through our unwavering commitment to promoting the green and sustainable development of China's modern manufacturing industry, while firmly anchoring ourselves in the foundation of high-quality growth. We will continue to fortify and enhance our governance framework and systems, striving for a centennial legacy. Upholding our responsibility towards the well-being of people, we remain dedicated to our original mission of contributing to the society, steadfastly moving forward and contributing to the community.

Zhang Bo

Chairman of the Board

19 April 2024

ABOUT CHINA HONGQIAO

CORPORATE PROFILE

China Hongqiao Group Limited was incorporated in the Cayman Islands, with shares listed on the Main Board of the Hong Kong Stock Exchange in 2011, principally engaged in the manufacturing and sales of molten aluminum alloy, aluminum alloy ingots, aluminum busbars, aluminum alloy processing products and alumina products as a global leading aluminum product manufacturer. After years of hard work, the Group has basically formed the operation pattern of the whole upstream and downstream industrial chain of bauxite mining, alumina, aluminum alloy products, deep processing and sales of aluminum products, and achieved remarkable economies of scale.

During the Year, China Hongqiao had 13 production bases in Zouping, Weiqiao, Bincheng District, Huimin, Yangxin, Beihai, Zhanhua, Boxing, Weihai, Wenshan Zhou of Yunnan Province, Honghe Zhou of Yunnan Province, Indonesia and Guinea, with an annual operation capacity of approximately 6.46 million tonnes of aluminum alloy products. In 2023, the Group's output of aluminum alloy products was approximately 6.265 million tonnes, and the output of aluminum alloy processing products was approximately 770,000 tonnes.

Downstream customers of China Hongqiao's aluminum alloy include CITIC Dicastal, the world's largest aluminum wheel manufacturer; Bohai Piston, the largest piston manufacturer in Asia; Shandong Innovation Group, the largest aluminum alloy material manufacturer in the PRC; BAIC Group and other renowned domestic and overseas enterprises. Intensive processed aluminum can material products are widely recognised by domestic and overseas can manufacturers, which include more than 100 customers such as Baosteel Packaging (寶鋼包裝), ORG Packaging (奧瑞金包裝), CPMC (中糧包裝), Shengxing Pacific Packaging (昇興太平洋包裝), Kingcan Holdings (福貞控股), Baofeng Group (保豐集團) and Boruite Cap Making (博瑞特製蓋). In recent years, the intensive processing sector has undergone rapid development. After years of market development, our can material products have taken a relatively significant share in the domestic and overseas markets. With stable and reliable quality, the demand for our products has exceeded supply, and the market has promising prospects.

MANAGEMENT PHILOSOPHY

China Hongqiao upholds its core value of “serving the country and benefiting the people,” which is taken as its driving force and mission to facilitate economic development, provide job opportunities, increase income for farmers, and build a harmonious society, in a bid to contribute to the local economic and social development. Meanwhile, China Hongqiao responds positively to the PRC’s strategic planning of the “Belt and Road Initiative” by promoting international energy production cooperation in the Well Harvest Winning Alumina Project, which has commenced production in Indonesia, and the joint venture Bauxite Project in Guinea. This not only demonstrates the influence of the PRC’s enterprises in the global market, but also boosts the local economic development and the construction of infrastructure, which are highly praised by the local government and residents.

With an aim to establish a “resource-saving and environmentally-friendly” enterprise, China Hongqiao has made every effort to achieve sustainable development by developing an environmentally-friendly, green, and efficient production model. In recent years, China Hongqiao has achieved remarkable results in environmental protection by promoting the transformation of environmental protection facilities, eliminating obsolete production capacity, developing and introducing advanced production equipment, and has commenced standardised, scientific, informatised, and professional management in its operation. In recent years, notable achievements have been made in environmental protection through initiatives such as upgrading environmental protection facilities, eliminating outdated production capacity, adopting advanced production equipment, and implementing standardized, scientific, digitized, and professional management practices throughout its operations.

ESG HONORS AND AWARDS



The Group won “2023 Forbes China ESG Innovation Enterprise”



The Group won the “Leading Environmental Project Award” in the “ESG Leading Enterprise Awards 2023” organised by Bloomberg Businessweek (Chinese Edition)



A project of Shandong Hongshun won the 2023 Top Ten Green and Low-Carbon Scientific and Technological Achievement Award of Renewable Resources Industry



Four subsidiaries of the Group successfully passed the ASI Performance Standard certification

ESG RESPONSIBILITY MANAGEMENT

THE BOARD'S STATEMENT

The Group believes that sound ESG governance principles will increase its investment value and bring long-term returns to its stakeholders.

To establish a robust and efficient ESG management and control system, the Board has formulated specific duties and responsibilities to and directly supervised the Group's ESG related affairs and operations. The Board is responsible for overseeing the quantity and quality of ESG-related training activities (e.g. via questionnaires and knowledge tests) to uphold robust ESG governance of the Group. The Board is responsible for formulating ESG-related policies and measures while consistently reviewing the Group's overall ESG performance. This diligent oversight ensures the effective implementation and completion of the designated measures. In the meantime, the Board is also responsible for conducting an annual review of ESG-related information and assess the content and quality of the ESG report to ensure its alignment with established standards. Furthermore, the Board exercises oversight over the relevant departments and working groups responsible for ESG-related risk management, actively seeking improved strategies and solutions to mitigate adverse impacts on the Company's operations. Additionally, the Board will keep abreast of the latest market trends in ESG-related matters that may have a potential impact on business operations, enabling timely adjustments to its operating policies.

The Board is also accountable to its stakeholders and endeavors to build a platform for communication between the Group and its key stakeholders, such as investors, governments, community and employees, to ensure seamless flow of information. Regular reviews are conducted to evaluate the effectiveness of communication channels between the Company and stakeholders. In addition, the Board has engaged an independent consultant company to support the management of the Group's ESG affairs, including data collection, analysis, and providing recommendations for enhancing ESG performance. The consultant company also assists the Board in the collection and analysis of the Group's stakeholders' views on ESG matters and conducts a materiality assessment to identify the Group's material ESG issues. The materiality assessment is based on questionnaires for collection of the views of stakeholders, including the directors, and a consolidation of the material ESG issues of the industry. Stakeholders' concern towards various ESG issues are scored and ranked to determine materiality, so as to ensure that the long-term development strategy of the Company meets the expectations of stakeholders. Ultimately, the Board acknowledges and endorses the results of the assessment.

To effectively guide the Group's ESG process, the Board maintains ongoing oversight of each department's activities, ensuring close collaboration towards the attainment of sustainable development goals encompassing compliance operations and social responsibility. Short, medium, and long-term targets for ESG performance or sustainability are established, aligned with the most critical ESG-related issues for the Group's business and stakeholders. Annually, the Board conducts a comprehensive review of the implementation of relevant initiatives, assessing progress towards targets during regular ESG meetings, and setting direction for future ESG development.

STAKEHOLDER ENGAGEMENT

The Group recognised the intrinsic connection between stakeholders and its business growth. The Report gathers views from different stakeholders, which has prompted us to be more informed about the Group's current environmental and social management. The information gathered serves as both a comprehensive summary of the Group's environmental and social efforts throughout the Year and a foundation for formulating strategies to drive short-term and long-term sustainable development.

In order to understand the stakeholders' opinions and expectations, the Group engaged with them through various channels so as to review and enhance our performance in environmental, social and corporate governance, ensuring that we address stakeholders' reasonable demands effectively.

Stakeholders	Expectations and Requirements	Communication and Response Methods
Government and regulatory authorities	<ul style="list-style-type: none"> Compliance with the national policies and laws and regulations 	<ul style="list-style-type: none"> Regular submission of information
	<ul style="list-style-type: none"> Promotion of the local economic development 	<ul style="list-style-type: none"> Regular communication with regulatory authorities
	<ul style="list-style-type: none"> Creation of job opportunities 	<ul style="list-style-type: none"> Special report
	<ul style="list-style-type: none"> Tax payment on time and in full 	<ul style="list-style-type: none"> Inspection and supervision
	<ul style="list-style-type: none"> Production safety 	
Shareholders	<ul style="list-style-type: none"> Investment returns 	<ul style="list-style-type: none"> General meeting
	<ul style="list-style-type: none"> Operation in compliance with laws and regulations 	<ul style="list-style-type: none"> Announcements and circulars by the Group
	<ul style="list-style-type: none"> Enhancement of corporate value 	<ul style="list-style-type: none"> E-mail, telephone and website of the Company
	<ul style="list-style-type: none"> Transparency of information and effectiveness of communication 	<ul style="list-style-type: none"> Special report
		<ul style="list-style-type: none"> On-site inspection
Partners	<ul style="list-style-type: none"> Integrity management 	<ul style="list-style-type: none"> Review and assessment meeting
	<ul style="list-style-type: none"> Fair competition 	<ul style="list-style-type: none"> Business communication
	<ul style="list-style-type: none"> Fulfillment of contracts in compliance with laws 	<ul style="list-style-type: none"> Conferences and seminars
	<ul style="list-style-type: none"> Mutual benefit and win-win cooperation 	<ul style="list-style-type: none"> Discussion of cooperation
		<ul style="list-style-type: none"> Regular summits and conferences
Customers	<ul style="list-style-type: none"> Quality products and services 	<ul style="list-style-type: none"> Customer service center and hotline
	<ul style="list-style-type: none"> Health and safety 	<ul style="list-style-type: none"> Customer opinion survey
	<ul style="list-style-type: none"> Fulfillment of contracts in compliance with laws 	<ul style="list-style-type: none"> Customer communication meeting
	<ul style="list-style-type: none"> Integrity management 	<ul style="list-style-type: none"> Social media platforms
		<ul style="list-style-type: none"> Return visits
		<ul style="list-style-type: none"> Visits, etc.

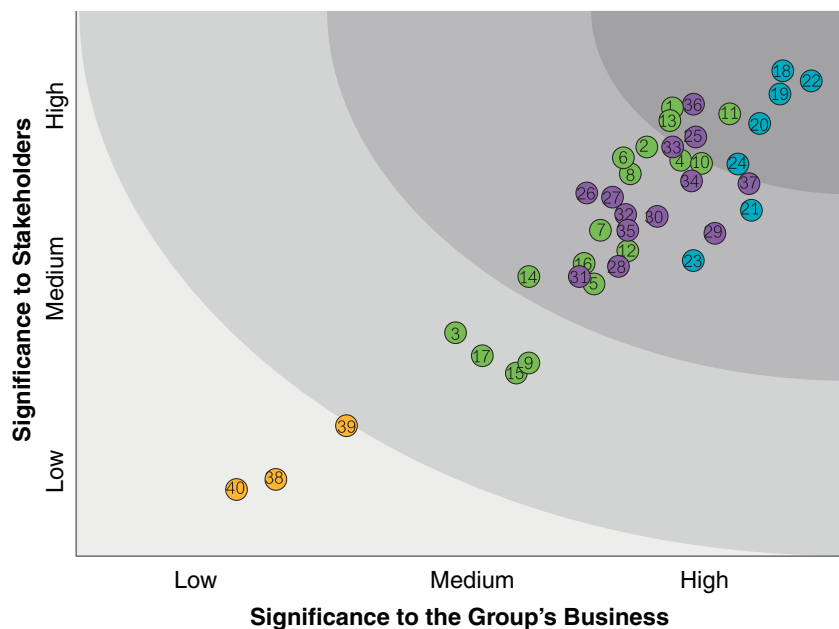
Stakeholders	Expectations and Requirements	Communication and Response Methods
Environmental	• Fulfillment of emission standards	• Communication with local environmental protection departments
	• Energy conservation and emission reduction	• Communication with local residents
	• Efficient use of water resources	• Report submission
	• Ecological protection	• Investigation and inspection
Industry	• Setting up industry standards	• Communication with local labour departments
	• Facilitating development of the industry	• Participation in industry forums
		• Visits and inspections with industry peers
Employees	• Safeguarding rights and interests	• Employee communication meeting
	• Occupational health	• Internal publication and intranet of the Company
	• Remuneration and benefits	• Employees mailbox
	• Career development	• Training and workshop
	• Employee caring	• Employee activities
		• Employee representatives meeting
The community and the public		• Democratic forums
	• Improvement of community environment	• Communication with the community
	• Participation in charity	• Company website
	• Openness and transparency of information	• Announcements issued by the Company
		• Interviews with media
		• Social media platforms

MATERIALITY ASSESSMENT

In preparing the Report, China Hongqiao has entrusted an independent third-party consultant to conduct a materiality assessment in a fair and equal manner. The materiality assessment is implemented in five main phases:

- (i) To identify the stakeholders who participated in the survey from “degree of influence by China Hongqiao” and “degree of influence on China Hongqiao”;
- (ii) To identify 40 potentially material issues that may affect the Group’s business or stakeholders in environmental, social and governance areas based on relevant national and local standards and policies, industrial development tendency and the Group’s business situation and development;
- (iii) To invite internal and external stakeholders (including employees, management, directors, customers, suppliers and the community) to complete online questionnaires so as to collect and examine their awareness of each of the issues;
- (iv) To analyse over 900 validated questionnaires and create a two-dimensional matrix of “Significance to the Group’s Business” and “Significance to Stakeholders” to prioritise potential material issues according to the results, and identify issues that scored higher than the upper quartile as issues of higher importance; and
- (v) To present the issues to the Board for review and discussion and finally confirm the results of the materiality assessment.

The chart below shows the matrix of material ESG issues of China Hongqiao.



Environment and Resources	Employment and Labour Practices	Operating Practices	Community Investment
1. Environmental compliance	18. Employment compliance	25. Operational compliance	38. Public charity
2. Exhaust management	19. Remuneration and benefits	26. Managing environmental risks of supply chain	39. Promotion of social development
3. Vehicle emission management	20. Working hours and holiday entitlement	27. Managing social risks of supply chain	40. Poverty alleviation
4. Wastewater management	21. Diversity and equal opportunities	28. Procurement practices	
5. Greenhouse gas emissions	22. Occupational health and safety	29. Quality control	
6. Waste management	23. Employee training and development	30. Customers' health and safety	
7. Energy use	24. Prevention of child labour and forced labour	31. Responsible marketing and promotion	
8. Use of water resources		32. Customer services management	
9. Green energy projects		33. Protecting intellectual property rights	
10. Use of raw and packaging materials		34. Research and development	
11. Ecological protection		35. Information safety	
12. Responding to climate change		36. Customer privacy protection	
13. Prevention and handling of environmental incidents		37. Anti-corruption	
14. Noise management			
15. Green office			
16. Green building			
17. Soil pollution management			


The Group has identified 10 material issues, including 3 environmental issues, 5 employment and labour practices issues and 2 operating practices issues. The Report will focus on these material issues in order to respond to the information needs of key stakeholders.



Aspects	Material Issues	Corresponding Sections
Environment and Resources	1. Environmental compliance	Prevention and Control of Pollution
	11. Ecological protection	Prevention and Control of Pollution
	13. Prevention and handling of environmental incidents	Prevention and Control of Pollution
Employment and Labour Practices	18. Employment compliance	Recruiting Talents; Caring for Employees
	19. Remuneration and benefits	Recruiting Talents; Caring for Employees
	20. Working hours and holiday entitlement	Recruiting Talents
	22. Occupational Health and Safety	Occupational Health and Safety
	24. Prevention of child labour and forced labour	Recruiting Talents
Operating Practices	25. Operational compliance	Quality Management and Innovative Research and Development
	36. Customer privacy protection	Privacy Protection



UN Sustainable Development Goals

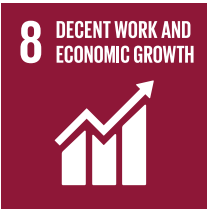
The Group believes that sustainable development is the development direction for enterprise. We are committed to achieving environmental, social and economic benefits and fulfilling corporate responsibility. To achieve this vision, sustainability considerations are integrated into our governance approach, business decisions and all aspects of its operations. Furthermore, we actively collaborate with stakeholders, including customers, communities and suppliers, to achieve their respective sustainable development goals.


In response to the UN Sustainable Development Goals initiative, the Group has identified 14 sustainable development goals that hold the utmost relevance for our operations. We are committed to contributing and exerting a positive influence on these areas. The table below provides a comprehensive overview of relevant targets and highlights the positive benefits generated in each indicator during the Year.



UN Sustainable Development Goals	Summary of specific goals	Positive impacts
 <p>1 NO POVERTY</p>	<p>1.4. By 2030, ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technologies and financial services, including microcredit.</p> <p>1.A. Ensure significant mobilisation of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.</p>	<p>[Adhering to People-Oriented Governance – Caring for Employees] The Group's labour union carries out regular surveys and visits to employees in difficulties, and takes the initiative to understand the living condition of employees in difficulties, their family relationships and financial burdens. Assistance is provided to employees who are suffering from illnesses, or whose families encountering misfortunes or difficulties in life.</p> <p>[Caring for Social Well-Being – Overseas Contributions] The Group has provided tens of thousands of jobs for and brought advanced agricultural technology and other technology to Guinea and Indonesia, thereby promoting local economic development. The successful operation of the Group's projects has attracted and driven more enterprises and investors into the local area to commence works in fields such as infrastructure construction and agriculture development, giving impetus to the local economic development. By leveraging China's advanced agricultural facilities, farming techniques and management experience, the Group seeks to develop a scalable agricultural facility and farming model as soon as possible, based on the unique climatic conditions of Guinea, to cultivate a number of reproducible vegetable varieties and to bring in a new breed of local agricultural workers who can manage the fields independently, thereby boosting local economic development.</p>


UN Sustainable Development Goals	Summary of specific goals	Positive impacts
 <p>2 ZERO HUNGER</p>	<p>2.1. By 2030, end hunger and ensure that all people, especially the poor and vulnerable, including infants, have access to safe, nutritious and sufficient food throughout the year.</p>	<p>[Caring for Social Well-Being – Overseas Contributions] The Group has provided economic and technical support to agricultural projects in Guinea to promote the development of the local agricultural industry.</p>
 <p>3 GOOD HEALTH AND WELL-BEING</p>	<p>3.4. By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being</p>	<p>[Occupational Health and Safety – Safe Production Management] The Group has developed a comprehensive and detailed safety management system and accident emergency plan, formulated monthly health and safety inspection work plans and conducted safety education activities to safeguard the occupational safety and health of production plant workers.</p> <p>[Occupational Health and Safety – Safe Production Management] The Group has ensured the health and safety of its employees by conducting safety and prevention training for occupational diseases, technical renovation and safe production management.</p>


UN Sustainable Development Goals	Summary of specific goals	Positive impacts
	<p>4.7. By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.</p> <p>4.A. Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all.</p>	<p>[Adhering to People-Oriented Governance – Caring for Employees] The Group has continued to participate in the “Sany Student Aid” charity programme, visited students in need in the towns, street offices and families of our employees with financial needs in Zouping City and offered assistance to them, helping them complete their studies.</p> <p>[Caring for Social Well-Being – Charity and Welfare] The Group actively participated in the charity projects, including construction of the Yunnan Rainbow Village (雲南七彩鄉村), supporting local education and medical industries. The Group also got involved in the Weiqiao Rainbow Home (魏橋彩虹之家) project sponsored by the Beijing Rainbow Charity Foundation (北京彩虹公益基金會).</p> <p>[Caring for Social Well-Being– Overseas Contributions] The Group actively organised public welfare activities in Indonesia, including funding education, among others. Through enhanced education, the Group helped local villagers facilitate a comprehensive sustainable development between people and natural resources.</p>
	<p>6.4. By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.</p>	<p>[Caring for Social Well-Being – Overseas Contributions] The Group built new wells and repaired defective wells in Guinea, alleviating the problem of drinking water shortage in the region.</p>

UN Sustainable Development Goals	Summary of specific goals	Positive impacts
 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>8.2. Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.</p> <p>8.6. By 2020, substantially reduce the proportion of youth not in employment, education or training.</p> <p>8.8. Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.</p>	<p>[Adhering to People-Oriented Governance – Talent Recruitment, Talent Cultivation and Caring for Employees] The Group strictly prohibits the employment of child labour and forced labour, provides various training to employees on a regular basis, protects the rights and interests of employees, and fosters a strong atmosphere of respect for labour, practical work and creativity.</p> <p>[Caring for Social Well-Being – Overseas Contributions] SMB Winning Consortium has more than 22,000 project staff directly or indirectly involved in Guinea, and the number of the subcontractors and merchants who specifically served SMB Winning Consortium reached over 5,000, and more than 92,000 job opportunities (including indirect employment) have been cumulatively created in Guinea, hence driving the economic growth of Guinea.</p>

UN Sustainable Development Goals	Summary of specific goals	Positive impacts
	<p>9.4. By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.</p>	<p>[Pursuing Excellence in Quality – Quality Management and Innovative Research and Development] By continuously upgrading its production technology and equipment through innovative research and development and encouraging staff members to participate in minor reforms in an in-depth and persistent manner and activities related to tackling key problems of QC (Quality Control) thoroughly, the Group strives to ensure stability and enhancement of product quality.</p> <p>[Responding to Climate Change - Optimisation of Energy Structure] The Group has continued to increase the proportion of using clean energy such as hydropower, photovoltaic power and wind power, so as to gradually optimise the energy structure to create a new pattern of parallel operation of various energy sources. In the future, the Group will continuously strive to increase the share of clean energy and promote the low-carbon transformation of its energy structure.</p> <p>[Promoting Green Production – Prevention and Control of Pollution, and Energy Conservation and Consumption Reduction] In addition to requiring all production units to attach great importance to energy conservation, it also urges all employees to actively participate in energy-saving technological transformation so as to enhance the utilisation efficiency of energy and resources.</p>

UN Sustainable Development Goals	Summary of specific goals	Positive impacts
	<p>10.3. Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.</p>	<p>[Adhering to People-Oriented Governance – Recruiting Talents] The Group firmly opposes gender discrimination. Employees, regardless of gender, are treated equally and the distribution of work is implemented according to actual needs. The Group also protects the lawful rights and interests of female employees according to law and complies with the relevant laws and regulations to provide female employees with benefits during pregnancy, delivery and lactation, including arranging breastfeeding time for employees returning to work after delivery.</p>
	<p>11.2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.</p>	<p>[Caring for Social Well-Being – Overseas Contributions] In order to provide convenience conditions for the development of local villages, SMB Winning Consortium allocated funds to renovate local public structures and bridges as well as to build roads for local communities.</p>

UN Sustainable Development Goals	Summary of specific goals	Positive impacts
	<p>12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.</p>	<p>[Promoting Green Production] The Group attaches great importance to pollution prevention, including the management and supervision of exhaust gas, waste water and soil pollution, and is committed to reducing greenhouse gas emissions in the production process to achieve an environmentally-friendly and sustainable production environment.</p>
	<p>12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.</p>	<p>[Pursuing Excellence in Quality – Supply Chain Management, Quality Management and Innovative Research and Development, Privacy Protection, Anti- corruption Practice] The Group has implemented an interlocking quality management network with the participation of all, strictly complying with national, industry and international standards to safeguard product quality and actively promoting the standardisation of the aluminum industry in China. In addition, the Group has always adopted a “zero tolerance” attitude towards illegal acts such as bribery, extortion, fraud and money laundering, and ensures that the privacy rights of both the Group and its customers are not infringed.</p>
	<p>12.7. Promote public procurement practices that are sustainable, in accordance with national policies and priorities.</p>	

UN Sustainable Development Goals	Summary of specific goals	Positive impacts
 <p>13 CLIMATE ACTION</p>	<p>13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.</p>	<p>[Responding to Climate Change] The Group proactively implemented the “3060” national dual-carbon goals by promoting the active participation of staff in energy conservation and emission reduction the Group has formulated ten key initiatives for carbon neutrality, which encompass business transformation as the strategic direction, operation transformation as the critical focus, and organisational and influence transformation as the capability support, aiming to steadily achieve the Group’s “dual carbon” goals, namely carbon peak by 2025 and net-zero emissions from operations by 2055.</p> <p>[Pursuing Excellence in Quality – Supply Chain Management] The Group adopts the principle of conducting procurement from nearby suppliers to reduce transportation costs and carbon emissions caused by transportation.</p>

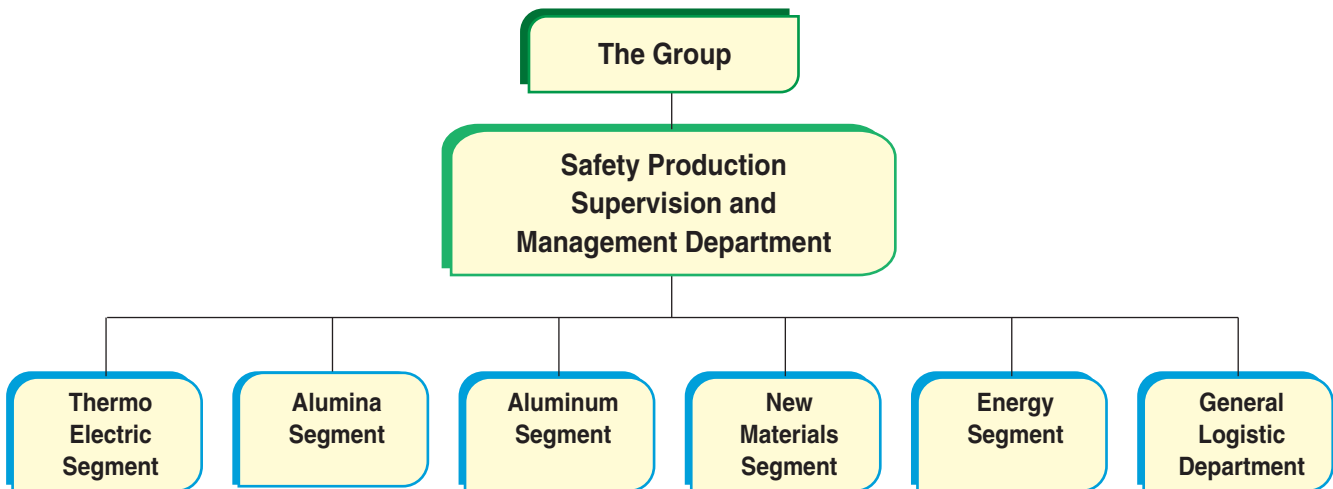
UN Sustainable Development Goals	Summary of specific goals	Positive impacts
 	<p>14.1. By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.</p> <p>15.2. By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.</p>	<p>[Promoting Green Production – Prevention and Control of Pollution, Green Office] The Group formulates and monitors the implementation of our internal environmental protection policies and guidelines, establishes environmental risk contingency plans, organises training and emergency drills on environmental incidents, regularly inspects the Group's production facilities and pollutants discharge facilities and conducts environmental performance appraisal for each production unit to ensure that exhaust gas, wastewater and solid waste are properly treated and disposed of to reduce the harm to underwater and terrestrial organisms.</p>
	<p>17.6. Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.</p>	<p>[Caring for Social Well-Being – Overseas Contributions] While participating in the development of Guinea and Indonesia, the Group has also been committed to promoting the economic and social development of Guinea and Indonesia, making an ongoing contribution to local employment, education, transportation, medical welfare, leisure and sustainable development projects of the community, and creating a new mode for multiparty cooperation and mutual benefit in overseas mining development.</p>

OCCUPATIONAL HEALTH AND SAFETY



The Group recognises that, it must adequately protect the health and safety of its employees and create a safe and healthy working environment, so that its employees can work at ease and safely. The Group has established a safety supervision department, which is responsible for and formulates its occupational safety-related regulations, annual production safety objectives and training programmes.

The following is the safety organisational chart of the Group.



We give the top priority on safeguarding the occupational health and safety of our employees, upholding the production safety concept of “safety first, prevention foremost and comprehensive management”, we formulated and continuously improved the production safety responsibility system and safety risk prevention and control mechanism to ensure the smooth implementation of our safety management work. The Group has strictly conducted production safety management and employee occupational health management, formulated and continuously improved the Occupational Health and Safety Management System, which covers all of its activities and workplaces. The system is applicable to the Company’s overall safety management covering companies engaged in thermoelectricity, aluminium, alumina, new materials and energy and general logistic department departments, and standardised qualitative standards on safety production of internal companies and managed the health and safety performance of contractors. Each branch was inspected by the Safety and Technology Department, the Production Safety Management Department, the Safety and Environmental Protection Section or the Safety and Technology Section of the branches as required. Our safety management is implemented through a well-established and transparent production safety responsibility system, and a clear reporting mechanism for safety incidents is in place.

In order to implement the Response Plan for Environmental Emergencies of Shandong Province (Lu Zheng Ban Zi [2020] No. 50) (《山東省突發環境事件應急預案》(魯政辦字【2020】50號)), each company under the Group regularly organised identification and assessment of environmental risks, established preventive and reformative measures against risks, and prepared and published the Response Plan for Environmental Emergencies, in order to cope with various types of environmental emergencies. The measure includes emergency response measures for fire accidents, material leakage accidents, environmental facilities failures, soil contamination accidents, heavy air pollution, and measures that can be taken to control, minimise and eliminate environmental pollution. If a production safety accident occurs as a result of an environmental incident, the Company's Emergency Response Plan for Production Safety Accidents should be activated and combined with the Response Plan for Environmental Emergencies. The responses to environmental emergencies exceeding the Company's emergency response capacity are in line with the Response Plan for Environmental Emergencies of Shandong Province, which are under the command of the government departments and made under the organisation of the higher-level government departments. The plan has been evaluated by experts and filed with the Environmental Protection Department, and regular drills will be organised.

Case study – Shandong Hongshun's occupational health and safety management system

Shandong Hongshun established an occupational health and safety management system in accordance with the ISO 45001:2018 (GB/T 45001-2020) standard. Shandong Hongshun, which set up an "in-house production safety committee", provided employees with a mechanism to raise, discuss and participate in resolving occupational health and safety issues with the management. Shandong Hongshun held quarterly production safety meetings on a regular basis to respond to incidents and attempted incidents. An HSE management system has been in place to ensure that staff are able to raise health and safety issues without fear of criticism or reprisal, and to reward employees for their safety and health-related suggestions.

The Group sets quantitative health and production safety targets every year. The Safety Supervision Department signs a letter of responsibility for safety targets with the principal person in charge of each production and construction unit on a yearly basis, and supervises and urges each unit to complete the items listed in the letter of responsibility. At the same time, it improves the production safety responsibility system of departments (positions) at all levels. A letter of responsibility for production safety management is signed from top to bottom, and a comprehensive safety management mechanism is in place, so as to clarify the responsibility to each employee. The Group requires that the letters of responsibility signed at all levels should tally with the actual situation of each unit. The responsibilities defined by the Safety Supervision Department should be clarified, detailed and decomposed. The Safety Supervision Department is responsible for setting up a team to investigate and determine the nature of production safety accidents. The accident reports were sent to all units of the Company to learn from the accidents.

The Group achieved all of its health and production safety targets for the year. The following are its specific production safety targets for the year and the status of their achievement.

Targets	Status of achievement
1. Elimination of fatalities and serious injuries.	There were no fatalities or serious injuries.
2. Elimination of major equipment-related production accidents; elimination of serious responsible production accidents.	There were no serious responsible production accidents or major equipment-related accidents.
3. Elimination of serious fire and explosion accidents.	No serious fire or explosion accidents occurred.
4. Elimination of occupational diseases and acute poisoning accidents, as well as accidents causing food poisoning to five or more people at a time.	There were no food poisoning incidents involving five or more persons.
5. Elimination of major construction quality accidents and construction injuries.	There were no major construction quality accidents or construction injuries.
6. Elimination of major traffic accidents for which we are primarily responsible.	There were no major traffic accidents for which we were primarily responsible.

The Group has been certified by the occupational health and safety management system for its processing and relevant management of cast aluminum alloy ingots, aluminum and aluminum alloy busbars, molten aluminum alloy, aluminum and extruded aluminum alloy bars, aluminum and aluminum alloy plates, as well as alumina. At the same time, we place great importance on the safety and health of products and services when selecting suppliers. We consider suppliers' safety records to ensure that there are no safety and health issues with their products, and monitor them to ensure that their products and services meet our safety standards. If a supplier's products have been previously recalled for safety and health reasons, we will diligently verify this information and promptly implement appropriate measures in response.

PRODUCTION SAFETY MANAGEMENT

In accordance with laws and regulations such as the Work Safety Law of the PRC, the Special Equipment Safety Law of the PRC, the Interim Provision on the Identification and Treatment of Hidden Perils of Work Safe Accidents, the Provisions on Safety Training of Production and Operation Entities, the Administrative Measures for Emergency Plan of Production Safety Accidents of Shandong Province, and the Regulations on Safety Production in Shandong Province, the Group has developed a comprehensive and detailed safety management system and production safety accident emergency plan.

The Group strives to formulate and continuously improve the production safety risk prevention and control process to provide guidance and ensure the smooth safety management. Here are key steps in the process:

1. Risk identification and assessment: In accordance with the Hazard Identification and Evaluation Management Procedures, the Safety and Environmental Protection Department normalises the hazard source identification and risk assessment in an all-round manner every year, proposing classification control measures for each hazard source. Through this step, the Group is able to identify and assess possible hazard sources and potential risks, and determine their materiality and severity. Based on the results of the assessment, the Group will create a list of material risks which will be updated on a quarterly basis.
2. Risk control: The Group combines daily inspections and regular inspections for major safety risks. In the meantime, a risk register was set up to record and track any risk found. The Group implements a graded risk supervision and handling system to ensure that each risk is rectified and handled.
3. Risk identification and management: In accordance with the characteristics of risks and corresponding control responsibilities, the Group establishes corresponding management standards and control measures in terms of organisation, system, technology, input and emergency response. These measures involve all levels and departments to ensure that all potential hazards are controlled and addressed in a timely manner.
4. Safety supervision: Each year, the Group carries out hierarchical, classified and precise supervision in accordance with the functional positioning, the degree of a risk, specific work and other factors. The purpose of such supervision is to inspect and evaluate the production safety work of various units and departments and to ensure the effective implementation of various safety measures.

Through the above steps, the Group is able to comprehensively identify, assess and control production safety risks and continuously improve its safety management measures. These measures will help ensure its operational safety and protect the lives and properties of employees and the general public.

In order to continuously monitor whether the working environment and conditions of each production plant are in compliance with the Group's occupational safety and health standards, the Group develops a monthly health and safety inspection plan, which carries out various types of special inspections on a monthly basis to prevent any health and safety-related accidents, and to safeguard the occupational safety and health of employees in the production plant. The monthly inspections during the Year focused on the Group's factory areas, such as the gas safety inspection in January; special inspection on night duty in each production plant in March; special inspection on the management of electrical equipment in each unit in June; and special inspections on DC power systems for respective units in October, to ensure safety in the factory areas and provide a safe working environment for employees.

The Group actively provides employees with various safety training opportunities and organises various production safety sharing sessions to enhance their skills and awareness of protecting themselves and others. The Group sets monthly training topics and targets in the safety training programme, and provides monthly training on safety and health protection to its employees in different areas, such as explanation of safe production responsibility, emergency training on various contingencies, training on special equipment, occupational disease prevention measures and handling training. In order to enhance the safety awareness and self-protection ability of employees, the Group regularly organises production safety sharing sessions for all employees to conduct unified learning on recently issued accident cases and unsafe situations, and explains and analyses on-site inspection of potential safety hazards. Employees can learn from the personal unsafe experiences shared by others in the work safety sharing sessions to avoid the similar situations in the course of their work.

Case study – Solution to deal with leakage of intermediate frequency furnace

An emergency drill on the plan to deal with a leakage of the intermediate frequency furnace was carried out during anode assembly on 30 September 2023, in order to test the effectiveness of the plan, improve the team's ability to respond to emergencies, and optimise the existing mechanism for dealing with emergencies. The drill lasted 35 minutes and involved a total of 22 production staff. The drill included the warning and reporting of emergencies, the command and coordination of the whole emergency response process by the command headquarters, the handling by the risk removal team, the alerting by the integrated logistics team, and the technical guidance by the expert team.

In the simulated scenario, an accident occurred involving a leakage in the intermediate frequency furnace. The on-site personnel promptly detected the incident and reported it to the command headquarters using communication tools. Subsequently, the emergency response plan was activated, leading to immediate emergency rescue operations. As a result of these efforts, the simulated accident was successfully contained and brought under control. The drill reflected that the plan was reasonable, and the content and speed of the drill and the emergency supplies met the objectives and requirements of the drill. In response to the problems identified during the drill, we have also enhanced the training. Through this drill, we have enhanced the staff's awareness of production safety.



Emergency drill on intermediate frequency furnace

In addition, the Group is committed to modifying and upgrading the machinery and equipment in the production plant with a view to strengthening occupational safety and health protection in the working environment. During the Year, the Group embarked on a number of equipment safety technical modifications, including:

- Shift from one-way power supply to two-way power supply to improve reliability for the heating quick closing valve in a thermal power plant and the control cabinet for LV valve station.
- Addition of retractable rail callipers for electrolytic aluminum multi-functional cranes to improve safety and reliability.
- Conversion to the two-out-of-three system for the all-off signal of the main throttle valve in the thermal power plant to improve safety and reliability.
- Replacement of manual work with “one-touch start” for alumina product filtration and alkaline digestion to improve the safety.

Case study – Electric retractable rail callipers were installed on both sides of end beams of overhead cranes and traveling cranes

Electrolytic aluminum plants of the Group installed electric retractable rail callipers on both sides of end beams of overhead cranes and traveling cranes, equipped with a remote control system. When safety measures need to be taken for the inspection and maintenance of the overhead cranes or the traveling cranes, the staff only need to operate remotely from afar to place the rail callipers in place, without the need to climb on the overhead cranes or the traveling cranes, which avoids elevated operations and reduces the risk of deploying safety measures. At the end of the work, the electric retractable rail callipers can be returned to its original position by remote control, which ensures the working efficiency and enhances the safety level. Similar technical modifications can effectively reduce the occurrence of accidents and protect the health and safety of employees.

Case study – Replacement of manual work with “one-button start” for alumina product filtration and digestion

In order to improve the safety and reduce the labour intensity of employees, the roasting workshop of alumina plants of the Group has technically changed the product filtration and digestion process to the “one-button start” alkaline digestion system. In the past, when the finished product filtration was boiled with alkali, all the valves were operated manually, the alkali solution was warmed up to the required temperature first, and then employees operated the relevant valves manually. It involved many parts of the flow valves, and employees needed to go back and forth to each floor several times to confirm the operation. Potential risk accidents may occur during the operation process, such as fall and burn, and the labour intensity is relatively large. In view of this operation, the roasting workshop actively explored and boldly innovated to automate the process of manual digestion work, realizing “one-button start” digestion operation. All the valves involved in the on-site digestion process were

converted to electric valves and connected to the DCS system. The “one-button start” digestion procedures were set according to the sequence of valve opening and closing, and the sequence of starting and stopping the alkali pumps, thus realising the remote operation. The digestion system was controlled through the DCS system of the main control room, realising the purpose of safe operation.



Figure 1: Installation of an automatic retractable rail calliper on the crane

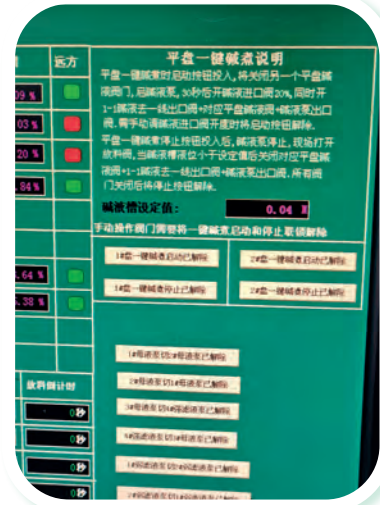


Figure 2: One-button digestion from DCS flat panel



Figure 3: Shift from one-way power supply to two-way power supply for the heating quick closing valve in a thermal power plant and the control cabinet for LV valve station



Figure 4: Shift from two swing arm travel switches to three firing pin travel switches

OCCUPATIONAL HEALTH MANAGEMENT

The Group strictly abides by relevant laws and regulations including the Work Safety Law of the PRC, the Law of the PRC on the Prevention and Control of Occupational Diseases and the Provisions on the Supervision and Administration of Occupational Health at Work Sites, to implement the management work regarding employees' occupational health during the production process, which includes warning and notification of occupational disease hazards, occupational disease prevention education, maintenance of protective equipment and facilities, monitoring and evaluation of hazards, reporting of hazard incidents and emergency rescue, and so on. In order to strengthen emergency prevention and control management, we established a part-time emergency rescue team as required, formulated an emergency drill plan, and launched training and drills on a regular basis. We ensure that we organise at least one comprehensive or special emergency drill every six months, at least one drill for all special emergency plans every two years, and at least one drill for all on-site handling plans every six months, so as to strengthen employees' ability to prevent accidents.



Emergency response drill for electric shock



Fire emergency drill



Emergency response drill for heatstroke



Emergency response drill for fall injuries

In daily safety management, the Group provides employees with complete and professional personal protective equipment such as safety helmets, safety goggles, earplugs, anti-high temperature protective shoes, insulated shoes and gloves, acid-resistant gloves, dust masks and gas masks and strictly supervises the use of protective supplies and the operation and protective functions of protective devices. In addition, the Group regularly disinfects the production area and production equipment to prevent the spread of any infectious diseases in the production area. In terms of safety hazard identification, the Group has entrusted a qualified occupational health and technical service agency to test occupational hazards in each production plant regularly, in order to identify and control various sources of occupational hazards such as air pollutants, dust, noise and radiation. Moreover, for new recruits or employees exposed to occupational hazards, the Human Resource Department will arrange occupational health checks before and during employment and create health records to monitor the health conditions of employees regularly. Occupational health checks will also be provided for employees when they leave their positions.

RESPONDING TO CLIMATE CHANGE



Climate change is becoming a common challenge faced by all of humanity. As the world's largest developing country, China, which is faced with the heavy burden of development, is playing an increasingly important role in the fight against climate change. As a large-scale enterprise based in China and serving the world, the Group has been committed to the global low-carbon transformation. Under the framework of China's "dual carbon" goals, the Group proactively accelerates its transformation and actively explores the path of sustainable development in the future, so as to contribute more to the harmonious coexistence of the global economy and ecology.

REALISATION OF CARBON NEUTRALITY

The Group has formulated 10 key initiatives for carbon neutrality, which encompass business transformation as the strategic direction, operation transformation as the critical focus, and organisational and influence transformation as the capability support, aiming to steadily achieve the Group's "dual carbon" goals, namely carbon peak by 2025 and net-zero emissions from operations by 2055. In addition to ensuring the achievement of our "dual carbon" goals, we actively engage stakeholders along our value chain to reduce carbon emissions and address the risks posed by climate change.

The following is the strategic deployment and transition path for China Hongqiao to achieve carbon neutrality:



The period from 2020 to 2030 is the initial decarbonisation period. In view of the high proportion of fossil fuels, a priority will be given to energy structure transformation in the initial stage. On the one hand, efforts will be made to promote the relocation of hydropower and aluminum bases. On the other hand, we will speed up investment in and application of clean energy such as wind power and photovoltaic power, so as to gradually replace fossil fuels with clean energy. The Group will continue to pursue green development by boosting technological innovation, enhancing operational efficiency, promoting low-carbon products, expanding downstream products and utilising resources in an all-round manner to achieve energy conservation and carbon emissions reduction.

As an enterprise with a strong sense of social responsibility and mission, the Group firmly insists on sustainable development and complies with the UN Framework Convention on Climate Change to comprehensively carry out climate risk assessment and management. We continue to improve our climate change response system, and strengthen the management of climate change issues in four dimensions, namely governance, strategy, risk management, and metrics and targets. We refer to the recommendations from the Task Force on Climate-related Financial Disclosures (“TCFD”) to elaborate on the measures that we are taking and the direction that we are heading for in terms of achieving carbon neutrality and addressing climate change in the future.

GOVERNANCE

The Board, as the supreme management body of the Group, directly supervises and leads the Group’s work on climate change. The Board is fully aware of the significant environmental, social and economic challenges posed by climate change and, on this basis, has formulated a series of specific policies and measures to ensure the sustainable development of the Group. The Board regularly oversees the various initiatives to address climate change within the Group to ensure that these policies are effectively implemented, and, where necessary, raises and discusses the Group’s performance and progress in addressing climate change at its meetings, in order to achieve the Group’s objectives in the field of climate change.

The Group’s management is responsible for organising the assessment and management of climate issues and reporting climate-related information to the Board from time to time. The Group has been gradually carrying out research on the current situation, strategy formulation, risk management, identification and management of indicators and targets for the risks and opportunities that it may face as a result of climate change.

The Group recognises that climate change response is not only a responsibility, but also an opportunity. By proactively addressing climate change, the Group can promote innovation, enhance competitiveness and lay the foundation for sustainable development in the future. The Board is therefore committed to incorporating response to climate change into the Group’s strategic planning and business operations, and to achieving sustainable development through continuous improvement and innovation.

STRATEGY

The Group proactively pays attention to the potential risks of climate change in its operations and is committed to implementing energy conservation and emission reduction measures and formulating contingency plans to mitigate and adapt to the impact that climate change may bring to its business. During the Year, the Group identified the risks and opportunities associated with climate change based on factors such as the national macro environment, industry characteristics and the Company's development plan, analysed the impact of the risks on the Group and actively adopted countermeasures in production, operation and supply chain.

The following table sets out the climate risks that have a high potential impact on the Group's business:

Risk description and potential impacts	Impact cycle	Potential impacts
Transition risks		
Policies and regulations	Medium term (5-10 years)	<ul style="list-style-type: none"> As China's carbon emission trading system commenced operation, the aluminum industry will be included in the carbon emission trading system in the future. The responsibility to report greenhouse gas emissions may increase due to the policies released by regulators, which may exert an effect on the operations of the Company. In the face of increasingly stringent compliance and disclosure obligations, the Group is also exposed to transition risks such as increased legal liabilities and operating costs arising from existing products and services and increased requirements and regulation. The expert panel needs to strengthen its ability to manage climate change. As ESG-related issues and challenges have just come to the forefront in recent years, the Board and the management need to keep abreast of contemporary climate-related issues and have sufficient knowledge to lay down effective strategies and policies to identify, monitor and manage climate-related risks. International carbon-related trade barriers continue to increase, such as the EU's Carbon Border Adjustment Mechanism (CBAM), which may not only affect the imports and exports of the Group's products, but also affect cross-border transactions of the Group's downstream companies. This will have an impact on the production efficiency of the Group.

Risk description and potential impacts		
Impacts	Impact cycle	Potential impacts
Technology	Medium term (5-10 years)	<ul style="list-style-type: none"> It faces technological constraints in developing innovative technologies and methods to improve energy efficiency. Uncertainty about investment in new technologies impedes to the development of cleaner manufacturing methods.
Funding	Short-term (1-5 years)	<ul style="list-style-type: none"> Considerable funding is needed for comprehensive insurance coverage for properties, improvements to the physical structure of buildings and the selection of environmentally-friendly products. Stakeholders' concern regarding the Group's efforts in addressing climate change and the environmental friendliness or low-carbon nature of its products and services is increasingly growing. As a result, the Group needs to increase its investment in environmental technologies, leading to cost escalation. The increasing frequency of natural disasters has made insurers more cautious about property risks, so they may be reluctant to offer insurance services or charge higher insurance premiums. Meanwhile, due to climate change, it may also be difficult to obtain insurance coverage for some high-risk or specific types of assets, as insurers may consider these areas to be at greater risk of loss. Decreases in the availability of water or other raw materials due to changes in weather patterns may result in additional production costs. If the Group fails to meet the industry's expectations in terms of climate change adaptation measures for product decarbonisation, financing costs may increase.

Risk description and potential impacts		
Risk description and potential impacts	Impact cycle	Potential impacts
Market	Short-term (1-5 years)	<ul style="list-style-type: none"> Due to the industry characteristics, downstream players in the value chain are gradually focusing on the low-carbon attributes of their own products and services, thus raising the low-carbon requirements for the Group's major products. In order to meet market changes, the Group needs to accelerate the low-carbon transformation of its products. Customers may change their consumption concepts to combat climate change, such as preferring more eco-friendly products. The cost of inputs (e.g. energy, water, raw materials) and the cost of outputs (e.g. waste treatment) rise as a result of catering to customer preferences. The Group faces financial and resource constraints in responding to physical risks and changes in customer preferences.
Reputation	Short-term (1-5 years)	<ul style="list-style-type: none"> Stakeholders are increasingly concerned about the Company's performance in green and low-carbon development and climate change. Any deviation from expectations may affect the Group's reputation and image, which in turn may affect the Group's market performance.

Risk description and potential impacts		
Risk description and potential impacts	Impact cycle	Potential impacts
Physical risk		
Acute risk	Long-term (>10 years)	<ul style="list-style-type: none"> The implementation of new practices and processes for managing extreme weather events, difficulty in transportation, and increased maintenance and repair budgets have resulted in increased operating costs. Extreme weather events can have a significant impact on the health, safety and work efficiency of employees and may lead to absenteeism. The natural environmental risk led to the increasing severity of extreme weather events. This may cause transportation difficulties and supply chain disruptions, which in turn may reduce production capacity and bring about potential economic losses. The main electricity supply in Yunnan is hydropower that is susceptible to weather and water conditions. In the event of an extreme weather event in the province, the production, transmission and distribution of hydropower will be affected, which will in turn adversely affect the aluminum products business in Yunnan to a certain extent.
Chronic risk	Long-term (>10 years)	<ul style="list-style-type: none"> Increased rainfall and sea level rise will increase the likelihood of extreme precipitation and flooding. Longer term changes in climate patterns may increase the Group's operating costs. For instance, sustained high temperatures will increase the demand for water supply and summer refrigeration, which will result in higher energy consumption and equipment maintenance costs.

In response to the climate risks identified in the above table, we have worked out and taken strategies in our production, operation and supply chain.

At the policy and regulatory risk level, the Group regularly reviews global and local government policies and regulatory updates on climate change, technological developments and market trends, and communicates with internal and external stakeholders on climate-related impacts and its strategy to address climate change, in order to understand emerging climate-related risks as well as their comments and views on climate-related issues, and to identify potential climate-related risks and opportunities that may have an impact on the group's business. We also conduct risk assessments to review our risk list to confirm that climate-related risks have been covered and determine the appropriate level of business operations to withstand climate-related risks and the associated vulnerability, and to continually review and refine our climate change and energy policies in order to formulate responses and preventive measures as early as possible. The Group assigns appropriate employees to be responsible for dealing with climate-related risks, involves risk management and sustainability professionals in the risk identification and understanding process, and meets regularly with these professionals. The Group has also established a legal team to identify and monitor its exposure to climate-related litigation and related legal risks. It will clarify climate-related risks in its risk statements.

The Group has actively responded to national development policies, and implemented the country's "3060" dual-carbon goals. It has initiated its planning, arrangement and implementation of dual-carbon work in advance. Through promoting its dual-carbon strategic planning project, the Group will be able to fulfill its environmental and social responsibilities, open up a wider space for greenness and contribute to the sustainable development of the community and the industry. Please refer to the section headed "Realisation of Carbon Neutrality" for the Group's dual carbon information. The Group actively implements internationally 'recognised environmental management systems, such as ISO14001, to help manage and monitor climate-related risks. At the same time, the Group will strengthen its emission reporting obligations due to the policy risks arising from increasingly stringent policies. The Group assigns dedicated staff to keep abreast of the update of ghg emission reporting obligations and engages a professional consultant to outsource the process of reporting GHG emissions and consult it on the compliance obligations of reporting GHG emissions or suggestions for improvement. Moreover, the Group has continued to carry out carbon trading management work, established a sound carbon asset management system, rationally allocated and utilised carbon credits and completed the performance requirements. The Group actively participates in consultations on formulation of climate-related industry regulations or policies to express its concerns and views.

As a responsible industry leader, the Group proactively undertakes social responsibilities, actively responds to global climate challenges, and utilises its own initiative and influence in leading the reduction in carbon emissions in the industrial chain. It seeks technological collaboration and strengthens partnerships to promote the reduction in carbon emissions in the industrial chain at home and abroad. The Group will be able to accelerate the pace of carbon neutrality and sustainable development, promote responsible aluminum production and establish close cooperation with partners from other countries.

In 2021, we worked with Aluminum Corporation of China Limited (中國鋁業集團有限公司) to issue the “Joint Initiative on Accelerating Green and Low-Carbon Development of Aluminum Industry” to actively shoulder our social responsibility and call on players in the aluminum industry to value carbon and promote carbon emissions reduction. The Group will actively assist upstream and downstream players by providing renewable energy support to help optimise the energy benefits of suppliers and promote the low-carbon and clean transformation of transportation means so as to contribute to the low-carbon development in the industry. In the future, the Group will continue to actively invest and participate in research and development and transformation projects in “green intelligent manufacturing”, “blue energy” and “circular economy” by relying on the Weiqiao&UCAS Research Academy. These projects were designed to promote the development of green intelligent manufacturing technologies, explore the application of blue energy, and promote the practice in building a circular economy. Meanwhile, the Group will incubate and support 200 to 300 technologically innovative enterprises, as a move to contribute to the realisation of carbon emissions reduction in the entire industrial chain and society. Through these efforts, the Group is committed to promoting the green and low-carbon development of the aluminum industry to address climate change and environmental challenges, and make positive contributions to sustainable development.

In terms of addressing technical risks, the Group regularly consults with professionals and experts to understand the risks of investing in innovative and low-carbon technologies and follows an established working framework to manage the impact of the low-carbon transition. Continuous efforts were made to improve the management of energy conservation and emission reduction, and accelerate the research and development and application of low-carbon and zero-carbon technologies in mining, smelting and production. It conducted in-depth research on the new energy industry, and optimised the energy structure, improved the energy use structure largely from new energy and accelerated the adjustment of the energy structure of subordinate companies.

OPTIMISATION OF ENERGY STRUCTURE

The Group adheres to the synchronisation of development and emission reduction. Efforts were made to move production capacity to reduce the proportion of fossil energy and increase the proportion of using clean energy such as hydropower, photovoltaic power and wind power, and gradually optimise the energy structure to create a new pattern of parallel operation of various energy sources. In the future, the Group will continuously strive to increase the share of using clean energy and promote the low-carbon transformation of its energy structure. During the Year, the Group was constructing a green aluminum innovation industrial park in Wenshan Zhuang and Miao Autonomous Prefecture, Yunnan, which will make full use of Yunnan Province’s hydroelectric and photovoltaic power generation to create a multi-energy green power supply pattern, continuously reduce coal consumption and increase the proportion of green energy. The Group continued to optimise the transformation of its energy structure and accelerate the conversion of old and new energy sources. In particular, the Yunnan Wenshan Green Aluminum Innovation Industrial Park was selected as a case study for corporate climate action in 2022 during the 27th Conference of the Parties (COP27) to the UN Framework Convention on Climate Change. In the Innovation Park, traditional energy sources were replaced with green hydroelectric resources, hydroelectric resources were fully utilised to promote the deep integration of hydroelectricity and the aluminum industry, a 100% local conversion of hot molten aluminum metal was achieved and the rate of local deep processing of aluminum alloys had reached more than 80%.

Case study – Green aluminum innovation industrial park

In line with the global trend of energy reform and in conformity with the national policies of energy structure optimisation, key industry distribution adjustment and industrial transfer, the Group cooperates with the People's Government of Yunnan Province to establish a green aluminum innovation industrial park, which allows the Group to fully enjoy and utilise the policy for integrating water, electricity and aluminum promoted by the People's Government of Yunnan Province. By banking on the clean hydropower advantage of Yunnan, the industrial park will replace traditional energy with green hydropower, which will further enhance the energy efficiency of the Group's production, reduce its reliance on traditional energy, reduce the emission of pollutants and greenhouse gases and lower production cost. The Group has played a vital role in the planning and deployment of the 3.43-million-tonne green aluminum and 1.78-million-tonne recycled aluminum industries in the region, promoting the prosperous development of the entire industrial chain from mining to electrolytic aluminum, recycled aluminum and deep aluminum processing. China's new highland of green aluminum integrating green intelligence is rising.

The equipment, technology, process and automated control of the green aluminum innovation industrial park are up to the international leading standard in the industry. Various operations in the production process have achieved basic automation and intelligentisation, and achieved an advanced level in terms of average labour efficiency per capita. Among them, the 600kA electrolysis cells were awarded the First Prize of the China Nonferrous Metals Industry Scientific Technology Award in 2016. It is currently the largest electrolysis cells model in the world and can effectively reduce flue gas emission. In addition, the first domestic wet flue gas desulphurisation system of electrolysis plants was installed at the back of the feed dry flue gas purification system of the industrial park and the wet desulphurisation system was introduced. After electrolysis of flue gas by the wet desulphurization process, the levels of sulphur dioxide, smoke particles and fluorides are controlled at below the aluminum limits of the national industrial pollutant emission standards. This enabled us to truly achieve ultra-low flue gas emission of the aluminum electrolytic industry. Yunnan Hongtai was named as one of the leaders in the green aluminum industry in Yunnan during the Year.

The Group will continue to increase its capacity and expand in scale, so as to enable the Group to pursue sustainable development in respect of green, low carbon, environmental protection.



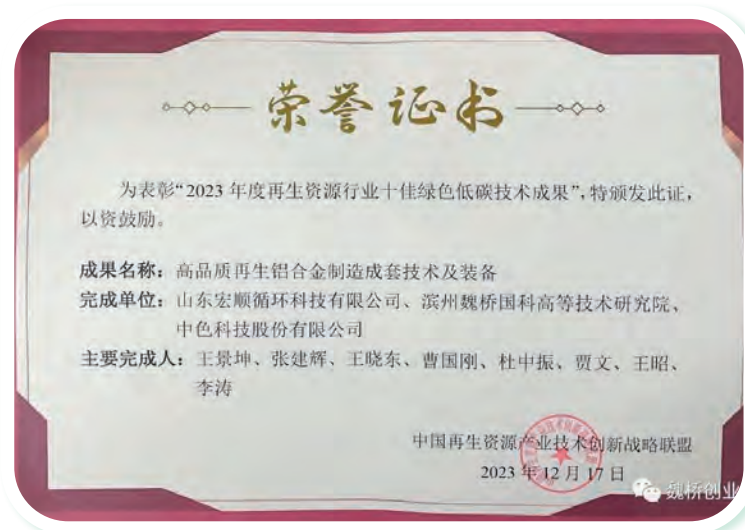
Yunnan Green Aluminum Innovation Industrial Park

Case study – Shandong Hongshun won 2023 Top Ten Green Low-Carbon Scientific and Technological Achievement Award of Renewable Resources Industry

Shandong Hongshun's "High-quality recycled aluminum alloy manufacturing technology and equipment" project won the 2023 Top Ten Green and Low-Carbon Scientific and Technological Achievement Award of Renewable Resources Industry.

The project is an innovative achievement made by Shandong Hongshun, Binzhou Weiqiao & UCAS Advanced Technology Academy (滨州魏桥国科高等技术研究院), and China Nonferrous Metals Processing Technology Co., Ltd. (中色科技股份有限公司) through the industry-academia-research cooperation and the focus on the current situation of the recycled aluminum industry and the existing difficult problems. The project has integrated advanced and highly automated metal crushing and sorting processes, and the technology and equipment for removing impurities in recycled aluminum, which has greatly increased the recycling rate of recycled aluminum and the grade-preservation utilisation level.

In the crushing and sorting of aluminum scrap, imported crushing and sorting equipment is used, which can realise the mechanical, automated and intelligent control over recycled aluminum scrap, making the pretreatment of metal safer, more environmentally-friendly, more efficient and more reliable, and greatly increasing the recovery rate and purity of metal. It achieves the grade-preservation utilisation of aluminum cans, doors and windows through the special paint removing process of scrap aluminum and the melting and degassing and slagging process, and keeps the overall burning loss of metal at a relatively low level, successfully creating an energy-saving, efficient, green and low-carbon recycled aluminum production model.



Shandong Hongshun won the 2023 Top Ten Green and Low-Carbon Scientific and Technological Achievement Award of Renewable Resources Industry

In addressing the funding risk, the Group has taken a number of measures to ensure sustainable development. Firstly, the Group worked with insurers to develop appropriate insurance policies, conducted assessments on climate change risks, and provided comprehensive insurance coverage for property and other assets susceptible to damage from extreme weather. At the same time, the Group strove to improve the energy use efficiency and reduce carbon emissions by actively promoting the application of renewable energy and gradually reducing its reliance on traditional energy sources in order to lower its overall carbon intensity. Secondly, its products underwent continuous life cycle assessment (LCA) certification, which helps it monitor the carbon emissions and environmental benefits of products and ensure that they are sustainable and environmentally friendly throughout their life cycle. Additionally, the Group issued an offshore sustainability-linked loan and set emission reduction targets, committed to continuously improving its sustainability performance. We issued onshore green bonds and used these funds to support the recycling of waste resources and the development of renewable energy projects in order to actively promote the development of a green economy.

The Group used a portion of the funds for research and development and investment in environmentally-friendly technologies to reduce the Company's carbon footprints and provide environmentally-friendly products and services, including improvement of existing products, development of renewable energy projects, and promotion of energy conservation and emission reduction measures. Efforts were made to re-evaluate its asset allocation and optimise the use of resources to meet the need to tackle climate change, and shift to low carbon and sustainable development, or seek partnerships with other companies to share resources and reduce costs. To minimise the risks from climate change to our business, we created a flexible supply chain and reduced reliance on specific regions or specific raw materials, which can help mitigate the risk of increased production costs due to shortages of water or other raw materials caused by changes in weather patterns. In the meantime, we gain our support and trust from our stakeholders with comprehensive sustainability report demonstrating the Company's efforts and achievements in environmental friendly and low carbon businesses. We sought opportunities to collaborate with other organisations, government agencies, and investors for funding support and scientific expertise. We worked with research institutions, non-governmental organisations, and sustainability initiatives on implementation of projects or for funding support.

In addressing market and reputational risks, the Group actively conducted market research and reviewed relevant market reports to keep abreast of market trends in climate-related matters. The Group has progressively embarked on green aluminum brand building to enhance the Company's influence and low-carbon image in the value chain. It made great efforts on technology research and development and production line construction with regard to green aluminum products such as low-carbon aluminum, zero-carbon aluminum and recycled aluminum, expedited the progress of commercialisation of green aluminum products, enhanced the Company's reputation, and expanded the market share of green products. The Group's two low-carbon and green aluminum brands, HQALight and HQALoop, have been registered in China and Germany respectively. The former is low-carbon primary aluminum products produced with hydropower or other renewable energy sources, which adopts the world's leading 600 kA electrolytic bath and RuC technology. It has already been applied in the Group's Yunnan project. The latter refers to products made from recycled aluminum, with 100% of the raw materials being waste aluminum. The carbon emission is only about 5% of that of primary aluminum, which achieves remarkable results in energy conservation and emission reduction. For more information about the two green and low-carbon aluminum brands, HQALight and HQALoop, please refer to the section headed "Quality Management and Innovative Research and Development".

China Hongqiao continues to improve its sustainable development management. Currently, four subsidiaries of the Group (Shandong Hongchuang Aluminum Industry Holding Company Limited (山東宏創鋁業控股有限公司) ("**Shandong Hongchuang**"), Yunnan Hongtai, Hongfa Aluminum and Binzhou Hongzhan Aluminum Technology Co., Ltd. (濱洲宏展鋁業有限公司) ("**Binzhou Hongzhan**") have successfully passed the ASI Performance Standard certification. Meanwhile, three other subsidiaries of the Group (Shandong Hongshun, Weihai Chenxin and Weihai Haixin) have completed the review of the ASI Performance Standard. Please refer to the section headed "Quality Management and Innovative Research and Development" for details of the ASI Performance Standard certification of the Group's subsidiaries.

In response to physical risks such as extreme weather, the Group has put in place a number of risk mitigation measures and contingency management plans to prepare and maintain adequate resources to mitigate climate-related risks and resolve climate-related crises. The Group has conducted risk assessments on the impact of extreme weather on the Group's business to better adapt to and prepare for future extreme weather events. The Group has provided comprehensive insurance coverage for properties and other assets vulnerable to extreme weather damage and enhances the resilience of the physical structure of buildings through design and appropriate maintenance. We make special working arrangements and issue safety warnings according to special weather conditions. We have put in place an emergency evacuation plan and made special working arrangements for extreme weather events to safeguard the health and safety of our staff (e.g. policies when typhoon signals are in force).

In addition, the Group continuously assesses climate-related environmental and social risks in the supply chain. We conduct environmental surveys in the form of questionnaires or field visits to evaluate and monitor the performance of suppliers in environmental compliance, environmental protection and resource conservation, continuously optimise the supplier team and reduce the environmental and social risks posed by unqualified suppliers. Moreover, suppliers are also required to take precautionary measures against climate-related risks to ensure stable production in their factories. The Group also promotes green procurement internally and purchases or selects products with the least environmental impact when possible.

At the same time, the Group integrates the concept of greenness and low carbon into the organisation and management of its operations, and takes practical actions to contribute to the development of greenness and low carbon.

The Group implemented a low-carbon model internally, organised “dual carbon” management training sessions and launched low-carbon culture learning activities to incorporate the concept of low carbon into the daily behavior of employees. For example, we organised green outdoor activities such as wetland race walks, brisk walks, and tree planting on a regular basis. In the Yunnan Green Aluminum Innovation Industrial Park, the Group has continuously carried out reforestation projects and sealed off mountainous areas to facilitate afforestation, contributing to carbon emissions reduction through forest carbon sinks and providing ecological carbon sink compensation.



We plan to conduct a scenario analysis on climate change at an appropriate time in the future based on business conditions to explore how our strategy may be affected by climate-related risks and opportunities at 2°C or under more severe conditions and how we may change our strategy to address the potential risks and opportunities.

RISK MANAGEMENT

The Group discloses climate information in accordance with the TCFD recommendations and conducts quantitative assessment and analysis of climate risks. Please refer to the paragraphs headed “Strategy” in this section for the risk identification processes and disclosures. Based on the results of the risk identification processes and disclosures, the Group formulates measures to mitigate the consequences of risks when they occur and identifies the opportunities associated with them. These measures enhance the transparency of the Group’s activities, thereby facilitating interaction with stakeholders. The Group has established an ESG governance system to cover the overall governance of ESG-related work and has incorporated climate change-related risk management into the overall ESG management framework.

INDICATORS AND TARGETS

The Group regularly collects and calculates climate-related risk indicators and regularly reviews the results of the KPIs. For the calculation results of the KPIs, please refer to the section headed “Promoting Green Production”.

PROMOTING GREEN PRODUCTION



In recent years, China has paid constant attention to the development of ecological civilisation, comprehensively strengthened the protection on ecological environment, promoted prevention and control of pollution, and increased its construction efforts on environmental protection year by year to deepen the ecological protection policies. By always working hard to adhere to the path of green development as the abiding theme in the aluminum industry, China Hongqiao actively increased investment in environmental protection to build a green electrolytic aluminum enterprise with low consumption, low emission and high input-output ratio, and strove to become a benchmarking enterprise of green environmental protection in the aluminum industry, while promoting the ecological environmental protection and construction of ecological civilisation. In strict compliance with national and provincial environmental laws and regulations, China Hongqiao established the Environmental Protection Management System to promote green production from the four aspects of pollution prevention and control, energy conservation and consumption reduction, resource recycling and reusing, and green office, and implemented the management reward and punishment mechanism of “one post, two responsibilities” and “management of both production and environmental protection” through the Responsibility System for Environmental Protection Positions and the Management Measures for Assessment of Environmental Protection Performance. The Group will conserve energy and control the emissions of pollutants to continuously improve the environment throughout the entire production process, and strive to achieve the full utilisation of resources and minimise consumption to embark on a road to sustainable development. We assess the life cycle impacts of our products, improve the effective use of resources, promote the recycling of aluminum to implement our sustainable development strategy. In the production process, we strive to reduce the generation of waste from processing and set targets for recycling or reusing. In addition, the environmental management system established and formulated by the Group was certified with ISO14001:2015 by the International Organisation for Standardization, demonstrating the Group’s commitment to environment protection management which obtained effective results.

PREVENTION AND CONTROL OF POLLUTION

The environmental protection department of the Group is responsible for supervising the environmental protection of the Group comprehensively, including formulating and monitoring the implementation of our internal environmental protection policies and guidelines, establishing environmental risk contingency plans, organising training and emergency drills on environmental incidents, regularly inspecting the Group's production facilities and pollutants discharge facilities, conducting environmental performance appraisal for each production unit and keeping abreast of the latest development of the environment-related regulations and standards in the PRC. The Group also strictly monitors governance and emissions of "three wastes" according to the Environmental Performance Appraisal Management System, and integrates environmental protection equipment into its normal production management system. It implements 24-hour real-time supervision of the pollutant discharge standards and operational parameters of environmental protection facilities to ensure the long-term stable operation and fulfillment of standards. The Group has always reviewed the management system on emissions, improved the processing facilities for emissions, and strove to control the emission of pollution so as to reduce its impact on the surrounding environment.

Exhaust Gas Treatment

The emissions of the Group of exhaust gas mainly come from the combustion and consumption of fixed equipment fossil fuels such as coal and natural gas, and from production processes like carbon anode consumption, anode effect and desulfurisation.

The Group has continued to strictly comply with the relevant laws and regulations such as the Law of the PRC on the Prevention and Control of Atmospheric Pollution. Air emissions are discharged in compliance with relevant standards after purification in the factory. The Group has continued to promote clean processes and adopt new technologies for pollution control and energy conservation and consumption reduction, which has achieved certain results in cleaner production and control of environmental pollution. During the production of aluminum products, all production facilities were equipped with electric dust collectors to reduce particulate emissions. In the process of automobile disassembly, all kinds of waste oil were extracted in a closed manner and then stored in closed tanks, and a dust removal system was set up to purify and treat the oil mist and other waste gas. The pollution control facilities in the thermoelectric plant were constructed in accordance with the environmental impact statement and the requirements of environmental protection department, mainly including SCR denitrification facilities, electrostatic precipitators for flue gas from boilers and "limestone-gypsum" wet desulphurisation system. In order to ensure that the pollutants meet the emission standards, the power plant set up a special desulfurisation and dust removal workshop and included the operation of desulfurisation and dust removal facilities in the normal production management assessment, with desulfurisation efficiency reaching 96.5%-98.1%, and the concentration of flue gas emissions in line with the relevant national standards. Real-time monitoring data is uploaded by our automatic monitoring equipment installed on the air emission outlet to the monitoring platform of the local government's environmental protection department so that the air emission level of the Group can be monitored remotely and continuously.

Sources of Air Emissions	Major Components	Processing Facilities and Processes
Boilers at power plant	Nitrogen oxide	Denitration system: low-nitrogen combustion + SCR (selective catalytic reduction) process
	Particulate matter	Dust removal system: high-efficiency electrostatic precipitator + wet dust collector or tubular dust collector
	Sulfur dioxide	Desulfurisation system: limestone-gypsum wet desulfurisation and magnesia wet desulfurisation
Alumina production	Sulfur dioxide	Desulfurisation system: tannin extract wet desulfurisation
	Nitrogen oxide	Denitration system: low-nitrogen combustion + SNCR (selective non-catalytic reduction) + SCR process
	Particulate matter	Dust removal system: electric-bag composite dust removal
Electrolytic aluminum production	Sulfur dioxide	Desulfurisation system: limestone-gypsum wet desulfurisation
	Fluoride	
	Particulate matter	Dry flue gas purification system: alumina adsorption + bag dust capture
Aluminum deep processing production	Emissions from aluminum melting furnace, holding furnace and ingot heating furnace ¹	Emit after disposal by bag filter
	Tiny amount of non-methane hydrocarbon gas produced from hot rolling and annealing process	Collected by gas-collecting hood and emit after disposal by oil fog purifier/spray and fogging + water treatment

1. The main fuel of such process is natural gas which belongs to clean energy, and does not produce highly concentrated air pollutants.

Meanwhile, the Group has continued to invest in environmental protection to upgrade equipment and promote technological innovation so as to further reduce emissions and improve the quality of the surrounding ecological environment.

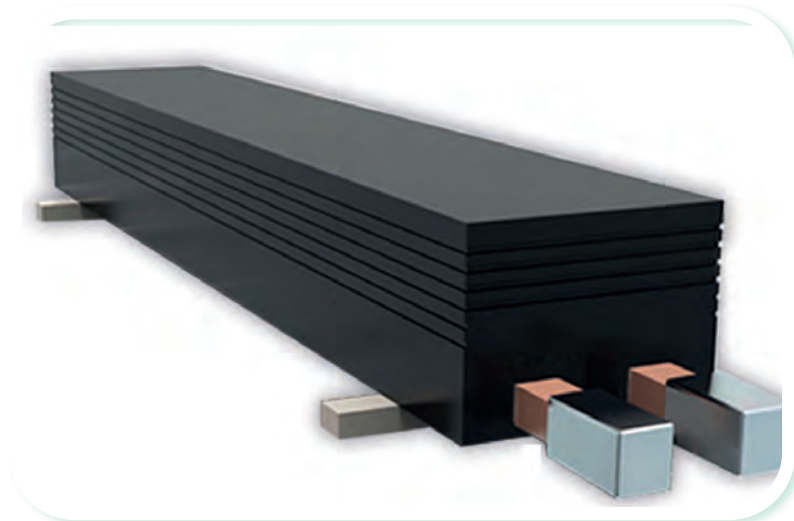
Case study – Near-zero anode effect of aluminum electrolytic baths

Continued efforts were made to promote the technological innovation of aluminum electrolysis, achieving the goal of “near-zero anode effect” in aluminum electrolytic baths. We comprehensively upgraded the online monitoring system of anode current distribution in electrolytic baths, realised single-point precise feeding and other technical means, and reduced the overall effect coefficient to 0.0091 times/bath-day. The online monitoring and control system has covered all aluminum electrolysis production series, and the production of hazardous gas of fluorocarbons such as CF_4 and C_2F_6 in the anode effect has been significantly reduced, with carbon emissions reduction of more than 750,000 tonnes/year.

Case study – Copper-carbon composite cathode technology in aluminum electrolysis field

After 7 years of research and development, Shandong Hongtuo Industrial Co., Ltd., (山東宏拓實業有限公司) an indirectly controlled subsidiary of the Group, Northeastern University, TOKAICOBEX GmbH and China Nonferrous Metal Industry's Foreign Engineering and Construction Co., Ltd. (中國有色金屬建設股份有限公司) jointly developed the “Aluminum Electrolysis Integrated Copper-Carbon Composite Cathode (RuC) Technology Development and Application”, which is a new technology in the global aluminum electrolysis field. Firstly, they adopted all-copper current-conducting rods for the first time and cathode carbon blocks in cold-state precision assembly to develop an integrated copper-carbon composite cathode featuring anti-carburising and corrosion resistance, which reduces the resistance difference and horizontal current, and realises stable operation of large-capacity aluminum electrolytic baths at lower voltages. Secondly, they developed a current distribution homogenisation technology about the integrated copper-carbon composite cathode, which can significantly extend the life of electrolytic baths. Thirdly, the lining insulating material was upgraded, and the heat balance matching design method was optimised to achieve “low heat loss, slow decay” and good heat balance. Last but not least, they established a standardised production process suitable for the copper-carbon composite cathode technology.

Since the technology was applied to the Group's 600 kA aluminum electrolysis production line, it has achieved remarkable results in terms of voltage reduction, heat balance improvement, and operational stability, with an annual power saving of 100 million kWh, reduction of 1,300 tonnes of solid waste and 100,000 tonnes of carbon emissions, and an annual economic benefit of more than RMB100 million. It is expected to achieve an annual economic benefit of RMB5.2 billion after it is fully promoted in the Group's aluminum electrolysis field.



Copper-carbon Composite Cathode (RuC) Technology in aluminum electrolysis process

Binzhou City in Shandong is the world's largest aluminum production base, where the transportation of fossil energy sources, aluminum raw materials and aluminum processing products is under great pressure. The establishment of a green transportation chain is an important measure to achieve low-carbon sustainable development. The Group reduces environmental pollution and carbon emissions in the transportation process through projects in Binzhou, such as belt transportation, combined highway-railway transportation, a dedicated freight rail line and all-electric truck transportation.

Case study – Pure electric truck transportation

The Group actively optimised the mode of bulk cargo transportation and worked with Shandong Transportation Group to plan and implement the project of replacement of traditional fuel trucks with pure electric trucks, with the intention of purchasing nearly 1,000 pure electric trucks to be used in the combined highway-railway transportation. Every 100 pure electric trucks will reduce carbon emissions by about 12,000 tonnes per year, which will contribute positively to a green, low-carbon and efficient transportation chain.



Pure electric truck

Wastewater Discharge

The wastewater discharged by the Group was mainly production wastewater and domestic sewage. The Group continues to strictly comply with the relevant laws and regulations such as the Wastewater Pollution Prevention and Control Law of the PRC. The wastewater is processed in the factory for simple pretreatment to meet the requirements of the Water Quality Standards for Discharge to Municipal Sewers (GB/T 31962-2015), Integrated Wastewater Discharge Standard (GB8978-1996) and Aluminum Industry Pollutant Discharge Standard (GB25465-2010) and discharged into the local municipal sewage treatment plant through municipal pipelines. The Environmental Protection Department of the Group collects samples from outfalls and performs quality sampling test every month to ensure that the wastewater meets the discharge standards. In addition, the outfalls are equipped with online monitoring system and connected with the local environmental protection departments, and the relevant data is uploaded on a real-time basis.

The Group is committed to the goal of water conservation and water recycling promotion. In order to improve water efficiency, reduce wastewater discharge and prevent water pollution, the Group has continued to implement various measures as follows:

- Wastewater produced from alumina production is fully recycled and reused, attaining zero discharge of wastewater;
- Cooling water used in the casting process is recycled for use in the electrolytic aluminum production process;
- Water discharged from the cooling water tower of the power plant is recycled and reused in priority;
- Water used for spraying and cleaning of vehicles is recycled and used to a certain extent before being applied for coal yard spraying;
- The fluoride in the fluoride-containing wastewater generated from desulfurisation can be reduced by adsorption of desiccant, thus enabling the wastewater to be reused after treatment;
- Building rainwater precipitation and decontamination pools in the aluminum plant to reduce the content of pollutants such as alumina powder and fluoride salts in rainwater, thus to avoid the discharge of polluted rainwater and to allow part of the treated rainwater to be reused for production;
- Switching to a square, non-filling cooling tower to improve the cooling effect and reduce water consumption.

During the Year, the Group launched annual emergency drills according to the Record Form of Zouping Huisheng New Material Technology Co., Ltd. (《鄒平縣匯盛新材料科技有限公司備案表》), in order to improve the emergency capability of employees at the sewage treatment station to respond to all kinds of accidents. We simulated the incident where the water quality exceeds the standard at sewage treatment station and held an emergency drill for operation in confined spaces, which strengthened the emergency handling capacity of the environmental protection management personnel and ensured control of environmental protection management. Through this exercise, relevant staff were able to master and familiarise themselves with various emergency handling skills, ensuring that adequate emergency supplies are in place and regular checks are conducted to minimise the impact of accidents on the environment and personnel.

Soil Pollution Management

Red mud (bauxite residue) is a strong alkaline solid waste generated after refining Alumina from Bauxite Ore by the Group. If the red mud is disposed of improperly, not only the surrounding soil will be heavily polluted, the groundwater and atmosphere will also be significantly affected. In order to prevent the deterioration of the ecological environment caused by red mud and the damage to human health, the Group strictly follows the Measures for the Prevention and Control of Environmental Pollution by Tailings to conduct prevention and supervision of red mud. The red mud produced is discharged into the red mud storage facility which is under strict leakage prevention and safety management after it is dewatered and filtered. We also set up a control zone around the alumina production facility and the red mud storage facility and a number of groundwater observation wells to monitor whether the red mud has polluted the surrounding environment. We also regularly hold emergency drills to simulate the surrounding environment to prevent the spread of red mud in severe weather conditions and enhance the management and control capabilities of red mud.

In addition to preventing pollution, the Group also effectively recycle red mud. As red mud contains a large number of mineral elements that can be recycled, we recycle the highly magnetic materials by centrifugation and magnetic separation, and make the remaining materials into bricks to be used as roadbeds and building materials, in order to improve the comprehensive utilisation of red mud and boost the circular economy. In order to further enhance the enthusiasm of each unit in red mud reduction, the Group formulated the incentive scheme with the red mud reduction rate to give bonuses to the team that meets the red mud reduction rate and achieves the goal of increasing iron production.

Biodiversity Management

The Group carries out biodiversity risk identification in its production areas. The Company will manage its impact on biodiversity in accordance with the mitigation hierarchy to protect ecosystems and biological species. It manages and controls production- and life-related activities to ensure that the Company's production and life do not affect ecosystems and do not damage biodiversity, and maximise the protection of diverse biological resources. The Group is also determined to protect the local ecological environment and actively participates in green development initiatives as a protector of the ecological environment.

ENERGY CONSERVATION AND CONSUMPTION REDUCTION

The Group, which adheres to the concept of "Saving Energy and Reducing Consumption, Advocating Green Development", is committed to reducing energy consumption, lowering the use of energy and realising the green development by improving the energy use efficiency and economic benefits. With scientific and effective lean management alongside persevering exploration and innovation, the Group has made remarkable achievements in saving energy and reducing consumption and has reduced production costs effectively, setting a new model of energy conservation in the industry.

Among which, the primary aluminum production line designed by Shandong Weiqiao Aluminum & Electricity Co., Ltd. (山東魏橋鋁電有限公司) ("**Weiqiao Aluminum & Electricity**") is equipped with advanced and reliable technologies and has effectively increased output and energy utilisation rate and achieved the environmental goals for energy conservation and emission reduction. In addition, the energy-saving standardisation management system established by the Group can be integrated into an organic entity through various tasks, including energy-saving assessments, management and control, statistics, monitoring and measurement, so as to achieve the purpose of energy-saving and energy efficiency enhancement. The electrolytic aluminum production and energy saving mode of Weiqiao Aluminum & Power continued to be listed as a standardised demonstration project by The Standardization Administration of the PRC (中國國家標準化管理委員會), making it the only aluminum smelting enterprise selected in the country. In the future, Weiqiao Aluminum & Electricity will participate in the implementation and revision of energy saving standards, and actively promote advanced energy saving technologies and products.

During the Year, Shandong Hongqiao proposed the acceleration of the intelligent transformation in accordance with the "Made in China 2025" plan and took the lead in building a smart electrolytic aluminum factory. Driven by data and relying on four functions, namely, intelligent control, in-depth processing, task management and intelligent safety, it achieved a 95% rate of digitalisation of the key equipment, a 5% increase in the production efficiency, and a 6% shortening of the order-to-delivery cycle, which ultimately promoted the simultaneous improvement of its comprehensive benefits and the lean management level. After self-evaluation and third-party evaluation, Shandong Hongqiao was rated as a national "Green Factory" and an iconic company in intelligent manufacturing in Shandong after procedures such as evaluation, expert verification and public announcement, which recognised the Group's efforts and achievements in promoting green manufacturing, leading the green transformation of the region's manufacturing sector.

Case study – Continuous increase in alumina operation efficiency

We raised the level of management and scheduling, enhanced the recycling of alumina steam, recovery of residual heat, management of energy consumption, and upgraded and replaced equipment to improve the utilisation rate of raw materials and reduce bauxite consumption and realise a reduction of about 4 kilograms of coal consumption per tonne of alumina.

The Group's employees actively responded to the call for cost reduction and efficiency enhancement via the "clutching towel, squeezing water" activity, made full use of technological means to tap the potential for energy conservation and consumption reduction in the five major aspects of "daily work, operation, materials, equipment, and innovation". One filter pressing workshop achieved an increase in the recycled alkali by several hundreds of tonnes per annum, a saving of millions of kWh in power consumption, a saving of more than 10,000 tonnes of steam, and the utilisation of several tens of thousands of tonnes of recycled water.

The Group's use of various green energy sources in the future will more significantly reduce carbon emissions from alumina production.

Increase in Operational Efficiency

The Group continued to enhance its operational efficiency by combining technological innovation with enhanced management and improving system management. It took measures such as building an intelligent management platform and promoting the upgrading and transformation of its production processes, in a bid to enhance the greening and energy conservation of its production chain.

Building an enterprise data and smart environmental management platform

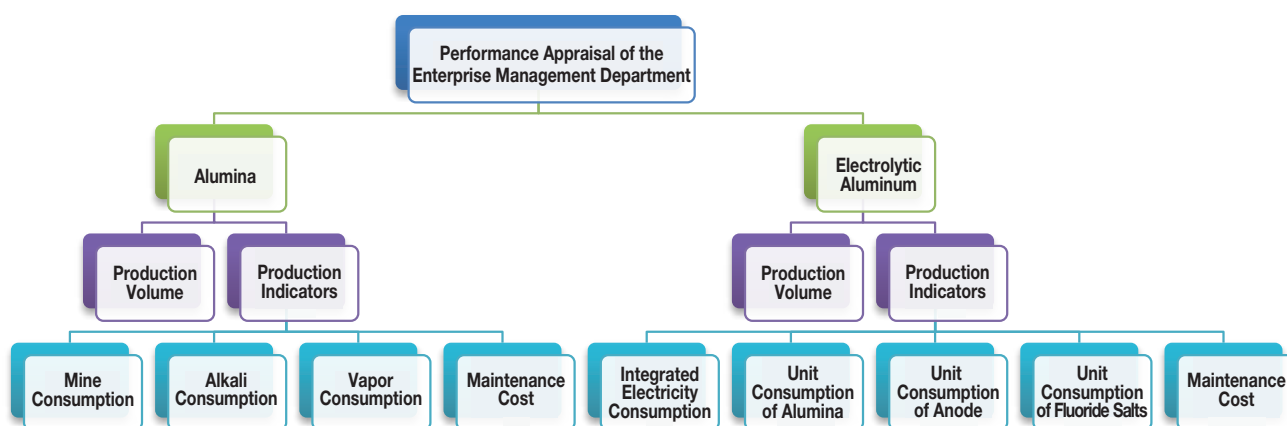
Shandong Hongqiao carried out a steady project of the Data Management Capability Maturity Assessment Model (DCMM Project) to standardise and normalise enterprise data management, continuously improve enterprise data governance capability, promote data transformation from a resource to an asset, laying a solid foundation for improving its data management capability and domain-wide digitalisation by level. Shandong Hongqiao was recognised as an iconic company in intelligent manufacturing in Shandong for the year 2022.



Smart environmental management platform

Resource Management

The Group continues to comply with laws and regulations and industry standards regarding energy management, energy measurement and energy consumption quotas, including the Gauge Condition for the Aluminum Industry and the Norm of Energy Consumption Per Unit Product of Electrolytic Aluminum and Alumina (GB21346-2022). The Enterprise Management Department of the Group and environmental supervision and management companies are responsible for overseeing the energy conservation and emission reduction work during the production process so as to reduce waste. The Enterprise Management Department organises training and publicity activities on a regular basis, and formulates a monthly quota plan for each production unit and conducts monthly performance appraisals on product quality, product yield, energy efficiency, raw material usage efficiency, packaging material usage, etc. If the production unit can meet or exceed the assessment indicators, the Group will give it benefit incentives. It enhances the sense of responsibility and awareness of the employees towards energy conservation, consumption reduction and emission reduction through its internal Production Performance Assessment System and Implementation Measures, which will help practice green production from top to bottom. We have formulated detailed assessment rules in our daily management to conduct management assessment on the operation of environmental facilities and the compliance rate of each branch. The assessment results are used as an important basis for determining the quarterly and annual bonuses of the branch general managers and branch plant managers, which directly affects the amount of their bonuses and the performance pay of each employee in the environmental protection position. We strengthened the publicity of energy conservation and environmental management, firmly established the management concept of “environmental protection is everyone’s responsibility”, continuously improved the level of environmental management, so as to turn ourselves into a green development enterprise. In addition, the Group strictly monitors the use of packaging materials for aluminum deep-processing products to eliminate wasteful practices.



Energy-saving Transformation

In addition to requiring all production units to attach great importance to energy conservation, it also urges all employees to actively participate in energy-saving technological transformation so as to enhance the utilisation efficiency of energy and resources. During the Year, the Group completed more than 680 energy-saving projects and technological transformation projects, such as the installation of cooling oil pumps at the induced-draft fan's lubrication oil station, the recycling of materials after extraction of aluminum, the application of hot melt welding technology in electrolytic baths, and the utilisation of residual heat of self-produced steam from the steam jacket, so as to continuously improve environmental protection technologies and maintain ultra-low emissions.

Cases study – Energy-saving equipment upgrading



Introduction of variable frequency screw machine for gas supply isolation



Introduction of high-temperature resistant and reusable stainless steel sintered filters element

In order to solve the problems of pressure fluctuation and high power consumption of the air compression station, the tanker unloading and dust collector blowing gas was isolated from the main gas supply pipeline network, and the low-pressure variable frequency screw air compressor was introduced for the supply of gas. After the transformation, the pressure remained stable at a high level, eliminating the hidden trouble in frequent fluctuations in pressure. At the same time, the number of centrifuges of the air compressor station were cut from four to three, and the daily electricity consumption of the air compressors was reduced by 49,239.17kWh. Excluding the electricity consumption of the variable frequency screw compressor, the daily electricity consumption was reduced by 35,882.21kWh, and the electricity consumption of the air compressor station per tonne of aluminum was cut by 21.11kWh, which has a significant energy-saving effect.

The sintered stainless steel filter with a temperature resistance of 150°C can be reused to meet the high-temperature operating conditions after full recovery of condensate, solving the thorny problem of restricting the full recovery of condensate, and realising full recovery of condensate and maximising the energy-saving benefits in the Beihai region.

In order to further increase the effect of energy-saving, the Group endeavours to avoid the processing of secondary re-melting of traditional re-melted aluminum ingots by using molten aluminum alloy, which helps to minimise energy consumed by aluminum ingots during the process of secondary re-melting, such as heavy oil and natural gas, while reducing the emissions of carbon dioxide, dust and flue gas during the process of re-melting. With the increase in number and proportion of molten aluminum alloy used, the Group's effectiveness in energy-saving and emission reduction has become more significant.

Expansion of Downstream Processing

Case study – lightweight automobile

Automotive lightweighting, which adopts lightweight materials to reduce the weight of cars, is one of the major methods to realise energy saving and emission reduction of automobiles nowadays, so the fuel consumption and emissions in the operation of the vehicle will be reduced. The Group initiated production and research of lightweight automotive, with the objective of developing light-weight parts of motor vehicles and the core technology of the whole-vehicle manufacturing system, and endeavoring to build a world-leading and the largest full-process automotive lightweight research and development and manufacturing base in China and a world-class research and development center for lightweight aluminum materials. It mainly builds stamping workshops, profile processing workshops, body-in-white welding workshops and other public facilities, and purchases and installs 50 sets of main equipment, such as automated connecting devices (six-axis robot), CMT arc welding robot, SPR robot, FDS robot, gluing robot, body assembly main welding conveyor line, and pretreatment equipment.

After the completion of the project, it will be able to produce 500,000 all-aluminum car bodies, 250,000 pieces of stamping parts, 50,000 body shells, 50,000 pieces of aluminum parts for vehicle and 100 sets of molds annually. Supported by Weiqiao (Suzhou) Lightweight Research Institute, the Weiqiao Lightweight Research Institute and other domestic and foreign research institutions, the project has established a complete research and development system and research team with more than 200 research and development personnel and more than 20 top experts at home and abroad. At the initial stage, it is mainly committed to the research and development of core technologies such as lightweight parts of motor vehicles and whole-vehicle manufacturing systems. In the future, the Group will gradually expand its technology to the research and development of lightweight materials and spare parts for rail transportation, aviation and aerospace, marine engineering industry, etc., so as to contribute to the development of lightweight materials in China in terms of research and development and storage.



Green ecological cycle in the aluminum industry chain

Publicity and Education

As a responsible enterprise, China Hongqiao incorporates the concept of sustainable development into its corporate culture and advocates the concept of “all employees participating in building a low-carbon enterprise”. We maintain the belief of “just transformation” on the way to achieve the “dual carbon” goals. While we take necessary measures to reduce emissions, change the energy system and promote new business models, we also enhance the awareness and capability of our employees in energy conservation and emission reduction through publicity and education, so as to guide and motivate all employees to create a favourable atmosphere for energy conservation and emission reduction and to practice energy conservation and emission reduction, without jeopardising the health of our employees and damaging their working environment, or depriving them of their labour rights and interests. During the Year, the Group provided employees with training on energy conservation, emission reduction and environmental protection, covering enterprise production and national energy conservation policies, the importance of environmental protection, response to heavy air pollution, as well as the energy conservation and emission reduction requirements and environmental control indicators, etc. We established training programmes and assessment standards to help employees better understand the importance of cleaner production, energy conservation and emission reduction, and to ensure that they have the necessary environmental awareness.

Case study – Learning about “dual carbon” work requirements and emission reduction programmes

The measurement results of incoming coal were prioritised for coal consumption from calibrated belt weighers or pressure-resistant weighing coal feeders, and metering data recorded by the production system was used. Belt weighers shall be calibrated on a monthly basis using actual coal or cycling chain weights, or at least on a quarterly basis for comparison of actual coal counts on the belt weighers. If the conditions for measurement of incoming coal are not available, the consumption data in the purchase, sales and inventory ledger is used based on the daily or batch-by-batch measurement of incoming coal inventory. Continuous monthly measurements were prioritised for fuel and gas consumption. If continuous measurement is not available, monthly consumption data in the purchase and sales ledger is obtained by inventory measurement. The accuracy level of measuring instruments such as rail weighers and vehicle weighers shall meet the Specification for Equipping and Managing of Measuring Instruments of Energy in Thermal Power Enterprises (GB/T21369) or relevant measurement and calibration regulations. The accuracy level of belt weighers should comply with the Continuous Totalizing Automatic Weighing Instruments (Belt Weighters) (GB/T7721). The accuracy level of pressure-resistant weighing coal feeders shall comply with the Pressure Mode Weighing Coal Feeder (GB/T28017). Measuring instruments should be within the valid inspection period. In response to heavy air pollution, different workshop production arrangements were made under yellow, orange and red weather alerts to ensure that the production process complies with the national emission standards, and guarantee the health and safety of employees.

Through this training, the personnel at all levels have gained a more in-depth understanding of the data acquisition of dual carbon, ensuring, regular inspections and verifications, bringing a positive impact on the subsequent dual carbon work. The purpose of this training was to raise the awareness of the staff on emission reduction and to make them more familiar with the emission reduction requirements.



Cleaner production and emission reduction training

Case study – Heavy air pollution response training

In response to an extraordinarily long, large-scope heavy air pollution in Binzhou, Shandong during the period from 22 December 2023 to 4 January 2024, a total of 25 cities needed to synchronise the activation of the heavy air pollution emergency. After research, the city issued an orange alert for heavy air pollution at 16:00 on 21 December, and activated a Level II emergency response at 18:00 on 22 December. In order to cope with the heavy air pollution, the Group's production workshops organised training for their employees on how to cope with the heavy air pollution and proposed emission reduction initiatives:

- ① Advocating green mobility and asking employees to go out by public transport or electric vehicles as much as possible; Turning off the engine to reduce the time the vehicle is idling in place.
- ② Promoting green consumption among the public, and encouraging organisations and individuals to minimise the use of raw materials and products containing volatile organic compounds, such as paints, lacquers, and solvents, as much as possible.
- ③ Strengthening the check of the environmental checklist for carbon block trucks, conducting the checking of the emission stage of diesel trucks before each vehicle enters the plant, and prohibiting the National-V-compliant vehicles from entering the plant to reduce the exhaust emission of automobiles.
- ④ Supervising carbon block truck drivers to turn off the engine and reducing the time the vehicle is idling.
- ⑤ Ensuring the operation rate of the dust removal equipment at the production site to minimise the dispersion of smoke.

The training has gained positive responses from employees. Their awareness of energy conservation and emission reduction has been enhanced during the training, through which they deepened their understanding of the importance of energy conservation and emission reduction, and learned a series of methods and techniques that can be practically applied in their daily work. Through this training, employees realised that every aspect of their work could have an impact on energy consumption and emissions, and began to think about how they could take steps in their respective roles to reduce energy waste and carbon emissions. Such a change in consciousness is crucial for sustainable development and environmental protection of an enterprise. Employees will take actions and actively participate in the practice of energy conservation and emission reduction and contribute to the reduction of energy consumption and environmental load. They realised that everyone's actions can have a positive impact, which contributed to a low-carbon, green work environment and society.



Heavy air pollution response training

WASTE MANAGEMENT

The final solid waste generated by the Group can be classified into non-hazardous waste and hazardous waste. The Group strictly implements the regulations such as the Law of the PRC on Prevention and Control of Environmental Pollution by Solid Waste, General Industrial Solid Waste Storage and Landfill Pollution Control Standard (GB18599-2020) the Control Standard of Contaminated Hazardous Waste Storage (GB18598-2019) etc., to ensure that solid wastes are properly disposed.

The Group, which actively contributes to the circular economy, adheres to empowering technological transformation and actively improves the treatment of aluminum ash, slag and residue to promote the recycling of aluminum waste, so as to achieve the goal of reducing waste emissions.

Through using dual chamber furnace process to melt the waste with impurities, recycled materials, wastes collected from the market and/or clean materials, the Group recycles and reuses aluminum scraps generated during the production process so as to reduce industrial waste. Such technique provides a comprehensive system that can be easily operated, and in particular, for the melting of waste with thin wall and impurities, which reduces the wasting of thin-wall materials and the environmental impact caused by the recycling of aluminum scraps.

Moreover, the Group adopts flotation process and comprehensively utilises the waste carbon residue (slag) generated from the aluminum smelting process. Part of the products obtained from flotation are reused as raw material for electrolytic aluminum production and part for selling. The comprehensive utilisation of aluminum electrolytic waste carbon residue serves as a good illustration of resource recycling of waste carbon residue to avoid environmental pollution, and at the same time, creates greater economic benefits for the Group.

DEVELOPMENT OF CIRCULAR ECONOMY

Case study – Shandong Hongshun

In order to improve the efficiency and automation of scrap metal recycling and to overcome the current difficulties in China in failing to produce high quality secondary aluminum, the Group has collaborated with Scholz, which is the largest vehicle dismantling and metal recycling company in Germany, to introduce its state-of-the-art scrapped vehicle dismantling technology and secondary aluminum production technology, so that China can achieve non-downgrade use of secondary aluminum and the aluminum industry to realise green recycling. The Company adopted advanced scrapped vehicle dismantling technology, highly automated metal crushing and sorting technology and recycled aluminum impurity removal without degradation, and introduced sophisticated process equipment. Relying on the strong resource advantages of China Hongqiao, the rich industrial information management experience of Scholz Group and the advantages of their upstream and downstream industry chains, the Company, driven by the recycling and dismantling of scrap vehicles and the comprehensive utilisation of scrap aluminum, adhered to the talent and innovation orientation, focused on high value-added products and integrated solutions, and accelerated the digital and intelligent upgrading of the renewable resources industry. It will build a large domestic information logistics trading platform for scrap car recycling, pop can and scrap aluminum recycling, scrap car parts and remanufactured parts, promote the coordinated development of scrap vehicle recycling parts and parts remanufacturing, scrap steel, scrap, non-ferrous metals, recycled aluminum, aluminum alloy and other industries, and add the key part of the “recycling cycle” of the aluminum industry chain in Binzhou. The Sino-German Hongshun Recycling Technology Industrial Park will achieve an annual output of 500,000 tonnes of recycled aluminum, dismantle 100,000 scrapped motor vehicles annually and have an output value of more than RMB10 billion upon completion. The project integrates dozens of companies in the upstream and downstream of the industry chain that engage in the recycling of scrap motor vehicles, power batteries and scrap aluminum. Capitalising on the advantages of the Sino-German joint venture in technology, equipment, location, volume and cost, it will open up a new chapter for China’s industrial energy conservation and environmental protection sector and green circular economy.



Production line of Sino-German Hongshun

GREEN OFFICE

The Group proactively responds to the national environmental and protection policies, adheres to low carbon and environmental protection philosophy in office, encourages all employees to set their own examples and take small steps, such as saving water and electricity, and reducing the consumption of paper and other office supplies in daily office activities, and raises awareness of waste management. We also encourage employees to commute to and from workplace on foot or by public transports and comply to the restriction on the use of private cars that is based on even- and odd- numbered license plates in order to reduce the use of motor vehicles and adopt a greener and healthier way of travel.

Targeted Environmental Benefits	Area	Measures
Upgrading use of renewable energy sources	Use of renewable energy	<ul style="list-style-type: none"> Installing solar panels on rooftops or transparent solar cells on windows and doors
Increasing energy use efficiency	Lighting system	<ul style="list-style-type: none"> Turning off the lights when employees leave offices Using daylighting as much as possible Keeping lighting fixtures and lamps clean and increasing their energy efficiency as much as possible Installing independently controllable lighting switches in different lighting areas Using energy-efficient lighting fixtures (e.g. T5 fluorescent lamps and light-emitting diodes)
	Using heating and air-conditioning system	<ul style="list-style-type: none"> Regularly cleaning filters/coiled tube fans Installing sealing strips on doors and windows to avoid leakage of cooled/warmed air Regularly inspecting and replacing pressure gauges, pressure hoses and air compressor connectors to minimise the possibility of refrigerant leakage. Setting the minimum temperature of the air-conditioning system to 26 degrees Celsius Turning off air conditioners when employees are away from offices Affixing UV insulation film to windows to minimise heat absorption Using low-radioactive glass to block heat-producing UV rays Utilising variable speed drives and adjusting the pump and fan systems according to the actual demand of air conditioners Carrying out variable refrigerant flow system to optimise refrigerant flow Adopting centralised control and monitoring system (CCMS) or building management system (BMS) Installing split air-conditioners with Grade 1 energy efficiency label

Targeted Environmental Benefits	Area	Measures
	Electronic equipment & appliances	<ul style="list-style-type: none"> • Making computers enter automatic standby/sleep mode when they are idle • Completely turning off electronic devices during non-working hours • Purchasing electronic equipment with energy efficiency labels • Making statistics on electricity consumption on a monthly basis to monitor electricity consumption and take appropriate improvement measures
Reducing use of resources	Water consumption	<ul style="list-style-type: none"> • Tightening up the taps • Posting water conservation reminder stickers in all toilets • Immediately repairing dripping faucets • Conducting regular leakage tests on concealed water pipes and inspecting overflowing water vats • Regularly checking water meter readings and hidden water leaks • Using faucets and urinals with water-saving labels • Using infrared-sensitive faucets and urinals • Installing rainwater collecting devices to use rainwater for irrigating plants

Targeted Environmental Benefits	Area	Measures
Reducing waste emissions and discharge	Paper consumption	<ul style="list-style-type: none"> • Reuse or double-sided use of paper whenever possible • Setting default modes to duplex printing and ink-saving for computers and printers, respectively • Posting notices at conspicuous places near photocopiers/ printers to remind staff to use double-sided photocopying or reusable paper • Reducing paper use by utilizing electronic communication technology to convey information wherever possible • Using thin fonts and line spacing for files that must be printed • Using Internet fax to screen out junk fax • Regularly monitoring print runs and setting print limits for users where feasible • Purchasing printing paper, toilet paper and tissue paper containing recycled materials • Replacing paper-based office administration system with electronic office system (OA system) • Placing recycling bins for collection of paper files, e.g. waste paper, posters, letters and envelopes • Using waste paper to take notes • Sending waste paper to a waste paper recycling company for recycling, except for paper printed with confidential information • Replacing all disposable cups, wooden chopsticks, etc. with non-disposable items, such as ceramic cups and reusable tableware • Installing electronic hand dryers to reduce paper towel use • Using e-cards during the festive season • Periodically making statistics on paper consumption to monitor paper consumption and take appropriate improvement measures

Targeted Environmental Benefits	Area	Measures
	Waste management	<ul style="list-style-type: none"> • Placing waste sorting and recycling cans or other suitable devices to recycle waste paper, metals and plastics • Reusing envelopes, folders, file cards and other stationery • Using replacement refills to reuse pens and avoid discarding pens • Using rechargeable batteries instead of disposable batteries • Collaborating with subsidiaries to collect old computers or other electronic wastes for recycling • Reducing the use of disposable and non-recyclable products • Using recyclable toner/ink cartridges • Evaluating material usage to avoid overstocking
Reducing atmospheric pollutants and greenhouse gas emissions	Company vehicles	<ul style="list-style-type: none"> • Regularly checking and inflating tires to maintain the correct level of tire pressure • Ensuring no idling engines • Providing low-carbon driving training for drivers (e.g. avoiding sudden acceleration) • Choosing electric or hybrid vehicles
	Employee commuting and business travel	<ul style="list-style-type: none"> • Encouraging staff to use public transportation • Encouraging staff to share transportation • Choosing direct flights for unavoidable business trips • Holding video conferences to replace unnecessary overseas business trips

Targeted Environmental Benefits	Area	Measures
Raising awareness of environmental protection and energy conservation	Staff participation	<ul style="list-style-type: none"> • Encouraging staff to participate in environmental activities organised by green groups • Choosing low-carbon ingredients at corporate entertainment events • Encouraging staff to use staircases more often than lifts • Promoting emission reduction measures through emails, posters, intranet and other media to enhance staff's sense of environmental responsibility • Offering regular environmental training courses for staff
	Event organisation and management	<ul style="list-style-type: none"> • Organising activities at locations with convenient transportation • For diet, choosing low-carbon food ingredients or locally grown/produced food to reduce carbon emissions from food transportation • Avoid using disposable utensils at events • Minimising product packages • Optimising planned routes for transportation and delivery of goods

ADHERING TO PEOPLE-ORIENTED GOVERNANCE



Excellent talents are the cornerstone to achieve the Group's strategic goals and driving force for sustainable development. By adhering to the employment principle of "selecting appropriate talents, respecting value and being people-oriented", the Group not only strives to protect employees' rights and maintain employees' physical and mental health, but also attracts talents through scientific talent training methods, an effective incentive mechanism, a platform of fair competition and vast opportunities of career development, enabling all employees to fully demonstrate their personal value in the Group, match their personal planning with the business development goals of the enterprise and achieve mutual growth of the employees and the enterprise.

Meanwhile, the Group supports policies such as the Universal Declaration of Human Rights, the International Conventions on Human Rights, and the Anti-Modern Slavery and Anti-Human Trafficking Policy, and strictly complies with laws and regulations such as the Law on Protection of Women's Rights and Interests, and prohibits the use of child labour and the use of child labour in any form. It prohibits forced labour and human trafficking activities in any form. Besides, it does not use or support the use of physical punishment, emotional or physical coercion, harassment (including sexual harassment) and gender-based violence, or verbal abuse. The Group promises to respect human rights and women's rights and interests.

RECRUITING TALENTS

In order to meet the development needs, we recruit talents from different cultures, different backgrounds and different regions to join our team to increase the diversity of employees. The Group strictly complies with the relevant laws and regulations concerning recruitment, dismissal, promotion and remuneration, working hours, holidays, equal opportunities, diversity, anti-discrimination, welfare and benefits for employees, such as the Labour Law of the PRC, the Labour Contract Law of the PRC and the Labour Contract Regulations of Shandong Province, to protect the legitimate rights and interests of employees in a legal manner.

Employment Policy

The Group carries out its recruitment mainly through a variety of channels such as social recruitment, online recruitment, campus recruitment, telephone contact, employee recommendation and talent exchange. Eligible applicants will be assessed in the form of medical examinations, paper examinations and interviews, during the process, the Group upholds the principle of equal opportunity, and considers and employs talents in a fair, open and just manner and promises that it will never discriminate on grounds of gender, age, race, religion, marital status, familial responsibility etc. In order to eliminate the employment of child labour and forced labour, the Group not only checks the identity and age of candidates carefully during recruitment in accordance with the International Labour Organization's conventions and national and local laws and regulations, such as the Provisions on the Prohibition of Using Child Labour, but also strictly prohibits any conducts of requiring any employee to work overtime on a compulsory basis or arranging work beyond their job duties. Once any such case is found, the Group will conduct thorough investigation and immediately dismiss the related employee. Exit interviews will be conducted by the Group for departing employees to understand their reasons for the departure and make improvements according to their reasonable suggestions.

The Group has established a sound remuneration management system and provides competitive remuneration packages to attract talents. Under the premise of ensuring fairness and incentives for the assessment of wages, each department regularly assesses and adjusts the wage level according to the salary standard of the post, workload, work performance, years of service, skill levels of the employees and other factors.

In addition to the basic wage, the employees' remuneration also includes performance-based bonus and various types of subsidies such as skill subsidies, position subsidies, and high temperature allowances. We will purchase and pay social insurances for employees, such as pension insurance, medical insurance (including maternity insurance), unemployment insurance, work injury insurance, etc., in accordance with related labour and social welfare laws and regulations, while providing them with additional benefits such as free accommodation, medical, food and transportation. The Group has also established a reasonable dismissal system and formulated legal conditions of dismissal in accordance with the relevant laws and regulations.

During the Year, the Group found no cases of child labour or forced labour.

Rights Protection

The Group is committed to safeguarding the rights of its employees and eliminating any exploitation of rights. In order to ensure that employees have enough resting time, the Group stipulates that the working hours of employees should not exceed the statutory standards and relevant terms shall be set out in labour contracts, in which the rights and obligations of both parties shall be clarified to protect the legitimate rights and interests of employees. Eight-hour working system and three shifts with four groups are adopted for employees in each production unit. Employees are required to work overtime only under specific circumstances. Overtime payment is made to employees in accordance with the applicable standards stipulated in relevant laws. All employees enjoy statutory holidays, home leave, marital leave, funeral leave and maternity leave.

The Group firmly opposes gender discrimination. Employees, regardless of gender, are treated equally and the distribution of work is implemented according to actual needs. The Group also protects the lawful rights and interests of female employees according to law and complies with the relevant laws and regulations to provide female employees with benefits during pregnancy, delivery and lactation, including arranging breastfeeding time for employees returning to work after delivery. In addition, we have formulated the Gender Equality and Protection of the Rights and Interests of Female Workers to make it clear that we have zero tolerance policy to sexual harassment in the workplace. The Group has established internal compliance systems against sexual harassment in the workplace, which includes a prevention mechanism for sexual harassment in the workplace, a complaint reporting mechanism, and a handling mechanism. Through these compliance systems against sexual harassment in the workplace, we try our best to prevent or handle sexual harassment that has occurred in a timely manner.

The Group practises democratic management among its employees and listens to their opinions or suggestions through such ways as staff meetings, visits, seminars, satisfaction surveys and mailboxes of its leaders. In order to protect the rights and interests of employees, an internal mechanism has been set up to collect and investigate complaints. We formulated the Stakeholder Complaint Handling System to accept complaints on occupational health and safety, social responsibility and other matters, lodged by stakeholders (including employees) in various forms or channels. The Human Resources Department is responsible for receiving staff-related complaints and following up and taking corrective and preventive measures in accordance with the internal system.

TALENT CULTIVATION

“Strong enterprise with great talents” is one of the important strategic goals of the Group. We follow the UN Guiding Principles on Business and Human Rights (UNGPs), the Universal Declaration of Human Rights, and the ILO Declaration on Fundamental Principles and Rights at Work, and have formulated relevant policies and measures to safeguard the rights of our employees from infringement. The Group highly values personal development of our employees by not only creating a clear career development path for all kinds of talents, but also encouraging their continuous growth through performance appraisal, job selection and training, so as to provide backup force for the sustainable and stable development of the enterprise.

Performance Evaluation and Promotion

Apart from serving as the basis for employees' compensation adjustment, the Employees Performance Dynamic Management System of the Group is also an important basis for employee competition, promotion and change of position. Employees who have achieved outstanding results in performance appraisal will be given priority in the process of promotion.

In addition, the Position Selection System is adopted in each production unit and the Group has also set up a selection and employment mechanism that can better identify the outstanding talents from the peers. Following the principles of "fair, just, open, competitive and merit-based", outstanding employees will have the opportunity to compete for different positions. The most suitable candidates are selected level by level through a series of assessments, including branch factory assessment, written tests, interviews, practice exams, safety assessment and democratic evaluation. The position selection process is closely monitored by all the employees who can report and complain about any violations.

Employee Training

The year 2023 is a very important year for the "14th Five-Year Plan" and also a key year for the Company to further improve its development strategy and realise continuous excellence and strength. In order to cope with the severe economic situations at home and abroad and strive to realise the objectives and tasks for "14th Five-Year Plan", the Company has continued to carry out the talent-based strategy, ensure the preservation and appreciation of the value of human resources, focus on building a high-quality talent team and aim to cultivate and develop a team of professionals who meet the needs and has a reasonable structure, so as to provide support for its sustainable and stable development. We comprehensively enhanced the political quality, business quality, professional technical level and management ability of cadres. The Group continued to launch middle management training, junior management training and professional technician training during the Year. It adhered to the people-oriented approach, accelerated technological innovation, strengthened corporate management, and fully utilised the role of talents in corporate development. The human resources department and the person in charge of each production department are jointly responsible for formulating and organising the implementation of the annual training plan for employees, and at the same time making statistics on the number of trainees and the training hours via tools such as the sign-in sheet. The results will be assessed through on-site Q&A and examination after the training to ensure the quality of the training activities. During the Year, the total training hours for the Group's employees were 380,584 hours, with an attendance rate of 100%, and the average training hours completed per employee were 8 hours. The training expenses amounted to RMB8.3611 million.

We provide specific training programmes which are guided by training instructors and experienced staff for all new employees to help them master all necessary skills during the first three months of their probation period. In addition, we also provide employees with various trainings such as production safety, emergency training, fire training, for operation in confined spaces and trainings related to risk control and clean production, to cultivate their awareness of production safety and energy conservation. In terms of quality control, we regularly provide technical and theoretical learning and technical practice tests for our employees. We also provide award for outstanding employees in such trainings to motivate them to improve their skills and ensure product quality. Furthermore, we also conduct a number of trainings to develop the soft skills in communication, decision-making and team spirit, including effective communication skills, team management and growth mindset.

Trainees	Training Goals	Training Methods and Contents
Management training for middle and senior management cadre	To improve management skills and overall quality of management cadres	Participating in training classes for middle and senior management cadre taught and assessed by experts and professors; reading educational materials; cadre warning education is performed through watching films and televisions for integrity advocacy, corruption punishment cases, warning videos etc.
Branch factory employees	To meet eligibility criteria and be able to operate independently	<p>New employees: Receiving education about rules and regulations of the Company, safety awareness, environmental awareness, dedication, ethics, compliance with disciplines and laws and other aspects to establish a correct working attitude</p> <p>After determining the type of job or changing position: learning knowledge of the environment quality system, job responsibilities, fire safety and emergency knowledge, environmental protection knowledge and the related skills of the assigned position. After apprenticeship for three to six months, qualified employees can get jobs, while unqualified ones need to continue learning until they are qualified</p>
Production plant employees	To meet eligibility criteria and be able to operate independently	Trainings targeting at technical courses on process, machine operation knowledge, equipment maintenance and care, and at the same time providing chemical knowledge, emergency knowledge, fire safety and environmental awareness, job safety regulation, strengthening sense of responsibility, etc.

Trainees	Training Goals	Training Methods and Contents
Logistics department employees	To improve the overall capability of employees	Personnel training, business skills and specialised trainings on the integrated management system
Electricians, welders, climbing workers, chemical managers	To ensure the normality and safety of electricity consumption for production and living of the Company and improve environmental quality	Political thoughts and professional ethics education, safety education, environmental education, emergency knowledge training, job safety regulation training, technical theory study and practice
Special types of work, internal auditors, firefighters, safety officers	To standardise operations and eliminate employees who are not competent for the work	ISO14001 Environmental Management System Standards Training, professional skills operation training, safety management training, environmental awareness and concept training

The Group continued to implement each of the annual training programmes and conducted job training, professional and technical personnel training, elementary management training and middle and senior management training.

Case study – Shandong Hongqiao organises training on space truss structure project management

Shandong Hongqiao held a special training on space truss structure project management during the Year, in order to strengthen the management of large-span space truss structure projects within the scope of the Company, enhance the understanding and mastery of the professional knowledge of such project by the management staff, and ensure the construction safety and project quality.

For this training, Technical Transformation Management Department of Shandong Hongqiao invited Professor Zhou Xuejun, a doctoral supervisor of Shandong Jianzhu University (山東建築大學) and head of the Shandong Steel Construction Society (山東省鋼結構行業協會), to deliver a lecture for trainees. More than 200 managers of the Company participated in the training.

This specialised training mainly focuses on the overview and design of space, and the construction and acceptance of the space truss structure. Engineering management staff gained a deeper understanding and knowledge of the space truss structure through learning about the overview, selection, construction and design of the space truss structure. Engineering management personnel mastered the knowledge of acceptance standards, control points, quality and safety precautions during the construction of steel structure projects and space truss structure projects through the learning of steel structure construction quality acceptance and related specifications, steel structure data and structure components acceptance, special workers' certification and examination, construction case study, etc.

Through this training, the participating project managers at all levels have enhanced their knowledge of project management, especially steel structure project management, and improved their project management capability.



Training on space truss structure project management



Aluminum ladling training



Electrical safety management training



Traffic safety publicity and education training



Training for special professionals



Unloader installation standard training



Emergency busbar installation training



Cleaner production training

Onsite operation training on bath shutdown
in short circuit locations

Technical backbone training



Specialised training for highly educated talents

In addition to providing internal trainings, during the Year, the Group continued to sign training agreements with nine universities, including Lu Bei Technician College (魯北技師學院), Shandong University and Northeastern University, according to which, the Group selected internal staff to attend relevant training programmes organised by these institutions, which helps improve workforce quality and management capabilities. In the meantime, apart from the courses in those training programmes, the Group organised specialised training for relevant staff when requirements of designated products or recommendations for improvement are received. We have put the mechanism of training evaluation in practice to review the training outcomes and enhance the whole training system. The evaluation includes safety examinations, professional examinations and skill examinations.

Commendation and Rewards of Employees

In order to evaluate employee performance fairly and objectively, the Group has formulated and implemented the Employees Performance Dynamic Management System and grants extra bonuses as incentives to outstanding employees after conducting regular employee performance assessments to enhance the quality of work, work efficiency and proactiveness of the employees. During the Year, the Group held an annual summary and commendation conference to commend the technical innovation leading team and technical experts who have made outstanding contributions to its production and operation, summarise the work in the first half of the year, seriously analyse the current situation, and arrange for work in the second half of the year, so as to mobilise cadres and employees to unite and work hard and strive for the satisfactory completion of the annual objectives and tasks.



Work summary commendation conference



Honors and rewards

CARING FOR EMPLOYEES

The support and dedication of each employee are indispensable for the growth and development of the Group. In addition to providing an ideal working environment for employees, the Group also extends its care to employees' families and lives.

Welfare System

The Group upholds the principle of "ensuring housing for employees, medical services for the illness, pension insurance for the retired and education for their children". We are continuously improving the employees' welfare system that integrates housing, education, health care and pension insurance mechanisms.

Helping Employees in Need

The Group always adheres to the philosophy of “thinking from the employees’ perspective, considering their worries, resolving their concerns”, providing them with what they are in need and caring about their families and lives. The Group’s labour union carries out regular surveys and visits to employees in difficulties, and takes the initiative to understand the living situation of these employees, their family relationships and financial burdens. During the Year, the Group provided financial assistance of RMB30,000 to 11 employees in difficulty. Meanwhile, the Group encourages the spirit of “All for one and one for all” and encourages staff to make donations to colleagues in financial difficulties, creating an atmosphere of solidarity and love.



Visiting employees in need, giving relief payment



Establishing a complete file of employees in difficulty and providing precise assistance

In addition, Sany Student Aid is a long-standing educational charitable activity of the Group, aiming at helping students from impoverished families relieve their financial pressure, giving them encouragement and support, and fueling their struggle for youth. In early August 2023, the Group’s student aid teams at all levels paid visits to and condoled with households in hardship in Zouping towns and sub-districts and families of the Group’s employees in need. The teams provided one-on-one precise assistance, and gained a detailed understanding of the current living conditions, learning conditions and ideal goals of the students receiving assistance, saying that they would continue to care about children’s healthy growth, and would do their best to help them solve the practical difficulties in their lives. They also encouraged the children to be self-reliant, strong and self-confident with a heart full of gratitude and a determination to serve the country, the children are urged to study hard and achieve success in the future.



Sany Student Aid programme

Cultural and Sports Activities

In order to help employees achieve work-life balance, enrich their spare-time life and enhance their sense of belonging and cohesion for the Group, the Group held various types of employee activities during the Year, including a Lantern Festival-themed activity, cadre fitness games and special activities for Women's Day. Meanwhile, the Group held large-scale technical competitions in spring. In addition to demonstrating the technical level of the participants, the competitions also test the safety knowledge and safety operation skills of the employees, ensuring the quality and safety. Generous rewards are given to employees who have excellent performance in the competitions, and the Group will also arrange work experience sharing sessions among employees to promote learning and communications between employees, improve employees' business skills and foster their spirits of excelling at work.



Exercise walking activities



Lantern Festival fun activities



Women's Day activities



Celebration for the 102nd anniversary of the Communist Party of China



Sports gala



Walking into the Group for a comfort performance



Family visit to the factory



Blind date

PURSUING EXCELLENCE IN QUALITY



Molten aluminum alloy, the major product of China Hongqiao, is the main material for manufacturing aluminum products and other products including aluminum deep-processing products such as coils, can stocks, aluminum foils, etc. China Hongqiao possesses advanced manufacturing equipment, specialised production technology, strong research and development capability as well as scientific and highly efficient management model. By virtue of pursuit and persistence of excellence in quality, China Hongqiao is able to continue providing customers with high quality, safe and stable products along with excellent service.

SUPPLY CHAIN MANAGEMENT

The raw materials necessary for the production and operation of the Group mainly include raw coals, bauxites and anode carbon blocks, and the required supplies mainly include equipment, accessories, production ancillaries, labour insurance and office supplies. In the selection of suppliers, the Group chooses to cooperate with manufacturers or first-class agents for materials in high demand in principle, and insists on the principle of direct procurement from the original manufacturers for special equipment parts. We adopt a combined approach of collaborating with traders and agents for hardware and electrical appliances. Regardless of the types of materials procured, suppliers who established cooperative relationships must possess various relevant qualifications as required by the state and comply with the Group's relevant provisions on supplier management. Suppliers shall sign confidentiality and integrity agreements and pay security deposits.

To reduce the environmental and social risks posed by substandard suppliers, the Group has established the Supplier Code of Conduct and adopts responsible procurement approach, aiming to fulfill social responsibility with suppliers. We have been devoted to improving the procurement process and regularly identifying, assessing, managing and monitoring environmental and social risks of the supply chain, in order to maintain a healthy and orderly supply chain system and continuously optimise the supplier team. The Group requires suppliers to comply with the laws and regulations of the countries and regions in which they operate in terms of responsible procurement, business ethics, labour, environmental protection and occupational health, among others, and to sign the Non-use of Conflict Minerals Undertaking. The Group encourages suppliers to proactively move towards internationally recognised standards and assume greater social and environmental responsibilities.

The Group has established a supplier selection system, whereby suppliers register themselves on the tender website to submit information and the supplier administrator conducts step-by-step review on the registered suppliers. The Group will conduct environmental surveys in the form of questionnaires or field visits to assess and monitor the performance of all suppliers in terms of environmental compliance, environmental protection and resource conservation, and give priority to suppliers with ISO9001 Quality Management System certification, ISO14001 Environmental Management System certification or low carbon product certification. In addition, the Group assesses and monitors the safety and health performance of products and services provided by all suppliers and gives priority to suppliers with OHSAS18001 Occupational Health and Safety Management

certification in order to manage and monitor environmental and social risks in the supply chain effectively. In particular, Shandong Hongshun, a subsidiary of the Group, has formulated and implemented procedures for the management of suppliers, requiring suppliers to lay down a system and a process for human rights due diligence. The Group's Trading Department will review the suppliers' human rights management process. Where there are human rights risks, we will work with suppliers to develop measures and programmes to eliminate or mitigate risks. The Group has established long-term relationships with many suppliers and has endeavoured to ensure that all suppliers comply with its commitment to quality and ethics and anti-bribery policy to ensure that their business conducts are in compliance with proper business ethics.

Procurement of Raw Materials and Supplies

The Group appoints tender companies to procure the raw materials (other than bauxites and raw coal) and supplies in accordance with the materials consumption plan submitted by each production unit. The procurement is in compliance with its internal procurement management system, which covers the procurement process, procurement discipline, quality requirements, contract execution and management, goods acceptance process and punishment standards for non-conforming goods, and so on. Apart from supplier's operation qualifications, economic strength, equipment conditions and supply capacity are inspected and assessed by the tender company, the eligible suppliers are then selected to participate in the tender. The bidding process strictly follows relevant regulations such as the Bidding Law of the PRC and is conducted in an open, fair and equitable manner to protect the interests of both parties. In addition to adhering to the principle of "comparing quality of the same products, comparing price of the same quality and comparing service at the same price", the Group also advocates the use of products purchased earlier to avoid wastage of resources due to missed expiry date.

Procurement of Raw Coal

The Group did not implement centralised tendering for coal suppliers during this Year. At the same time, due to the volatility of the coal market and frequent price changes, the Group has adopted a system of direct pricing followed by adjustments according to market conditions. To avoid overbuying and producing waste, coal-using units report the monthly coal consumption plan on the basis of monthly usage amount, and then the Purchasing Department determines the amount of coal required and the purchasing target through tender in light of the inventory. Apart from considering the price, the Group also evaluates factors such as the bidder's integrity, the environmental impact (including sulphur content), to ensure that the coal purchased is of a high quality but at a low price.

QUALITY MANAGEMENT AND INNOVATIVE RESEARCH AND DEVELOPMENT

Every process of the production line is checked carefully, forming a quality control network that all steps are closely connected and monitored by all staff members. The policies of “two prohibitions”, which include prohibition of passing defective products from the former procedures to the latter procedures and prohibition of storing and outputting disqualified products, are enforced in our production. The policies of “three unacceptances”, which comprise unacceptance of unconvinced reasons, unacceptance of unimproved measures and unacceptance of the irresponsibility of any personnel in charge, are also put in place for quality incidents.

The Group has set up a well-equipped and highly functional quality control center, and the quality management system is also in line with the standard of the International Organization for Standardization ISO 9001: 2015. Through continuously upgrading its production technology and equipment through innovative research and development and encouraging staff members to participate in minor reforms in an in-depth and persistent manner and activities related to tackling key problems of QC (Quality Control) thoroughly, the Group strives to ensure stability and enhancement of product quality.

Quality Control

The Group has set up a quality control system that closely monitors the quality of raw materials, semi-finished products and finished products step by step. All production processes of raw materials from entering to leaving the factory are traceable, in which composition testing, random sampling, labeling, packing, transportation and storage all strictly comply with relevant standards and specifications. For raw materials, ancillary materials and non-conforming products which fail in the initial and final testing procedures, the Group will conduct isolation, analysis and correction and provide opinions and suggestions for the incident according to the Control Procedures of Non-Conforming Products.

To guarantee the health and safety of its products, the Group strictly conforms to the requirements of national, industrial and international standards such as the National Food Safety Standard for Food Contact Materials and Use of Additives Standards for Products (GB9685-2016), the National Food Safety Standard - General Hygiene Practices for Food Production (GB 14881-2013) and the National Food Safety Standard for Metallic Materials and Articles in Contact with Food (GB4806.9-2023) to ensure that the amount of toxic and harmful contents contained in the packing products for food and drugs meet the legal standards and that the production environment and processes fulfill the specific hygienic requirements. Can materials produced by the Group currently meet the width and thickness requirements of all domestic and foreign can factories and are capable to satisfy the specific requirements of customers. The various key performances have been widely recognised by clients. The Group has established stable partnerships with more than one hundred renowned enterprises at home and abroad, including Baosteel Packaging, CPMC, ORG Packaging, Shengxing Group, Baofeng Group, and Detong Group.

If a complaint from a customer about the quality of the Group's products is received, the Group will analyse the cause of the product quality issue and formulate preventive measures and product quality improvement plans. For products that need to be returned, we will communicate with the customer before proceeding to the return process, and such returns will be completed within 5 days. The Group will continue to follow up on product improvements and production workshops are required to strictly follow the product quality improvement plans to ensure that the product quality is improved. During the Year, the Group did not recall any aluminum products for safety and health reasons.

Implementation of SAP&MES Information Platform

In order to deal with the increasingly complex information management needs, we cooperated with IBM Company and Shanghai Baosight and have designed the System Applications and Products (SAP) and Manufacturing Execution System (MES) informatisation platform through years of research. This platform facilitates the Group in moving towards refined, digital and informational management. The SAP&MES platform provides a comprehensive system that connects enterprise management, all production lines and on-site production equipment to help us plan and organise production and operation activities reasonably and efficiently, and achieve efficient control and management on quality. Meanwhile, by collecting and utilising production management data, we can more objectively analyse and identify problems in production technology, capacity planning, quality management, etc., in an enhanced manner, providing a new source of power for the Group to improve the overall operational efficiency and quality management.

Innovation and Research and Development

Innovation and research and development are the major driving forces for the Group to reduce energy consumption, optimize production techniques and enhance product quality. The Group pays high attention to innovative platform construction and industry and academic collaboration. On the one hand, we actively invest resources into the research and development team, establish research centers and laboratories, recruit research and development personnel, purchase advanced equipment, etc. On the other hand, we continue to strengthen the partnership with scientific research institutions in the form of industrial and academic collaboration. During the Year, the Group continued to exchange and cooperate with Soochow University, Central South University, Northeastern University, Binzhou Technical College and other institutions. Besides, the Group encourages its staff to work on improvements of production facilities and techniques regarding safety, energy conservation, efficiency enhancement and environmental protection and to learn from and promote the technical transformation projects with promotional value. During the Year, we implemented a total of 57 minor reform projects.

During the Year, Hongfa Aluminum and Shanghai Baosteel Packaging Co., Ltd. (上海寶鋼包裝股份有限公司) completed a successful trial production of low-carbon aluminium cans that uses 100 per cent green aluminium. This batch of can material aluminum uses 50% UBC (aluminum used beverage cans), 35% hydropower-produced HQALight green aluminum ingots and Baosteel can-making factory raw material scraps to achieve the first batch of 100% all-green aluminum can material production. With total finished products of 60 tonnes and tested by Shanghai Baoyi Factory (上海寶翼工廠), all indicators performed well.

Currently, China Hongqiao already has two green and low-carbon aluminum brands, HQALight and HQALoop. HQALight is low-carbon primary aluminum products produced by hydropower or other renewable energy sources, while HQALoop refers to products made from recycled aluminum. The production capacity of low-carbon products accounted for 23.04%. Both brand trademarks have been registered in China and Germany respectively. HQALight is low-carbon primary aluminum products produced with hydropower or other renewable energy sources, which adopts the world's leading 600 kA electrolytic bath and RuC technology. It has already been applied in the Group's Yunnan project, with carbon intensity of less than 1.83 tonnes of carbon dioxide equivalent per tonne of aluminum products. HQALoop refers to products made from recycled aluminum, with 100% of the raw materials being waste aluminum. The carbon emission is only about 5% of that of primary aluminum, which achieves remarkable results in energy conservation and emission reduction. During the Year, Hongfa Aluminum, a subsidiary of the Group, completed a successful trial production of low-carbon aluminum cans that use 100 per cent green aluminum and were jointly developed with its partner, which further increases the likelihood of aluminum becoming the most sustainable packaging material. Shandong Hongshun's "high-quality recycled aluminum alloy manufacturing technology and equipment" project won the 2023 Top Ten Green and Low-Carbon Scientific and Technological Achievement Award of Renewable Resources Industry during the Year, which continuously injected strength into building an industry benchmark for the green, low-carbon utilisation of recycled aluminum.

Case study – China Hongqiao showcases green and low-carbon aluminum brands at the 28th Conference of the Parties

The 28th Conference of the Parties (COP28) of the UN Framework Convention on Climate Change was held in Dubai, United Arab Emirates during the Year. China Hongqiao was invited to attend the conference again. Roland Berger, a dual-carbon strategic partner of the Group and an internationally-renowned consulting firm, introduced green and low-carbon aluminium brands HQALight and HQALoop at COP28.

The Group's Overseas Business Department participated in the COP28 conference and had in-depth exchanges with a delegation of professors from the University of Chinese Academy of Sciences on the path of low-carbon development of the Group. During the relevant activities, the Group shared its practices and experiences in promoting green development through optimising energy structure, building green brands, developing the circular economy, expanding downstream processing, creating innovative production processes and deepening domestic and overseas cooperation, amongst other important measures.

The Conference of the Parties (COP) to the UN Framework Convention on Climate Change, a global platform for countries to hold negotiations on climate change, has been held in different regions of the world since 1995. It is an important platform for all parties to enhance international exchanges and cooperation. For three consecutive years, the Group has been invited to attend the conference to share the story of its green development, and initiate in-depth exchanges with all parties concerned, which has attracted widespread attention.



100% green and low-carbon aluminum cans



High-end aluminum strip and foil production plant

Facilitating Development of the Industry

The Group took part in formulating several national and industrial standards, such as the Assessment Specification for Green Aluminum Plants (《鋁行業綠色工廠評價規範》), the Unalloyed Aluminum Ingots for Remelting (GB/T 1196-2013) and the Safety Guidance for Use of Vacuum Ladles (DB37/T2800-2016), promoting the standardisation in the PRC's aluminum industry and improving the quality control of aluminum products and production safety management. In addition, we wrote papers on innovation and R&D jointly with a number of renowned scholars, in an effort to explore how to enhance the quality of aluminum alloy in all aspects and promote the continuous and mutual progress and development of the Group and the industry.

As a forerunner in the industry standards, the Group has won a number of national and local awards. As first batch of enterprises participating in the evaluation of green-power aluminum, China Hongqiao received one of the first batch of green-power aluminum product evaluation certificates at the annual conference of China's aluminum processing industry for 2023. In addition, China Hongqiao also won the Standards Excellence Prize from the National Nonferrous Metals Standardisation Technological Committee and the Enterprise Standard Forerunner Certificate from the Institute of High Quality Standardisation. The above certificates confirm the Group's leading position in the aluminum industry in China in terms of quality management and technical standards.



Enterprise Standard Forerunner Certificate



Technical Standards Excellence Prize



Certificate for green-power aluminum certification

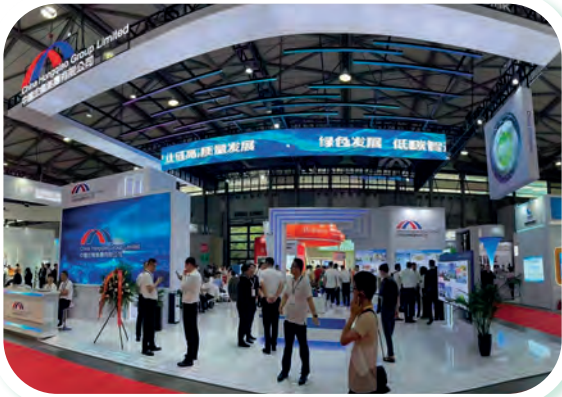
As a Chinese enterprise committed to making global presence and seeking international cooperation, the Group is determined to meet the high standards of the global aluminum industry. Currently, four subsidiaries of the Group (Shandong Hongchuang, Yunnan Hongtai, Hongfa Aluminum and Binzhou Hongzhan) have successfully passed the ASI Performance Standard certification. Meanwhile, three other subsidiaries of the Group (Shandong Hongshun, Weihai Chenxin and Weihai Haixin) have completed the review of the ASI Performance Standard, the results of which are expected to be announced in 2024.

The Aluminium Stewardship Initiative (ASI) is a global, multi-stakeholder, non-profit standards setting and certification organisation whose objectives are to define globally applicable standards for sustainability performance and material chain-of-custody for the aluminum value chain, and to promote measurable and sustainable development in the key environmental, social and governance impacts of aluminium production, use and recycling. The ASI Performance Standard defines environmental, social and governance principles and criteria, which address a broad range of sustainability issues in the aluminium value chain. It sets out 59 principles under the three sustainability pillars of Environment, Social, and Governance, which address key issues such as biodiversity, labour rights, indigenous peoples rights, and greenhouse gas emissions.

As one of the world's largest aluminum producers, China Hongqiao passed the ASI Performance Standard certification, which is significant in expanding the industry's commitment to responsible production practices. Under the guidance of the ASI standard, the Group will fulfill its commitment to responsible production, responsible procurement and corporate governance of aluminum, continuously improve its management level, continue to implement the concepts of greenness, low carbon, environmental protection and sustainable development, and fully meet the requirements for high-quality development, to make greater contributions to the sustainable development of the aluminum value chain. The Group will accelerate the pace of carbon neutrality and sustainable development, promote responsible aluminum production and establish close cooperation with partners from other countries.

SALES AND SERVICES

The Group maintains long-term relationships with multiple clients and adopts a business model of “determining production based on sales” and provides various products with different specifications in accordance with the requirements of downstream customers, which ensures its product supply and minimises inventory backlog. The Group mainly promotes its sales and services through participating in customer seminars and exhibitions and publishing promotional videos and booklets. During the Year, many of the Group’s products were exhibited and marketed at various international exhibitions and exchange sessions striving to align with the global market, including active participation in major industry exhibitions such as the 16th International Automobile Lightweight Conference & Exhibition, Sino-German Lightweight Forum, Aluminum China and China-South Asia Exposition. Additionally, leveraging platforms like the 8th International (Sanya) Aluminum Industry Chain Green Development Summit and the Conference of the Parties to the United Nations Framework Convention on Climate Change, the Group have presented our Group’s cutting-edge technologies and innovative products to the world, elucidating our philosophy of open, integrated, and win-win green and sustainable development.




Aluminum China



The 8th International (Sanya) Aluminum Industry Chain Green Development Summit

During the Year, the Group continued to strictly comply with relevant laws and regulations such as the Advertising Law of the PRC and the Trademark Law of the PRC, as well as its internal rules including the Working Rules of Sales Corporation and the Corporate Customer Credit Management System. All product and business information are carefully reviewed before being publicly disclosed to eradicate any acts of misleading or cheating clients with false information.



In order to understand customers' satisfaction with the Group's products, the Group has stipulated working regulations for sales companies and required sales personnel to actively contact customers and establish a continuous and stable communication channel, so as to collect customers' opinions and improve service quality. If we receive complaints from customers or stakeholders about the Group's products, we will handle the complaints in accordance with the workflow of the Stakeholder Complaint Handling System. The safety and Environmental Protection Department set up a complaint telephone number and a mailbox for collecting opinions, designated a person to be responsible for collecting information, and reported the collected opinions and information to the relevant departments according to the management authority. The department with primary responsibility is responsible for tracking and handling the complaints from the concerned parties and informing the Safety and Environmental Protection Department of the results. The department that is complained against is responsible for analysing the causes of complaints from the relevant parties, giving a reply about the complaints, and formulating and implementing corrective measures accordingly. The department and staff handling complaints need to analyse the complaints and report them to the management department. Upon completion of the investigation of a complaint, a reply should be given to the customer as soon as possible on the time limit for handling the complaint, which is generally required to be completed within 1-3 days. An explanation is required in a timely manner if the complaint cannot be completed within 3 days. The Safety and Environmental Protection Department and the department that is complained against conduct an overall assessment on complaints every six months, categorise and analyse the complaints according to their contents, and work out preventive measures and management methods, with the aim of strengthening internal management and preventing the recurrence of similar incidents. During the Year, the Group did not receive any complaints in relation to the Group's products and services.

PRIVACY PROTECTION

The Group gives priority to information security to protect both internal privacy and client information. Its information center provides training sessions regarding information safety, system application and security to improve employees' skills in system application and raise their awareness of security.

In order to regulate the use and management of computers and internet resources, according to internal regulations and rules such as the Administrative Rules for Security of Using Office Computers and Network, the Group regulates relevant data backup and protection, anti-virus system management, central computer room management and user password setting, and strictly prohibits unauthorised access to external devices and disclosure of confidential documents and ensures the normal operation of the equipment in computer room and proper storage of important data. In addition, the Group has formulated contingency plans for illegal system intrusion and illegal data tampering, which clearly specify the remedial and corrective measures to be taken by the system administrators in the event of illegal network intrusion and system content tampering, in order to minimise the risk and impact of leakage of information of the Group and its customers. The system administrators should immediately shut down the server and the system, block or delete the compromised login accounts, and use antivirus software to remove the hacker program. Moreover, the system administrators should identify and restore all tampered or deleted data to restore the system and network as soon as possible.

We emphasise the importance of protecting customer privacy and ensuring information security, take appropriate technical and organisational measures to prevent unauthorised access, use or disclosure. The Group collects and uses customer information in a lawful form, collects only necessary information, and uses such information only for the purposes specified in the contract to the extent necessary to comply with the legal requirements and with the consent of customers. We established and strictly observe the confidentiality measures in accordance with laws and regulations, and clearly inform the Group's employees of the policies and guidelines regarding the handling of customer information. According to the policies and guidelines, employees need to have sufficient reasons to obtain customer information to perform job duties or accomplish specific tasks. In addition to improving information security, the Group also ensures that the privacy interests of both the Group and its customers are protected by supervising the bidding and purchasing procedures strictly, carrying out education regarding confidentiality, signing confidentiality agreements with employees in specific positions, and with customers and suppliers.

In addition, we also educate and train our staff, emphasising their responsibilities and obligations in handling customer information. We provide guidance and guidelines to ensure employees are aware of how to comply with the privacy policy and the best practices to follow when handling customer information.

PROTECTION OF INTELLECTUAL PROPERTY

The Group attaches great importance to the management of intellectual property rights and complies with relevant laws and regulations, including the Intellectual Property Management, the Patent Law of the People's Republic of China, the Trademark Law of the People's Republic of China, the Copyright Law of the People's Republic of China and the Anti-Unfair Competition Law of the People's Republic of China.

For new technologies, new processes, utility models and product packaging designs and other aspects, the Group will file patent applications and conduct maintenance in an all-round manner, in order to create favourable conditions for our innovative research and development. During the Year, we were granted 192 patents. In addition to protecting its own intellectual property rights, the Group does not infringe upon the intellectual property rights of others. We use licensed software internally and ensure that all software is used pursuant to license agreements. Our employees are required to apply to the Group to install software, so as to ensure that they do not infringe on the intellectual property rights of others.

In terms of trademark management, the Group has registered a number of trademarks in the PRC and Hong Kong in accordance with laws and regulations and has entered into cooperation agreements with various partners, in a bid to demonstrate that we respect the trademark rights of others and at the same time legally protect our own trademarks from infringement. We will continue to devote ourselves to the management and protection of intellectual property rights to ensure that our innovations are duly respected and protected, and at the same time comply with relevant laws and regulations to promote fair competition and innovative development.

ANTI-CORRUPTION PRACTICE

The Group always maintains a steadfast “zero tolerance” stance towards unlawful acts such as bribery, extortion, fraud and money laundering. During the Year, the Group promoted integrity culture, continued to strictly comply with relevant laws and regulations like the Anti-Money Laundering Law of the People’s Republic of China and the Criminal Law of the People’s Republic of China, and implemented internal rules and regulations, such as the Integrity Management and Anti-Corruption Policies, the Anti-fraud Measures and Control Procedures, and the Whistleblowing Policies. The relevant policies were applied to all employees of the Group, including the Board and other employees, as well as external parties (including but not limited to agents, consultants and contractors) dealing with the Group, with a view to comprehensively eliminating unlawful behaviors, such as bribery, extortion, fraud and money laundering. The Group has established a corruption reporting system and channels and keeps the identity of whistleblowers confidential. The Group encourages social members and its internal staff to lodge complaints or reports on irregularities, and has set up a reporting hotline at each key position and department. In the event of any actual or suspected violation of this policy, or any other improper or fraudulent incident or behavior, they can report such incident or behavior to the audit committee (the “**Audit Committee**”) (or to such specific person as may be designated by it from time to time) or to any other appropriate person or department in accordance with the reporting channels and processes stipulated in the Whistleblowing Policy or the relevant system (supervision and reporting hotline: 0543-4161355), and report to the Board of Directors on the significant events involved. The Audit Committee assigns appropriate persons or sets up an investigation team to investigate relevant reported cases.

The Group’s Audit Committee (or such specific person as may be designated by it from time to time) exercises supervision and management and actively performs spot checks on the Group and its subsidiaries in order to ensure that the policy is fully implemented. The Group has set up the Economic Supervision Department as a permanent body to urge each department to carry out the anti-fraud duties. All departments convene an anti-corruption meeting each month to summarise, review and study cases of non-compliance occurred in the past. The Chairman of the Board also holds regular anti-corruption meetings to mobilise and supervise the leaders of various departments to strengthen the building of a clean and honest organisation. In addition, the Economic Supervision Department of the Group jointly prepared a variety of anti-corruption publications such as Anti-corruption In Organization (《勤廉陣地》) and The Overhanging Sword (《利劍高懸》), which recorded a number of typical cases of corruption and carried out in-depth information collection and analysis.

In order to develop the professional ethics of the Group’s middle and senior cadres, we engaged experts to organise anti-corruption and integrity training in 2023 to warn and educate cadres through movies, TV, educational books, corruption punishment cases and warning videos, etc., so as to enhance their awareness of anti-corruption and integrity.

For bidding and purchasing, the Group has adopted strict monitoring measures. In addition to ensuring fairness, openness and equity in the bidding process, the Group also requires personnel and management cadres related to bidding and procurement to sign Undertakings of Honesty and Self-discipline (《廉潔自律承諾書》). The procurement department also signs Anti-corruption Agreements (《廉政協議》) with the bidders to prevent the acts like accepting rebates or engaging in private transactions. During the Year, the Group was not aware of any non-compliance with the relevant laws and regulations in relation to bribery, extortion, fraud and money laundering that had a significant impact on the Group.

CARING FOR SOCIAL WELL-BEING



The successful development of China Hongqiao is attributed to the full support and trust of the country and all parties from the society. China Hongqiao always keeps in mind the initial mission of “building a business for the country and benefiting the people”. The Group fosters a culture of compassion by consistently demonstrating acts of kindness, and actively contributes to society by engaging in social welfare initiatives. We wholeheartedly fulfill our responsibilities and embrace our role as a responsible corporate citizen.

COMMUNITY WELFARE

The Group always pays close attention to the interests of the community where it operates and regards improving the community’s well-being as an important way to realise its value. Over the years, the Group has actively organised and participated in various types of charity and social welfare activities and encouraged employees to participate in such activities. During the Year, the Group made a substantial charitable contribution of RMB132.62 million.

Moreover, the Group was active in participating in the charity projects of the Yunnan Provincial Government. During the Year, the Group identified a total of 48 charity projects to be carried out in Yunnan with a government budgetary investment of RMB280 million, which are located in six cities and prefectures, namely Wenshan Prefecture, Honghe Prefecture, Zhaotong City, Dehong Prefecture, Lincang City and Dali Prefecture. Currently, two projects have been completed this year, three are in progress, three are awaiting tendering for construction, 38 are at the design stage, and two cannot be implemented due to various conditions (including one in the charge of an energy firm). During the Year, the Group had completed 16 charity projects in Yunnan, which were located in 7 cities and prefectures, namely Wenshan Prefecture, Honghe Prefecture, Diqing Prefecture, Dehong Prefecture, Chuxiong Prefecture, Pu’er City and Zhaotong City. The projects are about rural revitalisation, education, healthcare, environmental protection, etc., aiming to contribute to the development of Yunnan and the well-being of local residents.

The Group has been actively engaged in charitable and philanthropic activities, including voluntary blood donations, assistance to farmers, caring for the elderly and urban civilisation development. We mobilise our staff to participate in voluntary blood donations to support the needs of medical institutions and save lives. In the meantime, we are concerned about and care for the elderly and organise various activities to improve their quality of life. Moreover, we have been actively involved in building a civilised city by promoting a clean and civilised image of the city through clean-up activities, environmental protection initiatives and community beautification programmes. These charitable and public welfare activities demonstrate the Group’s commitment to social responsibility and are dedicated to building a better society together.

Voluntary Blood Donations

All units of the Company organised voluntary blood donation activities in which the cadres and staff actively participated. In order to celebrate the 76th “World Red Cross and Red Crescent Day”, carry forward the Red Cross spirit of “humanity, fraternity and dedication”, give full play to the leading role of Party building, and contribute the strength of Hongqiao to social welfare undertakings, the Group joined hands with the central blood station to organise voluntary blood donation activities to help alleviate the tight supply of clinical blood during special periods. The Group has actively fulfilled its corporate social responsibility and received positive responses from cadres and staff. A total of 25 volunteers of the Group participated in the charity activity about the collection of hematopoietic stem cell blood samples and voluntary blood donation themed on “World Red Cross and Red Crescent Day on May 8th, warm Binzhou”.

Voluntary blood donation is a concrete manifestation of the humanitarian spirit of healing the wounded and rescuing the dying and making selfless contributions, and is an important guarantee and a practical need for clinical blood supply and blood quality and safety. A small trickle of water becomes an ocean, and a drop of blood units selfless love. Volunteers carry forward the spirit of devotion and show a high sense of social responsibility with practical actions. The Group will continue to take the initiative to contribute to the cause of voluntary blood donation, promote the spirit of selflessness and spread love and positive energy through practical actions.



Employees actively participated in voluntary blood donation activities

Farming Charity Activities

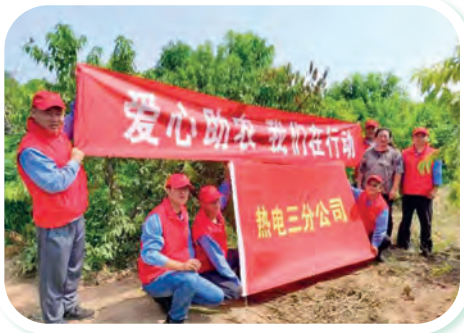
As an enterprise actively fulfilling social responsibility, we are aware of the importance of agriculture to society. During the Year, we organised activities to help farmers, allowing our employees to get out of the office and into the farmland to work together with farmers. By fertilising crops and picking fruits, we supported the development of the local agricultural industry through practical actions. We jointly created a beautiful scene of a good harvest. Helping farmers not only strengthens our team's cohesion, but also demonstrates our social responsibility as an enterprise. We will continuously contribute to the development of the society by upholding the concept of caring for the community and giving back to the society.

Case study – Helping farmers fertilise jujube trees

Winter jujubes are one of the important economic sources for jujube farmers in Zhanhua. The volunteers of the Group carried out activities to help farmers and went to Pangjia Village, Xiahe Town to help jujube farmers fertilise trees.

In a winter jujube planting base in Pangjia Village, Xiahe Town, volunteers wearing red vests helped farmers press a “shortcut key” for production. Some reclaimed the land and some weeded and fertilised trees, creating a busy scene in the farmland.

With the help of the volunteers, the fertilisation work was completed very quickly. Jujube farmers held the hands of the volunteers tightly, with simple and happy smiles on their faces, and expressed their gratitude.



Farmer support activities

Eldercare Charity Activities

The Group launched charity activities during the Year, in order to welcome the arrival of “Learn from Lei Feng Day”, enhance the cohesion of Party members and cadres, enrich people’s spare time, carry forward the spirit of Lei Feng and spread the love of volunteers with practical actions. The charity volunteer team of the Group, consisting of Party members and cadres, went into a nursing home in Mashanzi Township, Beihai. The volunteers enthusiastically measured the blood pressure for the elderly, cut their hair, cleaned the apartments, cooked a sumptuous meal, asked about their living conditions, chatted with them about their families, and wished them good health and longevity with all their hearts. The elderly shared their life and social experience with the volunteers. In addition, the volunteers prepared milk, cakes, rice and other daily necessities for the elderly, and the whole activity was warm and happy. At the same time, the volunteers of the Group set up a love team, visited the widows and orphans, and sent them eggs, flour, milk, fruit and other products.

After the activities, everyone expressed that “to respect the elderly is to respect our own elders as well as those of others”, emphasising that caring for the elderly is a societal responsibility. As Party members and cadres, it is even more important to take the lead in respecting the elderly, helping the elderly and offering other volunteer services, and strive to make themselves the populariser of the concept of volunteer services, the inheritor of love and good deeds, and even a pioneer in striving for excellence and a practitioner of core socialist values.



Visiting the elderly in residential care home



Visiting and comforting the elderly who live alone in the community

Warmth for Dual-Income Families, Free Haircuts

March 5th is the “Learn from Lei Feng Day”. To strengthen the cohesion among party members and cadres, enrich their leisure life, and carry forward the spirit of Lei Feng and the love of volunteers through practical actions, the Group’s “Aluminum Goes Global Volunteer” (鋁行天下志願者) charity team carried out a “Warmth for Dual-Income Families, Free Haircuts” event. This provided free haircuts for the families of employees living in the Beihai dual-income families living area.

The volunteer team composed of Party members and cadres and employees went to a community in Beihai early in the morning, together with a razor, a comb and an apron. The property office transformed into a temporary haircutting venue, and the elderly expressed their gratitude to volunteers after haircut. They conveyed their gratitude to China Hongqiao for their practical concern. During this event, the dedicated volunteers provided haircuts to over a hundred individuals in the residential area. In the future, the “Aluminium Goes Global Volunteer” charity team of the Group will continue to carry out various forms of voluntary service activities.



Free haircuts for employees' families

Civilised City Creation Environmental Public Welfare Activities

In the month of learning from Lei Feng, the volunteer service team of the Group launched the “environmental charity walk” activity. During this activity, the volunteers searched for plastic waste, PET bottles, paper scraps, etc. with garbage clips and cleaning tools, did some cleaning, trimmed trees and repaired facilities, practicing the spirit of volunteerism and guiding people around them to raise their awareness of environmental protection and to create a beautiful city together. Participating staff said that each of them is not only a participant but also a beneficiary of the creation of a civilised city. They should devote themselves to the creation of a national civilised city with a high sense of responsibility and a sense of mission, and fully demonstrate the good spirit of the staff.

On 5 April, the Group encouraged a large number of cadres and employees to become city volunteers and take practical actions to contribute to the creation of a civilised city. More than 20 volunteers participated in the activity. They fully carried forward the spirit of not afraid of hard work, tiredness and dirtiness, and picked up brooms, clamps and other tools to clean up garbage in the grass and remove waste paper shavings, cigarette butts, leaves and other miscellaneous objects in streets and alleys in all corners of the city, which improved the environmental hygiene of the area.

On 29 May, in order to help create a civilised city, optimise the order of shared bicycle parking, create a clean and orderly city environment, volunteers of the Group launched the bicycles sharing “Give a Hand” volunteer service activity. Volunteers came to the streets and parked the fallen and illegally parked shared bicycles in an orderly manner, appealing to the citizens who were using or parking to ride in a civilised manner, and jointly guarding the image of urban civilisation.



Volunteers clean up city trash



Volunteers trimmed trees



Volunteers parked their bikes in an orderly manner

Traffic Safety Public Service Campaign

The Group's volunteers used their time after work to organise a traffic safety public service campaign called "better to stop for ten minutes for safety than to risk one second for danger". During this activity, the volunteers came to Gaotian Market in the Beihai New District (北海新區高田大集), used their self-made traffic safety cartoon leaflets to patiently explain the hazards of traffic violations and traffic safety precautions for people, actively spread the concept of civilised travel, and reminded everyone to abide by the traffic rules and regulations. The charity activity won the praise of the villagers and the traffic police comrades on duty.



Volunteers distributed traffic safety cartoon leaflets

Weiqiao Rainbow Home

The Group has also actively carried out poverty alleviation work through education. The Group continued to actively participate in the "Weiqiao Rainbow Home" (魏橋彩虹之家) project sponsored by the Beijing Rainbow Charity Foundation (北京彩虹公益基金會) to ensure the sustainable development of the Weiqiao Rainbow Homes in both hardware and software aspects, providing the children with a healthy and interesting learning life and a warm and loving home. During this Year, Weiqiao Rainbow Homes continued to take up responsibility of aesthetic education in rural areas and educate children with beauty, and to cultivate the essence with beauty. It allows children to enjoy art in the natural environment of the village and guides young people to develop a correct aesthetic and cultural outlook through theoretical and practical aspects of aesthetic education courses, community activities and school culture. Weiqiao Rainbow Home serves the communities in Binzhou, Linyi and Heze of Shandong Province as well as Yanshan and Deqin of Yunnan Province, providing activities and counselling to left-behind children to enable them to attain all-round growth and feel love and warmth in the company. Up to now, the number of children benefited from the "Weiqiao Rainbow Home" project has reached over 20,000.

Case study – Weiqiao Rainbow Homes in various places

Wenshan, Yunnan – 10 Weiqiao Rainbow Homes

The 10 Weiqiao Rainbow Homes in Yanshan, Yunnan Province, jointly organised a reading programme and a “Reading Star” award. The 35 children who were selected as “Reading Stars” came to Shandong Province to participate in the “Qilu Chinese National Learning Summer Camp” (齊魯大地國學夏令營), where they were able to experience the Chinese culture of Shandong region and visit an enterprise. The Weiqiao Rainbow Home-related summer camp activity was scheduled to cover tourist attractions, cultural shrines and other destinations, including Qingdao, Binzhou, Zouping, Qufu and Jinan, with a view to let children fully feel the customs and charm of Shandong, and grow during studies. In addition, all Weiqiao Rainbow Homes students received a Rainbow reading pack as a gift for the new school year. All-new books were packed into bags with the words “read 10,000 books and travel 10,000 miles”, which was a gift from China Hongqiao to the children in the mountainous areas. The Rainbow reading pack is not only to encourage the village children to read, but also to stimulate their reading enthusiasm. Through regular reading classes, occasional reading activities and annual summer camps, the children are able to develop their reading habits and improve their reading skills.



After the donation of the Weiqiao Rainbow Homes project to 10 schools in Yanshan County over the past few years, reading has become a hobby for many children. Their writing skills have improved a lot. “Chasing a Beam of Light” by Ji Yongqi of Kaji Primary School, Ganhe Township, published in the September issue of Chinese School Literature. Rainbow reading packs, book reading corners for schools, reading sharing sessions, reading leadership programmes, summer camps and study tours are activities that continue to be donated each year to open the doors of rural children to a wider world of reading. On 19 October 2023, with the support of the Yunnan Provincial People’s Procuratorate and the relevant departments of Dehong Prefecture, two Weiqiao Rainbow Homes were officially launched in Wuchalu Township of Mangshi, Dehong Prefecture, Yunnan Province, donating a set of rainbow reading kits for each student at Wandan Mingde Primary School and Manbang Primary School, 520 sets of customised uniforms for autumn and summer, and 2,000 books for each school. The books on the children’s shoulders contain not only love, but also the knowledge carried in the books.



OVERSEAS CONTRIBUTIONS

To respond to the economic strategy of the “Belt and Road Initiative” of the country, China Hongqiao has devoted itself to promoting the economic development of the places where it has overseas projects in recent years, and also contributing to the local economic development to fulfill its corporate social responsibility. It promises to respect the rights and interests of indigenous peoples and comply with the international standards, including the laws and regulations of the national and local governments. It considered feasible alternatives in project design to avoid or minimise physical displacement of people in terms of location or property, and took into account environmental, social, and financial costs and benefits, with particular attention to impacts on the poor and vulnerable and women. It respected the legal and traditional rights and interests of local communities in relation to their land, livelihoods and use of natural resources, and took appropriate steps to prevent and address any adverse impacts on the livelihoods of local communities as a result of its activities.

Guinea

The SMB Winning Consortium formed by China Hongqiao, Winning International Group of Singapore (新加坡章立集團), Yantai Port Group (煙台港集團) and United Mining Supply (UMS) of Guinea established in Guinea upheld the concept of “development in mutual benefit, benefiting the people”. Since 2014, while developing bauxite resources, the SMB Winning Consortium has also been committed to promoting the economic and social development of Guinea, making an ongoing contribution to local employment, education, transportation, medical welfare, leisure and sustainable development projects of the community, and creating a new model for multi-party cooperation and mutual benefit in overseas mining development.

During the Year, the SMB Winning Consortium continued to strictly abide by relevant local laws and regulations in Guinea including the Mining Law and the Environment Law and made generous investments in the community construction to promote the development of the local community and economy, which greatly improved the living standards of the Boké people in Guinea. During the Year, in order to solve the drinking water problems of the local communities in the Boké region, SMB Winning Consortium repaired 41 wells and built 9 wells in the affected areas in accordance with the 2023 Sustainable Development Project Plan. In order to provide convenient conditions for the development of local villages, the SMB Winning Consortium repaired community roads. At the same time, in order to ensure the safety of traffic along the railway line and property, the SMB Winning Consortium built a number of underground passages along the line to effectively strengthen and consolidate relations with local communities. In addition, on the premise of being adaptable to the unique climate condition of Guinea, the SMB Winning Consortium will utilise China’s advanced agricultural facilities, techniques and management experience to develop an agricultural facility and farming model that can be widely promoted, with the aim of developing a group of new local agricultural workers who can independently carry out field management, and thereby driving the development of the local economy. During the Year, the SMB Winning Consortium has successfully carried out rice trial field projects. In order to maintain good relations with the surrounding communities, the SMB Winning Consortium has made a number of donations, for example: every quarter, the SMB Winning Consortium distributes rice and cooking oil to surrounding villages that maintain peace and stability, as well as donating cattle and sheep for Eid al-Fitr and Eid al-Adha during religious festivals in the community villages. In addition, the SMB Winning Consortium has donated 110 sets of tables and chairs to primary schools in the region, funded the renovation of local public buildings and bridges, and participated in funeral assistance activities in the community. SMB Winning Consortium continues to increase its social responsibility commitment, with a cumulative investment of approximately USD3.60 million.

Contributions and outcomes from SMB Winning Consortium to the Guinean Community



SMB Winning Consortium's investment and construction of wells

SMB Winning Consortium's agriculture project


As of December 2023, SMB Winning Consortium has more than 22,000 project staff directly or indirectly involved in Guinea, and the number of the subcontractors and merchants who specifically served SMB Winning Consortium reached over 5,000, and more than 92,000 job opportunities (including indirect employment) have been cumulatively created in Guinea. During the Year, tax paid by SMB Winning Consortium to Guinea amounted to approximately USD375 million. Its projects have been running smoothly in Guinea which attracted more enterprises and investors to invest in the mining, infrastructure construction and agricultural industries, hence driving the economic growth of Guinea.

Indonesia

PT. Well Harvest Winning Alumina Refinery (宏發韋立氧化鋁公司) (“**PT. Well Harvest Winning**”), jointly established by the Group, Indonesian Harita Group (印尼哈利達集團) and Singapore Winning Group (新加坡韋立集團). On October 3, 2013, during the visit of Chinese President Xi Jinping to Indonesia, he and the then Indonesian President Susilo Bambang Yudhoyono witnessed the signing ceremony of the project.

PT. Well Harvest Winning is recognised by the Indonesian central government as a “national strategic project with key support”. It has contributed more than USD250 million in various taxes to the Indonesian government, while winning the Best Taxpayer Enterprise Award issued by the Indonesian government for several consecutive years. As the largest industrial alumina company in Indonesia and even in Southeast Asia, PT. Well Harvest Winning has filled the domestic industrial gap in Indonesia, advancing the progress of Indonesia’s industrial modernisation. By adhering to the concept of “people-oriented governance and cooperation for achieving mutual benefits”, PT. Well Harvest Winning hired more than 3,400 Indonesian laborers from 27 provincial administrative units successively. Currently, 90% of the positions are held by Indonesian staffs, which greatly contributed to local employment, driving both economic and social development. In addition, PT. Well Harvest Winning has established a specialised social responsibility group to launch various projects to actively participate in donating funds to people in need, providing education funds, medical assistance, religious assistance, and repairing infrastructure.

In terms of environmental management, PT. Well Harvest Winning adhered Indonesian environmental protection regulations and standards, conducting regular and continuous environmental management and monitoring. All emission indicators, including exhaust gas, wastewater and solid waste, meet or exceed national standards of Indonesia. Productive wastewater and waste oil are not discharged but fully recycled. In August 2023, PT. Well Harvest Winning was awarded the “First Prize for Clean and Environmentally Friendly Coal Utilization Technology” for medium-sized enterprises by ASEAN, recognising its outstanding contributions to energy conservation and emission reduction through the application of new technologies in roasting processes, coal-fired efficiency, and 100% reuse of coal ash. This is the second consecutive time that PT. Well Harvest Winning has received an ASEAN award for low-carbon emission reduction.



In addition, PT. Well Harvest Winning attached great importance to environmental greening and clean production in its daily operations, protecting biodiversity and continuously improving the green coverage rate of the factory area by selecting local tree species and vegetation. Employees were widely mobilized to plant 1,000 mangroves on the beach to prevent coastal erosion. During the 10th anniversary celebration of PT. Well Harvest Winning and World Environment Day activities, employees drew colorful environmental posters in designated areas, which were praised by the surrounding communities and the government. The local government's environmental protection department also issued an honorary certificate for PT. Well Harvest Winning's greening efforts.

Since PT. Well Harvest Winning establishment in August 2012, the company has actively fulfilled its social responsibilities, established a specialised team and annual budget to continuously assist the economic livelihood and social development projects of the surrounding communities and West Kalimantan Province. During the Year, PT. Well Harvest Winning established a cooperation union with the local villagers to continue creating job opportunities for surrounding villagers, imparting techniques in farming, planting, fishing, and other skills and providing them with agricultural equipment, fishing gear and other equipment and material so that the local villagers can be self-reliant and this improves their living standards. This drove the development of surrounding communities, achieved harmonious coexistence between the community and the enterprise, while promoting common development. Besides, PT. Well Harvest Winning also actively carried out charity events including coastline restoration, maintenance of churches, investment in school construction and education funds. Through various methods, including improving education, health conditions and family economic status and increasing villagers' income, PT. Well Harvest Winning helped the local villagers to establish a comprehensive and sustainable development of human and natural resources. Through the provision of food subsidiaries, education and consultation on healthy living and free medicine to children, pregnant women and the elderly, PT. Well Harvest Winning improved the standard of health services and continuously improved the public health environment.

According to statistics, PT. Well Harvest Winning has invested over USD3 million in social responsibility efforts to date. In the future, along with self-development, PT. Well Harvest Winning will continue to integrate the fulfilment of social responsibility into the development strategy and cooperative culture of the Group, organically integrate economic and social benefits as a value pursuit, and give back to the local community through various means.



Food for babies and pregnant women



Revitalising school sanitary facilities



Rehabilitation of a provincial road
in Sungai Tengar Village



Supporting residents' healthcare costs



Indonesia coastal cleanup activities



Conducting on-site boundary check with residents

VERIFICATION STATEMENT

SHINEWING Sustainability Advisory Services Limited (“**SHINEWING Sustainability**”) has been engaged by China Hongqiao Group Limited (HKSE Stock Code: 01378) and its subsidiary (collectively referred to as “**China Hongqiao**” or the “**Group**”) to undertake an independent verification on Environmental, Social and Governance Report 2023 (“**ESG Report**”). The ESG Report set out the environmental and social performance of the Group from 1 January 2023 to 31 December 2023; and has been prepared in accordance with the requirements of Appendix C2 – “Environmental, Social and Governance Reporting Guide” of the Rules Governing the Listing of Securities” of the Stock Exchange of Hong Kong (“**ESG Reporting Guide**”).

Objective

This independent verification statement is solely for the use of the stakeholders and management personnel of the Group. The statement has been prepared in English and Chinese versions. Should there be any discrepancies between these versions, the English version shall prevail.

Responsibilities of Group

The Group is responsible for the data collection, calculation, making estimates and preparation of the ESG Report. The Group is also responsible for implementing sound internal control procedures to ensure the content and presentation of the ESG Report are free from material errors.

Responsibilities of SHINEWING Sustainability

SHINEWING sustainability is responsible to provide an independent verification statement to stakeholders based on the scope and methodology described. We do not assume responsibility or accept liability to any other person for the contents of this report.

Independence

SHINEWING Sustainability is independent to the Group. There is no relationship between SHINEWING Sustainability and the Group beyond the contractual agreement for providing the verification service.

Inherent Limitation

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities. Further, greenhouse gas quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Scope

The scope of the verification statement is limited to the data and information in the ESG Report. The Group selected several specified performance information in the ESG Report for the verification purpose, which included the Scope 1&2 greenhouse gas emissions¹, total electricity consumption data² and total water consumption data³ (collectively referred to as “**Specified Performance Information**”) set out in the ESG Report.

Methodology

The verification is with reference to (i) AA1000AS v3, Type 2 Engagement and Moderate Level of Assurance; (ii) ESG Reporting Guide; and (iii) SHINEWING Sustainability Procedures of Verification on ESG and Sustainability Report.

Within the scope of our work, SHINEWING Sustainability performed amongst others the following procedures:

- Review the preparation process of the ESG Report, including stakeholders engagement and materiality assessment.
- Verify the system and process of collection, analysis and reporting of selected data.
- Interview the manager responsible for sustainability performance and data collection.
- Verify the samples of the representative data and information selected, including review on conversion data and calculation as well as inspect the original data and supporting evidence of the data selected during the verification process.
- Assess whether the preparation of the ESG Report by the Group responded to the principles of Inclusivity, Materiality, Responsiveness, and Impact as defined in the AA1000AS v3.

Conclusion

With reference to the AA1000AS v3 principles of Inclusivity, Materiality, Responsiveness and Impact, our conclusions are as follows:

- **Inclusivity:** The Group has identified key stakeholders and has understood stakeholders’ needs and concerned issues through various forms of stakeholder engagement. The Group has demonstrated that their formulation of policies accounted for stakeholders’ expectations and their impacts.

Notes:

1. Refer to the ESG Report Appendix I: summary of key performance indicators – data of greenhouse gas
2. Refer to the ESG Report Appendix I: summary of key performance indicators – data of total electricity consumption
3. Refer to the ESG Report Appendix I: summary of key performance indicators – data of total water consumption

- **Materiality:** The Group has accounted for stakeholders' needs and concerned issues, and has disclosed identified material issues based on its unique business characteristics, legal and regulatory requirements, economic, environmental and social impacts, etc. The Group has disclosed the methodology, process and outcome of the assessment on material issues.
- **Responsiveness:** The Group has established channels for its stakeholders to understand their concerns and expectations. Meanwhile, through the ESG Report, the Group has disclosed corporate sustainability strategies, management systems, management key points, key stakeholder participation activities as well as major sustainability development related issues to respond to key stakeholders.
- **Impact:** The Group has considered and evaluated its impacts and realised its impacts on stakeholders, so as to make a more effective decision-making and result-based management within the organisation.
- **Specified Performance Information:** Based on the procedures that SHINEWING Sustainability has performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Specified Performance Information is not reliable or is not in the quality of the basis of reporting as set out in the ESG Report.

About SHINEWING Sustainability

SHINEWING Sustainability has studied, standardized and verified corporate environmental performance data since 2016. SHINEWING's Sustainability team possesses relevant professional technical capability and experience. The relevant personnel received professional training regarding sustainability standards such as GRI Sustainability Reporting Standards issued by Global Reporting Initiative, AA1000AS v3, ESG Reporting Guide, ISO 14064 and PAS2600.

SHINEWING Sustainability Advisory Services Limited

Hong Kong

19 April 2024



APPENDIX I: SUMMARY OF KEY PERFORMANCE INDICATORS

KEY PERFORMANCE INDICATORS	2023	2022
Environmental		
Emissions		
<i>Air emissions</i>		
Nitrogen oxides (tonnes)	8,845	8,664 ¹¹
Sulfur dioxide (tonnes)	11,389	10,391 ¹¹
Particulate matter (tonnes)	972	696 ¹¹
Fluoride (tonnes)	230	197
<i>Wastewater</i>		
Ammonia nitrogen (tonnes)	10	8
Total nitrogen (tonnes)	70	70
Chemical oxygen demand (tonnes)	293	288
Greenhouse gas ("GHG")		
Total GHG emissions (Scope 1&2) (ten thousand tonnes of CO ₂ equivalent) ¹	7,376	7,875
Scope 1 Total direct GHG emissions (ten thousand tonnes of CO ₂ equivalent) ²	5,621	5,353
Scope 2 Total indirect energy GHG emissions (ten thousand tonnes of CO ₂ equivalent) ³	1,755	2,522
GHG emission intensity (tonnes of CO ₂ equivalent/tonne of production capacity per annum)	11.42	12.19
Solid waste		
<i>Non-hazardous waste⁴</i>		
Total non-hazardous waste produced (ten thousand tonnes)	893	898
Non-hazardous waste intensity (tonnes/tonne of production capacity per annum)	1.38	1.39
<i>Hazardous waste⁵</i>		
Total hazardous waste produced (ten thousand tonnes)	1,920	1,778 ¹¹
Hazardous waste intensity (tonnes/tonne of production capacity per annum)	2.97	2.75 ¹¹

KEY PERFORMANCE INDICATORS	2023	2022
Environmental		
Use of Resources		
<i>Energy</i>		
Energy consumption (TWh) ⁶	223	210
Energy consumption intensity (MWh/tonne of production capacity per annum)	34.50	32.54
Total electricity consumption (TWh) ⁷	91	88
Total steam consumption (ten thousand tonnes) ⁸	3,120	3,280 ¹¹
<i>Water consumption</i>		
Total water consumption (ten thousand cubic meters)	16,724	14,401
Water consumption intensity (cubic meters/tonne of production capacity per annum)	25.89	22.30
<i>Packaging materials^{9, 10}</i>		
<i>Wood products</i>		
Total consumption (tonnes)	10,232	3,748 ¹¹
Intensity (tonnes/ten thousand tonnes of finished products)	132.89	56.95 ¹¹
<i>Paper products</i>		
Total consumption (tonnes)	1,896	781 ¹¹
Intensity (tonnes/ten thousand tonnes of finished products)	24.62	11.86 ¹¹
<i>Plastic products</i>		
Total consumption (tonnes)	554	324 ¹¹
Intensity (tonnes/ten thousand tonnes of finished products)	7.20	4.92 ¹¹
<i>Metal products</i>		
Total consumption (tonnes)	1,339	439 ¹¹
Intensity (tonnes/ten thousand tonnes of finished products)	17.38	6.67 ¹¹
<i>Desiccant</i>		
Total consumption (tonnes)	262	124 ¹¹
Intensity (tonnes/ten thousand tonnes of finished products)	3.40	1.89 ¹¹

Notes:

1. The list of greenhouse gases of the Group includes carbon dioxide and greenhouse gases produced by refrigerants. GHG emissions are presented in carbon dioxide equivalent
2. Scope 1 included the GHG emissions involved in the consumption of stationary sources, vehicle fuel combustion and consumption of refrigerants. The emission data were calculated based on the method and relevant conversion factor for greenhouse gas emissions of enterprises set out in the Requirements of the Greenhouse Gas Emission Accounting and Reporting-Part 4: Aluminum Smelting Enterprises issued by the Standardization Administration of the People's Republic of China, Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions issued by the National Development and Reform Commission of the People's Republic of China (the "NDRC"), the Sixth Assessment Report prepared by the Intergovernmental Panel on Climate Change (IPCC), and Appendix 2: Reporting Guidance on Environmental KPIs of the Stock Exchange.
3. Scope 2 included the GHG emissions involved in the purchased electricity. The emission data were calculated based on the average carbon dioxide emission factor of Guidelines for Accounting and Reporting of Greenhouse Gas Emissions of Enterprises in the Aluminum Smelting Industry (Draft for Comment) issued by the Ministry of Ecology and Environment of the People's Republic of China.
4. Non-hazardous wastes include: desulfurisation gypsum, slag, ash, scrap carbon anode, electrolyte powder, electrolyte blocks, construction waste, scrap paper, plastic, metals (scrap iron) and woodworks.
5. Hazardous wastes include: waste lubricants, waste denitration catalyst, coal tar, red mud, scrapped paint barrel and scrapped oil barrel.
6. The total energy consumption includes the consumption of coal and diesel oil for generating electricity and steam, natural gas for producing aluminum products, vehicle fuel consumption and purchased electricity. The emission data were calculated with reference to the conversion factor set out in the Requirements of the Greenhouse Gas Emission Accounting and Reporting-Part 4: Aluminum Smelting Enterprises issued by the Standardization Administration of the People's Republic of China.
7. The total electricity consumption of the Group includes the self-generated electricity and purchased electricity. All self-generated electricity of the Group was for internal use.
8. All steam of the Group was self-generated, part of it was for internal use, and the rest was sold to external parties.
9. The finished products involving the consumption of packaging materials are the aluminum alloy processing product of the Group.
10. Compared to 2022, the data collection scope for packaging materials has been expanded to include Shandong Hongchuang, Weihai Haixin and Weihai Chenxin. As a result, the consumption of packaging materials has increased this year compared to the previous year.
11. We have adjusted the environmental data for the year 2022, which is updated herein.

KEY PERFORMANCE INDICATORS	2023	2022
Social		
Employment		
<i>Number of employees (turnover rate)</i>		
Gender		
Male	41,377 (10)	39,191 (10)
Female	7,531 (7)	7,456 (8)
Age		
Below 30	9,675 (20)	8,730 (21)
30-50	34,400 (8)	33,857 (8)
Over 50	4,833 (2)	4,060 (3)
Geographical region		
Chinese Mainland	48,483 (10)	4,544 (10)
Indonesia	369 (0)	345 (4)
Guinea ¹	45 (0)	26 (8)
Hong Kong	11 (9)	12 (0)
Employment type		
Full-time	48,908 (10)	46,647 (10)
Part-time	0 (0)	0 (0)
<i>Average training hours completed per employee (percentage of employees trained)</i>		
Gender		
Male	8 (100)	8 (100)
Female	8 (100)	8 (100)
Employee category		
Senior management	8 (100)	8 (100)
Middle management	8 (100)	8 (100)
Lower-level management	8 (100)	8 (100)
Frontline employees	8 (100)	8 (100)

Note:

- Starting from the Year, the Group's management and employees have been stationed in Guinea.

KEY PERFORMANCE INDICATORS	2023	2022	2021
Health and Safety			
Number of work-related fatalities (persons)	0	0	0
Number of work injuries (persons)	0	0	0
Lost days due to work injury (days)	0	0	0

KEY PERFORMANCE INDICATORS	2023	2022
Major suppliers		
PRC	122	114
Others ¹	13	17

Note:

- Other countries include Australia, Indonesia and Guinea

APPENDIX II: ESG REPORTING GUIDE CONTENT INDEX

ESG Aspects	General Disclosure and Key Performance Indicators (“KPIs”)		Chapters/Statement
A. Environmental			
A1: Emissions	General Disclosure		Responding to Climate Change, Promoting Green Production – Prevention and Control of Pollution,
	KPI A1.1	The types of emissions and respective emissions data.	Appendix I: Summary of Key Performance Indicators
	KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions and intensity.	Appendix I: Summary of Key Performance Indicators
	KPI A1.3	Total hazardous waste produced and intensity.	Appendix I: Summary of Key Performance Indicators
	KPI A1.4	Total non-hazardous waste produced and intensity.	Appendix I: Summary of Key Performance Indicators
	KPI A1.5	Description of emissions target(s) set and steps taken to achieve them.	Responding to Climate Change, Promoting Green Production – Prevention and Control of Pollution, Promoting Green Production – Energy Conservation and Consumption Reduction, Promoting Green Production – Green Office
	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.	Promoting Green Production – Prevention and Control of Pollution, Promoting Green Production – Waste Management, Promoting Green Production – Green Office

ESG Aspects	General Disclosure and Key Performance Indicators ("KPIs")		Chapters/Statement
A2: Use of Resources	General Disclosure		Promoting Green Production – Energy Conservation and Consumption Reduction
	KPI A2.1	Direct and/or indirect energy consumption by type in total and intensity	Appendix I: Summary of Key Performance Indicators
	KPI A2.2	Water consumption in total and intensity.	Appendix I: Summary of Key Performance Indicators
	KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Promoting Green Production – Energy Conservation and Consumption Reduction, Promoting Green Production – Green Office
	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.	Promoting Green Production – Prevention and Control of Pollution, Promoting Green Production – Green Office
	KPI A2.5	Total packaging material used for finished products and with reference to per unit produced.	Appendix I: Summary of Key Performance Indicators
A3: The Environmental and Natural Resources	General Disclosure		Responding to Climate Change Promoting Green Production
	KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Responding to Climate Change Promoting Green Production
A4: Climate Change	General Disclosure		Responding 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.	Responding to Climate Change

ESG Aspects	General Disclosure and Key Performance Indicators ("KPIs")		Chapters/Statement
B. Social			
Employment and Labour Practices			
B1: Employment	General Disclosure		Adhering to People-Oriented Governance – Recruiting Talents, Adhering to People-Oriented Governance – Talent Cultivation, Adhering to People-Oriented Governance – Caring for Employees
	KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	Appendix I: Summary of Key Performance Indicators
	KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Appendix I: Summary of Key Performance Indicators
B2: Health and Safety	General Disclosure		Occupational Health and Safety
	KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years.	Appendix I: Summary of Key Performance Indicators
	KPI B2.2	Lost days due to work injury.	Appendix I: Summary of Key Performance Indicators
	KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Occupational Health and Safety
B3: Development and Training	General Disclosure		Adhering to People-Oriented Governance – Talent Cultivation
	KPI B3.1	The percentage of employees trained by gender and employee category.	Appendix I: Summary of Key Performance Indicators
	KPI B3.2	The average training hours completed per employee by gender and employee category.	Appendix I: Summary of Key Performance Indicators
B4: Labour Standards	General Disclosure		Adhering to People-Oriented Governance – Recruiting Talents
	KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	Adhering to People-Oriented Governance – Recruiting Talents
	KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Adhering to People-Oriented Governance – Recruiting Talents

ESG Aspects	General Disclosure and Key Performance Indicators (“KPIs”)		Chapters/Statement
Operating Practices			
B5: Supply Chain Management	General Disclosure		Pursuing Excellence in Quality – Supply Chain Management
	KPI B5.1	Number of suppliers by geographical region.	Appendix I: Summary of Key Performance Indicators
	KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Pursuing Excellence in Quality – Supply Chain Management
	KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Pursuing Excellence in Quality – Supply Chain Management
	KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Pursuing Excellence in Quality – Supply Chain Management
B6: Product Responsibility	General Disclosure		Pursuing Excellence in Quality – Sales and Services, Pursuing Excellence in Quality – Privacy Protection
	KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Pursuing Excellence in Quality – Quality Control and Innovative Research and Development
	KPI B6.2	Number of products and service-related complaints received and how they are dealt with.	Pursuing Excellence in Quality – Sales and Services
	KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Pursuing Excellence in Quality – Sales and Services
	KPI B6.4	Description of quality assurance process and recall procedures.	Pursuing Excellence in Quality – Quality Control and Innovative Research and Development
	KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Pursuing Excellence in Quality – Privacy Protection

ESG Aspects	General Disclosure and Key Performance Indicators (“KPIs”)		Chapters/Statement
B7: Anti-corruption	General Disclosure		Pursuing Excellence in Quality – Anti-corruption Practice
	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.	Pursuing Excellence in Quality – Anti-corruption Practice
	KPI B7.2	Description of preventive measures and whistleblowing procedures, how they are implemented and monitored.	Pursuing Excellence in Quality – Anti-corruption Practice
	KPI B7.3	Description of anti-corruption training provided to directors and staff.	Pursuing Excellence in Quality – Anti-corruption Practice
Community			
B8: Community Investment	General Disclosure		Caring for Social Well-Being
	KPI B8.1	Focus areas of contribution	Caring for Social Well-Being
	KPI B8.2	Resources contributed to the focus area.	Caring for Social Well-Being

APPENDIX III: TCFD INDEX

In FY2023, China Hongqiao started to disclose its climate-related initiatives with reference to the TCFD framework. We provide stakeholders with information on how we assess and manage climate-related risks and opportunities, as well as strategies for mitigating risks and realising opportunities, under four thematic areas: governance, strategy, risk management, and metrics and targets.

TCFD Recommendations	Disclosure	Corresponding Sections	Page
Governance	a) Describe the board's responsibilities in assessing and managing climate-related risks and opportunities.	Responding to climate change	34
	b) Describe how stakeholders assess and manage issues.	ESG responsibility management	9
Strategy	a) Describe the organisation's risks in climate-related areas. b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	Responding to climate change	34
Risk Management	a) Describe the organisation's processes for identifying and assessing climate-related risks. b) Describe the organisation's processes for managing climate-related risks. c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Responding to climate change	34
Metrics and Targets	a) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	Responding to climate change	34
	b) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Promoting green production	49