



# 2023

## MCC | SOCIAL RESPONSIBILITY AND ESG (ENVIRONMENTAL, SOCIAL AND GOVERNANCE) REPORT





## Board Statement

The Board of Directors of the Company places corporate sustainability at a strategic level and regards enhancing ESG management as a pivotal commitment. The Board assumes full responsibility for the Company's ESG efforts, committing themselves to enhancing ESG governance, implementing ESG concepts, and improving ESG performance. Referring to the *Working Rules of the Sustainable Development Committee*, the members of the Board's Sustainable Development Committee regularly review the Company's sustainable development (including ESG) objectives, strategies, plans, and major decisions to ensure that ESG management is truly integrated into the Company's day-to-day operations. The Committee is dedicated to achieving long-term goals of sustainable development and creating long-term value for the Company and its stakeholders.

The Board of Directors and all directors of the Company guarantee that there are no false records, misleading statements, or material omissions in this report, and assume individual and joint responsibility for the authenticity, accuracy, and integrity of its content.



# Contents

Board Statement	01
About this Report	04
Message from the Chairman	06
About MCC	08
Responsibility Management	14

## 01 | Leading Position

Becoming a global leader through high-quality development

Optimizing strategy	20
Deepening reform	24
Enhancing fundamental management	28
Strengthening risk prevention and control	30

## 02 | Driving Forces

Driving future development by scientific and technological innovation

Outlook for 2024	82
Key Performance Indicators	83
Report Index	88
Feedback Form	92

Improving the innovation system	34
Core technology breakthroughs	37
Building an innovation-friendly ecosystem	39
Building a digital brain	40

## 03 | Stronger Foundation

Solidifying the foundation through high-quality performance

Enhancing project management	44
Safeguarding the bottom line of safety	48
Strictly controlling engineering quality	50
Win-win industrial cooperation	52

## 04 | Co-existence

Regarding green and low-carbon development as the foundation of ecological conservation

Strict environmental management	56
Promoting green metallurgy	58
Building green engineering projects	60
Developing green industry	62

## 05 | Our People

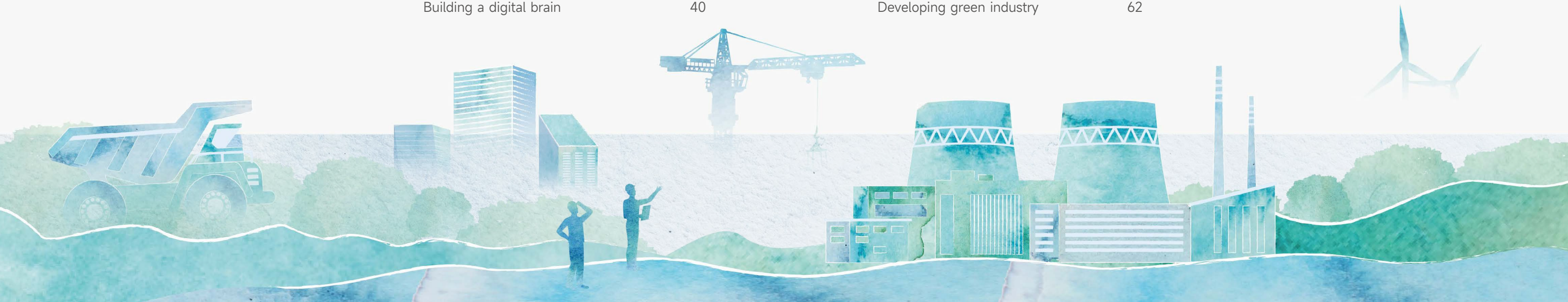
Propelling the company growth through talent attraction

Protecting the rights and interests of employees	66
Enabling employee development	68
Caring for the well-being of employees	70

## 06 | Our Society

Building a better life for those we care for

Rural revitalization	76
Fulfilling social responsibility	78
Jointly building overseas communities	81





## About this Report



### About this report

#### Reporting scope :

This report incorporates Metallurgical Corporation of China Ltd. and its subsidiaries.

#### Reporting period :

This report covers the period from January 1, 2023, to December 31, 2023, with some content of the report appropriately referencing significant years of the Company's development.

#### Reporting cycle :

This report is released on an annual basis. It is the 15th social responsibility report issued by Metallurgical Corporation of China Ltd.



### Basis for preparation

The disclosures in this report primarily follow the *Environmental, Social and Governance Reporting Guide* by the Stock Exchange of Hong Kong Limited (HKEX) and refer to the following disclosure standards: *Guidelines of Shanghai Stock Exchange for Environmental Information Disclosure of Listed Companies* issued by the Shanghai Stock Exchange (SSE); *GRI Sustainability Reporting Standards* (GRI Standards) issued by the Global Sustainability Standards Board (GSSB); ISO 26000: *Guidance on Social Responsibility* (2010) (ISO 26000:2010) issued by the International Organization for Standardization; GB/T 36001-2015: *Guidance on Social Responsibility Reporting* (GB/T 36001-2015) by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China and the Standardization Administration of China; *Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises* (CASS-ESG5.0) issued by the Chinese Academy of Social Sciences.



### References

For ease of expression and reading convenience, short names are used herein as follows. Metallurgical Corporation of China Ltd. can be referred to as "MCC", "the Company", or "We" in this report, and its controlling shareholder, China Metallurgical Group Corporation, is referred to as "MCC Group".



### Data sources

This report is a true reflection of MCC's economic, environmental, and social responsibility practices. All data and information in this report are based on the Company's official documents, statistical reports, or a summary and statistics of the social responsibility practices of its subsidiaries. The financial data are from the Company's financial report for the year 2023, and other data sources are primarily from 2023, with appropriate reference to data from previous years. Unless specified, the monetary amounts shown in this report are all presented in RMB.



### Access to this report

This report is available in Simplified Chinese, Traditional Chinese, and English. In case of discrepancies among the three languages, the Simplified Chinese version shall prevail. The report is released to readers in both environmentally friendly printed form and as a PDF file, which can be downloaded from the website of MCC (<http://www.mcc.com.cn>).



### Contact us

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## Message from the Chairman



As MCC launches its 15th Social Responsibility and ESG (Environmental, Social, and Governance) Report, we extend our heartfelt gratitude to our stakeholders for their unwavering focus and support!

With the passage of seasons, comes the gathering of a plentiful year. 2023 marks a year that heralds the thorough embodiment of the spirit of the Party's 20th National Congress, as well as a pivotal year for rolling out the "14th Five-Year Plan". MCC has stood firm, translating the Central Government's vision and directives into action, keeping our sights set on the strategic goal of "One goal, Two best, Five strengths", going full steam ahead, boldly overcoming challenges, and delivering achievements of impressive depth and substance.

**Chen Jianguang**

Vice President and Member of Party Leadership Group, China Minmetals  
Chairman of MCC Group and MCC, Secretary of Party Committee of MCC Group

**Throughout this year, we have etched the principle "state-owned, party-oriented" onto our corporate ethos, scripting a new chapter in the pursuit of excellence.** We have upheld the establishment of both Comrade Xi Jinping's core position on the Party Central Committee and in the Party as a whole and the guiding role of Xi Jinping Thoughts on Socialism with Chinese Characteristics for a New Era, and acted wholeheartedly on uphold Comrade Xi Jinping's core position on the Party Central Committee and in the Party as a whole and uphold the Central Committee's authority and its centralized, unified leadership. We have also deepened our ideological education and solidified our loyalty to the Party, merged thought with practice, and chalked up new accomplishments, all fueled by the power of conviction. With a focus on bolstering our core functionality and competencies, we have charted a clear course for our "One goal, Two best, Five strengths" ambitions, shored up and refined our "one core, two subjects, and five characteristics" business system, and carved out a "2358" hierarchy framework for subsidiary growth, aiming to become a global leader in investment and construction. Keeping steady amid change, striving for preeminence amidst progression, we have navigated through headwinds to ensure our key business metrics sailed smoothly, ringing in revenue of RMB633.87 billion and total profit of RMB13.765 billion—securing a fifth place in the 2023 "Top 250 Global Contractors", a testament to our unwavering presence in the top 10 for fifteen years in a row.

**Throughout this year, we have been serving the country's greater good as the backbone for national strategic initiatives and resources conservation.** Giving our all to pivotal regional strategies and promoting balanced regional development, we have cultivated projects in key areas including the Beijing-Tianjin-Hebei region, the Greater Bay Area, the Yangtze River Delta, and the Yangtze River Economic Belt, taking on domestic landmark projects such as the Guangzhou Baiyun International Airport phase III expansion and the EOD (Ecology-Oriented Development) project of Wuyi Lake and Gancha Lake Basin in Yangluo Development Zone, Wuhan City. Embracing the Belt and Road initiative, we have sown seeds of competitive advantage overseas, and clinched bids that make waves, including the Bintulu monocrystal project in Malaysia, the Cambodia Huanhai Platinum International Hotel, and the Guinea Parliament Building—projects with ripple effects of significant social benefit. This year, 14 projects took home the China Construction Engineering Luban Prize, and 30 projects earned the National Quality Engineering Award, with a trio shining with the Gold Award, hitting a historical record. We engaged headfirst in a new round of strategic action for mineral exploration breakthroughs, focused on metallogenic belts, staked claims in regions with high mineralization potential, and pioneered low-cost greenfield survey, achieving significant breakthroughs in mineral discovery at the Xiadike copper mine.

**Throughout this year, we took substantial strides in reform and innovation, unleashing the vitality and momentum for high-quality development.** We adhered to the crucial move of reform, successfully wrapping up the three-year action plan for state-owned enterprise reform, effectively advancing the modernization of our corporate governance system and capabilities, and were honored with the Golden Bauhinia Award as the "Best Listed Company". For the seventh consecutive year, we received the highest "A-grade" rating for information disclosure granted by the Shanghai Stock Exchange. Our Board was awarded the "Gold Prize of Round Table" for the fifth consecutive year, being recognized as one of the best practice cases in annual corporate governance and board of directors for listed companies. Aligned with national needs and industry trends, we undertook 31 national key R&D project (subjects) and major projects of the National Natural Science Foundation of China. Centering around the industry chain, we innovatively advanced the "181 Plan" and initiated and implemented major R&D projects in non-steel areas, with a number of technological innovations achieving phased results and being applied in key engineering projects. We independently developed the world's first flue gas waste heat recovery process for basic oxygen furnace (BOF) and rapidly real-

ized its engineering application. The global first large-scale 3R low-carbon blast furnace demonstration project, also independently developed, was successfully put into operation, striving to make a greater contribution to achieving the carbon peaking and carbon neutrality goals. Additionally, our achievements include 18 Metallurgical Science and Technology Awards and 4 Tien-yow Jeme Civil Engineering Prizes, exceeding 51,000 active patents, fully demonstrating our solid strength in scientific and technological innovation.

**Throughout this year, we put into practice the scientific concepts of sustainable development, steadfastly advancing the realization of a beautiful China.** We wholeheartedly embraced the development philosophy that "lucid waters and lush mountains are invaluable assets", crafting quality projects that elevate living environments in urban and rural areas. We set the bar high for world-class sports events such as the FISU World University Games held in Chengdu and the Asian Games in Hangzhou. At Chengdu's Dong'an Lake Sports Park, we crafted what became the crown jewel of the venue with its "one lake, one ring, seven islands, and twelve views" landscape. In Hangzhou, the Fuyang Yinhu Sports Center seamlessly blended modern technology with natural vistas, painting a living tableau akin to the storied Dwelling in the Fuchun Mountains, showcasing China's splendor on the global stage. We went all out to fight for clear skies, clean waters, and uncontaminated lands. We promoted energy conservation, emission reduction, pollution control, and carbon reduction in the steel industry, adopting a path of green and low-carbon development. Joining hands in the protection of the Yangtze River, we actively engaged in its comprehensive management and soil restoration, helping to restore the vigorous "green vitality" along its banks.

**Throughout this year, we deepened our commitment to the core values of serving the people, radiating the warmth and responsibility synonymous with a state-owned enterprise.** We adhered to the principles of "people first, lives first", wholeheartedly delivering the warmth of a state-owned enterprise. Faced with the urgent flood looming in Zhuozhou, Hebei, we acted immediately, working day and night with extraordinary measures to face extraordinary challenges. We completed the emergency repairs to restore the operational functions of the wastewater treatment plant in just over ten days—a task that normally requires four to six months—turning the "impossible" into "possible". After the earthquakes in Gansu and Qinghai, we raced against time to provide support, constructing the first 100 sets of prefabricated housing within 24 hours, maximizing the protection of public safety with the "MCC speed" and earning high accolades from the State Council and local governments. We also played our part in shaping a new blueprint for rural revitalization, forming a multifaceted support model that covers industrial, engineering, and consumer support, advancing the consolidation of poverty alleviation achievements, continuing to boost rural revitalization, and enhancing the wellbeing of humanity.

Through thick and thin, our beliefs have stood firm, and our relentless endeavor is the wind in our sails, driving us toward our destination. With an unwavering resolve, we will keep rallying around the Central Committee with Comrade Xi Jinping at the core, forging ahead with concerted efforts. We are dedicated to realizing our "One goal, Two best, Five strengths" ambitions, delivering exemplary outcomes to our society, shareholders, and employees, as we contribute to the grand narrative of China's modernization.



# About MCC

## Corporate Profile

As a super conglomerate, MCC is one of the earliest forces in the steel industry construction in China. In 1982, approved by the State Council, Metallurgical Construction Corporation of China was established, affiliated to the Ministry of Metallurgical Industry. In December 2008, MCC Group set up the Metallurgical Corporation of China Ltd. (China MCC), which was successfully listed in Shanghai and Hong Kong stock exchanges in September 2009 (stock codes: 601618.SH, 01618.HK).

MCC is the world's largest and strongest metallurgical construction contractor and operation service provider. It is one of the state-recognized major resource enterprises, China's largest steel structure producer, and one of the first 16 central state-owned enterprises (SOEs) with real estate development as its major business approved by the State-owned Assets Supervision and Administration Commission (SASAC) of the State Council. MCC has been the main force for China's infrastructure construction. In the early stages of China's reform and opening up, MCC created the world-renowned "Shenzhen Speed".

In recent years, leveraging over 70 years of accumulated technical expertise and qualifications in the entire steel and metallurgical industry chain, MCC has hastened its pace of transformation and upgrading. The Company has consistently fortified and heightened its metallurgical services, enhanced its construction business, and increased its infrastructure services, amassing vast experience in housing construction, municipal infrastructure, rail transit, and urban renewal. Thus, MCC has progressively developed a diverse business structure of "one core, two subjects, and five characteristics" with metallurgical construction as its "core", building construction and municipal infrastructure as its "subjects", and featuring mineral resources, inspection and testing, new energy materials, water and environment protection, and metallurgical equipment manufacturing as its "characteristics".

In response to the construction industry's current evolution towards "digitalized enterprise management, factory-like production of products, and industrialized workforce", MCC remains steadfast in its guidance by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. Concentrating on high-quality development, MCC resolutely practices the "Five Core Essentials", and adheres to the "Five Action Plans" and the "Innovative, Efficiency, Digital, Safe and Brand China Minmetals" deployment. With ambitions featuring "One goal, Two best, Five strengths", we rapidly rolled out a "2358" hierarchy framework for subsidiary growth. By cultivating new trajectories, exploring new edges, and sparking new dynamics, MCC aims to enhance its core functionality and competence. The Company is committed to ongoing transformation and evolution, striving to forge itself into a global leader in investment and construction.

## In 2023

Total revenue (RMB billion)

**633.87**

Total profit (RMB billion)

**13.765**

Total value of newly signed contract (RMB billion)

**1,424.779**

Total assets (RMB billion)


**661.602**







## Qualification & Certification

### MCC

 **Qualification for General Contracting of Building Construction Grade I**


 **Qualification for General Contracting of Highway Construction Grade II**

 **46** | Enterprises with Special Qualification for General Contracting of Construction

 **5** | Enterprises with Engineering Design Integrated Class-A Qualification

 **5** | Enterprises with Special Qualification for General Contracting of Construction in four areas

 **3** | Enterprises with Special Qualification for General Contracting of Construction in three areas

 **4** | Enterprises with Special Qualification for General Contracting of Construction in two areas

 **8** | Enterprises with Engineering Supervision Integrated Qualification

 **3** | Enterprises with Engineering Investigation Integrated Class-A Qualification

## Honors of MCC



In 2023, continued to maintain the high investment-grade rating of Baa1, BBB+, and BBB+ in Moody's, S&P, and Fitch international credit ratings.  
The credit rating outlooks remain stable.

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**Won the 2023 Golden Bauhinia for Best Listed Company**

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**Won the 2023 Golden Round Table - Special Contribution to Corporate Governance Award for the 5th consecutive year**

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**Awarded as the Company with the Most Investment Value at the 2023 Golden Bull Awards**

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**Selected into the ESG Pioneer 100 Index of State-owned Listed**

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**Maintained the Wind ESG rating in 2023 at A**

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**Maintained the rating of information disclosure by the SSE for the 7th consecutive year at A**

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**Credit Rating awarded by China International Contractors Association AAA**

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**Won 14 Luban Prize for Construction Projects in 2023**

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**Won 4 Tien-yow Jeme Civil Engineering Prizes in 2023**

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**Won 30 National Quality Engineering Awards in 2023**

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**Won 18 Metallurgical Science and Technology Awards in 2023**

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**Won 13 Science and Technology Awards by China Nonferrous Metals Industry Association in 2023**

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**Won 2 China's Construction Industry Science and Technology Awards in 2023**

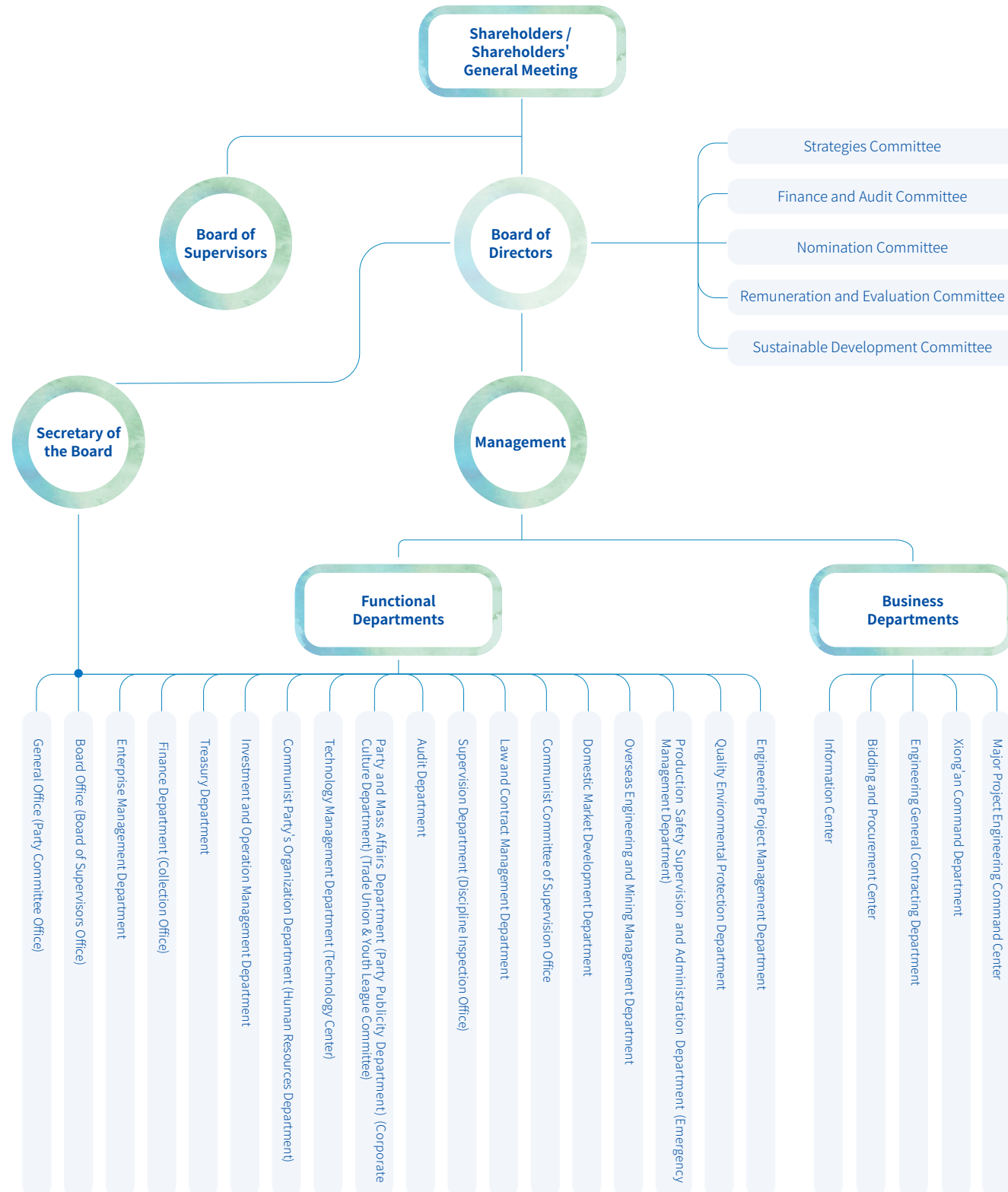
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**Won 45 Excellent Survey and Design Awards for Engineering Survey, Architectural Design Industry and Municipal Public Engineering by the China Engineering & Consulting Association**

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## Organizational Structure



## Subsidiaries

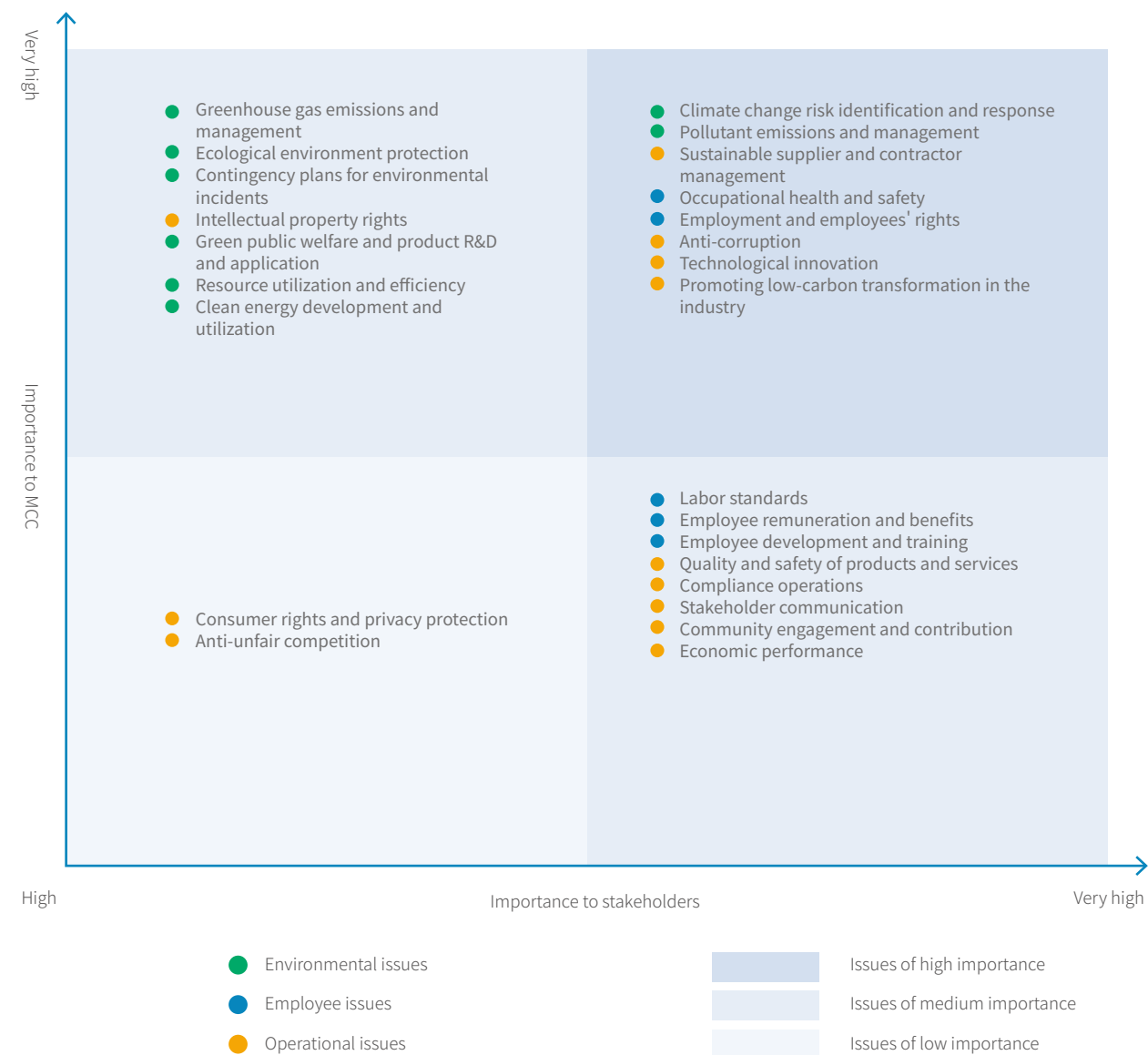
No.	Name of subsidiaries(short form)	No.	Name of subsidiaries(short form)
1	Central Research Institute of Building and Construction Co., Ltd. (CRIBC)	27	MCC Road & Bridge Construction Co., Ltd. (MRBC)
2	Beijing Metallurgical Equipment Research Design Institute Co., Ltd. (MCCE)	28	Metallurgical Corporation of Central China Ltd. (Henan Branch)
3	China ENFI Engineering Co., Ltd. (China ENFI)	29	MCC Utility Tunnel Science and Technology Development Co., Ltd. (UTMCC)
4	Capital Engineering & Research Incorporation Ltd. (CERI)	30	MCC Southern China Construction Investment Co., Ltd. (MCC Southern China)
5	CISDI Group Co., Ltd. (CISDI)	31	MCC (Hainan) Investment Development Co., Ltd. (MCC Hainan)
6	WISDRI Engineering & Research Incorporation Limited (WISDRI)	32	MCC Urban Investment Holdings Company Ltd.
7	Huatian Engineering & Technology Corporation (MCC HT)	33	MCC (Shanghai) Steel Structure Technology Corp. Ltd. (MCC-SSC)
8	ACRE Coking and Refractory Engineering Consulting Corporation (MCCACRE)	34	MCC Eco-Environmental Protection Group Co., Ltd.
9	Zhongye Changtian International Engineering Co., Ltd. (CIE)	35	MCC Great Wall Investment Co., Ltd.
10	Northern Engineering & Technology Corporation (MCC NETC)	36	MCC Real Estate Group Co., Ltd. (MCC Real Estate)
11	Shen Kan Engineering & Technology Corporation (MCC SKET)	37	MCC Tongsin Resources Ltd. (MCCT)
12	Wuhan Surveying-Geotechnical Research Institute Co., Ltd. of MCC MCC Financial Leasing Co., Ltd. (WSGRI)	38	MCC Australia Holding Pty Ltd. (MCCH)
13	China First Metallurgical Group Co., Ltd. (CFMCC)	39	MCC-JJJ Mining Development Co., Ltd. (MCC-JJJ)
14	(China Second Metallurgy Group Co., Ltd. (MCC2)	40	Ramu NiCo Management (MCC) Limited (Ramu Nico)
15	China Third Metallurgical Group Corporation Ltd. (TMCC)	41	MCC Finance Corporation Ltd. (MCCFC)
16	MCC5 Group Corp., Ltd. (MCC5)	42	MCC International Incorporation Ltd. (MCCI)
17	MCC Tiangong Group Corp., Ltd. (CTMCC)	43	MCC Overseas Ltd.
18	China MCC17 Group Co., Ltd. (MCC17)	44	MCC Vietnam Engineering and Technology Company Limited
19	China Metallurgical Construction Engineering Group Co., Ltd. (CMCC)	45	MCC International Economic and Trade Co., Ltd.
20	China 19th Metallurgical Corporation (MCC19)	46	MCC Holdings (Hong Kong) Corp., Ltd. (MCC HK & Mac)
21	China MCC20 Group Corp., Ltd. (MCC20)	47	MCC-SFRE Heavy Industry Equipment Co., Ltd.
22	China MCC22 Group Corp., Ltd. (MCC22)	48	MCC MINING (Western Australia) Pty. Ltd. (MCCM)
23	Shanghai Baoye Group Corp., Ltd. (SBC)	49	China No. 13 Metallurgical Construction Co., Ltd.
24	China Huaye Group Co., Ltd. (NCMCC)	50	Tianjin Hongxin Investment Partnership (Limited Partnership)
25	MCC Baosteel Technology Services Co., Ltd. (MCC Baosteel)	51	MCC (Guizhou) Construction Investment Development Co., Ltd.
26	MCC Communication Construction Group Co., Ltd. (MCC-CC)		



# Responsibility Management

## Material issues

MCC has sought feedback from internal and external stakeholders while also referencing the disclosure practices of leading international corporations concerning social responsibility topics. This has further refined and clarified the content and process of the report. Through an in-depth analysis of the impact on stakeholders and the significance to MCC, we have identified the scope and extent of disclosure for the issues. We aim to provide more precise and comprehensive information on corporate social responsibility management, practices, and outcomes.



MCC 2023 Materiality Matrix

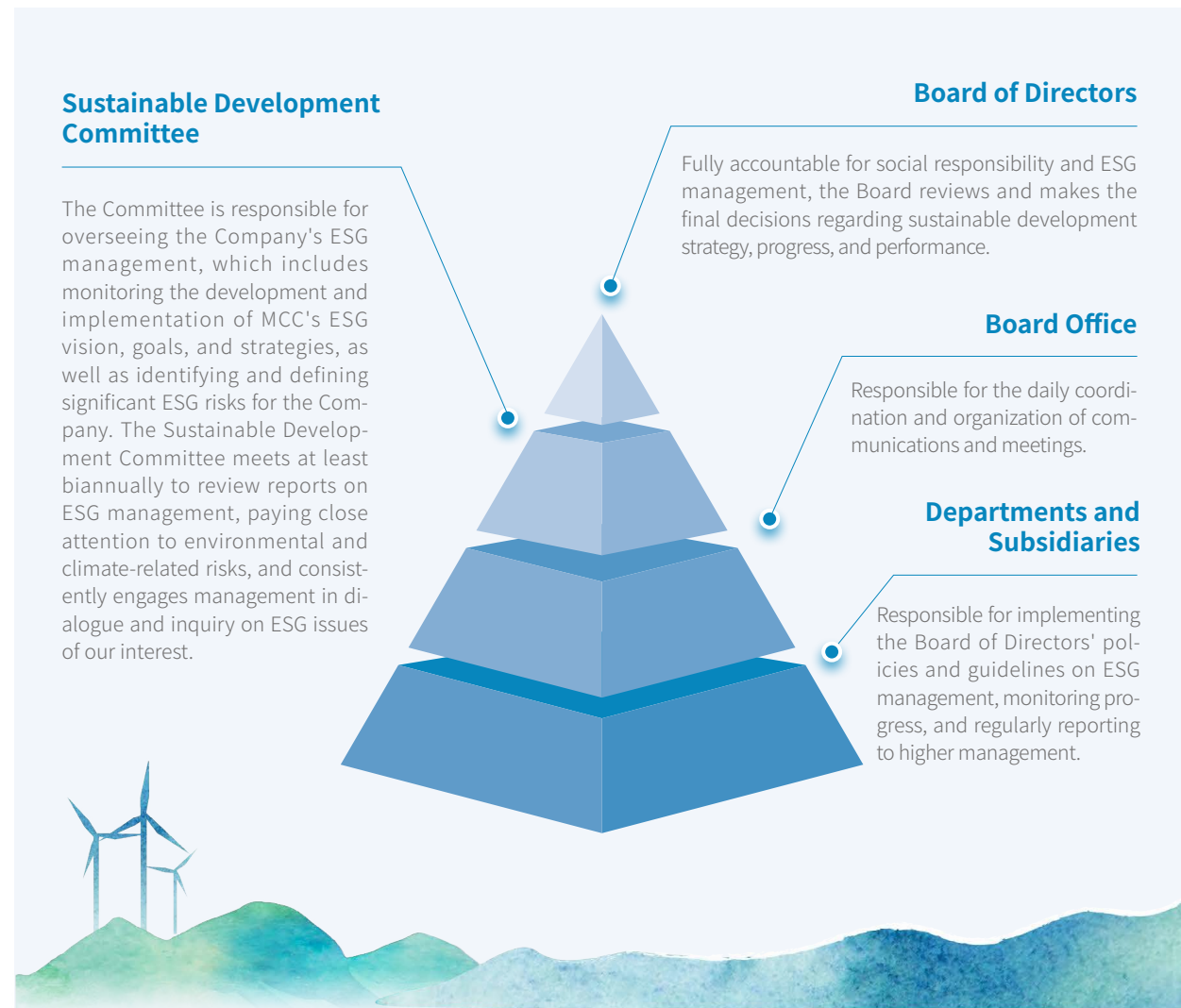
## Stakeholder engagement

MCC actively engages in dialogue with all stakeholders, gathering their expectations and concerns through a variety of channels. We are committed to improving our social responsibility performance, as we strive for shared progress with our stakeholders.

	Expectations and concerns	Engagement and feedback
<b>Shareholders and investors</b>	<ul style="list-style-type: none"> <li>Return on investment</li> <li>Corporate risk management</li> <li>Protection of rights and interests</li> <li>Open and transparent information</li> </ul>	<ul style="list-style-type: none"> <li>Increasing profitability</li> <li>Improving risk internal control system</li> <li>Shareholders' meetings</li> <li>Roadshows and other activities to disclose information in a timely manner</li> </ul>
<b>Clients and customers</b>	<ul style="list-style-type: none"> <li>High-quality projects</li> <li>Outstanding project performance</li> <li>Superior customer service</li> <li>Rights and privacy protection</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening project quality</li> <li>Stable production and on-time performance</li> <li>Improving customer service mechanism</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>Protection of legal rights and interests</li> <li>Good career development platform</li> <li>Healthy and safe working environment</li> </ul>	<ul style="list-style-type: none"> <li>Regular workers' congress</li> <li>Establishing smooth internal communication channels</li> <li>Improving staff training system</li> <li>Providing occupational protection and physical check</li> </ul>
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>Win-win cooperation</li> <li>Open and fair</li> <li>Keeping contracts and promises</li> <li>Promoting sustainable development of the industry chain</li> </ul>	<ul style="list-style-type: none"> <li>Multi-channel cooperation and research</li> <li>Daily communication and regular meetings</li> <li>Healthy and safe working environment</li> <li>Sustainable supplier management</li> <li>Improving open and fair procurement system and rules</li> </ul>
<b>Government and regulatory institutions</b>	<ul style="list-style-type: none"> <li>Implementing government policies and regulatory rules</li> <li>Promoting employment</li> <li>Maintaining and increasing the value of state-owned assets</li> <li>Conducting business in a law-abiding manner</li> <li>Promote the "Dual Carbon" goal</li> </ul>	<ul style="list-style-type: none"> <li>Responding to the government advocacy actively</li> <li>Receiving inspection and conducting rectification</li> <li>Complying with law, strengthening compliance management and strengthening anti-corruption</li> <li>Energy saving and carbon reduction</li> </ul>
<b>Partners</b>	<ul style="list-style-type: none"> <li>Regular communication</li> <li>Long-term stable relationship</li> </ul>	<ul style="list-style-type: none"> <li>High-level exchange of visits</li> <li>Strategic cooperation</li> </ul>
<b>Peer companies</b>	<ul style="list-style-type: none"> <li>Fair competition</li> <li>Industry development</li> </ul>	<ul style="list-style-type: none"> <li>Maintaining the industry business environment</li> <li>Participating in industry development forums</li> <li>Participation in industry standards setting</li> </ul>
<b>Media</b>	<ul style="list-style-type: none"> <li>Open and transparent information disclosures</li> </ul>	<ul style="list-style-type: none"> <li>Press releases and announcements</li> <li>Media events</li> </ul>
<b>Communities and the public</b>	<ul style="list-style-type: none"> <li>Protecting the community environment</li> <li>Reducing Pollutant Emissions</li> <li>Responding to climate change</li> <li>Supporting community welfare</li> <li>Driving local economic development</li> </ul>	<ul style="list-style-type: none"> <li>Supporting rural revitalization</li> <li>Carrying out public welfare activities</li> <li>Participating in community project construction</li> <li>Strengthening environmental protection and setting environmental targets</li> <li>Strengthening localized management of overseas communities</li> </ul>

## ESG Governance

MCC is proactive in refining the organizational structure and management system to fulfill its social responsibility. We have specified the duties and processes related to our social responsibility endeavors, and have been committed to enhancing our corporate social responsibility performance and advancing the corresponding practices. The Board has also established the Sustainable Development Committee to better oversee and manage the Company's ESG governance.



MCC's Sustainable Development Management Structure

In 2023, the Board's Sustainable Development Committee convened for two times, deliberating over five key reports including the 2022 MCC Social Responsibility And ESG (Environmental, Social And Governance) Report, 2022 MCC Annual Compliance Work Report, Report on the Company's Safety, Quality, and Environmental Protection Work in 2022, H1 2023 Report on Compliance Management, and H1 2023 Report on Safety, Quality, and Environmental Protection Work.

Under the Board's leadership, the Company has implemented the overarching strategy for the carbon peaking and carbon neutrality goals. We focused on technological innovation and sustainable development, conducted various studies aimed at energy saving and consumption reduction in wastewater plants, and explored new manufacturing processes that can minimize energy use and carbon footprint.

## United Nations Sustainable Development Goals (SDGs)

SDGs	Goals	MCC's Actions in 2023
1	End poverty in all its forms everywhere.	After poverty alleviation in an all-round way, we continued to help rural revitalization and prevent a return poverty through consumption assistance.
2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	We prioritized the safety of food production in engineering projects to foster sustainable agriculture.
3	Ensure healthy lives and promote well-being for all at all ages.	We established and improved an occupational health and safety management system, strengthened the prevention of occupational diseases, and secured a safe and healthy workplace for employees.
4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	We carried out education donation activities to help build schools in impoverished areas.
5	Achieve gender equality and empower all women and girls.	We have protected the rights of female employees, upheld gender equality and equal pay, and provided special care for female employees.
6	Ensure availability and sustainable management of water and sanitation for all.	We conducted comprehensive water environment management to ensure the security of water resources.
7	Ensure access to affordable, reliable, sustainable and modern energy for all.	We enhanced the development and application of clean energy technologies.
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	We have safeguarded the rights and interests of employees and built a comprehensive remuneration system. We also provided employees with career development pathways and training opportunities, offered a wide range of employee benefits, and supported those in difficulty.
9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	We focused on housing construction, transportation and municipal infrastructure construction, mid-to-high-end real estate and other infrastructure fields. We also promoted scientific R&D and the construction an innovation platform.
10	Reduce inequality within and among countries.	We organized volunteering activities in poverty-stricken communities at home and abroad, and actively made donations to alleviate inequality.
11	Make cities and human settlements inclusive, safe, resilient and sustainable.	We leveraged business strengths to continuously develop affordable housing and green building projects, and undertook environmental protection projects such as ecological restoration and green construction.
12	Ensure sustainable consumption and production patterns.	We advanced the development of green technologies, such as new energy metallurgical techniques and energy-efficient utilization. We also implemented green procurement and promoted green and low-carbon concepts along the supply chain.
13	Take urgent action to combat climate change and its impacts.	We set energy-saving targets, improved energy efficiency, promoted energy-saving and emission-reducing technologies, and adopted new environmentally friendly equipment.
14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	We undertook ecological restoration, wastewater treatment, and river basin treatment projects.
15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	We intensified soil pollution prevention and treatment and offered soil remediation consulting services.
16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	We strictly prohibit child and forced labor and have zero tolerance for corruption and fraud.
17	Strengthen the means of implementation and revitalize the global partnership for sustainable development.	We actively cooperated with governments, industry partners, and research institutions to achieve win-win outcomes. We have also propelled low-carbon transformation and green development in the industry.





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## Leading Position

Becoming a global leader through high-quality development

MCC has always been clear, confident and determined about its strategy of re-transformation and upgrading and is working towards the goal of enhancing science and tech innovation capabilities, strengthening industrial dominance and ensuring support. By improving core competitiveness, enhancing core capabilities, vigorously promoting fundamental management, and deepening the reform of state-owned enterprises (SOEs), it is making unremitting efforts towards the striving goal of "One goal, Two best, Five strengths", accelerating high-quality development and becoming a global industry leader.



## Optimizing strategy

MCC firmly adheres to the goal of "One goal, Two best, Five strengths", consolidate and optimize the strategic path of upgrading the business system of "one core, two subjects, and five characteristics", and firmly grasp the strategy of "focusing on development and management at the same time". By enhancing science and tech innovation capabilities, strengthening industrial dominance and ensuring support, it not only enables the re-transformation and upgrading of the company, but also accelerate of the pace of becoming a global leader in investment and construction and contribute to the modernization of China.

### Establishing the goal

In 2023, MCC put forward the goal of "One goal, Two best, Five strengths", aiming to shape MCC as a world-class enterprise with international competitiveness, the best overall solution provider of metallurgical construction and operation with super core competitiveness, and the most reliable general contractor of international and domestic leading capital construction, with the strongest value creativity, market competitiveness, innovation drive, resource allocation, and cultural soft power.

# 1 One goal

Building "world-class enterprises" is a major decision and deployment of the Party Central Committee, and it is a requirement that we must fulfill. MCC has taken the "Five Core Essentials" as the action guide, value orientation and entrepreneurial spirit, and made the "Five Action Plans" and the "Innovative, Efficiency, Digital, Safe and Brand China Minmetals" as the key levers for building a world-class company. Relevant requirements are incorporated into the implementation plans and work logs and are deeply integrated with the actual development of the company.

# 2 Two best

**In metallurgical construction and operation**, MCC continued to consolidate its winning position and became an industry leader with super core competitiveness, full industrial chain advantages, and best overall solutions.

**In capital construction**, we took the initiative to integrate into and serve the national development strategy, seized the historical opportunity of infrastructure development, continued to make breakthroughs in "high quality, large scale, emerging and comprehensive" projects, and built a number of quality projects with industry influence and social reputation, striving to become the most reliable general contractor nationwide and even globally.

# 5 Five Strengths

## Strength in value creativity

MCC has adhered to high-quality development. Internally, it strengthens granular management, enhances profitability, and continuously increases its value. Externally, it improves commitment fulfillment, strengthens value creation for customers and society, and realizes win-win cooperation and development.

## Strength in resource allocation

MCC has developed a group of quality suppliers and vendors that share the same goals and responsibilities with the Company, established stable supporting resources for all processes and specialties, taken a dominant position in the allocation of labor, capital, materials, technology, subcontracts and other resources, and established supply chain advantages to support for the quality development of the Company.

## Strength in market competitiveness

MCC has always taken high-quality marketing as the enabler of quality development. Focusing on "quality market, owners, projects" and exploring the "1+M+N" areas in a coordinated manner, the Company has secured the efficient allocation of marketing resources, continuously optimized business structure, market layout and key account management, increased the share of overseas business, and contributed to the steady growth of military-civilian business and the overall leap in market influence.

## Strength in innovation drive

MCC has positioned innovation as the first driving force for development. The Company relies on innovation as its growth engine and gives full play to the leading role of independent innovation. We consistently strengthen our science and technology innovation, management innovation and philosophy innovation. It is through this pursuit of innovation that we spearhead progress, cater to our clients, generate value, and win the market.

## Strength in cultural soft power

Guided by the principle of "leading by example, pulling hearts, educating employees, promoting culture, and shaping image", MCC has reviewed and refined its corporate culture system, strengthened core cultural concepts, pulled hearts together internally, and shaped its image externally to enhance its brand image and market recognition.



## Strengthening business operations

As the world's largest and strongest metallurgical construction contractor and operation service provider, MCC has realized transformation thanks to its professional and technical advantages and business qualifications accumulated in iron and steel metallurgy. We have accumulated rich construction experience in the fields of housing construction, municipal infrastructure, rail transportation and urban renewal. MCC has gradually formed a diversified business structure of "one core, two subjects, and five characteristics" with metallurgical construction as the "core", housing construction and municipal infrastructure as the "main subjects", and mineral resources, inspection and testing, new energy materials, water and environment protection, and metallurgical equipment manufacturing as the "characteristics".



01. 2.75 Million Tons Beneficiation Plant for Saindak Copper-Gold Mine, Pakistan  
 02. Nuclear Power Safety-Related Structures Aging Program Implementation and Structural Performance Assessment Project in Fuqing, China  
 05. MCC New Material Project

04. Beijing Fangshan District Liangxiang Sewage Treatment Plant BOT Project  
 05. SRSCD High-speed Wire-rod Reducing and Sizing Mill Project for Yieh Hsing Enterprise Co., Ltd., Taiwan, China

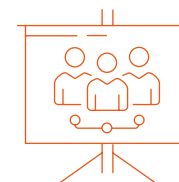
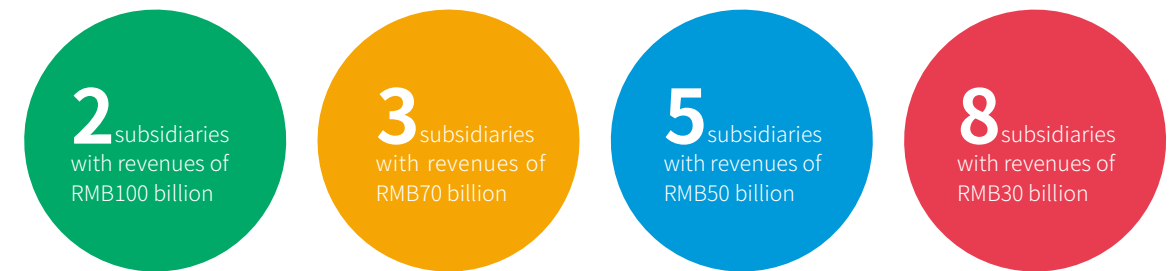
## Seizing the strategic opportunities

To accelerate the new transformation and upgrading of the Company, MCC has emphasized both development and management. For better development, we established a clear development framework for our subsidiary enterprises, known as the "2358" hierarchy to strengthen and optimize the third-tier subsidiaries. Regarding management, we enhanced our fundamental management by rolling out a three-year improvement plan to accelerate the realization of our "One goal, Two best, Five strengths" ambitions.



### Emphasizing development

MCC established a clear development framework for our subsidiary enterprises, known as the "2358" hierarchy, to encourage mutual learning and accelerate the pace of development. The "2358" hierarchy cannot be established without the support of a number of powerful third-tier subsidiaries. To strengthen the construction of third-tier subsidiaries, MCC issued the *Guidelines for the Management of Third-tier Subsidiaries*, specifying the measures for rewarding third-tier subsidiaries with both cash incentives and career advancement. In about 5 years, it succeeded in establishing the "2358" hierarchy, with 18 subsidiaries contributing to the steady growth of MCC.



### Strengthening management

MCC has solidly promoted the construction of 9 key systems, namely, marketing, production and fulfillment, finance and capital, investment, party building, supervision, legal compliance, science and tech innovation, and digitization, and has ensured the thorough implementation of all tasks, striving to build up an enterprise governance system with reasonable structure, clear divisions and responsibilities and perfect systems in 3 years, and to gradually realize the standardization, institutionalization, and systematization of fundamental management and ensure that each system is connected, efficient, and powerful.

## Deepening reform

MCC strictly implements the decisions and arrangement of the CPC Central Committee and the State Council on deepening and upgrading of reform of SOEs, adheres to the problem-, goal- and responsibility-oriented approach, and promotes... The Company also deepens the "double-hundred actions" and "demonstration actions of science reform", promotes specialization and regional consolidation, and contributes to building a new development pattern, blazing the trail for building a world-class company with Chinese characteristics.

### Building a world-class enterprise

#### 1 Focusing on the key indicators of effectiveness and efficiency, strengthening the foundation of high-quality development

- Building a scientific and comprehensive indicator system for high-quality development
- Strengthening project cost management
- Strengthening project quality control
- Building a world-class financial and capital management system
- Building up market reputation and enhancing value realization of MCC

#### 7 Focusing on systematic capability building, centering on key tasks and elements

- Strictly implementing the three-year campaign for fundamental management improvement

#### 6 Focusing on cooperation and sharing, contributing more to the economic and social development

- Supporting the comprehensive revitalization of rural areas, public welfare and charitable undertakings
- Strengthening the concept of safety development and improving the production safety system
- Accelerating green and low-carbon transformation and working towards the "dual-carbon" goals
- Balancing the interests of shareholders, employees, customers, suppliers, society and other stakeholders to create a favorable ecosystem of mutual benefits and win-win cooperation

#### 5 Focusing on sustainable development, enhancing the ability to realize long-term corporate value

- Improving the closed-loop system of strategy formulation, implementation, evaluation and adjustment
- Emphasizing the main responsibilities and business, and optimizing and adjusting the business structure
- Implementing the talent strategy to strengthen the enterprise
- Strengthening the risk system and enhancing the risk capacity
- Strictly preventing credit risks, debts, market price fluctuations, financial and overseas risks
- Enhancing accountability for better compliance, and further promoting the quality and efficiency of case management
- Strengthening production and operation management of construction projects

#### 2 Focusing on innovation-driven development, keeping building momentum for enterprise transformation and upgrading

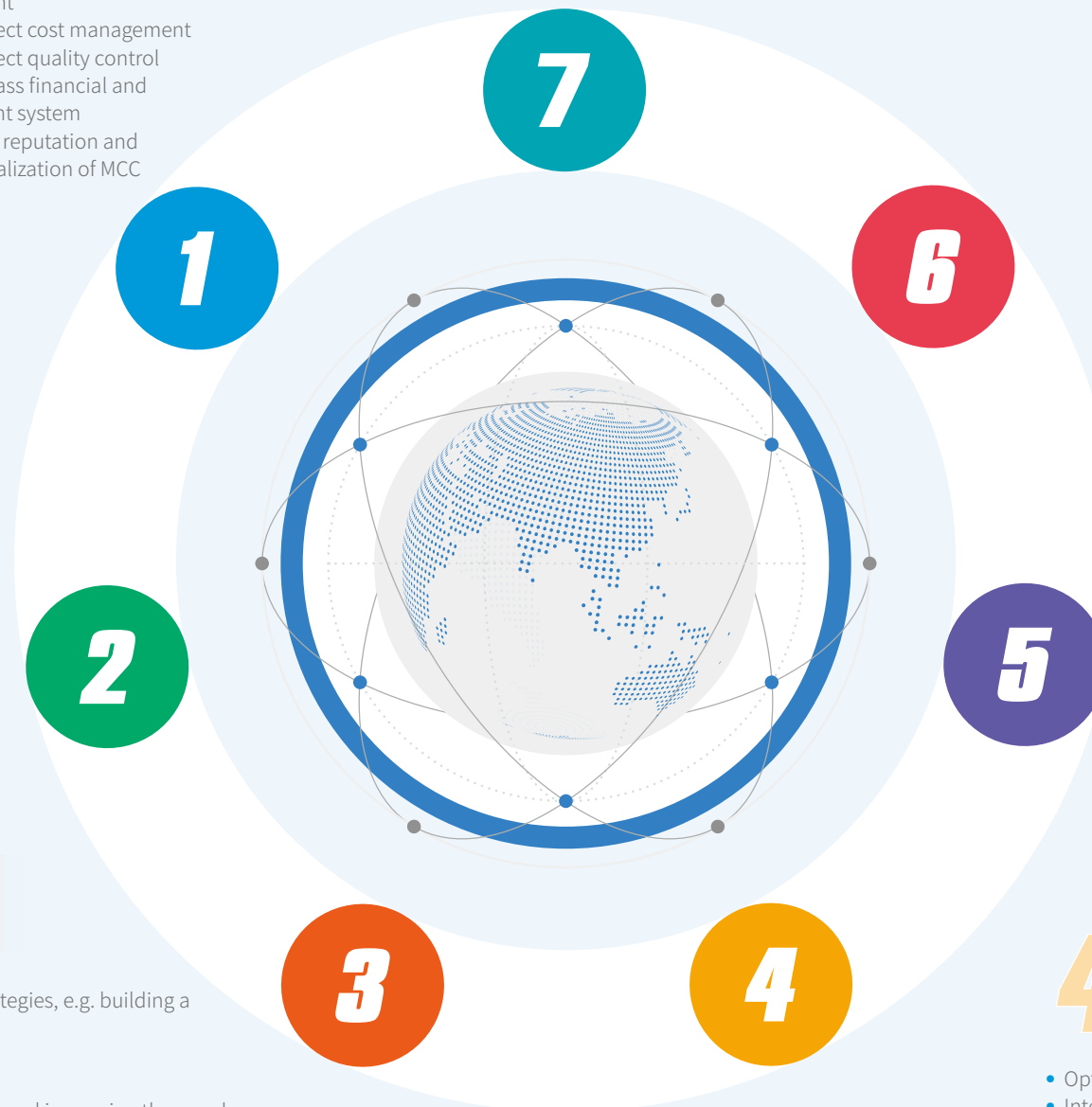
- Strengthening the building of multi-level science and technology platform and innovation ecosystem
- Strengthening the systematic layout of technology
- Improving the transformation and industrialization of scientific and technological achievements
- Accelerating the digitalization of the Company's business

#### 3 Focusing on the implementation of national strategies, giving full play to the role of strategic support

- Enhancing the supporting capabilities around national strategies, e.g. building a quality China or digital China
- Extending along the modern industrial chain
- Actively and steadily increasing overseas operations
- Stabilizing the production and operation of overseas mines and improving the supply capacity of minerals
- Aligning with major national and regional strategies, regional development strategies, and main functional area strategies
- Continuously strengthening, promoting and maintaining brand image, and enhancing brand recognition, reputation and acceptance
- Shaping excellent corporate culture

#### 4 Focusing on improving governance effectiveness, providing strong support for building a world-class enterprise

- Optimizing the organization system and control model of the headquarters
- Integrating the leadership of the Party into all aspects of corporate governance and giving full play to the role of the Board of Directors as the main body of operation and decision-making
- Benchmarking against global peers to improve the level of management
- Strengthening supply chain management and improving the capability of centralized procurement
- Deepening the reform of labor, personnel, and distribution systems





### Deepening the reform of SOEs

Selected as "Double-Hundred Enterprises" by SASAC

## 4 subsidiaries

CISDI, MCC5, MCC17, MCC22

MCC believes that reform is the source of productivity and continues to deepen and upgrade the reform of SOEs in a coordinated and targeted manner. We achieved the "three obvious results" of the Three-Year Action of SOE Reform on schedule. Meanwhile, the modern enterprise system with Chinese characteristics became more mature, the distribution structure of the state-owned economy was further optimized, and a major breakthrough is made in improving the market-oriented operation mechanism. In addition, we launched a new round of reform and upgrading actions and promoted the "Five Specialized Actions" and the "Three-Year Fundamental Management Enhancement Action" to keep up the development momentum for enhancing core functions and improving core competitiveness.

Selected as "Technology Reform Enterprises" by SASAC

## 5 subsidiaries

China ENFI, CERI, WISDRI, MCC ACRE, WSGRI

### ACRE: Benchmark Company for Science and Technology Reform

In 2023, MCC ACRE deepened its reform to strengthen management, promote innovation and stabilize development. It also improved the corporate governance system and mechanism, strengthened market-oriented reforms, and perfected the mechanism of science and technology innovation. In particular, it focused on building a "standardized, pragmatic and efficient" board of directors, comprehensively implemented the contract-based mechanism of manager designation and reformed incentive mechanism for R&D commercialization, further releasing the operational potential and improving its business performance.



Evaluated as Grade A by China Minmetals in Minmetals Reform Assessment

## Grade A

Awarded as Advanced Enterprises for Reform by China Minmetals

## 20 subsidiaries

### Cultivating model enterprises of reform

Awarded as Advanced Individuals in Reform by China Minmetals

## 45 employees

In the special assessment of the State-owned Assets Supervision and Administration Commission (SASAC), MCC ACRE and CERI were rated as benchmark, while WISDRI, China ENFI, WSGRI, CISDI and MCC17 were rated as excellent. Outstanding progress was made in the reform, and the impact of reform was shown gradually.

MCC encourages bold exploration, makes good use of the "policy package" and "toolbox" for reform, and strives to get MCC5 and MCC22 listed as "Double-Hundred Enterprises" through careful deployment and concerted efforts. At present, there are 9 subsidiaries of MCC that have been listed as "Double-Hundred Enterprises" and "Science and Technology Reform Enterprises".

### CERI: Benchmark Company for Science and Technology Reform

In 2023, guided by the theme of "strengthening foundation", CERI took management reform as a key lever to improve its core competitiveness, enhance its core functions, and realize high-quality development. It launched the initiative of building a "Digital CERI" to drive the digital transformation of the company, created a modernized governance system and capability and compiled the *CERI Digital Dictionary*, laying a solid foundation of the digital transformation. Through these key actions, CERI succeeded in building an effective closed-loop platform with strict logic, control coverage, procedural norms, systematic support and sound management, and gradually digitized the assets of its core business.



### Optimizing resource allocation and consolidation

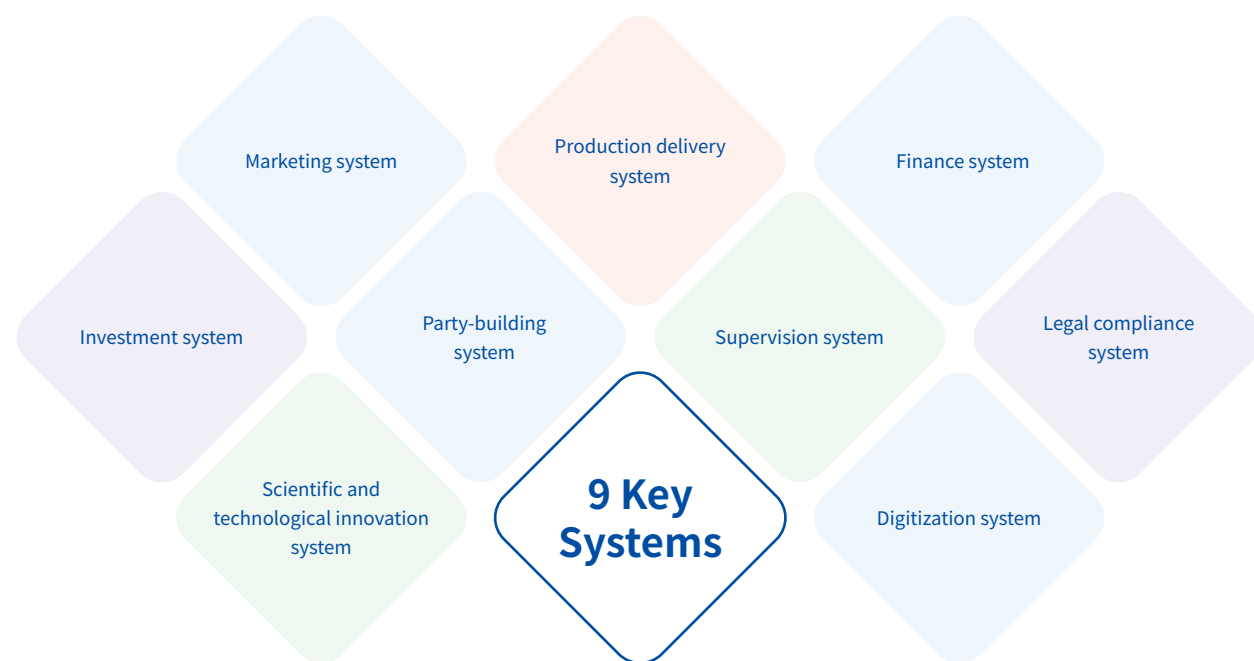
In 2023, MCC carried out regional integration, completed the integration of its water business, and implemented the integration of MCC2 and MCC Fujian to further optimize the allocation of resources. By the end of 2023, MCC had exceeded the target of the "organization slimming" initiatives, effectively reduced the number of duplicative and temporary organizations set by different subsidiaries in the same market, and realized the goal of "growing, helping and eliminating a group of organizations".

## Enhancing fundamental management

MCC adheres to the principles of taking a comprehensive approach, systematic promotion, problem orientation and real efforts, and focuses on the weak links of fundamental management. In 2023, the opening year of the Fundamental Management Improvement Initiative, we have issued the *Overall Work Plan for the Three-Year Fundamental Management Improvement Initiative of MCC (2023-2025)*. The plan describes the issues and weaknesses in the fundamental management and ways for optimizing the management system in a scientific manner. By carrying out the initiative, we seek to gradually drive the fundamental management towards standardization and systematization, enhance the management level, and guarantee the healthy and stable development of the enterprise.

### Driving the implementation of the three-year campaign for fundamental management improvement

Centering on the three elements of system, organization and personnel, MCC proposed a three-year campaign to improve fundamental management of the Company. The campaign focuses on 9 key systems, including marketing, production delivery, finance, investment, Party building, supervision, legal compliance, scientific and technological innovation, and digitization, to improve fundamental management level and capability. Given current needs of business development, the headquarters refined the role and responsibilities of the management and optimized the institutional setup. Ideally, the headquarters should play the role of "leading, serving, and supervising", and each subsidiary should put the three-year campaign for fundamental management improvement of the Company high on their agenda. In this way, each system will be operated coherently and efficiently. In 2023, 8 seminars were held to check the progress of each business unit. Results showed that each unit had improved its system, structure, and talent team, and was gradually moving towards standardized, institutionalized, and systematic fundamental management.



### Strengthening governance capability

In 2023, MCC revised the *Articles of Association, Rules of Procedure of the Board of Directors* and other rules of governance based on work plan of the Three-Year Action for Reform of SOEs and the revised securities regulations to ensure that its governance systems are fully aligned with the national standards and comply with the requirements of the SASAC and CSRC.

The Independent Directors and the Supervisory Committee of MCC conducted 5 surveys in 2023 with theme of "Strengthening the fundamental management and pursuing high-quality development" and the goal of "One goal, Two best, Five strengths" to support the discussion and decision-making of the Board of Directors and the supervision of the Supervisory Committee, and identify good ideas for the future development.

10

Board of Directors meetings convened

106

Proposal debates and debriefings



### Enhancing investor communication

In 2023, MCC further enhanced the quality of its information disclosure and strengthened communication with investors. We conveyed our values to the capital market through shareholders' meetings, briefing sessions, roadshows, reverse roadshow, analysts' meetings, on-site surveys, visits and participation in stakeholder strategy meetings and forums and ensured that information was properly disclosed in compliance with the laws.

70

Visits from domestic and overseas investors

500

Investor emails replied

40

Investor communication meetings





## Strengthening risk prevention and control

### Reinforcing risk management

MCC continues to implement the risk management strategy of "seeking progress while maintaining stability", and carries out risk identification, analysis, evaluation and response in a standardized manner. For special risks, we collect and monitor the relevant risk dynamics and management situation on a monthly basis; for major annual risks, we quantitatively analyze the risk changes and control situation on a quarterly basis, and prepares quarterly reports on comprehensive risk management for the management's decision-making reference. MCC strengthens the process of risk monitoring, assesses the effectiveness of risk control and optimizes relevant control measures by comparing the quantitative data of risks on a regular basis. During the reporting period, MCC's major risks were effectively managed and controlled, and no systemic or disruptive risks occurred.

### Emphasizing compliance management

MCC strives to be a company governed by the rule of law, focuses on building a compliance management system with "first-class benchmarking, broad coverage and clear focus", and continues to promote the level of the rule of law and compliance.

#### Establishing a compliance management system

MCC set up a compliance management committee to effectively promote the compliance management, formulated assessment indicators and implementation rules for rule of law compliance, and set challenging assessment indicators for key and difficult points.

#### Building a sound compliance management system

We built up a "1+N" compliance system, and issued the *Compliance Management System* to clarify the requirements for relevant activities.

#### Refining and implementing compliance

MCC issued the *Work Plan for Continuously Promoting Compliance Management in a Deep and Practical Manner* and supporting logs, specifying the overall requirements for the deepening of compliance management for the year, identifying the key initiatives for compliance management, and arranging for the detailed implementation through logs.

#### Organizing legal education activities

We organized 5 special training sessions on legal education, with tens of thousands of online and offline participants; and launched a series of "Compliance Month" activities, including "Integrity Month" and "Fair Competition Week".

16

Legal education activities

600

Projects with legal support offered

13,000

Participants in total for legal education activities

### Sticking to the bottom line and maintaining integrity

With the goal of promoting a system that dares not, does not want to and cannot corrupt, MCC follows relevant regulations and systems such as the *Provisions on Integrity for Leaders in MCC Group and MCC*, and the *Provisions on the Liability System for Party Conduct and Clean Governance of MCC Group*, to strengthen the standardized anti-corruption guideline and systems and boost integrity.

#### Implementing integrity actions

In 2023, MCC issued the *Three-Year Action Program for Building of a Good Party Culture and Integrity Supervision System of MCC (2023-2025)*, formulated the Three-Year Work Log for Building of a Good Party Culture and Integrity Supervision System to promote the efficient and consistent supervision of anti-corruption and integrity under the "5+3+2" framework.

#### Monitoring risks of non-integrity

MCC sticks to the "supervision and discipline" mechanism, and requires the departments of finance and audit, organization and personnel, bidding and procurement, and investment management to upload information on integrity risks on a quarterly basis, to form a connected supervision system that can share information, discuss problems and share results.

#### Conducting integrity education

In 2023, we launched a month of education activities with the theme of "Learning from cases, sounding the alarm". We tried to raise awareness of Party members, cadres and employees in resisting corruption through a series of ways, including reading the book *Confessions* and visiting education centers. In addition, we organized 5 education sessions, notified and criticized cases of disciplinary violations.

6,949

Anti-corruption trainings conducted by MCC

160,847

Participants in total for integrity training

#### Open to corruption reporting

MCC continues to improve the handling of reporting letters and visits and arranges dedicated people for reporting letters and visits. We have also released the phone number, e-mail and mailing address for corruption reporting on our website; in addition, we require staff handling reporting letters and visits to strictly abide by discipline, maintain confidentiality and never disclose the relevant information of the informant and sanitize the informant's information.

Tel: 010-59869300

Email: mccjiwei@sina.cn

Address: No. 28, Shuguang Xili, Chaoyang District, Beijing, MCC Discipline Inspection Department (Postal code: 100028)





02

## Driving Forces

**Driving future development by scientific and technological innovation**

In response to the strategic deployment of "speeding up efforts to achieve greater self-reliance and strength in science and technology", MCC focuses its overall innovation on the business structure of "one core, two subjects, and five characteristics". The Company strives to improve the systematic layout of technological breakthroughs, and concentrate efforts on original and leading technological research. By vigorously promoting its independent control of key core technology and the transformation of scientific and technological innovation outcomes, MCC ramps up to achieve high-level self-reliance and strength in science and technology, contributing to China's scientific and technological innovation and high-quality development.



## Improving the innovation system

Achieving more rapid and robust technological innovation requires the improvement of scientific and technological innovation system at a faster pace. MCC makes efforts to forge an integrated innovation system that ensures seamless collaboration, mutual support, and dynamic interaction with an efficient allocation of resources. Such innovative system is deployed around the industry chain, which can further enhance the value chain. By steadily advancing the reform of the technological innovation system and overcoming institutional barriers that hinder technological innovation, MCC has made notable progress in enhancing its innovation vitality and efficiency.

### Establishing innovation platforms

MCC continues to enhance its innovation platform by effectively integrating resources from government, industry, academia, research institutions and users, to promote the transfer of scientific and technological outcomes. The Company places emphasis on enhancing the construction of national key laboratories. By aligning with the forefront trends in the industry, MCC makes clear its med- to long-term key tasks, optimizes the allocation of internal and external technological resources, and better synergizes talent teams, basic research, applied research, and transfer of technological outcomes. As a result, CERI, WISDRI, MCC17, and Shanghai Baoye Technology Center were rated as "excellent" national enterprise technology centers in 2023.

#### MCC's technology platforms



### National key laboratory for environmental protection in the iron and steel industry

The national key laboratory for environmental protection in the iron and steel industry conducts applied basic research centering around reducing pollution, lowering carbon emissions, and promoting resource recycling in the industry. It has undertaken over 100 research projects and has developed the world's first steel slag hot-compaction treatment system, and the complete standard system of treating steel slag. Boasting an area of 8,000 square meters at its Daxing base, and advanced instruments, equipment, and pilot platforms, the laboratory is committed to improving strategic technological capabilities in environmental protection in the iron and steel industry.



National key laboratory for environmental protection in the iron and steel industry

### Developing standards and patents

MCC values the systematic construction of intellectual property protection. It has established related regulations such as the *Management Measures of MCC Intellectual Property* and *Management Measures of MCC Corporation Patent* to strengthen intellectual property management. The Company promotes the integration of intellectual property standards, enhances the awareness of intellectual property among all employees, and promotes the commercialization and industrialization of core patents.

MCC took the lead in undertaking a Standard Innovation Management Project of the State Administration for Market Regulation (SAMR), namely "Translation and Effectiveness Analysis of Foreign Language Versions of National Standards in the Metallurgical Engineering Field", which has already passed acceptance. It has formed 41 systematic and replicable English versions of Chinese metallurgical engineering standards, therefore contributing to the international influence and strategic competitiveness of Chinese standards. Meanwhile, MCC has been approved for an ISO international standard project featuring "Seismic Performance of Welded Joints in Steel Structure".

#### Flue gas circulating pre-reduction sintering process won the China Patent Excellence Award

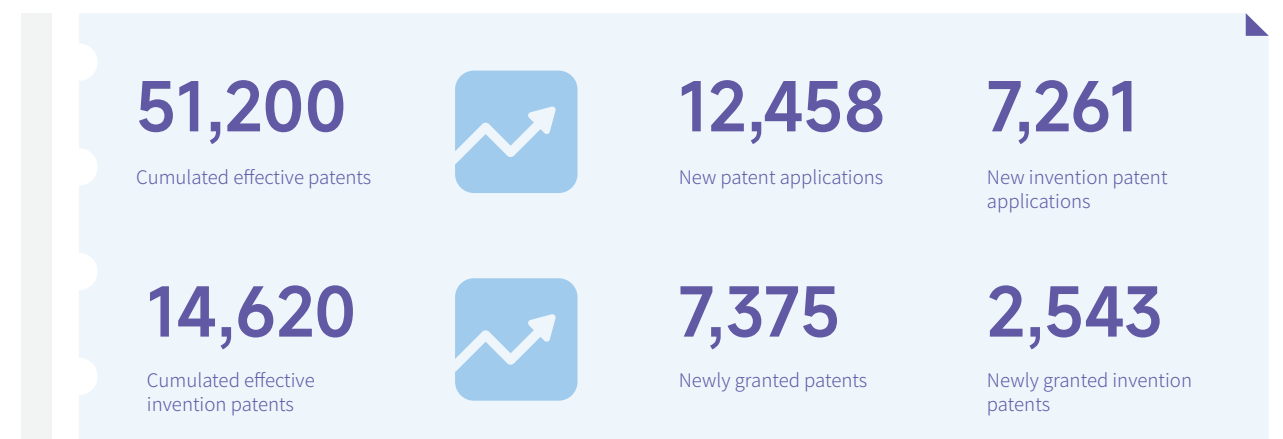
MCC's invention, the flue gas circulating pre-reduction sintering process, has received the 24th China Patent Excellence Award.

Sintered ore produced by such method is featured by developed pore structure, low total oxygen content, and excellent metallurgical properties, making it a quality material for improving quality and increasing production while saving energy and reducing waste in blast furnaces. This method effectively addresses issues in blast furnace ironmaking, such as long reduction time, poor permeability of the burden layer, and low production efficiency. Around this patent, 59 patents have been laid out, including 35 invention patents. Applying this patent can reduce the flue gas emissions from sintering by over 20%, reduce energy consumption by 2 kilograms of standard coal per tonne of sintered ore, complete the reduction of over 35% of iron oxides, thereby reducing the burden on blast furnaces, lowering the fuel ratio, reducing the use of coke, and cutting carbon dioxide emissions by over 10%. Its economic and social benefits are significant.



Demonstration of patent application: Flue gas circulating pre-reduction sintering process Sintering machine project, 600 square meters, Baosteel No.2 Main Plant

#### MCC's patents:



## Strengthening result-based evaluation

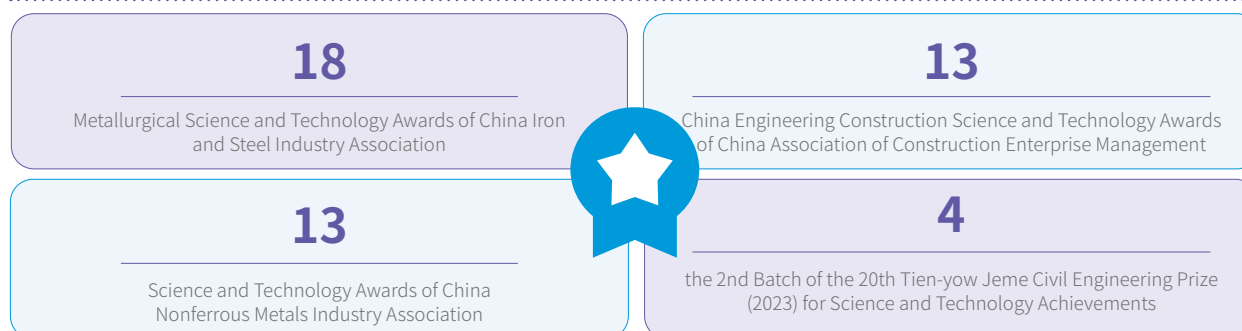
MCC consistently prioritizes the management of scientific and technological accomplishments. We intensified the oversight of the science and technology awards program, refined our evaluation systems and processes, and meticulously assessed the Company's scientific and technology awards. Meanwhile, MCC has stepped up its efforts in establishing and cultivating technology innovation, deepening cooperation among the industry, universities, and research institutes, and providing significant support for award-winning projects with notable advantages. As a result, MCC reached new heights in the quality of technological innovations in 2023.



Online sub-venue of MCC's evaluation meeting of scientific and technological achievements



### Major scientific and technological achievement awards of MCC



## Making breakthroughs in core technologies

MCC leverages innovation as a core driving force in leading development and core technology as the lifeline of industry progress. The Company relentlessly pursues significant breakthroughs in core technology areas, aiming to widely apply major technological achievements to achieve profound implications, constantly injecting strong momentum and vitality into science and technology innovation.

### Strengthening key core technologies

MCC has advanced the 4th batch of the national-level "181 Plan" for the metallurgical construction and the first batch (2023) of major R&D projects in the non-steel field. As a result, MCC developed a series of key core technologies including hydrogen metallurgy, flue gas waste heat recovery in basic oxygen furnace, metallurgical industry Internet platform, smart workshops, short-process raw material preparation, and sports stadium construction with low rise-span ratio. Additionally, the Company has developed much-needed and high-value-added process equipment such as high-speed continuous casting machines for billets and acid-free descaling units. These technologies have been applied in numerous key engineering projects, with 107 demonstration projects currently underway and 67 demonstration projects completed.



### High-efficiency supercritical gas-fired power generation miniaturization technology - MCC's major R&D project under the "181 Plan"

MCC led the achievement of the "high-efficiency supercritical gas-fired power generation miniaturization technology" in 2023. Under the support of the National Research Center of Energy Efficiency Optimization of Steel Production, based on MCC's major R&D projects under the "181 Plan", and centering around the significant demands of the steel industry for energy conservation, carbon reduction, and high energy efficiency, MCC developed technologies including:

- Medium-temperature and medium-pressure, high-temperature and high-pressure, high-temperature and ultra-high-pressure, subcritical, and supercritical gas-fired power generation technologies;
- Miniaturized supercritical once-through reheat gas-fired power generation technology;
- Supercritical gas-fired power generation safety control technology;
- Efficient and stable gas-fired power generation clean emission technology.

The technology has applied for 133 patents, including 104 granted patents; registered 8 software copyrights; contributed to the editing of 4 standards, and has been included in the "National Industrial and Information Technology Energy-saving Technology Equipment Recommended Catalog". It has already been applied and promoted in regions such as Guangxi and Hebei, demonstrating positive economic, environmental, and social benefits.



Miniaturized supercritical safe and clean gas-fired power generation technology applied in the supercritical gas-fired power generation project of Guangxi Shenglong Metallurgical Co., Ltd.



## Undertaking national key R&D projects

MCC has strengthened its systematic technological layout around the China's goal of carbon peak and carbon neutrality, and the requirements for digitalization and smart transformation of the industry. As a result, significant breakthroughs have been achieved in major R&D projects. In 2023, MCC has been approved to undertake a total of 31 projects under the national key R&D programs (subjects) and projects under National Natural Science Foundation of China, in two of which MCC served as the leading institution.

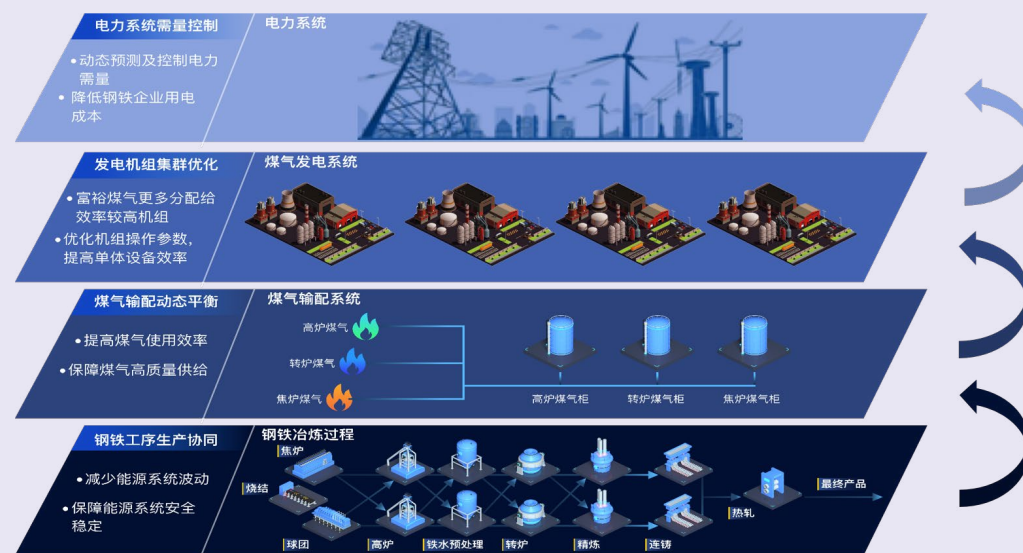
### National Key R&D project: Near-zero wastewater discharge technology and demonstration project in steel industry parks along the Yangtze River under low-carbon constraints

As one of the national R&D projects, this project is set to satisfy major technological needs of energy conservation, carbon reduction, and zero discharge of wastewater in steel industry parks along the Yangtze River. It aims to integrate near-zero wastewater discharge systems as application demonstration through the construction of a multi-level smart water utilization platform, and the R&D of key technologies and equipment, such as source-separation of multi-quality resources recovery, bio-enhanced deep purification, catalytic oxidation of high-salt organic compounds, and multi-membrane integration with high-quality salt separation. This project is of great significance for promoting ecological protection and high-quality development in China.



### Project under National Natural Science Foundation of China: A research on optimal control and smart decision-making methods of energy-saving and carbon reduction for iron and steel metallurgical industry

The project is based on the operational data of steel metallurgy. It reveals in detail the influencing factors and mechanisms of energy consumption and carbon emissions in the steel metallurgy process, systematically analyzes the relationship between energy and material flows in steel metallurgy, and builds multi-level energy consumption and carbon emission representation and evaluation models, as well as material and energy flow coupling models. This forms a set of optimized control, and intelligent decision-making methods for energy-saving, carbon reduction optimization targeting the steel metallurgy industry.



Optimizing decision-making process for multi-level energy-saving and carbon reduction

## Building an innovation-friendly ecosystem

With scientific and technological reforms as powerful engines, MCC continuously deepens creative and leading reform practices. The Company has focused on optimizing the assessment system, improving incentive mechanisms, strengthening research support, thus has effectively overcome the difficulties lying in the technological achievement transformation, creating a high-quality, efficient, and dynamic innovation ecosystem.

### Enhancing assessment system

MCC regards the assessment and evaluation system for technological innovation as a key factor in guiding resource allocation. The Company has established assessment indicators and evaluation mechanisms that are demand-driven and focus on systematic breakthroughs, key core technology advancements, urgent needs, and practical problem-solving. Aiming at fully mobilizing the enthusiasm and initiative of various research institutions, such system can guide research directions and optimize technological resources. Guided by MCC's assessment objectives, subsidiary companies have also developed differentiated assessment systems based on quantitative and qualitative indicators, with departments as the assessment objects, to promote the R&D and transformation of new technologies, processes, and products.

### Improving incentive mechanism

MCC continues to explore specific measures and pathways for the transformation, application, and distribution of benefits from technological achievements. Through establishing a reasonable and efficient medium-to-long-term incentive mechanism, MCC greatly stimulates innovation and creativity among researchers.

### Strengthening scientific research support

MCC is accelerating the cultivation of innovative scientific and technological professionals and improving the quality of scientific and technological talents through measures such as enhancing talent training and recommending, and targeted cultivation of innovative talent teams. The Company emphasizes recommending more experts to become national-level or industry-level science and technology award evaluation experts and supporting the shift from national awards winners to national award evaluation experts.

MCC has issued regulations such as the *Management Measures for Chief Experts and Chief Experts in Professional Technical Fields* and established 9 masters' studios to cultivate a team of high-quality steel technology experts. At the same time, the Company guided its subsidiaries to increase R&D investment, utilize tax incentives for high-tech enterprises and R&D expenses for scientific and technological investment, strengthen financial support for scientific and technological innovation, standardize R&D expense accounting, and enhance the capital accumulation for patented technologies.

### Accelerating technology incubation

MCC firmly values an innovative ecosystem and continuously improves the market-oriented technology innovation system with enterprises as the main body, and deep integration of industry, academia, and research. This approach attracts various innovation elements to converge towards enterprises, creating a well-structured ecosystem for nurturing technology-oriented businesses. The Company has nurtured many national-level and provincial-level specialized, high-end and innovation-driven enterprises, all of which positioned upstream in the value chain. MCC provides a range of highly-competitive products and services in the fields of smart transformation, green and low-carbon development and urban construction, indicating its ability to cultivate world-class technology enterprises within its innovative ecosystem.

#### MCC's specialized, high-end and innovation-driven enterprises

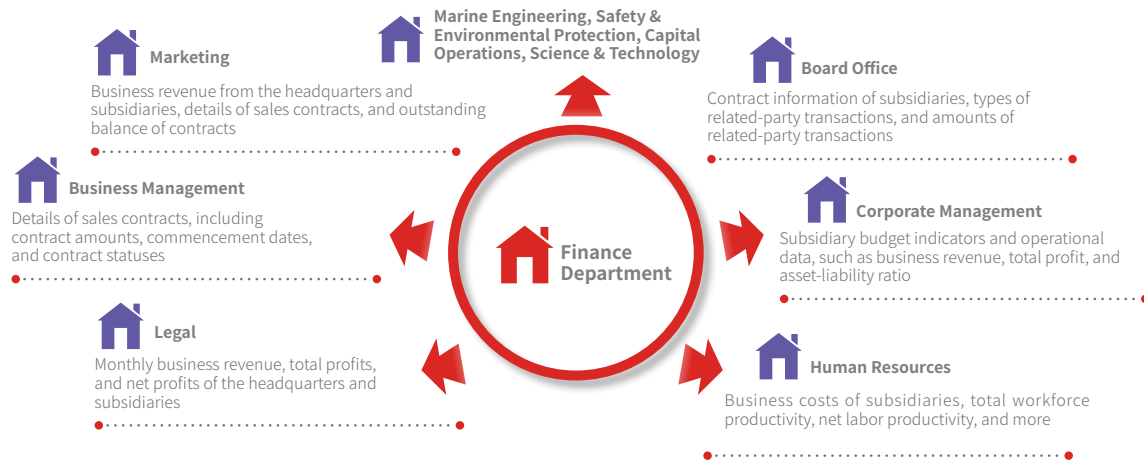
- 5 national-level specialized, high-end and innovation-driven enterprises
- 18 provincial-level specialized, high-end and innovation-driven enterprises

## Building a digital brain

MCC is keenly aware that embracing digital and intelligent transformation is pivotal for its long-term growth. Proactively, we have established an efficient and precise management system, harnessing top-notch technologies such as big data and cloud computing, to enable a digital management platform and digital construction sites. These endeavors made it possible for the Company to visualize enterprise project management and realize intelligent development, infusing new energy into our drive for innovative development.

### Establishing a Digital Management System

In 2023, MCC developed core regulatory documents tailored to digital information management, including the *Information Management Rules* and *IT Asset Management Measures*. These documents bolster the overarching strategy and governance of the digital transformation by covering a spectrum of areas, including management, construction, operations, maintenance, security, data, and performance assessment. The Company also conducted field research on digital transformation, mapped out suggestions and key tasks for the 14th Five-Year Plan period. By refining the three-tier index framework, MCC established a structured index system with 68 third-level indices.



Data Sharing Achieved in MCC Headquarters

### Developing a digital management platform

MCC has developed an integrated digital management platform with engineering projects at its core. With a management approach that quickly zeroes in on risks and standardizes the knowledge consolidation, we have released the *MCC Group Digital Management Platform Key Components Guide*. By the end of 2023, 26 subsidiaries had established data connections across their information systems for financial services, project management, and office automation (OA). Over 20 subsidiaries have implemented smart site systems for major projects, achieving 100% compliance with the real-name system for labor management.



### Promoting smart site construction

MCC rode the trend of digital transformation in the construction industry and rolled out a comprehensive roadmap to promote the smart site construction. By fully leveraging technologies such as Building Information Modeling (BIM), 5G, big data, AI, cloud computing, and the Internet of Things (IoT), MCC has achieved real-time intelligent monitoring and organizational management of the key elements (people, machinery, materials, methods and environment) on the construction site. This effectively supports collaborative work at all site levels and enhances the integral control of quality, safety, and schedule, culminating in high-caliber construction sites.

#### BIM Competition Awards won by MCC



#### Driving the digital transformation of the industrial chain

The Quzhou Sports Park project, undertaken by MCC, integrates new technologies leveraging BIM, IoT, and the internet. The use of digital technology, characterized by project-centered collaboration across teams, multi-faceted connections, and efficient management, has pioneered digital construction technologies involving spatially shaped structure, curved surface control systems, digital processing of templates, and smart site construction. This has led to an integration of planning, design, construction, and operational services under a digital-driven framework, thereby enhancing the engineering value chain and fostering industrial transformation.



Visualization of the Quzhou Sports Park Project

#### Empowering smart sites with digital intelligence

The digital management platform built by MCC5 reflects key elements such as a visual project timeline, safety and quality management, real-name attendance management, as well as operational and financial status, allowing for comprehensive, real-time inspections across all phases of ongoing projects. MCC5 has also established a Project Command Center at its headquarters and developed a remote video surveillance system for projects to enhance on-site supervision. On the ground, the project teams refine and apply sub-functions of the smart site according to the actual conditions on site. By analyzing data on personnel and equipment operations during construction, they generate effective recommendations that span contract performance, business operations, technology, and human resource systems, achieving full-spectrum, corner-to-corner control over the entire construction process of all projects.



Remote Project Command Center at MCC5's Headquarters





03

## Stronger Foundation

**Solidifying the foundation  
through high-quality performance**

Based on the new development stage, MCC is committed to integrating high-quality development and high-level safety to guarantee the stability and sustainable growth of the enterprise. We adhere to the quality philosophy of pursuing excellence and continue to implement the strategy of excellence by improving the quality management and performance capabilities of the Company and projects, to consolidate the foundation for sustainable development. At the same time, we firmly uphold the philosophy of safe development, continue to improve safety management, enhance safety risk prevention and control, and hidden danger investigation capabilities, to build a solid line of defense for safety production.



## Enhancing project management

Dedicated to high standards of project management, MCC continues to integrate advanced management concepts and technical means. The Company keeps improving its management system, strengthens the system support featuring "small front-end and large back-end", promotes project management standardization, accelerates the establishment of the "project management platform", and enhances the full-process quality improvement management system. The Company clarifies the management concept of "project first", focusing on strengthening capabilities in project planning, cost control, EPC (Engineering Procurement Construction) management, technological innovation, and supply chain support to ensure the bottom line of safety.

MCC hosted the first Project Management Forum and launched the *Engineering Project Management Manual*, refining the Company's top-level institutional design and providing institutional support for engineering project performance. Meanwhile, the Company organized engineering project field learning events to build platforms for project management exchange, held project manager training courses to enhance project management capabilities, promote the standardization and systematization of project management processes, and foster high-quality projects.

### Establishing an Engineering Project Management Platform

MCC is establishing an "Engineering Project Management Platform" to drive digital empowerment. The Company is fully committed to building the "33571" engineering project management platform with our own features, ensuring full access to project management data from 30 engineering subsidiaries and enabling real-time insights into the state of the Company's safety management and safety trends. Moreover, the Company has enhanced safety control for special equipment on site and high-risk projects, continued to improve the functionality of the platform's Material and Equipment Management Cockpit, and integrated standardized management with digital tools to strengthen material and equipment management at construction sites. Additionally, the Company is promoting the performance supervision and personnel safety section of its digital management platform for overseas businesses, to realize whole-process transparent management and real-time monitoring of overseas projects through efficient data integration and intelligent analysis system.



### Hosting the First Project Management Forum

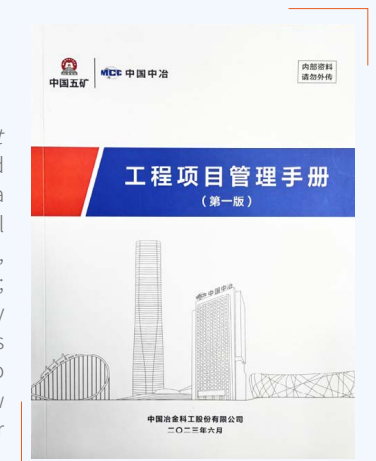


The First Project Management Forum

In June 2023, MCC hosted the first Project Management Forum and the launch event for the *Engineering Project Management Manual*. The forum, themed "High-quality Performance and Excellent Construction", focused on engineering project management and aimed to facilitate in-depth exchanges to enhance production performance efficiency and project profitability. The Company is dedicated to improving its EPC management capabilities through nurturing six key abilities including overall planning, design management, professional support, technical services, business management, and resource allocation. We also continue to refine project management and cost control capabilities, optimize project production relationships, further unleash productivity, and comprehensively implement the responsibility system of project target management.

### Compiling the First Edition of the Engineering Project Management Manual

MCC has completed the first edition of the *Engineering Project Management Manual*, which standardized project management roles at both the enterprise and project levels and clarified mutual responsibilities and relationships, setting up a guiding checklist and process. By sorting out management elements, the Manual made project management content specific, process-oriented, and form-based, thereby reducing dispersion in project management across subsidiary companies; it also established data criteria for the project management platform by standardizing and unifying data requirements; with clear management interfaces and defined job responsibilities, it enabled project management personnel to quickly understand management content and requirements and grasp workflow and priority by utilizing the Manual as a "reference book" and "guidebook" for project management.



### Unveiling Major Engineering Projects of the Year



The Paleozoological Museum of China (Baoding Natural History Museum) Project

MCC unveiled 25 "Major Engineering Projects of 2023" to enable these significant projects to set benchmarks through their exemplary and leading roles. In accordance with the requirements outlined in the *Engineering Project Management Manual*, the Company conducted 100% special inspections for these 25 major engineering projects. Issues identified from the inspections were reported item-by-item through written feedback and improvement measures were tracked to strengthen implementation, thereby forming a closed-loop management system for supervision and inspection of major engineering projects.





Dongan Lake Sports Park Project - Designated Venue for the Opening Ceremony of Chengdu FISU World University Games



Fuyang Yinhu Sports Center - Shooting, Archery, and Modern Pentathlon Venue for the Asian Games Project



(Planned) Construction Project of First Affiliated Hospital of Shanghai University



Xiamen International Expo Center Project



Kingboard Headquarter Tower Project in Qianhai of Shenzhen



Steel Plant Project of Eastern Steel SdnBhd in Malaysia



Waste Incineration Power Generation Project in Vietnam



Stadium Project of Quzhou Sports Park



International Trade Center Project in Xiong'an New Area



"World of Frozen" Project at Hong Kong Disneyland



One Bernam Mixed-Use Development Project in Singapore



Sabah Al-Salem University City Project in Kuwait- College of Petroleum and College Of Science



Ramu Nickel-Cobalt Mine Project in Papua New Guinea



## Safeguarding the bottom line of safety

MCC has always adhered to the principle of "people first, lives first". We continue to improve the Company's safety management system, ensure safety production, promote safety standardization, and strengthen awareness of safety red lines, to build a solid line of defense for safety production.

### Strict safety production

MCC strictly complied with national safety laws and regulations including the *Production Safety Law of the People's Republic of China*, *Regulation on Work Safety Licenses*, and the *Administrative Regulations on the Work Safety of Construction Projects*. During the reporting period, the Company revised internal safety management rules such as the *Safety Production Responsibility List* and the *Implementation Rules for Double Prevention Management of Safety Risk Grading and Control and Hidden Dangers Investigation and Management* to push forward the development of the Company's safety management system.

### Safety management system

MCC strengthened the top-level design of safety management and fully leveraged its leading effect to promote safety production management. To provide thorough guidance to the Company's work on safety production, we have established the Safety Production Committee that is responsible for formulating the Company's safety production policies, reviewing major safety production decisions, and supervising their implementation.

MCC continues to strengthen its safety supervision team by adopting the safety director system, strictly conducting the inspection mechanism led by managers in charge, and supervising the performance of leadership duties. We conducted research and investigations under the theme of "examining the development of safety supervision teams and enhancing the level of safety management" to expand safety supervision teams while continuously improving their quality. In 2023, the Company signed the *Safety and Environmental Protection Target Responsibility Certificate* with 38 subsidiaries, setting the goal of zero responsible accidents in production safety and work-related fatalities and fully shouldering the main responsibility of enterprise safety production.

### Safety risks control

Upholding the bottom-line mindset of safety, MCC vigorously improved basic safety production management through innovative approaches such as "package" inspection and safety management diagnosis to strengthen the investigation and treatment of hidden dangers, thereby comprehensively controlling safety risks and solidifying the safety foundation. In 2023, the Company initiated and completed the "2023 National Special Inspection and Rectification Action for Major Accident Hazards" and the "Central Government-owned Enterprise Safety Management Enhancement Action Year," enhancing the depth and application of safety management work.



Safety Production Emergency Drills

### Promoting safety standardization

MCC is committed to the concept of "market circulation through on-site practices" and implements the goal of "high-quality performance and excellent construction", by promoting safety standardization for construction projects and innovating safety technologies to enhance the intrinsic safety level. In 2023, the Company completed the safety production section of the Engineering Project Management Manual, and meanwhile compiled and released the Engineering Project Management Manual - Safety Volume, further strengthening the standardization and precision management of safety production in the Company's projects.

At the 4th Safety Technology Progress Award hosted by the China Association of Work Safety, the Company received 24 safety technology application awards, including 5 first prizes, 7 second prizes, and 12 third prizes.

### Fostering safety culture

MCC stepped up efforts in fostering a safety culture by conducting safety training and safety culture promotion to raise safety awareness among all employees. The Company made full use of its news media platforms such as its website, newspaper, and official WeChat account to release news and reports on safety production, which facilitated the development of a safety culture across the entire company and created an atmosphere where safety is prioritized and valued.

In 2023, MCC conducted "Safety Production Month" events with the theme of "Let Everyone Value Safety and Learn Emergency Response". During the event, the Company organized more than 5,164 safety lectures with over 232,000 participants, 3,497 safety training sessions and 1,533 special safety warning education sessions on typical illegal cases, creating a culture of safety study among all employees. Meanwhile, the Company held online knowledge competitions with over 89,000 participants and organized 4,336 emergency drills involving more than 125,000 participants, continuously enhancing overall safety awareness.

# 23

National "Construction Work Safety Standardization Construction Sites for Construction Projects"

# 239

Provincial safe, civilized and standardized construction sites

# 265

Municipal safe, civilized and standardized construction sites



Opening Ceremony for "Safety Production Month"

## 13,001

Emergency rescue plans improved

## 11,044

Times of emergency rescue drills

## 321,892

Person-times in emergency rescue drills

## 63,089,300

Annual hours of safety training conducted for employees

## 1,573,300

Annual number of people participating in safety training



## Strictly controlling engineering quality

Placing high importance on engineering quality, MCC promotes the establishment and improvement of quality management system and continues to strengthen quality supervision and inspection. Recognized by numerous quality awards for our remarkable quality management, we are committed to providing high-quality and reliable engineering products and services, laying a solid foundation for the Company's sustained and stable development.

### Quality management system

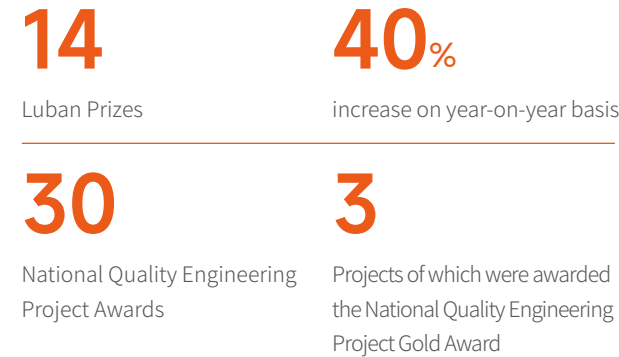
To promote comprehensive quality management, MCC strictly complied with relevant laws and regulations including the *Product Quality Law of the People's Republic of China*, the *Construction Law of the People's Republic of China*, the *Highway Law of the People's Republic of China*, *Regulations on Administration of Surveying and Designing of Construction Projects*, and *Regulation on the Quality Management of Construction Projects*, and conscientiously implemented the Company's *Quality Management Measures*, *Implementation Rules for Quality Management of Construction Enterprises* and other management systems. Abiding by the Quality Management System Standard (GB/T 19001), the Company has established and improved the quality management system, clarified the responsibilities, inspection, quality excellence and other requirements, and improved the level of all-round quality control of all staff and processes.

### Quality supervision and inspection

MCC took engineering quality as the starting point and conducted special inspections on the quality of municipal and transportation engineering as well as civil building engineering. Special inspections were carried out for key projects, including projects in Baosteel, Wuhan Iron and Steel and the Xiong'an area. The Company also mobilized its subsidiaries to conduct self-inspections on quality for overseas projects. We regarded system development as the foundation and employed stronger supervision and inspection as an approach to focus on weaknesses and strictly control quality risks. A total of 1,733 ongoing projects from 30 subsidiaries were covered, further improving the overall level of engineering project quality.



### Quality Awards



In 2023, MCC achieved outstanding results in quality management and was listed as the recommended organization by the Luban Award for the first time, receiving 2 recommended indicators.

Moreover, MCC was honored with numerous national and provincial-level awards for its excellent engineering quality and innovative design capabilities, demonstrating the Company's professional strength and leading position in the field of engineering construction.



Sichuan University Museum Complex Project



## Win-win industrial cooperation

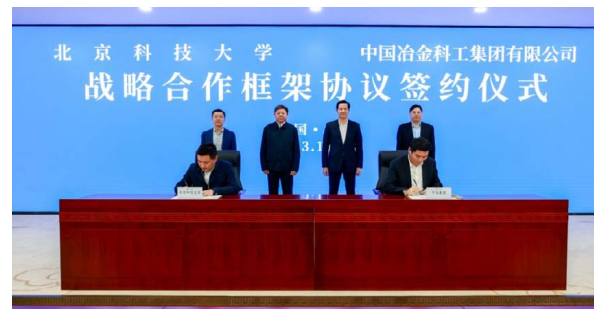
Recognizing that clients are fundamental to the survival and growth of an enterprise, MCC focuses on clients' needs and maintains and deepens relationships with our clients, ensuring that their interests are safeguarded to the greatest extent possible. The Company places strong emphasis on supply chain management and works together with partners both upstream and downstream in the industry to realize the goals of mutual development and win-win results.

### Enhancing customer management

MCC has long been committed to a customer-centric orientation and strives to establish long-term, stable, mutually trustworthy, and win-win partnerships with its clients. In 2023, the Company implemented the *Management Measures for Domestic Major Customers*, to systematically improve its customer management system, continuously enhance customer satisfaction, and build a positive brand image.

In 2023, MCC signed strategic partnership agreements with 11 organizations, including those in Shandong Province, Shenzhen Municipality, Shenyang City, and Qinhuangdao City, as well as the University of Science and Technology Beijing, aiming to further enhance the quantity and quality of strategic partnership clients. The Company also facilitated the implementation of several key projects worth tens of billions, such as the Shenyang Heping Bay City-Industry Integration Project and the development of the Longkou New Materials Industrial Park in Yantai City.

Upholding the "customer first" principle, MCC is dedicated to providing high-quality services with customer satisfaction as the ultimate goal. The Company strives to devise comprehensive solutions that meet customer needs. In 2023, there were no major customer complaints, and all customer complaints received were promptly closed.



Signing strategic partnership framework agreement with the University of Science and Technology Beijing

88.10%

Customer satisfaction score

0

Number of major customer complaints

100%

Complaint handling closure rate

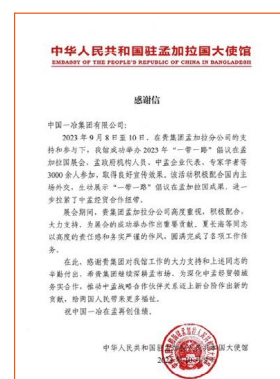
\*The statistical scope of this data includes the annual customer satisfaction and complaint numbers of MCC Real Estate Group.

In 2023, MCC received appreciation from numerous clients such as the Embassy of the People's Republic of China in Bangladesh and the Chengdu Municipal People's Government, showcasing the Company's wholehearted dedication to serving its customers and the fruitful results realized in promoting national strategies.

Placing great importance on protecting customer privacy, MCC complied with laws and regulations such as the *Cybersecurity Law of the People's Republic of China* and *Data Security Law of the People's Republic of China*, and standardized its network and data security management practices to safeguard customer privacy and corporate data security. Following the requirements outlined in the *Network and Data Security Checklist*, the Company conducted thorough inspections and reinforcement of critical information systems and adopted measures to protect data security.



Letter of appreciation from the Chengdu Municipal People's Government



Letter of appreciation from the Embassy of the People's Republic of China in Bangladesh

## Strengthening supply chain management

MCC strictly complies with relevant laws and regulations. It has formulated nine procurement regulations based on specific circumstances, including the *Procurement Management Regulations of MCC* and *Centralized Procurement Management Measures of MCC Group and MCC*. These regulations explicitly promote green and low-carbon concepts in procurement, and emphasize environmental protection, resource conservation, safety, health, green and low-carbon practices, and recycling, with the priority of procuring and using raw materials, products, and services that are conducive to environmental protection and feature energy-saving, water-saving, and material-saving qualities.

**State-owned Assets Supervision and Administration Commission (SASAC) Procurement Management Contest**

**First prize**

*Refined Management of Material Supply Chain for Construction Enterprises Based on Digital Transformation by MCC Tiangong Group*

**Second prize**

*Construction and Operation Management of Temporary Facilities with One-Stop Service as the Core for Construction Enterprises by MCC Tiangong Group*

**Second prize**

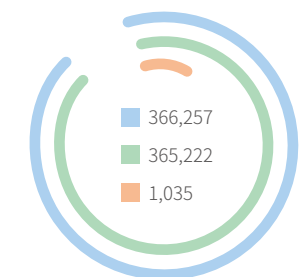
*Aluminum Formwork Supply Management Platform of Baoye Group by Shanghai Baoye Group*

**Third prize**

*Establishment and Implementation of E-commerce Platform Based on Digital Intelligent Procurement for Construction Enterprises by MCC Tiangong Group*

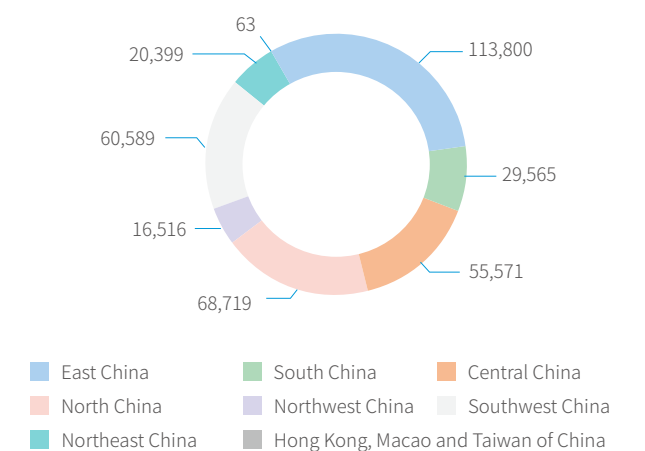
In 2023, MCC revised the *Measures for the Management of Suppliers of MCC Group and MCC* with particular emphasis on specifying regulations for all suppliers regarding information reporting and entry, platform access, performance evaluation, grading (levels A, B C and D), suspension, and blacklisting.

### Number of MCC Suppliers



■ Total number of suppliers  
■ Number of domestic suppliers  
■ Number of overseas suppliers

### Distribution of MCC Suppliers



The Company continues to place greater focus on environmental and social risks associated with suppliers. Suppliers who severely delay payment of wages to employees or result in adverse effects or financial losses for the purchaser due to their loans, engage in malicious activities such as demanding wages with malicious intent, gathering a crowd to create a disturbance, defamation, false accusations, or framing others, which significantly impact the normal production and operation of the purchaser or the social reputation, will be handled following our stipulations.





# 04

## Co-existence

**Regarding green and low-carbon development as the foundation of ecological conservation**

Firmly upholding the concept that "lucid waters and lush mountains are invaluable assets", MCC regards promoting ecological conservation as its political responsibility and historical mission and integrates green, circular, and low-carbon development into the whole chain of production and operation. We give priority to ecological protection, implement green development, and adhere to the high standards of environmental management. Bearing in mind our key responsibilities and core businesses, we promote green and low-carbon development of the steel industry, build green engineering projects, and empower the development of the new energy industry and the ecological protection industry, to contribute to the modernization featuring the harmony between humanity and nature.



## Strict environmental management

MCC strictly abides by national and local policies and regulations including the *Soil Pollution Prevention and Control Law of the People's Republic of China*, *Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes*, *Water Pollution Prevention and Control Law of the People's Republic of China*, and *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*. MCC has formulated a set of management measures, four detailed rules and a plan to clarify the management requirements of environmental protection and regularly invited external institutions to conduct inspections and audits of the environmental management system, to promote the continuous improvement of environmental management skills and capabilities.

In 2023  
MCC obtained

**ISO 14001 environmental management system certification**



### Ensuring environmental protection accountability

MCC has built an environment management system with a clear division of power and responsibility, incorporated environmental protection accountability into its annual business performance assessment, and signed annual target responsibility agreements with its subsidiaries, so as to set up an overall environmental protection accountability system throughout the Company and effectively implement environmental protection responsibilities. At the same time, the Company strengthens the comprehensive supervision before, during, and after an event, continuously improves the environmental protection inspection mechanism, develops tailored pollution prevention and control implementation plans, and urges its subsidiaries to improve the emergency response mechanism for public emergencies, so as to prevent ecological and environmental risks in all aspects and continuously improve environmental emergency response.

In 2023 MCC signed environmental protection target responsibility agreements with

**38 subsidiaries**



In order to effectively reduce the negative impact of its business operation and project construction on the environment and strengthen its environmental accountability assessment, MCC has formulated environmental targets for energy, water resources, and emissions and systematically promoted the harmony between production and operation and environmental protection.

### Environment management targets

- As of 2025, exploring the use of clean energy and reducing coal consumption intensity
- As of 2025, increasing the efficiency of water and gradually reducing the density of fresh water consumption
- As of 2025, strengthening manufacturing process and striving to reduce the density of non-hazardous and hazardous waste



### Building environmental protection platforms

MCC has built big data environmental protection platforms, strengthened digitally-empowered business management, and further improved its control, early warning, and pre-control capabilities in environmental protection. MCC has built an environmental protection business platform within the project management and control platform, covering 7 management systems and 2 monitoring platforms. Meanwhile, the Company has internalized daily environmental protection management in the business platform and established an environmental protection alarm and early warning mechanism to monitor environmental protection management in real time and provide support for the decision-making of its environmental protection management and the improvement of the environmental protection management capabilities of its subsidiaries.

### Enhancing environmental protection awareness

MCC has strengthened environmental protection promotion and carried out environmental protection management training and environmental awareness promotion. In 2023, MCC actively organized environmental protection business management personnel to participate in special training on energy conservation and ecological environmental protection and special training on energy conservation and environmental protection management of engineering projects through centralized learning and online learning, effectively improving the environmental protection awareness and management capabilities of business personnel.

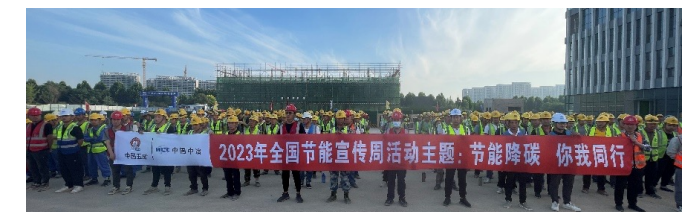
**2,546**

Environmental protection training sessions organized in 2023

**192,124**

Person-times in environmental protection training in 2023

MCC continues to enhance environmental awareness at all levels. Its subsidiaries organized environmental promotion activities during the week-long national campaign to promote energy conservation, the National Low-Carbon Day, and the National Environment Day. These activities are designed to widely publicize the mainstream values of ecological conservation, popularize the concept and knowledge of ecological conservation and green development, and create a good atmosphere for advocating ecological conservation.



Activities during the week-long national campaign to promote energy conservation and the National Low-Carbon Day in 2023

### Conducting climate management

MCC actively responds to the national "Dual Carbon" goals and firmly promotes the preparation of the Company's action plan and path planning in response to climate change. We regularly carry out greenhouse gas emission surveys and in-depth analyses of energy consumption and carbon emissions. At the same time, with reference to the information disclosure framework of the Task Force on Climate-Related Financial Disclosure (TCFD), we gradually carry out the assessment of climate risks and opportunities, identify and analyze the physical and transitional risks of climate change, and ensure that the Company can continuously and systematically respond to climate challenges.

#### Climate change target:

- As of 2025, actively formulating carbon reduction plans to reduce GHG emission density





## Promoting green metallurgy

Prioritizing its core businesses, MCC actively complies with the low-carbon and intelligent development trend of the steel industry. With a focus on the full-process low-carbon and green production in the steel industry, we start to carry out researches on low-carbon key technologies, promote the energy-saving technologies of equipment in operation, striving to reduce pollution and carbon emission in the whole process of metallurgy and injecting green vitality into the steel industry.

### Innovating green metallurgy technologies

Following the establishment of the national "dual carbon" goals, the steel metallurgy industry is facing the urgent challenge of reducing carbon emission intensity. Under the *Action Plan for Peak Carbon and Carbon Reduction in the Iron and Steel Industry*, MCC, a member of the *national team of metallurgical construction*, gives full play to the advantages of the entire metallurgical industry chain, innovates and publicizes energy saving and carbon reduction technologies, and promotes structural optimization and clean energy substitution in the steel industry. By doing so, we take multiple measures to promote low-carbon transformation and take practical actions to address the risks and challenges posed by climate change.

#### The "hydrogen metallurgy" physical plant leads the low-carbon metallurgy revolution

MCC has developed the world's first full heat recovery process for basic oxygen furnaces (BOF), created the first hydrogen-based direct reduction shaft furnace experimental platform in China, and led the innovative application of green low-carbon technologies in steel metallurgy.

In 2023, the hydrogen metallurgy project of Hebei Internet Society (HBIS), which was generally consulted and designed by MCC, went into safe, smooth, and continuous operation, and won the "EY Sustainability Excellence Award 2023 Special Jury Prize". The project built the world's first "hydrogen metallurgy" physical plant, which achieved 70% carbon emission reduction and 70-80% pollutant reduction compared with traditional steel metallurgy, promoting the green innovation of technologies in the steel industry.



The hydrogen metallurgy project of HBIS

#### MCC's high-efficiency supercritical surplus gas-fired power generation technology drives the low-carbon transformation of the steel industry



The 150MW high-efficiency supercritical surplus gas-fired power generation unit project of LY Steel

On October 26, 2023, the installation project of the 150MW high-efficiency supercritical surplus gas-fired power generation unit of Hunan Valin Lianyuan Iron & Steel Co., Ltd. (LY Steel) was launched successfully. With MCC as the general contractor, the project, which is currently the gas-fired generation unit with the highest parameter level and the highest power generation efficiency in the world, will adopt the most advanced supercritical gas power generation technology, effectively promoting the green and low-carbon transformation and high-quality development of LY Steel.

### Boosting the equipment energy-saving technologies

Relying on its technical advantages in the whole process of metallurgy, MCC has promoted long-term carbon reduction in core areas such as ironmaking, steelmaking, and casting and rolling, providing more feasible solutions for the low-carbon and green transformation of the steel industry. The Company has increased research and development efforts, carried out innovative research, such as electric furnace steelmaking, endless strip production (ESP) technology, waste pickling liquor recycling, layered heat supply low-carbon hydrogen-rich sintering technology, and improved the energy efficiency and environmental benefits of key equipment in operation. It continues to explore the efficient way of "turning waste into treasure", and strengthen green development.

#### Electric furnace steelmaking

As the main equipment for smelting scrap steel, electric furnaces feature only one-third of the energy consumption and carbon emission of the long process of "BF-BOF", presenting remarkable energy saving efficiency. In 2023, MCC successfully achieved the independent development of the entire process equipment for 100-tonne and 120-tonne electric furnaces. In the past five years, MCC has been the general contractor of the construction or design of six of the ten quantum electric furnaces under construction or put into operation in China.



#### Layered heat supply low-carbon hydrogen-rich sintering technology

MCC pioneered the layered heat supply low-carbon hydrogen-rich sintering technology and developed related intelligent integrated control systems and a suite of equipment. After the application of this technology, the solid fuel consumption can be reduced by 13.5%, the gas consumption for ignition by 21.97%, the total heat consumption of the process by 12.8%, and the carbon dioxide emission of the large flue by 14.78%.



#### Endless strip production (ESP) technology

The ESP production line is compact and efficient, since it eliminates the heating furnaces and tunnel furnaces in the conventional hot rolling process, and reduces energy consumption by 50%-70% compared to the conventional hot rolling process. As of the end of 2023, six of the nine existing ESP production lines in the world are under the general contracting of MCC.



#### Waste pickling liquor recycling

In view of the challenges commonly found in the steel industry, such as the treatment of mixed waste pickling liquor and the monopoly of foreign technology, MCC has realized the independent integration and re-innovation of the process technology and equipment and thus has become the only enterprise in China with the ability to recycle hydrochloric acid waste liquor, mixed acid waste liquor and sulfuric acid waste liquor.



#### Low calorific-value-gas power generation technology

MCC has increased the power generation efficiency of low-calorific-value gas from 25% to more than 44%, and achieved a reduction of 200 grams of standard coal for every 11 kWh of electricity power generated. The technology has been applied in more than 40 iron and steel enterprises at home and abroad. The total installed capacity of gas-fired power generation has reached around 18,000 MW, and the annual electricity power generation has reached 140 billion kWh, while the carbon dioxide emissions have been reduced by more than 100 million tonnes, achieving both economic and environmental benefits.





## Building green engineering projects

Committed to building "green engineering projects for state-owned enterprises", MCC actively practices the concept of green development, establishes a sound environmental management system, and strives to be a pioneer in green development. At the same time, we further promote green construction, actively participate in the restoration and protection of the ecological environment, and endeavor to build a beautiful and eco-friendly home for people.

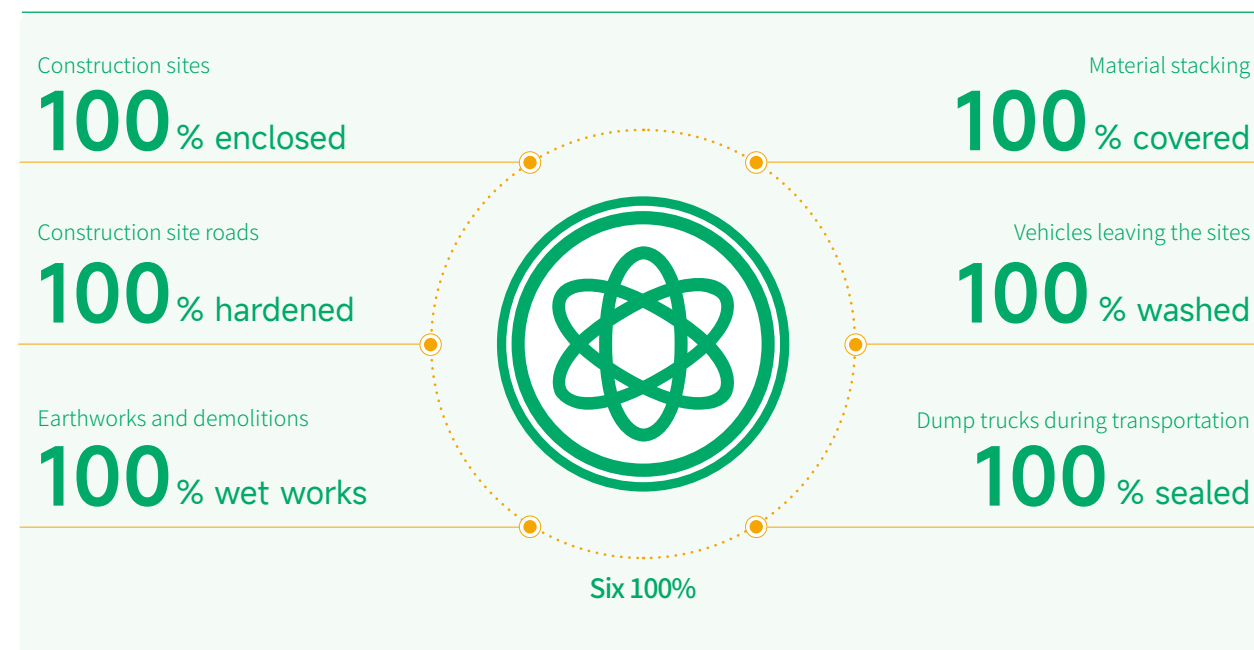
### Practicing green construction

Adhering to the concept of scientific, green, and civilized construction, MCC has formulated internal documents such as the *Green Construction Management Guidance Manual* and the *Green Construction Guidance Manual*, strictly controlled green construction standards, promoted the application of green construction technologies such as prefabricated buildings and BIM technology, practiced green construction, and fully implemented the requirements for ecological construction, pollution prevention and control and circular and low-carbon management. In 2023, MCC obtained 77 national green construction management projects, including 23 national green design projects and 54 national green construction projects.

The Company strictly monitors pollution emissions, strengthens exhaust gas emission management, centrally collects and treats soot and other emissions generated in the production process, and strictly controls organized emissions in key processes and unorganized emissions in the production process. In addition, we have upgraded wastewater treatment facilities and added deodorization systems to effectively treat and reduce exhaust gas.

The Company has established a regulatory list of hazardous waste, set up a solid waste record, supervised the treatment of hazardous waste throughout the process, complied with the requirements of emissions, and entrusted qualified units to treat the waste. In addition, we have stipulated temporary facilities and permanent facilities for construction to reduce waste and improve efficiency.

### The "Six 100%" of dust control at construction sites

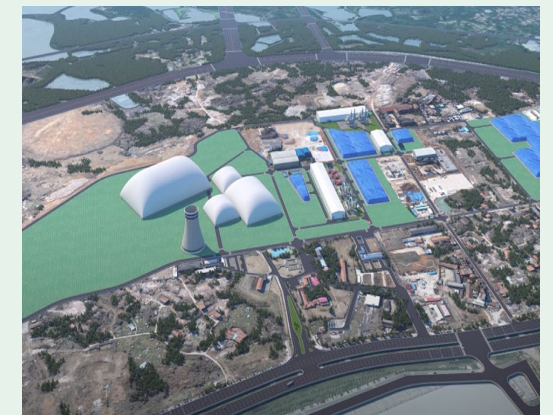


### Carrying out soil remediation

As a state-owned enterprise, MCC has taken the initiative to fulfill its responsibilities by carrying out soil environmental risk assessment and soil environmental treatment and remediation and helping with soil pollution treatment and control. In strict accordance with the requirements of the local environmental protection authorities, the Company has established a ledger and a regulatory list and has provided strong support for the orderly implementation of soil pollution prevention and remediation through scientific methods and means. At the same time, we have continuously improved the soil pollution prevention and treatment process and strengthened the supervision and management of the use of hazardous chemicals and pharmaceuticals to avoid soil pollution caused by improper storage and use. In addition, we are committed to independent research and development. We have actively invested in the research and development and innovation of soil remediation technology and constantly developed soil remediation equipment and pharmaceuticals with independent intellectual property rights, thereby promoting the restoration and reestablishment of soil ecosystems and making positive contributions to the protection of soil resources in China.

#### Promoting soil pollution remediation and fulfilling the commitment of "lucid water and lush mountains"

MCC undertook the remediation project of the polluted land in the southern district of the former Gedian Chemical Plant. The total amount of the polluted soil is 145,000 cubic meters. Faced with the challenge of treating pollution tens of thousands of times the standard level, MCC utilizes two methods simultaneously. We adopt in-situ and ex-situ thermal desorption remediation technology and cement kiln co-processing technology to incinerate or gasify the target pollutants through flame heating. At the same time, we set up the largest domestic inflatable membrane closed greenhouse for excavation with a total area of more than 20,000 square meters to control the pollutant escape during soil excavation and avoid secondary pollution. As of the end of 2023, the amount of in-situ remediation earthwork per day has reached 1,500 cubic meters, hitting a new record high in China.



The remediation project of the polluted land in the southern district of the former Gedian Chemical Plant

### Strengthening water resources management

MCC has paid special attention to strengthening the supervision and rectification of wastewater outfalls that discharge into rivers and optimizing the separate treatment of rainwater and wastewater in construction projects. Based on detailed investigations into rainwater generation, collection, transportation, and treatment, we have standardized the initial implementation of the rainwater management system, strengthened anti-seepage measures in key areas, promoted the construction of rainwater diversion systems, and reduced the burden on the wastewater treatment system. At the same time, we have incorporated water pollution risk prevention into energy conservation and environmental protection inspections to ensure that the use of water sources is legal and compliant. In 2023, the Company did not experience any problems in obtaining applicable water sources.

### Protecting ecological environment

MCC has strictly implemented ecological environmental protection measures in project construction and operation, established a comprehensive environmental risk and emergency management system, formulated emergency environmental emergency plans, and ensured that the plans are filed at all levels of the Company, to strengthen environmental risk control and emergency response capabilities.

In addition, in the process of engineering construction, production, and operation, we strictly follow the relevant laws and regulations of environmental protection and industry standards of the country where we operate, implement the principle of hierarchical management and hierarchical accountability, and report to the local government and departments concerned on time to ensure the full implementation of environmental protection measures.



## Developing green industry

MCC implements the new development concept, continuously improves scientific and technological empowerment, designs ecological and environmental protection industry layouts, and promotes the development of new energy industry, achieving a win-win situation between economic and social development and ecological and environmental protection.

### Promoting the new energy industry

In response to the national decision and deployment to achieve carbon peak and carbon neutrality, MCC fully tapped its own advantageous resources, achieved the tailored integration of renewable energy and steel structure with the principle of "coordination and mutual benefit with a priority on green development", and participated in the construction of new energy infrastructure such as photovoltaic power stations and basic material research, promoting the low-carbon and clean transformation of energy and the high-quality development of new energy industry.

#### The electronic information material project of China Silicon Corporation Ltd. promotes independent research and development of the new energy industry

Covering an area of around 57.66 acres, the electronic information material project of China Silicon Corporation Ltd. (SINOSICO) in Luoyang is a key project of Luoyang City with an investment of RMB 1.56 billion. Relying on the scientific research and talent advantages of MCC, the project focuses on the production and development of electronic information and new energy basic materials, strives to break through technology bottlenecks, and accelerates the establishment of the "national strategic silicon-based material innovation center and production center". When it is put into operation, the project will effectively fill the gap in domestic high-end silicon-based materials, and contribute to strengthening the national strategic scientific and technological strength and satisfying the needs of national strategic basic materials.



The electronic information material project of SINOSICO in Luoyang

#### The Huaneng Taoyuan 220 MW Photovoltaic Power Station project in Lufeng promotes green and low-carbon urban development

In August 2023, the Taoyuan Photovoltaic Power Station project built by MCC was successfully connected to the grid, improving the overall environment of the region and increasing the proportion of renewable energy in Lufeng. After the completion of the project, the station can generate an average annual electricity capacity of 308 million kWh, save 95,000 tonnes of standard coal, reduce the emission of atmospheric pollutants such as sulfur dioxide by more than 100 tonnes, and save 370,000 cubic meters of fresh water, effectively ushering the local green and low-carbon industry in a new era.



The Taoyuan Photovoltaic Power Station project in Lufeng

### Ecological environment protection industry

MCC strives to build its characteristic brand of "MCC Environmental Protection" by giving full play to its advantages in technology and engineering practices. Through in-depth practices in wastewater treatment, waste incineration, wetland protection, and other ecological and environmental protection businesses, we boost the development of the ecological and environmental protection industry and contribute to the protection of the regional ecological environment.

#### Wastewater treatment

MCC has been deeply engaged in the wastewater treatment business, including the efficient utilization of water resources, municipal wastewater treatment, urban water supply, industrial wastewater treatment, sludge treatment, and other businesses. MCC has invested in and operated 30 water utility companies, 48 water plants, and 1 sludge treatment center. Among them, the wastewater treatment plant project in Liangxiang, Beijing adopts the combined process of "pretreatment + six-stage combination of enhanced biological treatment + coagulation and sedimentation+ ultrafiltration + ozone disinfection", and applies technologies such as sludge reutilization, photovoltaic power generation, water source heat pump, wastewater reuse, and intelligent operation platforms, to help achieve the carbon peak and carbon neutrality goals.



The wastewater treatment plant project in Liangxiang, Beijing

#### Waste incineration

As the first design company to enter the field of waste incineration power generation in China, MCC completed the design of China's first thousand-tonne waste incineration power plant and nearly 100 waste incineration plants and promoted and implemented the projects of collaborative treatment of waste incineration and the supporting landfills of emergency waste and fly ash for waste incineration. Among them, the Company invested and contracted the municipal waste incineration power generation project in Ganzhou, which can treat 1,200 tonnes of domestic waste per day and 500,000 tonnes annually and generate more than 200 million kWh of electricity power annually. It efficiently reduces pollution and carbon emissions, contributing to local ecological conservation in the new era.



The municipal waste incineration power generation project in Ganzhou

#### Wetland protection

Adhering to the wetland construction concept of "balancing function and scenery", MCC applied wetland purification technology and successively undertook the construction of wetland EPC projects such as the Cihu River Wetland project in Ma'anshan, the Lai'an Wetland project in Chuzhou, the Qingliu Wastewater Treatment Plant water quality improvement wetland Phase I project in Chuzhou, and the Tianchang Wetland project, contributing to water ecological environment protection. Among them, the Longhu Wetland ecological protection and comprehensive treatment project in Huaiyang district, Zhoukou improves the self-purification capacity of the water body and helps to build an ecological internal lake in Huaiyang through processes including dredging, foundation treatment, floating plants growing, food chain construction, water quality transparency treatment, gutter inlet strengthening, water purification equipment and integrated pumping station construction.



The Longhu Wetland ecological protection and comprehensive treatment project in Huaiyang district, Zhoukou





05

*Our  
People*

**Propelling the company growth  
through talent attraction**

MCC embraces the philosophy of "development from the employees, for the employees, shared with the employees". Therefore, we emphasize talent development, consistently enhancing our team-building efforts by actively recruiting and nurturing top-quality, specialized talent. By optimizing our talent management strategy and improving talent incentive mechanisms, we aim to foster an environment where talent thrives. MCC strives to provide comprehensive security and welfare for every employee, fostering a culture where employees and the company grow together and where individual value is realized.



## Protecting the rights and interests of employees

MCC strictly abides by labor laws and regulations, including the *Labor Law of the People's Republic of China*, *Labor Contract Law of the People's Republic of China*, *Employment Promotion Law of the People's Republic of China*, *Law of the People's Republic of China on the Protection of Women's Rights and Interests*, and *Law of the People's Republic of China on the Protection of Disabled Persons*. The Company pursues equality and non-discrimination in employment practices and stands firmly against the use of forced and child labor.

### Protecting labor rights and interests

According to the principle of "pay-for-position and performance-based compensation", the Company has established a remuneration system which is equitable to employees and competitive with other peer companies, continuously enhancing employees' sense of happiness and achievement. MCC ensures full and timely payment of social insurance and housing provident fund for its employees, and standardizes the operation of the enterprise annuity plan. In 2023, the rate of labor contract signing with employees reached 100%. The Company complies with the *Regulations on Paid Annual Leave for Employees*, reasonably arranging employee vacations, thus maintaining harmonious and stable labor relations within the enterprise.

MCC attaches great importance to safeguarding the rights and interests of employees and advancing democratic communication. The Company has established and improved a democratic enterprise management system based on the employees' congress, continuously enhancing the awareness of employees managing their own affairs, building harmonious labor relations, and legally safeguarding employees' rights to be informed, participate, express, and supervise.

#### Employee headcount of MCC

Number of employees by gender  
(Unit: person)



Male 79,509  
Female 19,791

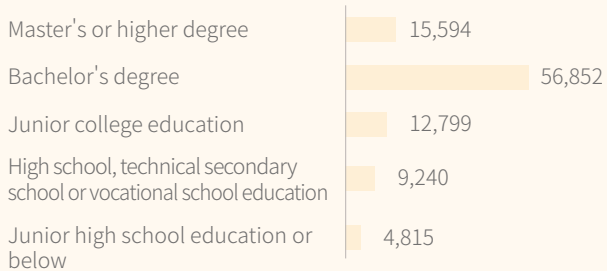
#### Employment (2023)

Number of employees by region  
(Unit: person)

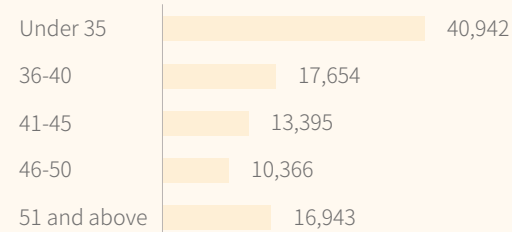


China (including Hong Kong, Macao and Taiwan) 87,812  
Overseas 11,488

Number of employees by educational background  
(Unit: person)



Number of employees by age  
(Unit: person)



### Talent attraction

MCC fully leverages its leading and exemplary role as a central enterprise, actively fulfills social responsibilities, facilitates talent recruitment channels, and contributes to stabilizing and ensuring employment. In 2023, the Company thoroughly implemented the decisions made by the CPC Central Committee and the State Council on maintaining stable employment, and responded to the call on providing over one million trainee positions sponsored by the ten authorities, including the Ministry of Human Resources and Social Security and the Ministry of Education, enabling young generations such as college graduates to gain practical job experiences and raise their employment competitiveness. As a central enterprise, MCC also participated in specialized recruitment events aimed at college graduates from Xizang, Qinghai, and Xinjiang to support the employment of graduates from these regions. We also organized our subsidiaries to hold 5 campus job fairs at Shenyang Jianzhu University, Wuhan University of Science and Technology, Sichuan University, Chongqing University, and Xi'an University of Architecture and Technology to provide opportunities for graduates, which received a warm welcome from both the universities and the graduates.

#### Campus job fairs

Shenyang Jianzhu University

Wuhan University of Science and Technology

Sichuan University

Chongqing University

Xi'an University of Architecture and Technology



#### Holding campus career talks and job fairs

On October 19, 2023, MCC held a campus career event at the Wuhan University of Science and Technology with representatives from over 20 subsidiaries. The event offered graduates a deeper insight into MCC's vision, business operations, and corporate culture, fostering stronger university-corporate exchanges and collaboration. It also laid a solid groundwork for onboarding new graduates.



Campus career talk at the Wuhan University of Science and Technology



## Enabling employee development

MCC regards human resources capacity as the core, focuses on optimizing the structure of the talent team, and emphasizes the introduction and cultivation of high-level and compound talents adapted to the Company's needs for reform, innovation, and development. The Company strives to strengthen the construction of the talent team, improve the talent incentive and constraint mechanisms, and realize continuous improvement of the talent structure. The continuous enhancement of talent quality provides a strong assurance for the Company to accelerate the goal of "One goal, Two best, Five strengths".

### Building the talent team

MCC vigorously cultivates and capitalizes on strategic scientific and technological talents. This year, we onboarded a new member from the Chinese Academy of Engineering, expanding the strength of our scientific and technological talent team. We conducted evaluations and appointments for chief experts across various specializations, perfecting our tiered system for scientific and technological talents. We have also significantly advanced the establishment of master's studio, with three additional national-level masters' studios approved, bringing our total to nine. These workshops play a crucial role in leading and exemplifying the impact of skilled talent. Built on high-level vocational skills competitions, we continued to engage in skill-based contests and job training for skilled talents, organized and participated in the second National Vocational

Skills Competition, and hosted the ninth Vocational Skills Competition, providing a platform for broadening horizons and showcasing talent. MCC conducts regular professional title evaluations, supports skilled talents in obtaining professional engineering titles, and further widens the career path for high-skilled talents. The Company carries out the work of vocational skill level certification and conducts evaluations for technicians to effectively promote the professional development of skilled talents. The headquarters have completed the establishment of a job position system. The system groups employees into management, profession, and other categories and develops a qualification system for each group of roles, exploring and promoting the position system in a wider range and greater depth.



Winners of the National Industry Vocational Skills Competition

### National-level skill masters' studios

At the end of 2023, the Ministry of Human Resources and Social Security and the Ministry of Finance announced the record list of newly-approved units for the national-level skill masters' studios, among which MCC's Wu Chunqiao Skill Master's Studio, Wu Gang Skill Master's Studio, and Wu Zhenkun Skill Master's Studio are on the list. At present, MCC has 9 national-level skill masters' studios, providing assurance for technical breakthroughs and innovation, the application of skill advances, and the cultivation of high-skilled talents.



Wu Chunqiao National-Level Skill Master's Studio

### Improving the training system

MCC launched a centralized large-scale education campaign for Party members and cadres within the system, with a focus on cadres at the section level and above. The Company held the second session of the Youth Cadre Training Program, helping young cadres to further strengthen their ideals and beliefs, enhance their sense of responsibility, accelerate their capacity reserves, and accumulate experience. MCC also organized the 2023 Project Manager Training Program to further strengthen the construction of project management talent teams and boost engineering project management levels. According to the production and operation needs of the Company and the personal needs of cadres and employees, MCC organized or participated in various training activities such as capability training for newly appointed grassroots managers, training for legal education, training for standard implementation of comprehensive management system, new employee pre-job training, and training for management capacity of team leaders, striving to achieve comprehensive and coordinated development for the Company and its employees. During the reporting period, the number of employees trained reached over 90,000; the number of man-times trained reached nearly 870,000; and the average training hours completed per employee reached 92 hours.

#### Holding the Youth Cadre Training Program

On May 22, 2023, the Company's Young Cadre Training Program officially commenced at the Party School of the CPC Central Committee (National Academy of Governance), with explicit demands set forth for the participants to enhance their theoretical competence, forge strong party spirit, and bolster their competencies and skills. Specifically, the Training Program emphasized that trainees should maintain a "high" political stance, taking practical measures in fully implementing the guiding principles of the 20th CPC National Congress, and achieving results in deepening the theme education comprehensively. Trainees should foster a "strong" growth mindset by intensifying strategic awareness, goal orientation, initiative, awareness of potential hardships, integrity, and people-oriented consciousness. The Training Program also emphasized the cultivation of ability and competence to be "practical", effectively enhancing seven abilities: political ability and other capabilities in terms of research and study, scientific decision-making, advancing in-depth reforms, emergency responses, engaging with the people, and implementing policies.



The Youth Cadre Training Program

#### Hosting the Project Manager Training Program

On October 26, 2023, the 2023 Project Manager Training Program of MCC Group commenced in Tianjin. The Program conducted an in-depth analysis of the internal and external environment faced by MCC Group's project management, identified current shortcomings, further emphasized the measures taken in the three-year action plan to enhance the basic management of production compliance system, and put forward requirements for the next step of work. The training emphasized the continuous implementation of the "Engineering Project Management Manual" by project managers to enhance the efficiency of production performance, stressing the need to strengthen business management, project cost management and control throughout the entire process, improve project profitability; and strengthen the synergy across the entire industrial chain to improve the management capabilities of EPC turnkey project.





## Caring for the well-being of employees

MCC cares for the lives of its employees, ensures their health and safety, encourages communication and interaction among employees, strives to build a friendly and harmonious working atmosphere, and enhances employees' sense of belonging.

### Protecting the occupational health

MCC attaches great importance to occupational health management, strictly implements relevant provisions of the *Law on the Prevention and Control of Occupational Diseases*, fulfills the main responsibility of occupational disease prevention and control by law, strengthens occupational disease prevention and control, popularizes knowledge on occupational disease prevention and control, and safeguards the health rights and interests of workers. In 2023, MCC established and improved the occupational health and safety management system and obtained ISO 45001 certification for occupational health management system.

MCC diligently organized special inspections on occupational hazards, identifying and eliminating potential occupational hazards. Moreover, aligning with the new development stage, implementing the new development concept, and focusing on "improving working environment and conditions, protecting the physical and mental health of workers", the Company conducted the 21st National publicity week of the *Law on the Prevention and Control of Occupational Diseases* to promote a culture of caring for and paying attention to the occupational health. In 2023, MCC did not identify any new cases or suspected cases of occupational diseases, or incidents of occupational health acute poisoning.

### Improving the well-being of employees

MCC holds the well-being of employees close to its heart, diligently tending to their needs. Our Trade Union stays intimately linked with our workforce, providing comfort to female employees on maternity leave, those grappling with severe illnesses, retirees, and those on the front lines. These acts bolster the Union's strength and cohesion, solidifying the team spirit and resilience among the employees. In 2023, MCC reached out with acts of kindness to 6,957 employees, distributing over RMB7.08 million in assistance.

MCC carries out its work in accordance with the regulations of the All-China Federation of Trade Unions, such as the *Regulations on the Work of Trade Union Women Workers' Committees* and the *Special Rules on the Labor Protection of Female Employees*, implementing policies and laws for the protection of female workers and assisting in the establishment and improvement of a system for the labor protection of female employees and facilities for female employee protection. On March 7, MCC held a legal lecture on "International Women's Day", with more than 3,000 female employees from the Company's headquarters and subsidiaries in attendance, aiming to enhance the ability of female workers to safeguard their legitimate rights and interests and to protect themselves.



In 2023

MCC reached out with acts of kindness to employees for



Legal lecture on "International Women's Day"

### Building corporate culture

Through a variety of corporate culture activities, MCC has enhanced its internal strengths, unleashed employee potential, strengthened corporate cohesion and force, and promoted healthy and sustainable development. In 2023, the Company conducted a Corporate Open Day Campaign themed "Entering the New State-Owned Enterprise: High-Quality Development of MCC". Through activities such as visiting the "Reflecting on the 20th CPC National Congress, Diligently Embarking on a New Journey" MCC Ten-Year Achievement Exhibition, and visiting engineering projects, participants experienced the "MCC Innovation", "MCC Science and Technology", "MCC Speed" and "MCC Quality", and were inspired to inherit the Red Spirit and invest in development.

#### Holding MCC Ten-Year Achievement Exhibition

MCC organized the "Reflecting on the 20th CPC National Congress, Diligently Embarking on a New Journey" MCC Ten-Year Achievement Exhibition, focusing on the Company's adherence to the path of high-technology, high-quality innovation and development since the 18th CPC National Congress. The exhibition featured five main thematic areas: high-quality development, building for the country, invigorating enterprises through science and technology, the Belt and Road Initiative, and strengthening the roots and forging the soul, with two special exhibition areas: one for promoting the spirit of the 20th CPC National Congress and the other for promoting and exhibiting MCC Art and Culture centered around "celebrating the 20th CPC National Congress". Employees and cadres of the Company observed the exhibition online or offline, continuously enhancing their systematic learning, expanding the depth and breadth of their knowledge, and rallying their patriotic efforts, and were inspired to embark on new journeys and make contributions to the new era with greater enthusiasm and vigor.



Staff visiting the MCC Ten-Year Achievement Exhibition

#### Holding the "Entering the New State-Owned Enterprise: High-Quality Development of MCC" activity

MCC organized the "Entering the New State-Owned Enterprise: High-Quality Development of MCC" event, elaborating on the Company's achievements in reform and opening up, the industrial landscape in the Xiong'an area, scientific and technological innovation, and lean management, and involving in-depth discussions with media groups. Showcasing a multi-faceted commitment to social and economic development and livelihood improvement, MCC focuses intensely on reform and development, transformation and upgrading, technological innovation, safety and environmental protection, quality branding, and caring responsibilities. This holistic and layered portrayal of our enterprise vividly demonstrates our steadfast dedication to our founding mission and our aspiration to be first-class, reflecting the true and comprehensive image of a leading state-owned central enterprise.



Scene of the launching ceremony



## Carrying out employee activities

MCC pursues a people-centric approach and fosters a "family culture" within the Company. We emphasize a good work-life balance for employees and provide employees with a conducive workplace and favorable compensations. The Company also organizes a variety of activities to promote the all-around development of employees and enhance the cohesion of all MCC employees.

MCC organized a range of cultural and sports activities under different themes, designed to dissolve any sense of distance and unfamiliarity among employees, invigorate cohesion, and foster an open and inclusive cultural atmosphere, ultimately delivering employee care with warmth and vigor.



Race Walking in the Olympic Forest Park



Blessings-Sending Activity



Cultural and Artistic Performance



Badminton Tournament for Enterprises in Beijing



The 5th Nezha Cultural and Sports Carnival



Badminton Friendship Match



Employee Sports Meeting



CACEM Basketball League



New Year's Eve Gala



New Year's Activities



# 情定缘百年·相伴在金秋

— 中国二十二冶集团青年员工集体婚礼



06

Our  
Society

Building a better life  
for those we care for

MCC diligently fulfills its role as a leader in national metallurgical construction, striving to safeguard and improve people's livelihoods through development, as seen in its endeavors in rural revitalization, emergency response and disaster relief, public welfare services, Belt and Road cooperation, and other causes. With its strong sense of political responsibility and historical mission, MCC has established a renowned image as a state-owned enterprise of a major country that lives up to its responsibility with compassion and contributes its share of input to social development. Committed to safeguarding the lives and property of the people and ensuring overall stability and security, MCC is dedicated to becoming a staunch protector of national security, social stability, and people's well-being.



## Rural revitalization

MCC has been resolutely implementing the strategic decisions of the CPC Central Committee on rural revitalization through assistance in consumption, industry, and engineering, injecting new impetus to the development of areas and people that have shaken off poverty. We made proactive arrangements for community-level poverty alleviation, assigning employees to serve as the Deputy Executive of Dejiang County Government, the Deputy Executive of Yanhe County Government, and the Village Secretary of Yanhe County, with a view to strengthening the internal drivers for poverty-stricken areas and the people lifted out of poverty.

### Consumption assistance

In terms of consumption assistance, MCC fully leveraged its corporate strength, and actively responded to national poverty alleviation policies. We provided to designated poverty-stricken counties of China Minmetals a total of RMB17.44 million in voluntary aid funds, and purchased agricultural products totaling RMB18.77 million from designated poverty-stricken counties and areas that have shaken off poverty, helping to drive up farmers' income and their sense of gain and happiness with concrete action.

RMB **17.44** million

Voluntary aid funds to designated poverty-stricken counties of China Minmetals totaling

RMB **18.77** million

Products purchased from poverty-stricken counties and areas that have shaken off poverty totaling

### Organizing consumption assistance activities

In 2023, WISDRI provided a total of RMB4.9 million in assistance funds to Zhenxiang County, Yunnan Province. Meanwhile, we paired benefits for our labor union with consumption assistance, and actively carried out consumption assistance action in spring and autumn, purchasing special agricultural products from Qilian County, Qinghai Province, and products on fupin832.com (a platform designed to support poverty relief) from poverty-stricken areas in Hubei Province, totaling RMB1.2 million. By supporting local businesses and their development, we contributed our share of input to rural revitalization.



Group photo at a consumption assistance purchase

### Industrial assistance

In terms of industrial assistance, MCC focused on rural characteristic industries, stepped up efforts in its assistance to designated areas, and boosted rural industrial upgrades, thus improving farmers' income and consolidating the fruitful results of poverty alleviation. By introducing advanced technologies and management experience, we help rural industries to achieve high quality development.

#### Industrial assistance demonstration park

In Yanhe Tujia Autonomous County, MCC successfully built a rural revitalization pilot demonstration park named after "Happy Peach and Pear", an embodiment of revitalization in industry, talents, culture, ecological environment, and organization. Boasting an area of 4.32 million square meters, the modern agriculture pilot demonstration park is based on peach and pear industry. Supported by modern technology, the park taps into local characteristics and culture and has made marked breakthroughs in rural leisure tourism, harvesting fruitful progress. The project drove the development of other sectors in 16 villages of the county, including the catering industry, agricultural product sales, and the accommodation industry, with collective income up by RMB450,000, directly creating more than 8,000 jobs, and leading 58 people that have shaken off poverty to an annual income increase of more than RMB10,000.



"Happy Peach and Pear" Agricultural Demonstration Park

### Engineering assistance

In terms of engineering assistance, MCC sets great store by building infrastructure for people's livelihoods to meet the people's needs and support local economic development. Meanwhile, we endeavored to improving rural living environment, building the communities into beautiful and harmonious places for people to live and work in, and providing enjoyable life and promising opportunities shared by both rural and urban residents.

#### Exploring new business forms in rural tourism

MCC was in the leading role in the rural revitalization project in the Shaolu Village in Motianling Demonstration Area, Wushan County, Chongqing Autonomous City. The project focuses on rural tourism development, improvement of public service facilities, infrastructure supporting, and comprehensive environmental management. We adhered to the fundamental principle of adapting to local conditions and promoting green development. By utilizing and circulating idle land, the project aims to support the sustainable development of rural tourism industry and create new business forms of rural tourism. This approach facilitates the integration of rural tourism and agriculture, promotes large-scale land management, consolidates the achievements of poverty alleviation, and helps local farmers improve their income and pursue prosperity in life, contributing to rural revitalization.



Rural revitalization project in Shaolu Village, Motianling Demonstration Area, Wushan County, Chongqing Autonomous City



## Fulfilling social responsibility

MCC stays committed to our original aspiration and has actively fulfilled our social responsibility, endeavoring to safeguarding the security of people's life and property and ensuring social stability. In 2023, MCC offered support to the best of its ability with quick response in emergency rescue and disaster relief, and made its share of contribution in assistance to medical service, education, poverty alleviation and other causes for public welfare. We made 27 actual donations, totaling RMB4.1477 million, improving people's well-being and social harmony and stability.

### Emergency rescue and disaster relief

MCC has always adhered to the philosophy of "putting people first and serving the society". Facing emergencies, we made good use of our professional strength in emergency rescue, upheld the principle of "taking people and their life as priority", and spared no effort in safeguarding the security of people's life and property.

#### Emergency repair and recovery of the wastewater treatment plant in Zhuozhou City

In August, 2023, Zhuozhou City, Hebei Province, experienced an unprecedentedly severe flood disaster. MCC immediately deployed comprehensive emergency repair and recovery efforts, mobilizing professional expertise and resources to rush overnight to aid Zhuozhou, ensuring safe water supply for local residents.

Facing extremely challenging construction conditions with no electricity, no accessible roads, and no communication, worsened by deep sludge reaching 400 millimeters, we leveraged our unique advantage of integrated industrial chain. Participating units from subsidiary companies assumed responsibilities and collaborated closely, working round the clock to expedite the post-disaster recovery of the wastewater treatment plant. Six command work groups were established to carry out the reconstruction work. In just two days, emergency assessment of 38 buildings in the plant area was completed. Within 36 hours, all road surfaces and 13 units of the plant buildings were cleared of sludge. It only took us ten-odd days to restore the operational functionality of the wastewater treatment plant, which would normally take four to six months. Making "the impossible" possible, the feat demonstrated our steadfast commitment to social responsibility and to safeguarding people's livelihoods.



A group of Party members were commissioning equipment



Emergency repair of the sewage pump

MCC has been enriching and developing the spirit of earthquake relief, specifically, "selfless devotion, solidarity in trying times, perseverance and resilience, and pressing forward with courage". We actively responded to the call for earthquake relief and post-disaster recovery, quickly set up rescue groups, fulfilling our due responsibility as a state-owned enterprise.

#### Earthquake relief in Gansu Province and Qinghai Province

On December 18, 2023, a 6.2-magnitude earthquake struck Jishishan County, Linxia Hui Autonomous Prefecture, Gansu Province, resulting in casualties and property losses in Gansu, Qinghai, and other affected areas. In response to the disaster, MCC swiftly answered the call for disaster relief, prioritizing people throughout the entire process of relief and rescue. We rushed to the front line of earthquake rescue to the best of our ability and engaged in post-disaster reconstruction in an orderly manner.

MCC placed on the top people's life and security, and their basic needs. We collected winterization supplies overnight such as insulated tents, stoves, and bedding, and promptly transported them to the affected areas to ensure that people there could get through the winter warmly. Additionally, we procured medical supplies, coordinated vehicles, and installed prefabricated houses at multiple relocation sites, building up warm "new homes" for the affected people with concrete efforts.



Moving disaster relief supplies

Leveraging its professional expertise, technical abilities, and talents, MCC organized six technical experts to assist the affected Minhe County, Qinghai Province. They conducted inspections and assessments of damaged rural houses, to ensure the well-being of local residents. Facing the risk of secondary disasters such as landslides and mudslides caused by aftershock, they brought up prompt emergency proposals including immediate demolition, reinforcement, or repairs based on the severity of structural damage, thus avoiding secondary harm to people's life and security. Through professional post-disaster assessments, they effectively ensured the safety of local residents, helped recover their normal life as soon as possible, and strengthened social cohesion.



Materials of prefabricated houses loaded for transport



## Community welfare

MCC actively responded to the advocacy of the Party and the government, carrying out various programs for public welfare. We care about important livelihood issues such as education, healthcare, and elderly care, and encourage our employees to participate in a variety of community services, translating our enthusiasm into tangible actions to solve problems for people. MCC is a staunch champion of the volunteer spirit of "dedication, good will, mutual assistance, and progress". We made a total of 15 voluntary donations, amounting to RMB2.5061 million, in multiple fields including science and education, healthcare, culture and sports, public facility, and assistance for public welfare.

15 Donations  
 Totaling  
**RMB2.5061**million



Volunteer activity themed "Learning from Lei Feng"



Convenience service in communities



Volunteer activity themed "Caring for sanitation workers"



Visit to the elderly



Voluntary blood donation

## Jointly building overseas communities

As one of the earliest state-owned enterprises that had been "going global", MCC actively fulfills its social responsibility overseas. With engineering projects as a foundation, we have provided the surrounding communities with livelihood support such as technical support, education and training, and financial assistance. These efforts, in practice, represent a significant part of the endeavors to deliver the Belt and Road Initiative and build a community with a shared future for humanity.

We prioritize livelihood improvement in local communities and provide useful skills, resources, and financial support to the local people, promoting shared development. MCC set great store by communication and cooperation with local governments, communities, and residents. We provided support to local residents by constructing power and water facilities, surrounding roads, schools, and hospitals, as well as donating medical and school supplies.

### Sponsoring local sports events in Papua New Guinea

In 2023, China MCC sponsored the Madang Province New Town Rugby Club, the Divine Word University Rugby Team, and the Madang Football Club in Papua New Guinea. Our cumulative donations to support local education and sports exceeded PGK 1 million, contributing to the development of local sports and social progress, with a positive impact on the health and development of youths in Madang.



Sponsoring rugby matches

### Raising donations for earthquake-affected areas in Afghanistan

On October 12, 2023, MCC started a fundraising campaign for the earthquake-affected areas in Herat Province, Afghanistan, donating AFN 2.27 million to the affected areas. Meanwhile, we actively mobilized all employees, both Chinese and Afghan, to donate to the affected areas, totaling AFN 130,000.



Donation raising activities



## Outlook for 2024

2024 is a critical year for the comprehensive implementation of the spirit of the 20th CPC National Congress, and also a year for the in-depth implementation of the 14th Five-Year Plan. In the face of complicated external environment, we will take Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as our guide, adhere to the general principle of seeking progress while maintaining stability, firmly assume responsibility, take the initiative to lay a solid foundation for China's development, be pioneering and innovative, forge ahead, effectively enhance the awareness of re-transformation and upgrading, and endeavor to blaze the trail of high-quality development featuring better quality, better benefits, higher efficiency and more sustainable development.

In 2024, MCC will firmly adhere to the goal of "One goal, Two best, Five strengths", consolidate and optimize the strategic path of "one core, two subjects, and five characteristics", and firmly adhere to the strategy of "focusing on development and management at the same time". We will insist on improving the quality of operation, further strengthening the core competitiveness of the Company, focusing on quality and stable growth, and actively contributing to the economic recovery and upturn. We will enhance our fundamental management capabilities, strengthen the 9 business systems, institutions, and people structure, fill the gaps in enterprise management, and implement the "strict" requirements of management for high-quality development, to lay a solid foundation for high-quality development of the Company. We will promote scientific and technological innovation, build a solid foundation for innovation, intensify the training of scientific and technological talents and high-end talents, refine the mechanism for scientific and technological research, optimize the patent strategy and advocate standardization to lead in scientific and technological innovation and drive the Company's high-quality development. We will adhere to the quality of excellence, make every effort to ensure the quality delivery of projects and improve core competitiveness to contribute to building a Quality China, build excellent brands, and become the benchmark in the industry for quality. We will promote green and low-carbon development, carry out green transformation, practice energy conservation and emission reduction and strengthen environmental protection to help build a Beautiful China, realize the carbon peaking and carbon neutrality goals, and transform the Company into a green and low-carbon pioneer. We will focus on talent development, develop a quality talent team, actively introduce and cultivate quality and professional talents, optimize the layout of talent structure and improve incentive mechanisms to create a good environment for the growth of talents, and provide sufficient talents for the steady growth of the Company. We will encourage a caring environment, promote mutually beneficial development, increase investment in rural revitalization and social responsibility, boost overseas charitable undertakings to become a leader in win-win development and fulfill our social responsibility as an SOE.

With great responsibility, it is even more important to intensify our efforts. We will forge ahead, scale higher, and work unswervingly towards the goal of "One goal, Two best, Five strengths", striving to realize sustainable and high-quality development of the Company and create greater value for the country, society, and shareholders.



## Key Performance Indicators

### Key Economic Indicators

Key indicator	Unit	2023
Operating revenue	RMB Billion	633.870
Total profits	RMB Billion	13.765
Total value of newly signed contracts	RMB Billion	1,424.779
Total value of newly signed metallurgical engineering contracts	RMB Billion	190.571
Engineering contracting operating revenue	RMB Billion	585.482
Resources development operating revenue	RMB Billion	6.816
Featured businesses operating revenue	RMB Billion	31.980
Comprehensive real estate business operating revenue	RMB Billion	16.519

### Key Environmental Indicators

#### Emissions and relevant statistics

Key indicator	Unit	2023
SO <sub>2</sub>	tonne	33,427.60
NO <sub>x</sub>	tonne	1,760.13
Hydrogen chloride	tonne	62.92
Dust	tonne	21.02
Fluoride	Kg	189.15

#### Greenhouse gas emissions

Key indicator	Unit	2023	
Direct (Scope 1) greenhouse gas	Emission	Ton CO <sub>2</sub> e	2,584,293.89
	Emission intensity	Ton CO <sub>2</sub> e per RMB 10,000 revenue	0.0408
Indirect (Scope 2) greenhouse gas	Emission	Ton CO <sub>2</sub> e	4,116,951.23
	Emission intensity	Ton CO <sub>2</sub> e per RMB 10,000 revenue	0.0649



## Hazardous waste production

Business sector	Key indicator	Unit	2023
Featured businesses	Waste oil	Ton	70.14
	Waste paint bucket	Ton	455.10
	Emulsion	Ton	45.23
Other industries	Ash in waste incineration	Ton	48,877.50
Resources development	Waste oil	Ton	85.70
Total amount of hazardous waste		Ton	49,533.68
Total intensity of hazardous waste		Ton per RMB 10,000 revenue	0.0008

## Non-hazardous waste production

Business sector	Key indicator	Unit	2023
Engineering contracting	Waste concrete	Ton	2,571,096.70
	Waste steel	Ton	387,606.03
	Waste bamboo and wood	Ton	187,325.47
Featured businesses	Leftover material	Ton	40,711.99
	Bottom ash from waste incineration	Ton	384,500.63
	Sludge from waste water treatment	Ton	390,568.75
Resources development	Earth-rock stripping	Ton	29,064,967.20
Total amount of non-hazardous waste		Ton	33,026,776.78
Total intensity of non-hazardous waste		Ton per RMB 10,000 revenue	0.5210

## Non-hazardous waste recycled

Business sector	Key indicator	Unit	2023
Engineering contracting	Waste concrete	Ton	1,037,700.16
	Waste steel	Ton	166,613.85
	Waste bamboo and wood	Ton	100,210.68
Featured businesses	Leftover material	Ton	32,732.91
	Bottom ash from waste incineration	Ton	384,500.63

## Non-hazardous waste recycling rate

Business sector	Key indicator	Unit	2023
Engineering contracting	Waste concrete	/	40.36%
	Waste steel	/	42.99%
	Waste bamboo and wood	/	53.50%
Featured businesses	Leftover material	/	80.40%
	Bottom ash from waste incineration	/	100%

## Other waste

Business sector	Key indicator	Unit	2023
Resources development	Slags (tailings)	Ton	5,920,689.00
	Deep-sea landfill tailings	Ton	4,011,337.60

## Energy consumption

	Key indicator	Unit	2023
Direct energy	Heavy oil	MWh	1,431,791.08
	Gasoline	MWh	2,744,108.00
	Diesel	MWh	5,241,543.35
	Natural gas	MWh	354,285.00
	Total consumption	MWh	9,771,727.42
	Total intensity	MWh per RMB 10,000 revenue	0.1542
Indirect energy	Electricity	MWh	7,615,332.65
	Heating power	MWh	289,515.02
	Total consumption	MWh	7,904,847.67
	Total intensity	MWh per RMB 10,000 revenue	0.1247



**Resources consumption**

Business sector	Key indicator	Unit	2023
Engineering contracting	Concrete	Ton	170,735,788.95
	Building blocks	m <sup>3</sup>	28,934,475.91
	Steel	Ton	21,944,724.27
	Timber formwork	m <sup>3</sup>	11,725,482.69
Featured businesses	Steel	Ton	1,000,182.11
	Flocculant	Ton	8,370.39
	Silicon powder	Ton	2,403.03
	Antalkali	Ton	33,504.28

**Water management**

Key indicator	Unit	2023
Freshwater	m <sup>3</sup>	83,724,155.30
Recycled water	m <sup>3</sup>	254,277,552.77
Emissions of COD	Ton	0
Emissions of ammonia nitrogen	Ton	0
Fresh water consumption intensity	m <sup>3</sup> per RMB 10,000 revenue	1.3208

 **Key Social Indicators**

**Technological innovation**

Key indicator	Unit	2023
Number of national-level science and technology R&D platform	/	28
Number of national engineering technology research center	/	5
Number of accumulative valid patents	/	51,200
Number of Metallurgical Science and Technology Awards	/	18

**Employment**

Key indicator	Unit	2023	
Number of on-the-job employees	person	99,300	
Number of on-the-job employees by gender	Male	person	79,509
	Female	person	19,791
Number of on-the-job employees by employment type	Full-time	person	99,300
	Part-time	person	0
Number of on-the-job employees by age	Under 35	person	40,942
	At the age of 36-40	person	17,654
	At the age of 41-45	person	13,395
	At the age of 46-50	person	10,366
	At the age of 51 or above	person	16,943
Number of on-the-job employees by educational background	Master's or higher degree	person	15,594
	Bachelor's degree	person	56,852
	Junior college education	person	12,799
	High school, secondary school or vocational school education	person	9,240
Number of on-the-job employees by region	Junior high school education or below	person	4,815
	China (including Hong Kong, Macao and Taiwan)	person	87,812
	Overseas	person	11,488

Key indicator	2023	Unit	
Total employee turnover	person	3,480	
Employee turnover rate by gender	Male	/	3.79%
	Female	/	2.35%
Employee turnover rate by age	Under 35	/	6.15%
	At the age of 36-40	/	2.82%
	At the age of 41-45	/	1.88%
	At the age of 46-50	/	1.06%
	At the age of 51 or above	/	0.61%
Employee turnover rate by region	China (including Hong Kong, Macao and Taiwan)	/	2.39%
	Overseas	/	12.00%
Labor contracting rate	/	100%	



**Health and safety**

Key indicator	Unit	2023	2022	2021
Number of work-related fatalities	person	0	0	0
Rate of work-related fatalities	/	0	0	0

Key indicator	Unit	2023
Coverage of occupational health file	/	100%
Lost days due to work-related fatalities	Day	0
Number of projects that have been inspected on safety	/	4,712
Number of subsidiaries that have been inspected on safety	/	32
Number of articles about work safety published in magazines	/	795
Number of new occupational patients	person	0
Number of improved emergency rescue plan	/	13,001
Investments in emergency rescue	RMB 10,000	7,771
Number of emergency rescue drills conducted	/	11,044
Number of man-times in emergency rescue	man-time	321,892
Safe, civilized and standardized construction sites	/	527

**Development and training**

Key indicator	2023	Unit
Number of employees trained	person	91,418
The percentage of trained employees by gender	Male	79.84%
	Female	20.16%
The percentage of trained employees by employee category	Management personnel	43.43%
	Professional and technical personnel	46.25%
	Skilled personnel	10.32%
Number of man-times trained	man-time	869,587
The average training hours completed per employee	hour	92.02
The average training hours completed per employee by gender	Male	94.27
	Female	83.03
The average training hours completed per employee by employee category	Management personnel	92.99
	Professional and technical personnel	96.37
	Skilled personnel	68.47

**Supply chain management**

Key indicator	Unit	2023
Total number of suppliers	/	366,257
Total number of suppliers (domestic)	/	365,222
Number of suppliers by geographical region	East China	113,800
	South China	29,565
	Central China	55,571
	North China	68,719
	Northwest China	16,516
	Southwest China	60,589
	Northeast China	20,399
	Hong Kong, Macao and Taiwan	63
Total number of suppliers (overseas)	/	1,035

**Product responsibility**

Key indicator	Unit	2023
Customer satisfaction rate	/	88.10%
Number of major customer complaints	/	0
Complaint handling closure rate	/	100%

**Anti-corruption**

Key indicator	Unit	2023
Number of corruption lawsuits concluded by MCC or its employees	/	0

**Community investment**

Key indicator	Unit	2023
Total amount of external donations	RMB10,000	414.77
Investment in consumption assistance	RMB10,000	1,877



# Report Index

## HKEX - Environmental, Social and Governance Reporting Guide Index

### Environmental

General Disclosure & KPI	Indicator Description	Chapter References	
<b>Aspect A1: Emissions</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous wastes.	Building green engineering projects	
KPI	A1.1	Types of emissions and respective emissions data.	Key Performance Indicators – Key Environmental Indicators
	A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Key Performance Indicators – Key Environmental Indicators
	A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Key Performance Indicators – Key Environmental Indicators
	A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Key Performance Indicators – Key Environmental Indicators
	A1.5	Description of emissions target(s) set and actions taken to achieve them.	Building green engineering projects
	A1.6	Description of how hazardous and non-hazardous wastes are handled, and description of reduction target(s) set and actions taken to achieve them.	Building green engineering projects
<b>Aspect A2: Use of Resources</b>			
General Disclosure	Policies on the efficient use of resources including energy, water and other raw materials.	Building green engineering projects	
KPI	A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Key Performance Indicators -Key Environmental Indicators
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Key Performance Indicators -Key Environmental Indicators
	A2.3	Description of energy use efficiency target(s) set and actions taken to achieve them.	Strict environmental management
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and actions taken to achieve them.	Key Performance Indicators -Key Environmental Indicators
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not applicable
<b>Aspect A3: The Environmental and Natural Resources</b>			
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	Building green engineering projects	
KPI	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Building green engineering projects
<b>Aspect A4: Climate Change</b>			
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Strict environmental management	
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.	Strict environmental management

### Social

General Disclosure & KPI	Indicator Description	Chapter References	
<b>Aspect B1: Employment</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Protecting the rights and interests of employees	
KPI	B1.1	Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	Key Performance Indicators- Key Social Indicators
	B1.2	Employee turnover rate by gender, age group and geographical region.	Key Performance Indicators- Key Social Indicators
<b>Aspect B2: Health and Safety</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Caring for the well-being of employees	
KPI	B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Key Performance Indicators- Key Social Indicators
	B2.2	Lost days due to work injury.	Key Performance Indicators - Key Social Indicators
	B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Caring for the well-being of employees
<b>Aspect B3: Development and Training</b>			
General Disclosure	Policies on improving employees' knowledge and skills for performing their duties at work. Description of training activities.	Enabling employee development	
KPI	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Key Performance Indicators- Key Social Indicators
	B3.2	The average training hours completed per employee by gender and employee category.	Key Performance Indicators- Key Social Indicators
<b>Aspect B4: Labour Standards</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Protecting the rights and interests of employees	
KPI	B4.1	Description of measures to review employment practices to avoid child and forced labour.	Protecting the rights and interests of employees
	B4.2	Description of measures taken to eliminate such practices when discovered.	Protecting the rights and interests of employees
<b>Aspect B5: Supply Chain Management</b>			
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Win-win industrial cooperation	



## SSE - Guidelines of SSE for Environmental Information Disclosure of Listed Companies Index

General Disclosure & KPI		Indicator Description	Chapter References
KPI	B5.1	Number of suppliers by geographical region.	Key Performance Indicators- Key Social Indicators
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Win-win industrial cooperation
	B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Win-win industrial cooperation
	B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Win-win industrial cooperation
<b>Aspect B6: Product Responsibility</b>			
General Disclosure		Information on: (a)the policies; and (b)compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Win-win industrial cooperation
KPI	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not applicable
	B6.2	Number of products and service related complaints received and how they are dealt with.	Key Performance Indicators- Key Social Indicators
	B6.3	Description of practices relating to observing and protecting intellectual property rights.	Improving the innovation system
	B6.4	Description of quality assurance process and recall procedures.	Strictly controlling engineering quality
	B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Win-win industrial cooperation
<b>Aspect B7: Anti-corruption</b>			
General Disclosure		Information on: (a)the policies; and (b)compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Strengthening risk prevention and control
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.	Key Performance Indicators- Key Social Indicators
	B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Strengthening risk prevention and control
	B7.3	Description of anti-corruption training provided to directors and staff.	Strengthening risk prevention and control
<b>Aspect B8: Community Investment</b>			
General Disclosure		Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Fulfilling social responsibility
KPI	B8.1	Focus areas of investment (e.g. education, environmental concerns, labour needs, health, culture, sport).	Fulfilling social responsibility
	B8.2	Resources (e.g. money or time) invested in focus areas	Key Performance Indicators- Key Social Indicators

Disclosure Requirements	Chapter References
1.Company environmental protection policy, annual environmental protection objectives and results	Strict environmental management
2.Total annual resource consumption of the company	Key Performance Indicators
3.Environmental protection investment and development of environmental technology	Promoting green metallurgy; Developing green industry
4.The type, quantity, concentration and destination of the company's emissions	Key Performance Indicators -Key Environmental Indicators
5.Construction and operation of environmental protection facilities of the company	Promoting green metallurgy
6.Company's waste treatment and disposal in the production process, waste products recycle and comprehensive utilization	Developing green industry
7.Voluntary agreements signed with the environmental protection authorities on the on environmental protection actions	Strict environmental management
8.Rewards granted by environmental protection authorities to the Company	About MCC
9.Other environmental information voluntarily disclosed by the Company	Strict environmental management; Promoting green metallurgy; Building green engineering projects; Developing green industry



# Feedback Form

Dear readers:

Thank you for reading this report.

This is MCC's 15th Social Responsibility and ESG Report. To continuously improve our corporate social responsibility information disclosure, better communicate with stakeholders, and more effectively promote social responsibility management and practice, we sincerely look forward to your feedback.

1.What is your overall evaluation of MCC' s performance on social responsibility

Very good     Good     Fair     Poor

2.What is your overall evaluation on this report?

Very good     Good     Fair     Poor

3.What do you think of MCC's performance on stakeholder communication?

Very good     Good     Fair     Poor

4.How do you think MCC is fulfilling its corporate responsibility?

Very good     Good     Fair     Poor

5.Do you think the content arrangement and layout design of this report are easy to read?

Very good     Good     Fair     Poor

6. What are your comments and suggestions for MCC to fulfill its social responsibility and this report?

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