



2019 China Minmetals Sustainability Report

2019 Sustainability Report



China Minmetals

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You may also read the PDF version of the Report in Chinese and English as well as the dynamic information related to CSR activities of the Corporation under the tag of "Social Responsibility" on the homepage of the CMC official website.

Official website: <http://csr.minmetals.com.cn/>



Environmental considerations for the publication of the report

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About This Report

Reporting Period

This report covers the period from January 1 to December 31, 2019, and some parts may concern significant years in the development of the Corporation.

Reporting Cycle

The Corporation publishes the sustainability report annually and this report is the 13th sustainable development report since 2007.

Reporting Scope

This report covers the information related to the headquarters and subsidiaries of China Minmetals Corporation. In view of the different businesses of subsidiaries, there will be slight differences in the boundary and range of specific topics and explanations will be provided in corresponding paragraphs of this report.

References

For readability, China Minmetals Corporation is referred to as "China Minmetals", "the Corporation", "the Company" and "we".

Preparation Basis

The report is prepared in compliance with the requirements of *Guidelines to the Central State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities* released by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), and in accordance with the *GRI Sustainability Reporting Standards* (GRI Standards) issued by the Global Sustainability Standards Board (GSSB). It also refers to the international standard *Guidance on Social Responsibility (ISO 26000:2010)*, Chinese national standard *GB/T 36000-2015 Guidance on Social Responsibility*, the Ten Principles of the United Nations Global Compact, and *Guidelines for Social Responsibility in Outbound Mining Investments* issued by China Chamber of Commerce of Metals, Minerals & Chemical Importers & Exports.

Data Sources

All data contained herein are from the Corporation's official documents, statistics reports and financial statements as well as its sustainability practice information collected by the sustainability information management system of the Corporation and reviews by the functional divisions and subsidiaries.

Report Availability

This report is available in both Chinese and English. Please contact us for a hard copy. You may also view the PDF version of this report in Chinese and English as well as the dynamic information related to CSR activities of the Corporation under "Social Contribution" on the homepage of the China Minmetals' official website.

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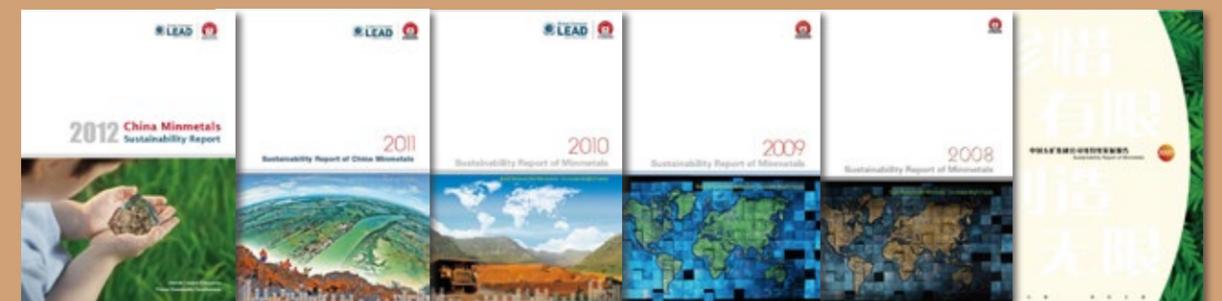
Website: <http://www.minmetals.com.cn>

Statement

Centering on the sustainability philosophy of "cherishing limited resources and pursuing sustainable development", the 2019 China Minmetals Sustainability Report is to convey the message to the public that we are committed to creating the greatest value for stakeholders, and to make known what we have been done and achieved to build a valuable, innovative, safe, green, happy, win-win and harmonious image. Stakeholders are the most important resources for the Corporation's sustainable development. We adhere to the main theme of "cherishing stakeholders and making every effort to create unlimited value for them", and strive to disclose to the stakeholders the information about our CSR practices and performance as much as possible in an accurate, truthful and objective manner. By doing so, we hope to achieve the most effective communication with our stakeholders on an equal, comprehensive and in-depth basis, to enhance mutual trust and cooperation with them for common progress.

A third-party assurance engagement on this report has been performed by TUV NORD. The statement of assurance is attached hereto as an appendix.

China Minmetals Corporation
June 2020



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Message from the Chairman



Chairman and Party Group Secretary of
China Minmetals Corporation

Tang Fuping

The year 2020 marks the last year for winning the first centenary goal of securing a decisive victory in completing the building of a moderately prosperous society in all respects. Now the battle trumpet has sounded, we, as required by President Xi Jinping, should work as one in spite of challenges and difficulties to bolster areas of weakness, consolidate the foundation for corporate development, constantly enhance our competitiveness, and accelerate the building of a world-class metal mining group, thus contributing more to the realization of the two centenary goals and the Chinese Dream of national rejuvenation.

The 2019 China Minmetals Sustainability Report has been officially released. The report shows our efforts in such aspects as corporate development, technological innovation, safety management, and common growth with employees throughout the year of 2019. We expect that this report will serve as a magnifying lens for all walks of life to look more closely at China Minmetals and a major channel for all stakeholders to communicate with us.

The year 2019 was a fruitful year of China Minmetals and marked the 70th anniversary of the founding of the People's Republic of China. When celebrating the brilliant achievements made by China over the past 70 years, all members of China Minmetals at home and abroad thoroughly implemented the guiding principles of the 19th CPC National Congress and followed the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and fulfilled the requirements and decisions of the CPC Central Committee and the State Council. We also adhered to "Four Consciousness" (political integrity, thinking in terms of the big picture, following the leadership core, and keeping in alignment with the central Party leadership), "Four Confidences" (full confidence in the path, theory, system, and culture of socialism with Chinese characteristics), and "Two Maintenances" (resolutely maintaining the core status of General Secretary Xi Jinping in the CPC Central Committee and the Party, and resolutely maintaining the authority and unified leadership of the CPC Central Committee). Therefore, we achieved the best-ever business performance since the strategic restructuring. Our foundation of development was consolidated, the quality of development was improved, and the confidence in development was enhanced.

In the past year, we handled various complicated situations with composure, improved our overall competitiveness steadily, and made fruitful efforts in stabilizing growth, promoting reform, and adjusting structure. We saw significant improvements in operation quality, business indicators, and asset quality. With the constant optimization of management mechanisms, we actively responded to the call for deepening the reform of state-owned enterprises (SOE), pushed forward a series of reforms such as "double-hundred enterprises" and mixed-ownership reform in a balanced manner, and implemented the contractual management thoroughly, so as to constantly boost enterprise vitality. By further highlighting main responsibilities and main businesses and optimizing the industrial structure, we made constant efforts in enhancing the acquisition of mineral resources and the innovation of metallurgical techniques, and improving the production and operation quality of mines and the market position

of metallurgical construction contractors. In 2019, we thoroughly applied the general requirements on Party building in the new era, earnestly implemented the responsibility system for Party building, and continuously improved the quality of Party building. We also took steps to forestall and defuse major risks in a more aggressive manner, supported targeted poverty alleviation in a more accurate manner, prevented and controlled pollution in a more intensive manner, and devoted to building a benefit-sharing platform for employees in a more heart-warming manner.

Through sustained efforts made in recent years, China Minmetals has realized a robust and promising development trend. With concerted and vigorous efforts of all members of China Minmetals, we are striding forward to the stated objectives. The greatest achievements come from the hardest work. We always hold the correct political stance, commit ourselves to the "Two Maintenances" (safeguarding Xi's status as the core of the CPC Central Committee and the whole Party, as well as the authority and centralized, unified leadership of the CPC Central Committee), and unswervingly adhere to the path of high-quality development, the strategic direction of main responsibilities and main businesses, and the market-oriented reform, all of which are successful practices of China Minmetals for high-quality development and also significant guidelines to be followed by China Minmetals for a long time to come.

The year 2020 marks the last year for winning the first centenary goal of securing a decisive victory in completing the building of a moderately prosperous society in all respects. Now the battle trumpet has sounded, we, as required by President Xi Jinping, should work as one in spite of challenges and difficulties to bolster areas of weakness, consolidate the foundation for corporate development, constantly enhance our competitiveness, and accelerate the building of a world-class metal mining group, thus contributing more to the realization of the two centenary goals and the Chinese Dream of national rejuvenation.



Message from the President



General Manager and Deputy Party Group Secretary of
China Minmetals Corporation, Chairman of China
Metallurgical Group Corporation

Guo Wenqing

The year 2019 marked great endeavors, leapfrog development, and excellent performance of China Minmetals on the journey towards the goal of “two doublings in three steps”. In the face of complicated and challenging situations at home and abroad, we followed the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implemented the decisions and plans of the CPC Central Committee, and vigorously promoted the spirit of “never delaying, never slacking”. Moreover, we have always focused on the main idea of high-quality development, and tackled challenges and made progress with firm faith and great passion, which helped us achieve sustainable growth in production and operation for four consecutive years and score the best-ever business performance since the strategic restructuring.

The year 2019 marked great endeavors, leapfrog development, and excellent performance of China Minmetals on the journey towards the goal of “two doublings in three steps”. In the face of complicated and challenging situations at home and abroad, we followed the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implemented the decisions and plans of the CPC Central Committee, and vigorously promoted the spirit of “never delaying, never slacking”. Moreover, we have always focused on the main idea of high-quality development, and tackled challenges and made progress with firm faith and great passion, which helped us achieve sustainable growth in production and operation for four consecutive years and score the best-ever business performance since the strategic restructuring.

In 2019, China Minmetals’ revenue exceeded RMB 600 billion for the first time, and we achieved year-on-year growth of 13.3% in total profits, with the business performance indicators hitting a record high and the asset quality indicators reaching the best-ever level. Over the past year, we have always attached great importance to the main responsibilities and main businesses of the metal mining industry, and achieved a stable and rising operation quality of mines. Thanks to the sustainable and strong growth momentum of metallurgy engineering projects, we have undertaken quite a few strategic projects related to the transformation and upgrading of the steel industry, played an active part in the Belt and Road Initiative, and promoted capacity cooperation among international communities. We have promoted the transformation of traditional trade business models, and increased the annual volume of merchandise trade by 10.2% year on year. By steadily developing diversified financial and real estate businesses, we realized sustained improvements in economic returns and brand effects. We adhere to an innovation-driven development strategy and have built a quality-oriented system featuring the replacement of old growth drivers with new ones. By strengthening risk prevention and control, continuing to streamline the organizational structure, and taking serious measures to improve basic management, we have managed to consolidate the foundation for further development. Besides, we have enhanced risk prevention and control in the fields of work safety and environmental protection with the ever-increasing investment and the constantly-improved system. We have fostered new business lines and new growth drivers by applying advanced technologies of new energy materials, and dominated the market of high-end positive materials in China.

2019 also marked the fourth year after the strategic restructuring of the former China Minmetals and China Metallurgical Group Corporation (MCC Group). Over the past four years, we have always followed President Xi Jinping’s instructions on the development path for state-owned enterprises, and faithfully shouldered the glorious mission of guarding and serving the country as a metal mining enterprise. Taking the unique advantages of complementary restructuring as the driver for business integration and focusing on system unification, management alignment, business integration, and cultural fusion, we have constantly strengthened the business structure of “four beams and eight columns” and achieved performance outcomes beyond the expectation. The hardworking and diligent employees of China Minmetals have joined hands to build up confidence for forging ahead and shape the future for better development.

We have embarked on a new journey in the new era. 2020 is the last year to secure a decisive victory in building a moderately prosperous society in all respects at a high level and to accomplish the goals of the 13th Five-year Plan, as well as the crucial year to lay a solid foundation for making a good start of the 14th Five-year Plan. It is an arduous mission and a heavy responsibility for China Minmetals to achieve success in all work. We will continue to uphold the great banner of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, insist on seeking progress while maintaining stability and high-quality development, and fulfill the target of “two doublings in three steps”. We will make every effort to build a world-class metal mining group with supports from all sectors of the community, thus contributing more to the decisive victory of building a moderately prosperous society in all respects and the realization of the Chinese Dream of national rejuvenation.

國文清

About Us

Company Profile

China Minmetals Corporation (China Minmetals), headquartered in Beijing, was established as the result of a strategic restructuring of two Fortune Global 500 companies – the former China Minmetals and China Metallurgical Group Corporation (MCC Group). China Minmetals, an important state-owned backbone enterprise with metals and minerals as its core business, is directly managed by the central government. It is a pilot enterprise for state-owned capital investment companies. In 2019, it ranked 112th among the Fortune Global 500 companies.

China Minmetals strives to play the role of a state-owned capital investment enterprise in the field of metals and minerals and to become a world-class powerhouse in the metals and minerals industry. By the end of 2019, the Corporation had managed RMB 2.16 trillion of assets, including RMB 929.5 billion in total assets. Overseas organizations, resource projects, and construction projects are located in more than 60 countries and regions across the world. China Minmetals was rated as Grade-A enterprise in 2018 performance appraisal, Grade-A enterprise in 2016-2018 tenure performance appraisal and outstanding contribution enterprise in scientific and technological innovation by SASAC.



By the end of 2019

The Corporation had managed RMB

2.16

trillion of assets

Including RMB

929.5

billion in total assets

Overseas organizations, resource projects, and construction projects are located in more than

60

countries and regions across the world

China Minmetals has eight listed companies

Publically listed on the Shanghai Stock Exchange and the Hong Kong Stock Exchange

» MCC (601618.SH, 1618.HK)

Publically listed on the Shanghai Stock Exchange

» Minmetals Capital (600390.SH)
 Minmetals Rare Earth (000831.SZ)
 Minmetals Development (600058.SH)
 China Tungsten Hightech (000657.SZ)
 Zhuzhou Smelter Group (600961.SH)

Publically listed on the Hong Kong Stock Exchange

» Minmetals Resources (1208.HK)
 Minmetals Land (0230.HK)

Strategic vision

To be the world-class powerhouse in the metals and minerals industry

Strategic positioning

A main force to ensure the security of resources
 A national team to upgrade the metallurgical industry
 An integrated service provider in the industry

Mission

To ensure the security of resources supply for the nation
 Innovation-driven transform and upgrade the industries

Core values

Cherishing limited resources and pursuing sustainable development

Corporate spirit

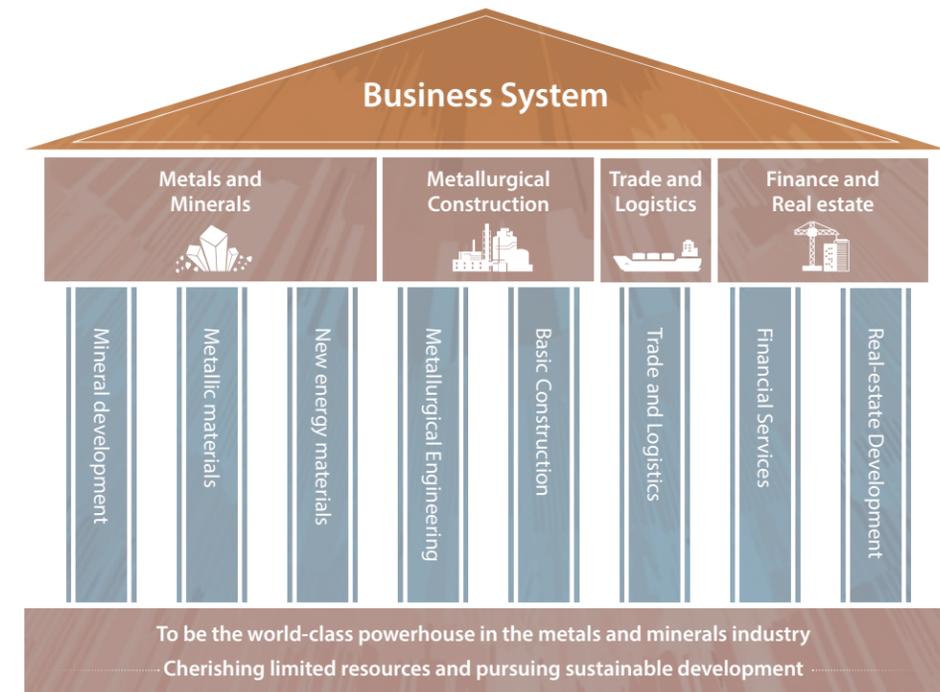
Never delaying
 Never slacking



Organizational Structure



Business System



The field of metals and minerals

We possess rich reserves of metals and minerals. Overseas mines are located in Asia, Oceania, South America, and Africa, etc. We own a number of world-class mines such as Las Bambas Copper Mine, Dugald River Zinc Mine, and Papua New Guinea Ramu Nickel and Cobalt Mine. The output of copper, zinc, tungsten, antimony, and bismuth are among the top list in the world.

The field of trade and logistics

We have a global network for trade flows, with global purchasing, global marketing, and the flowing scale of metallic and mineral products leading domestically.

The field of finance and real estate

We have a number of financing licenses, with significant advantages in trust, leasing, securities, futures, finance companies, and funds. China Minmetals is one of the SASAC's first batch of 16 central state-owned enterprises with real estate as their main business. Minmetals Land and MCC Real Estate under China Minmetals enjoy high popularity.

The field of metallurgical construction

We, as the pioneers and main forces of China's steel industry, have world-class metallurgical construction enterprises, which have successively undertaken the planning, investigation, design, and construction projects of major production facilities of large and medium-sized domestic steel enterprises. Since the beginning of the new century, we have undertaken major domestic iron and steel design and construction projects such as Zhanjiang Iron and Steel Industry Base of Bao Steel, Project for Industrial Upgrading of HBIS Hegang and Production Capacity Transfer of Xuangang in Tangshan, and project of Guangxi Fangchenggang iron and steel base. Relying on our strong technological advantages, we have entered the international market and undertaken the design and construction of main large and medium-sized greenfield steel projects in the world in recent years, such as the Formosa Ha Tinh Steel project in Vietnam, Malaysia's Kuantan united steel project, India's TATA steel project, and ArcelorMittal's project in Ukraine. We have developed core technical advantages, design and construction capabilities throughout all links to make great strides towards the goal of building the world's No. 1 national team of metallurgical construction.

Relying on the advantages of high-tech construction developed in the field of metallurgical construction for many years, we have accomplished the overall development and construction of several new urban areas. Thus, we are a well-known domestic expert in all-round solutions to urban construction. We also have accumulated significant advantages in six major business areas, such as underground utility tunnels, sponge cities, and special-theme engineering.

Corporate Governance

In 2019, China Minmetals held:

28

Party Group meetings, deliberating over and listening to the reporting of 193 issues

14

Board Meetings, deliberating over and listening to the reporting of 44 issues

32

President's meetings, deliberating over and listening to the reporting of 227 issues

China Minmetals continuously improves the management of the organizational control and decision-making system, optimizes decision and control list and strengthens corporate governance. By building a streamlined and efficient organizational management structure, we strive to establish a modern, market-oriented, and scientific governance system for state-owned capital investment companies, thus guaranteeing the fulfillment of our responsibility for investors. We actively respond to the requirements of the SASAC on the construction of online supervision system for state-owned assets and SOEs, and promote the implementation of the "three major and one greatness" decision-making and operation supervision system of the Corporation to meet the requirements of state-owned assets supervision.

At the invitation of the Central Organization Department, Tang Fuping, as a representative of six central SOEs with good corporate governance, participated in the forum on "Integration of the Leadership of the Party into Corporate Governance" symposium.

Strengthening organization construction

By comprehensively sorting out the current situations of boards of directors and supervisors of subsidiaries the Corporation, China Minmetals formed the *Plan for Understanding the Current Situations of Boards of Directors and Supervisors of Enterprises Directly Affiliated to China Minmetals and Recommendations for Further Improvements* to provide suggestions for members of boards of directors and supervisors to implement different categories of adjustments.

China Minmetals formulated the *Recommendations on the Member Selection and Appointment Workflow of the Boards of Directors and Supervisors* to further clarify procedures for selecting and appointing members for the boards of directors and supervisors.

Based on the actual situation of the leadership team, we actively adjusted and replenished members of the boards of supervisors of subsidiaries of China Minmetals.

First-class enterprises are inseparable from first-class Party building, which leads the development of the enterprises. Therefore, China Minmetals thoroughly studies and applies Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and continuously enhances the "Four Consciousness (maintaining political integrity, thinking in terms of the big picture, following the leadership core, and keeping in alignment with the central Party leadership)"; fortifies the "Four Confidences (full confidence in the path, theory, system, and culture of socialism with Chinese characteristics)", and ensures the "Two Maintenances" (resolutely maintaining the core status of General Secretary Xi Jinping in the CPC Central Committee and the Party, and resolutely maintaining the authority and unified leadership of the CPC Central Committee), so as to steer the Corporation forward on the right course.

We earnestly implement the system of responsibility for Party building, and have established the closed-loop Party building mode from the responsibility implementation to the evaluation and assessment to the feedback and improvement, which has stimulated internal impetus to consolidate Party building and enabled the Corporation to realize the synchronized progress in Party building and business development.

"Adhering to the Party leadership over state-owned enterprises and establishing a modern enterprise system"

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Xi Jinping, General Secretary of the CPC Central Committee, has stressed that we must adhere to the Party leadership over state-owned enterprises and establish a modern enterprise system.

We adhere to the Party leadership over state-owned enterprises and establishing a modern enterprise system. By integrating the enhancement of the Party leadership with corporate governance, China Minmetals has been promoting the development of a modern state-owned enterprise system with Chinese characteristics and the transformation to a state-owned capital investment company. Moreover, we cooperated with the Organization Department of the CPC Central Committee in completing the inspection of the Corporation's practices in adhering to the Party leadership over state-owned enterprises and establishing a modern enterprise system. We have compiled the *Problems and Solutions Concerning the Party Leadership Over State-owned Enterprises and the Establishment of a Modern Enterprise System* and submitted it to the authority, which has been well-received.



The case of Minmetals Luzhong Mining Co., Ltd. selected in the textbook on Party organization by the Organization Department of the CPC Central Committee

Efforts made by the Party committee of the Public Service Department of Minmetals Luzhong Mining Co., Ltd. to enhance the awareness of public security, social etiquette, mutual assistance and healthy lifestyle in local communities stood out from more than 1,300 cases of 96 central SOEs, and was listed into the *Selected Cases of Secretaries in Primary Party Organizations (SOE Version)*.



Themed Education

China Minmetals regards "remaining true to the Party's original aspiration and keeping our mission firmly in mind" as an everlasting theme in strengthening Party building, and a permanent theme in the development of Party members. The Corporation has moved to ensure that the relevant education and learning activities are carried out on a regular and institutionalized basis. We keep pressing ahead with the campaign themed "remaining true to the Party's original aspiration and keeping our mission firmly in mind" by earnestly launching extensive learning activities, discussions and investigations with a clear focus on the key topics of the Party's organizational work, which have enabled all Party members to gain a deeper understanding through learning, to master the knowledge through discussions, and to consolidate the knowledge through investigations. In addition, the Corporation has launched themed classes online to further expand training channels and enhance the overall theoretical understanding and raise all Party members' political quality.

Inspection and Rectification

The Corporation regards the response to discipline inspections carried out by the CPC Central Committee and the demanded rectification as a major political task. Therefore, we have combined inspection and rectification with the Corporation's themed education, daily supervision, and our efforts to deepen reforms. With a more proactive attitude, we have put in place a more effective rectification mechanism that has integrated discipline inspection, inspection on ecological and environmental protection and our themed education. At the same time, we pay close attention to the implementation of rectification measures to ensure that we can transform the results of rectification into progress in corporate governance, thereby promoting the Corporation's high-quality development.

Consolidating the "Three Basics"

China Minmetals has taken serious measures to enhance basic management, basic team building, and basic skills of Party members by strengthening teams and primary Party organizations according to the Party's organizational line for the new era. We have made great efforts to develop the basic human resources management system centering around the four dimensions, selected four groups of young Party officials, and launched the "Waving Party Flag, Sparkling Party Emblem" campaign at the primary Party organizations to promote Party building and the Corporation's core business. In 2019, through the intelligent Party building platform, we significantly improved the use of information technology in Party building.

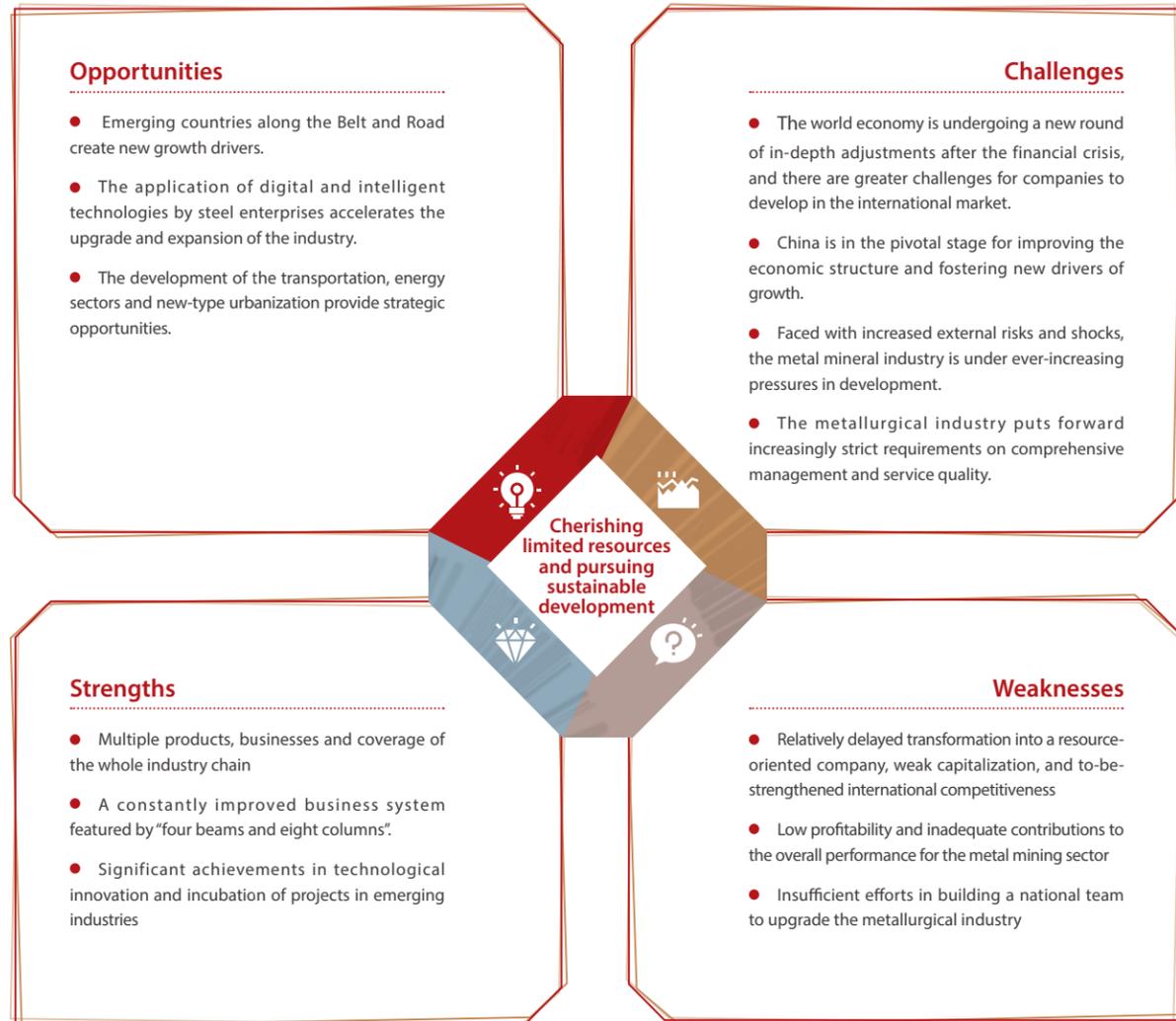
Anti-corruption and Integrity

China Minmetals works earnestly to improve Party conduct and enforce Party discipline with intensified anti-corruption efforts. By setting up the team responsible for the establishment of the compliance system, and developing the compliance liaison officer mechanism, the Corporation has promoted anti-corruption and integrity in an all-round manner, and has further improved the coordinated organizational system for compliance management.



- Earnestly improving the Party's style of work, and taking firm action to eliminate formalism, bureaucratism, hedonism, and extravagance;
- Intensifying efforts to identify potential corruption risks in key areas and processes, as well as investigate and deal with disciplinary violations and corruption cases to resolutely cut off the chain of interests;
- Establishing a working mechanism that facilitates coordination in disciplinary inspections at different levels to make sure that all Party organizations can truly supervise their own conduct and enforce strict discipline;
- Developing mechanisms and systems for preventing and controlling corruption risks at overseas organizations to ensure the safety of state-owned assets;
- Analyzing typical corruption cases for warning and education purposes.

Sustainability Context



Our Action

Adhering to the general principle of "pursuing progress while ensuring stability", China Minmetals thoroughly implements the new development concepts, sticks to high-quality development, and enhances the Corporation's competitiveness in an all-around manner. Focusing on the two core business sectors, metals & mining and metallurgical construction, China Minmetals keeps deepening high-quality development. We have promoted the reform of state-owned capital investment companies, enhanced the comprehensive performance of the Corporation, and further improved the "Minmetals Model", which shaped the core competitiveness of China Minmetals. By accelerating the improvement of our independent innovation capabilities and cultivating a batch of enterprises with leading technologies, we aim to empower the Corporation in international competitions with stronger competitiveness in the high-end markets, and make unremitting efforts to achieve the goal of "two doublings in three steps" and accelerate the construction of a world-class metal mineral enterprise.

Sustainability Management

New Sustainability Model

China Minmetals, as a member of the UN Global Compact, actively engages in sustainable development at home and abroad. We have accelerated the integration of the 2030 Agenda for Sustainable Development and the diamond-shaped CSR model to create a sustainability model in the new era, and contribute to the realization of the UN Sustainable Development Goals.

About the Model

Implication • The diamond-shaped model epitomizes China Minmetals' relentless pursuit of sustainable development and firm commitment to creating the greatest possible integrated value for the economy, the society, and the environment.

Rationale • "Maximum integrated value for the economy, the society, and the environment = Maximum positive impact on stakeholders – Minimum negative impact on stakeholders"

Elements of the Model

Core values • Cherishing limited resources and pursuing sustainable development

Main resources • Natural resources, human resources and social resources

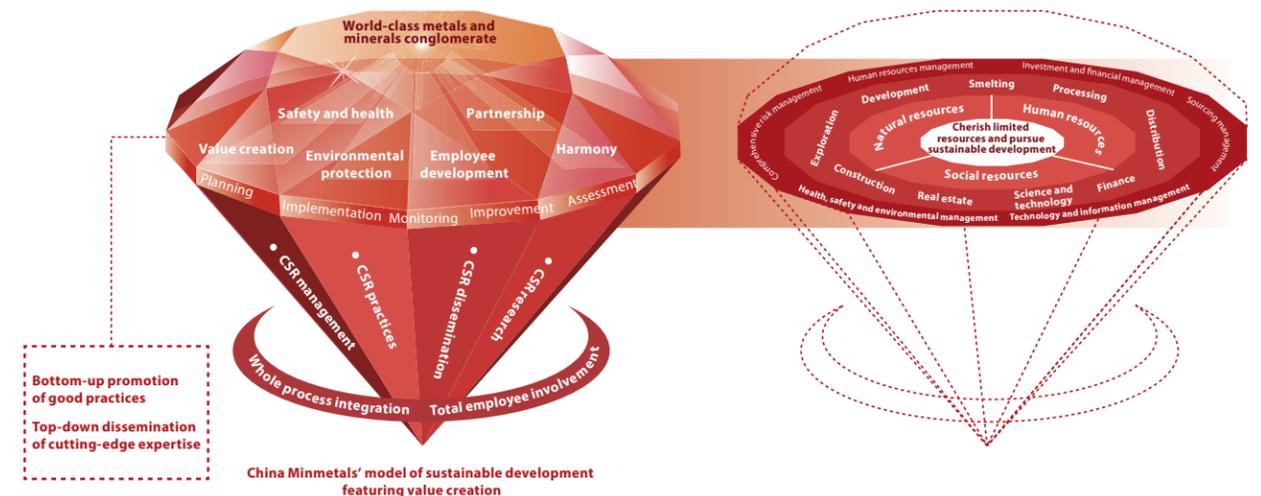
Means • Whole process integration and total employee involvement

Approaches • CSR management, CSR practices, CSR dissemination, CSR research

Process • Application to all areas of business and management

The Value Creation Formula of CMC

$$\text{Max Comprehensive Value} = \sum_{\text{Max}} \text{Positive Effect} - \sum_{\text{Min}} \text{Negative Effect}$$



CSR Communication

China Minmetals is committed to building an effective CSR communication mechanism to have an in-depth understanding and respond to the expectations and demands of stakeholders. In this way, we strive to promote all relevant parties to participate in the Company's decision-making and operation, ensure their right to know, supervise and participate, and achieve common development.



CSR Dissemination

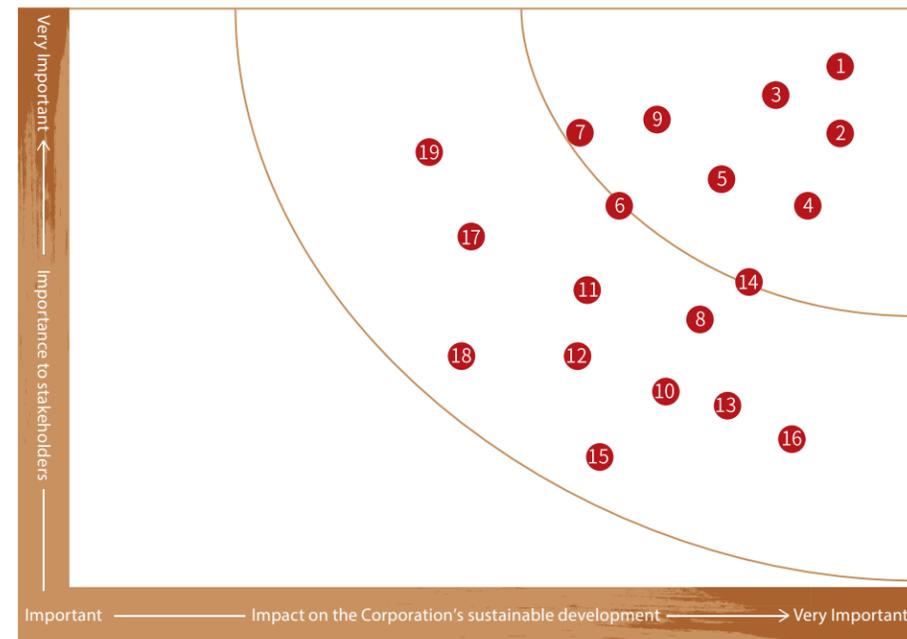
China Minmetals has established a sustainability reporting mechanism with 13 sustainability reports since 2008. On this basis, such qualified subsidiaries are encouraged to issue the independent reports, the overseas performance reports and the sustainability reports of major projects, forming a three-dimensional reporting model of parent company, subsidiaries and project-oriented reports.



In addition to the annual issuance of sustainability reports, the social responsibility column is set up on the Company's website to disclose information on the understanding of social responsibility of the top leadership, the management philosophy of the Company, our CSR organizations and stakeholders.

Analysis of Material Topics

- 1.Safe production
- 2.Technological Innovation
3. Sustainable Management
4. Performance Growth
5. Pollution Control
6. Project Quality
7. Poverty Alleviation
8. Customer Service
- 9.Energy Conservation and Emissions Reduction
10. Employee Health
11. Global Development
12. Win-win Partnership
- 13.Investor Communication
14. Resource Development and Utilization
15. Supply Chain Partnership
16. Career Development of Employees
17. Tax Payment According to Law
18. Protection of Employees' Rights and Interests
19. Biodiversity Protection



Stakeholder Engagement

Based on the Corporation's actual operation and business, we seek to new mode to enhance communication and interaction with stakeholders, proactively identify key CSR topics, respond to stakeholders' concerns, and keep improving our CSR performance to grow together with all stakeholders.

<p>SASAC & Shareholders</p> <table border="1"> <thead> <tr> <th>Expectations and requirements</th> <th>Communication response</th> </tr> </thead> <tbody> <tr> <td>Compliance operation</td> <td>Special report</td> </tr> <tr> <td>Satisfactory market capitalization</td> <td>Increase profitability</td> </tr> <tr> <td>Safe production</td> <td>Safety management</td> </tr> <tr> <td>Green development</td> <td>Energy conservation and emissions reduction</td> </tr> <tr> <td>Brand promotion</td> <td>Brand building</td> </tr> </tbody> </table>	Expectations and requirements	Communication response	Compliance operation	Special report	Satisfactory market capitalization	Increase profitability	Safe production	Safety management	Green development	Energy conservation and emissions reduction	Brand promotion	Brand building	<p>Local Governments</p> <table border="1"> <thead> <tr> <th>Expectations and requirements</th> <th>Communication response</th> </tr> </thead> <tbody> <tr> <td>Tax payment according to law</td> <td>Take the initiative to pay taxes</td> </tr> <tr> <td>Employment promotion</td> <td>Provide support and guidance</td> </tr> <tr> <td>Economic development</td> <td>Drive economic growth</td> </tr> </tbody> </table>	Expectations and requirements	Communication response	Tax payment according to law	Take the initiative to pay taxes	Employment promotion	Provide support and guidance	Economic development	Drive economic growth	<p>Customers</p> <table border="1"> <thead> <tr> <th>Expectations and requirements</th> <th>Communication response</th> </tr> </thead> <tbody> <tr> <td>Contractual obligations</td> <td>Carry out contracts</td> </tr> <tr> <td>High-quality products</td> <td>Improve product quality</td> </tr> <tr> <td>Quality service</td> <td>Increase service capacity</td> </tr> </tbody> </table>	Expectations and requirements	Communication response	Contractual obligations	Carry out contracts	High-quality products	Improve product quality	Quality service	Increase service capacity
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Benchmarking against the 2030 Agenda for Sustainable Development

Progress in implementing the 2030 Agenda

	<p>SDG1 End poverty in all its forms everywhere</p>	<p>We undertook assistance tasks in over 20 counties, including six fixed-point poverty alleviation counties. By earnestly implementing poverty alleviation-oriented assistance tasks, we were determined to lift all poor people out of poverty.</p>
	<p>SDG2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p>	<p>We created a model of poverty alleviation through the development of industries with China Minmetals' characteristics, launched a meeting for promoting poverty alleviation through the development of industries in Huayuan County, constructed rabbit breeding projects in Zhenxiang County, launched projects of Chinese bee breeding and the construction of supporting facilities for greenhouses in Yiliang County, launched pig breeding projects in Weixin County, started the cultivation of oranges and muskmelons in Yanhe County, and constructed the navel orange industrial park in Dejiang County.</p>
	<p>SDG3 Ensure healthy lives and promote well-being for all at all ages</p>	<p>We raised funds through the charity train of Wei Jicheng from Australia and China Population Welfare Foundation to purchase medical equipment for Zhenxiang County, and organized emergency response training, improved contingency plans, and carried out emergency response drills to enhance employees' safety early warning awareness and emergency response capabilities.</p>
	<p>SDG4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p>	<p>We gathered students from poor families, provided them with free training and regular subsidies, and recommended them to suitable positions. For overseas projects, we provide scholarships to assist students to get access to education.</p>
	<p>SDG5 Achieve gender equality and empower all women and girls</p>	<p>We abided by labor laws and regulations, respected human rights, upheld policies on equal and non-discriminatory employment, implemented democratic management, and organized various forms of recreational activities for female employees.</p>
	<p>SDG6 Ensure availability and sustainable management of water and sanitation for all</p>	<p>By promoting the governance of major businesses, we achieved ultra-low emissions and advanced the reduction of coal consumption by adopting cleaner alternatives. We strengthened wastewater treatment and reuse, further regulated the diversion of rainwater and sewage, and urged enterprises to investigate and manage soil pollution risks.</p>
	<p>SDG7 Ensure access to affordable, reliable, sustainable and modern energy for all</p>	<p>We formulated the <i>Implementation Plan for Building the Energy Saving And Environmental Protection Platform</i> to promote energy conservation management, and developed a batch of domestically and internationally leading technologies of energy conservation and environmental protection.</p>
	<p>SDG8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>	<p>We promoted the in-depth implementation of the strategy of developing enterprise by talent management, carried out training for officials, young employees, and secretaries of Party branches, as well as pre-job training for new employees to stimulate the vitality of talents. Relying on the high-quality business system featured by "four beams and eight columns", we guaranteed steady business growth for four consecutive years, fully playing our role as the stabilizer and ballast stone for the national economy.</p>

	<p>SDG9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation ecosystems, sustainably manage forests, combat desertification, and halt and reverse</p>	<p>We launched businesses related to smart cities, beautiful rural areas, utility tunnels, health and elderly care services, etc., and participated in the construction of high-end real estate projects, development of urban districts, construction of transportation facilities, and energy conservation and environmental protection projects.</p>
	<p>SDG10 Reduce inequality within and among countries</p>	<p>We adhered to responsible community building, and actively participated in community construction and shared development achievements with local communities by organizing the SOE Open Day campaign and planning various themed activities.</p>
	<p>SDG11 Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>We launched businesses related to smart cities, beautiful rural areas, utility tunnels, etc.</p>
	<p>SDG12 Ensure sustainable consumption and production patterns</p>	<p>By adjusting the production mode and the energy structure, making full use of independently developed new technologies of energy conservation and environmental protection, we achieved efficient recycling and reuse of resources and energy, and increased comprehensive benefits. We accelerated the research on green and intelligent technologies, as well as other core technologies, provided steel companies with the most advanced techniques and equipment, environmental protection technologies up to the most stringent requirements, and efficient engineering construction and operation services.</p>
	<p>SDG13 Take urgent action to combat climate change and its impacts</p>	<p>Adhering to green development, we continued to increase investments in environmental protection governance and upgrade environmental protection equipment, and solidly promoted energy conservation management. Besides, we updated the statistical monitoring and reporting system, and expanded and upgraded the energy saving and emission reduction data reporting information system.</p>
	<p>SDG14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p>	<p>As an explorer of seabed mining sites, China Minmetals hosted the Third International Seabed Authority Contractor Conference. We deeply participated in the Sixth Technology Forecast Survey, engaged in the strategic research and technological forecast for the 2021-2035 national medium-long term development plan for science and technology in the areas of national resources, environmental protection, new materials, marine development, and so on, and integrated in the national scientific and technological innovation system.</p>
	<p>SDG15 Protect, restore and promote sustainable use of terrestrial</p>	<p>By carrying out environmental protection and ecological restoration work in line with high standards, and attaching great significance to biodiversity conservation in the process of project construction and management, we safeguarded habitats and promoted the harmonious coexistence of man and nature.</p>
	<p>SDG16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</p>	<p>We carried out the democratic management system with the basic form of the workers' congress and the open system of factory affairs to further open up the channels of democratic management, supervision and decision-making of staff and workers, thus enhancing employees' sense of ownership.</p>
	<p>SDG17 Strengthen the means of implementation and revitalize the global partnership for sustainable development</p>	<p>We helped local suppliers establish sustainable business models, innovate in service models, enrich service content, promote the construction of global marketing networks, and enhance comprehensive customer service capabilities, and strengthened cooperation with various stakeholders, such as the government, financial institutions, enterprises, and partners.</p>

SPLENDID



YEARS OF DEVELOPMENT AND GREATER PROGRESS FOR A NEW ERA

2019 marks the 70th anniversary of the founding of the People's Republic of China. Over the past seven decades, China has started from scratch to grow into the world's second-largest economy, and is steadily moving towards the center of the international stage. As our country grows stronger, our people are becoming happier.

In the past 70 years, China Minmetals has fought through difficulties dauntlessly and made unremitting efforts. For 70 years, it is the hard work, great courage, and perseverance of the wise and diligent Chinese people who have cut ways through mountains and built bridges over waters that change "impossibilities" into possibilities. The Chinese people have created "Chinese miracles" one after another.

Cherishing Limited Resources, Undertaking Responsibilities and Missions

The history of national development is composed of the endeavors of countless individuals. The past splendid 70 years of PRC witnesses China Minmetals' contributions to the Chinese mining industry and the efforts of generations of members of China Minmetals.

In the course of gradually developing from a specialized importer and exporter of metal and mineral products that did not produce a single ton of metal and mineral products into one of China's largest and most internationalized metal and mineral corporations, China Minmetals has upheld the mission to "guarantee the supply of metal resources for the country", remaining true to the original aspiration and keeping the mission firmly in mind.

As one of the first SOEs established in China, China Minmetals was born in the first year following the founding of PRC and undertook the mission to fix the tattered nation. Struggle and responsibility have been the keywords that vividly depict the great efforts made by China Minmetals through various generations.



In 1951, Premier Zhou Enlai signed the Notice of Appointment

Contributing to Economic Recovery and Development

When PRC was just founded, the economic foundation was quite weak and everything waited to be fixed and improved. Under that circumstance, China National Minerals Company and China National Hardware & Electricals Import Company, the two predecessors of China Minmetals, came into being. We used to be a specialized importer and exporter of metal and mineral products, and shouldered the great responsibility of breaking through economic blockades, opening up trade channels, earning foreign exchange through exports, and importing materials in short supply for the country.

Through our great endeavors and groundbreaking work, China Minmetals guaranteed steady and sufficient imports of metal materials that China could not produce. Those materials helped restore the economy and lay a modern industrial foundation for PRC, played a significant role in supporting agricultural development and alleviating the shortage of market supplies, vigorously supported the restorative development of machinery, metallurgical, military, transportation, and many other industries in China, and contributed to the implementation of the 1st and 2nd Five-year Plans of China. China Minmetals was the importer of steel materials needed by Nanjing Yangtze River Bridge, Daqing Oilfield, and other groundbreaking projects.

Playing a Leading and Exploratory Role in the Reform and Opening-up

As the reform and opening-up swept through the whole country, China Minmetals began to make changes, and tried out the transformations towards diversified businesses and industry and trade integration. The Corporation also carried out pioneering and explorative practices widely, which laid the foundation and accumulated experiences for subsequent strategic development.

- In 1972, China Minmetals Import and Export Corporation, as the exclusive representative of China, joined the Negotiation on Cooperation of Sino-Japanese Steel Sectors with six steel manufacturers, including Nippon Steel of Japan, which was held for 22 consecutive years afterward. During the period, a total of 83 million tons of steel was imported from Japan, accounting for over half of the total steel imports of China. The negotiation greatly reduced the cost of imported steel and the steel price renegotiated each year became one of the important benchmark for world steel prices over the same period, which had great impacts on the Asian steel market.
- Since the 1980s, China Minmetals has begun to go global. We have successively opened branches and representative offices in more than 40 countries and regions around the world, and established a huge global trade network.
- In the 1980s, China Minmetals Import and Export Corporation began to set up representative offices overseas one after another.
- In 1984, the foundation of the Shangri-La Hotel, Beijing, controlled by China Minmetals Import and Export Corporation was laid, which was an important attempt of China Minmetals in the process of launching diversified businesses.



Setting Foot on the Path Towards Strategic Transformation and Development

Per capita consumption of metal minerals increases along with the rapid development of the national economy. Especially during the period of industrialization, per capita consumption of metal minerals may even see explosive growth. Under this circumstance, whether there are sufficient supplies of metal and mineral resources to guarantee the demand for economic development has become an important factor, and even a bottle-neck problem, affecting economic development. Therefore, economic prosperity drives rapid increases in mineral demand, and the development of the minerals industry supports steady economic growth.

The reform and opening-up has boosted the development of the Chinese economy, which has further increased the demand for metal minerals.

As China is poorly endowed with natural resources, there is an increasing dependence of China on imported resources. At present, more than 80% of China's copper, iron ore, lithium, and other major minerals rely on imports, and the figures for cobalt, nickel, chromium and other varieties even exceed 90%.

Since 2000, China Minmetals has earnestly implemented the mission of guaranteeing reliable supplies of metal mining, and launched the transformation to an industry group focusing on metal mining mainly by extending to resource sectors of the upstream of the supply chain. Through meticulous studies, China Minmetals has determined to pay more attention to metals in the shortest supply and of the highest quality in China.

On the one hand, China Minmetals integrates China's advantageous metal resources to promote the extension of the industry chain from the upstream resource sectors to deep processing, and further to the higher end of the value chain.

In 2002, aiming to solve critical problems in Jiangxi Province, such as disorderly exploitation of tungsten resources, exports at low prices, and the difficulty for related enterprises to make ends meet, China Minmetals took decisive action to integrate the development of tungsten resources, and gradually increased efforts to build a complete tungsten industry chain integrating tungsten mines, tungsten smelting, tungsten powder, hard alloy, and deep processing, promoting the extension of tungsten resources to the higher end of the value chain.

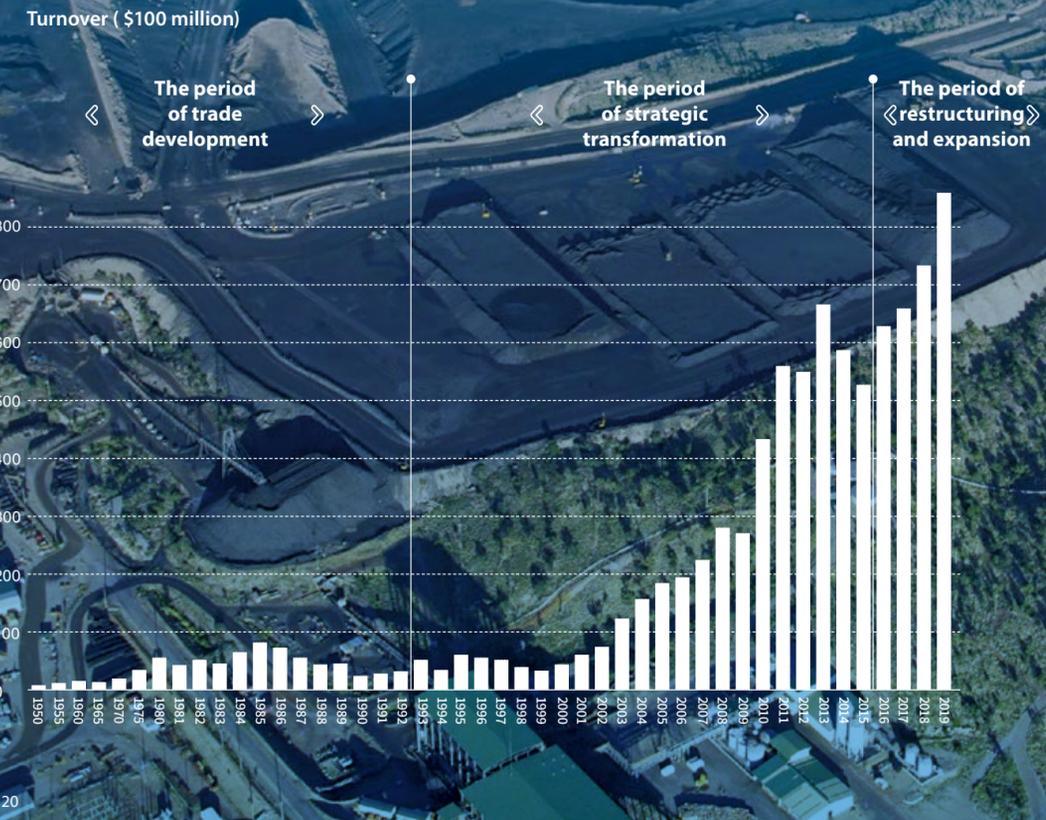


On the other hand, China Minmetals insists on “going global”, and gets access to strategic resources lacked in China through various approaches, such as fixing the prices of resources through long-term contracts, capacity investments, and 100-percent buyouts.

In 2009, China Minmetals acquired major assets of OZ Minerals Ltd., the world's No.2 zinc miner and Australia's No.3 mining company, and turned a profit in the same year. In 2014, China Minmetals acquired Las Bambas Copper Mine, which was then the largest copper mine around the world, and the acquisition became one of the largest Chinese investments in the overseas metal mining sectors. Since the copper mine was put into operation in 2016, it has produced as much as copper ore concentrates that contain a total amount of copper equivalent to 20% of the total copper output of copper ore concentrates in China in the same period, effectively alleviating the shortage of domestic copper resources.

By firmly following the guidance of and implementing related strategies, China Minmetals is gradually developing from a specialized importer and exporter of metal and mineral products that did not produce a single ton of metal and mineral products into one of China's largest and most internationalized metal and mineral corporations.

It has produced as much as copper ore concentrates that contain a total amount of copper equivalent to **20%** of the total copper output of copper ore concentrates in China in the same period.



Launching Strategic Restructuring and Setting a Good Example

After 2013, the global mining industry entered a period of the winter season and prices of major metal varieties dropped dramatically. At that time, China Minmetals became deeply aware of the necessity to open up new paths and create unique competitive advantages.

Deepening the Reform and Pursuing Innovation-driven Development

In September 2015, the CPC Central Committee and the State Council issued the *Guideline To Deepen Reforms of State-Owned Enterprises (SOEs)*, which noted that the supervision over state-owned assets should be improved during the SOEs reforms to ensure the security of assets. More state-owned assets should be focused on industries and key areas and infrastructure projects concerning national security, lifelines of the national economy, and people's well-being. Giving full play to the role of state-owned assets in investing in and operating companies, structural adjustments should be carried out to guarantee that some companies will be developed through innovation, others will be reorganized or merged, and still others will exit the market.



On December 8, 2015, with the approval of the State Council, China Metallurgical Group Corporation (MCC Group) implemented a strategic restructuring.

China Metallurgical Group Corporation (MCC Group) is also a central SOE with a glorious and long history of development. As a super conglomerate, MCC Group is the longest-running construction force in China's iron and steel industry, serving as the pioneer and main force in this field. From 1948, when it participated in the construction of Ansteel, the cradle of China's iron & steel industry, to the construction of WISCO, Baogang Group, TISCO, Pangang Group, and Baosteel, MCC Group has undertaken the planning, investigation, design and construction of major production facilities of nearly all large and medium iron and steel enterprises in China, and contributed to and witnessed the expansion and development of China's steel industry.

China Minmetals and MCC, a metal mining Fortune Global 500 company

and a metallurgical Fortune Global 500 company respectively, started the strategic restructuring to realize complementary advantages with their respective strengths in the metal mining and metallurgical industry.

Their restructuring contributed to the creation of the first metal mining industry chain covering all processes, including resource acquisition and exploration, design, construction, operation, circulation, and deep processing. Such an industry chain has become the two companies' unique advantage, enhancing both companies' competitiveness and say in the entire industry.

The restructuring helps create a brand-new and stable business system. Regarding metal mining, metallurgical construction, trade logistics, and finance and real estate as the “four beams”,

mineral development, metal materials, new energy materials, metallurgical engineering, infrastructure construction, trade logistics, financial services, and real estate development as the “eight columns”, China Minmetals creates relatively large wiggle room for effectively responding to the cyclical fluctuations of the metal mineral industry as well as sustainable and steady development of enterprises.

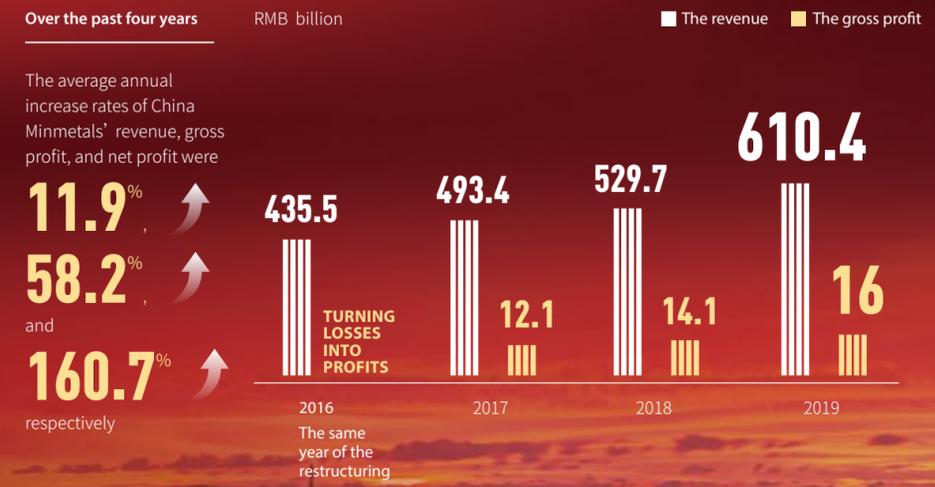
The restructuring has substantially increased the Corporation's overall R&D and operation capabilities, dramatically reduced operating costs of domestic mines, continuously strengthened the Corporation's capability to launch overseas operations independently, and incubated and strengthened strategic emerging industries.

Following Strategic Guidance, Pursuing Excellent Performance

Upholding the grand vision of “building of a world-class metal mining group” and following the guidance of the “two doublings in three steps” strategy, the restructured China Minmetals has shown greater vitality in corporate development.

Attaching greater significance to the Party leadership, we constantly strengthen the problem-oriented philosophy and consolidate the foundation of main businesses. We have innovatively created an internal collaborative market, comprehensively developed cooperation mechanisms, promoted business integration in an orderly manner, and focused on promoting cultural integration. All our excellent performances form the interpretation of the complementary advantages created by the restructuring.

As China Minmetals realizes new highs in performance indicators, the Corporation's operating indicators have been improving, total asset turnover rate and current asset turnover rate have increased year after year, and the asset-liability ratio has decreased year after year. Dividends created by the restructuring have been released continuously, which has promoted continuous improvements in the quality of corporate assets and development, and contributed to stable and sustainable development.



Drawing Lessons from the Past and Marching Towards a Bright Future

The year 2019 marked the fourth year after the strategic restructuring of the former China Minmetals and China Metallurgical Group Corporation (MCC Group). All the endeavors made over the past four years have been translated into the constantly emerging synergies brought by the restructuring. The Corporation has been creating new business achievements and new practical changes and showing a new corporate image to all sectors of the community and all staff members.

◎ Summarizing the Development Experience

Tang Fuping pointed out that

In recent years, China Minmetals has forged ahead along the path of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. The Corporation has shouldered the economic responsibility, political responsibility, and corporate social responsibility, realized a robust and promising development trend, and summarized a bunch of valuable experience:

The first is to pursue the correct political stance, commit ourselves to the "Two Maintenances" (safeguarding Xi's status as the core of the CPC Central Committee and the whole Party, as well as the authority and centralized, unified leadership of the CPC Central Committee);

The second is to unswervingly adhere to the path of high-quality development;

The third is to unswervingly focus on main responsibilities and main businesses;

The fourth is to firmly press ahead with the market-oriented reform.

All of these are successful practices of China Minmetals in high-quality development and significant guidelines to be followed by China Minmetals for a long time to come.

Guo Wenqing stressed that

Over the past several years following the restructuring, China Minmetals has systematically answered a range of strategic, overall, and fundamental questions: what to do, how to do, and who to do, and blazed the trail for development featuring rapid rise, positive transformation, and sustained growth. The trail is paved by the full compliance with General Secretary Xi Jinping's significant instructions, the full recognition of the goal of "two doublings in three steps", the profound understanding on the "complementary restructuring", and the vigorous promotion of the spirit of "never delaying, never slacking".

中国五矿集团公司成立60周年文艺晚会

◎ Defining the Development Direction



We ranked
112th
among the Fortune
Global 500*

We are now basking in the glory of yesterday. In 2019, we ranked 112th among the Fortune Global 500, supervised RMB 2.16 trillion of assets, made a presence in over 60 countries and regions through our overseas organizations, resource projects and engineering projects, and had eight listed companies. Where is China Minmetals heading to in the future?

Just the same as 70 years ago, the road for dream chasers is under their feet and in their grasp.

The year 2020 is the last year to secure a decisive victory in building a moderately prosperous society in all respects and to accomplish the goals of the 13th Five-year Plan, as well as the 70th anniversary of the founding of China Minmetals. As an old Chinese saying goes, though an ancient state, Zhou undertook the mission to realize self-renewal. China Minmetals, with core competitiveness redefined and exuberant vitality inspired, is striding forward under the guidance of a clearly-specified strategy.

We remain true to our original aspiration and keep our mission firmly in mind. In this sense, we, under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, will thoroughly implement the decisions and arrangements of the CPC Central Committee and the State Council, constantly enhance our competitiveness, and accelerate the building of a world-class metal mining group, thus making greater contributions to the attainment of the two centenary goals and the realization of the Chinese Dream of national rejuvenation.

This is the best answer China Minmetals can give.

SECURING A COMPLETE AND DECISIVE VICTORY IN THE BATTLE AGAINST POVERTY

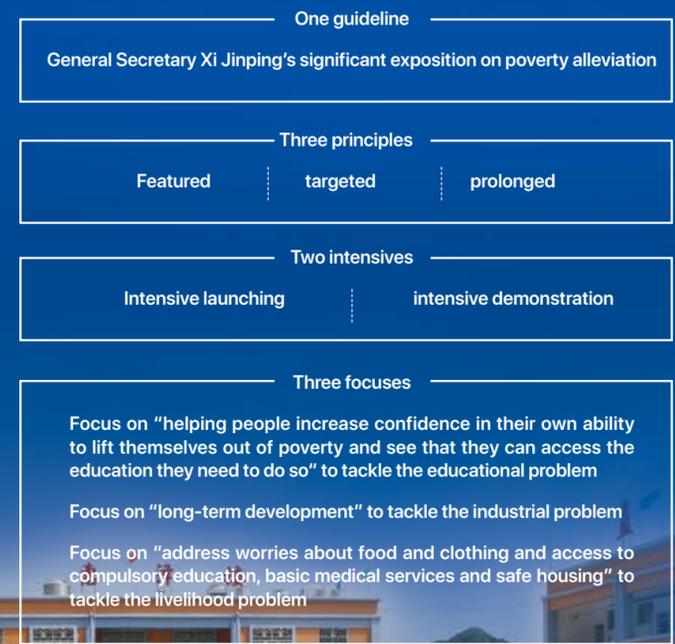
Lifting all rural residents living below the current poverty line out of poverty by 2020 is a solemn promise made by the CPC Central Committee, and it must be fulfilled on time. It is a tough battle that greater importance must be attached to in the final push.

— An excerpt from the speech delivered by General Secretary Xi Jinping at a symposium on securing a decisive victory in poverty alleviation

An Arduous Mission to Shake off Poverty

It takes more than one cold day for the river to freeze three feet deep, and only a little bit of warmth in the early spring could not melt the ice. Eliminating poverty, improving people's livelihood and gradually achieving common prosperity is the fundamental requirement of socialism, as well as a historical task and a solemn pledge of the Party. It is a matter of building a moderately prosperous society in all respects, attaining the two centenary goals, striving for the great success of socialism with Chinese characteristics for a new era, and realizing the Chinese Dream of national rejuvenation.

In 2019, China Minmetals took General Secretary Xi Jinping's significant remarks on poverty alleviation as the guideline, thoroughly implemented the decisions and arrangements of the CPC Central Committee and the State Council, and made all-out efforts to fulfill the responsibilities and accomplish the missions with a strong sense of responsibility and purpose. Besides, following the principles of "featured, targeted, prolonged", we devoted greater efforts in assistance to poverty alleviation, and built a poverty alleviation model with characteristics of China Minmetals. Moreover, we spared no effort in helping the areas under partner assistance improve production, living conditions and people's livelihood, and made positive contributions to winning the battle against poverty.



China Minmetals has actively responded to the call of the CPC Central Committee and the State Council, overcome the difficulties, such as a large number of aid recipients, heavy tasks of poverty alleviation, and poor conditions of infrastructure facilities, and strove for serving as the major force of poverty alleviation, successfully helping seven counties under the partner assistance program win the battle against poverty.



China Minmetals has undertaken the task of helping **7** counties under the paired-up assistance program shake off poverty



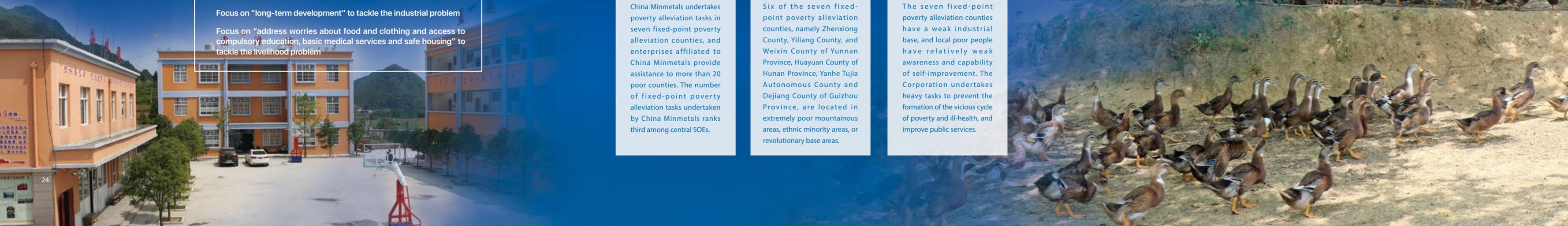
China Minmetals undertakes poverty alleviation tasks in seven fixed-point poverty alleviation counties, and enterprises affiliated to China Minmetals provide assistance to more than 20 poor counties. The number of fixed-point poverty alleviation tasks undertaken by China Minmetals ranks third among central SOEs.

Six of the seven fixed-point poverty alleviation counties, namely Zhenxiang County, Yiliang County, and Weixin County of Yunnan Province, Huayuan County of Hunan Province, Yanhe Tujia Autonomous County and Dejiang County of Guizhou Province, are located in extremely poor mountainous areas, ethnic minority areas, or revolutionary base areas.

The seven fixed-point poverty alleviation counties have a weak industrial base, and local poor people have relatively weak awareness and capability of self-improvement. The Corporation undertakes heavy tasks to prevent the formation of the vicious cycle of poverty and ill-health, and improve public services.

Fixed-point Poverty Alleviation Performance of China Minmetals

	Number of poor people left			Poverty headcount ratio(%)			Time of the exit from poverty
	2017	2018	2019	2017	2018	2019	
Zhenxiang County Wumeng Mountainous Area	303,013	238,264	122,276	22.9	18	9.26	By the end of 2020
Yiliang County Wumeng Mountainous Area	35,804	22,778	2,227	26.42	16.54	1.58	By the end of 2019
Weixin County Wumeng Mountainous Area	35,960	5,058	48	9.1	1.57	0.015	By the end of 2018
Huayuan County Revolutionary Base area	8,991	3,484	428	11.4	4.5	0.55	By the end of 2019
Yanhe County Wuling Mountain Area	70,347	45,232	20,239	11.47	7.38	3.3	By the end of 2020
Dejiang County Wuling Mountain Area	52,238	26,834	6,237	11.24	5.77	1.34	By the end of 2019



Creating a Solid Mechanism for Poverty Alleviation Through Sound Top-Level Design

In the face of arduous tasks, China Minmetals thoroughly studies the guiding principles from General Secretary Xi Jinping's major addresses on poverty alleviation, and under the unified leadership of the Corporation's Party Group, we strengthen the overall planning and implementation of responsibility, remaining true to the Party's founding mission and seeking happiness for the Chinese people.



Unified leadership of the Corporation's Party Group

The Corporation's leading group of poverty alleviation has been established, with Tang Fuping, Chairman and Party Group Secretary of China Minmetals Corporation, serving as the head, Guo Wenqing, President and Deputy Party Group Secretary of China Minmetals Corporation, and Dong Mingjun, Deputy Party Group Secretary and a board director of China Minmetals Corporation, taking deputy roles in the group.

In 2019, the Party Committee of China Minmetals held two special meetings on studying the guiding principles and statements from General Secretary Xi Jinping's major addresses on poverty alleviation, and conducted three briefings on

the reporting of poverty alleviation efforts. In addition, the President's office meeting held three briefings on poverty alleviation.

In 2019, Tang Fuping inspected and conducted field research in Huayuan County, Guo Wenqing inspected and conducted research in Yiliang County, and Dong Mingjun conducted research in 6 counties.

From May 30 to 31, 2019, China Minmetals held the company-wide meeting and training sessions on poverty alleviation. Tang Fuping attended the meeting, where he talked with officials serving temporary positions and put forward new tasks.

Partner assistance provided by the Corporation's subsidiaries

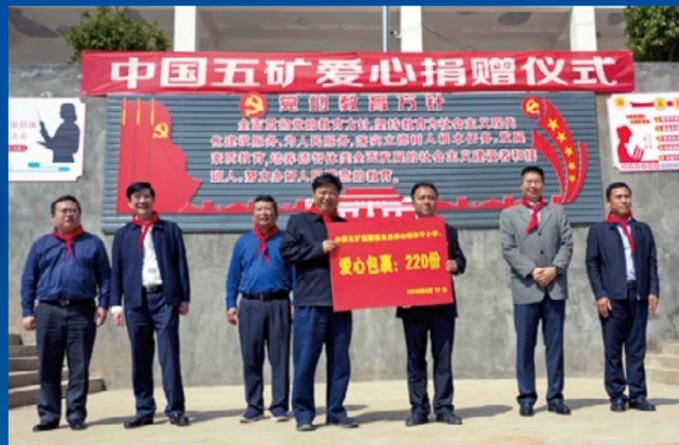
Seventeen subsidiaries of China Minmetals have been partnered with a range of fixed-point poverty alleviation counties, as the Corporation mobilizing its internal resources to give stronger support to those areas in combating poverty. Each subsidiary has established its own research teams who conducted field research in poverty-stricken counties which they were partnered with, and cooperated with local governments in reducing poverty by providing financial services, by promoting the development of the mining industry, and by boosting consumption.

High-caliber officials serving temporary positions in poverty-stricken areas

China Minmetals always deploys the most responsible and professional officials to the front line of poverty alleviation. As of the end of 2019, the Corporation sent 11 officials serving temporary positions to poverty alleviation counties, including one director-level cadre, six deputy county heads, and four first secretaries stationed in local villages. We have stepped up our efforts to fight against poverty in areas of extreme poverty, and to all counties of extreme poverty, we have dispatched deputy county heads and first secretaries, and completed the rotation of appointed officials in a timely manner. The officials and the poor people have put forth united efforts in seeking development, attraction projects, overcoming difficulties, and creating a good life, with their high confidence in the final victory and high morale. Their efforts have won the trust and unanimous praise of the local officials and the masses.



Tang Fuping pays a visit to the Industrial Poverty Alleviation Base in Huayuan County, Hunan Province



Guo Wenqing attends a donation ceremony held at the aided primary school in Yiliang County, Yunnan Province



Featured, Targeted, Prolonged Targeted Poverty Alleviation

In 2019, China Minmetals implemented major decisions of the CPC Central Committee. Under the leadership of the Corporation's Party Group and upholding the three principles of "featured, targeted, prolonged", China Minmetals invested RMB 50.093 million in six fixed-point poverty alleviation counties, a year-on-year increase of 42.3%.



We launched

19

projects to alleviate poverty through industry development

5

programs for "addressing worries about food and clothing and access to compulsory education, basic medical services and safe housing"

3

projects for alleviating poverty through education improvement

Through concerted efforts of the Corporation and other social forces

we introduced RMB

5.948

million of assistance funds

To promote poverty alleviation through consumption

we purchased RMB

13.306

million of agricultural products from the six fixed-point poverty alleviation counties

we helped them promote sales of RMB

2.569

million of agricultural products

Giving full play to the strong suit of corporate leaders and government officials taking temporary positions in the Corporation, we organized various professional training sessions

which covered

496

grassroots officials

915

technical staff in total



China Minmetals helped Zhenxiang County raise RMB 5.024 million through the charity train of Wei Jicheng from Australia to purchase hearing aids and learning devices for deaf and mute children in Zhenxiang County. In addition, we raised RMB 400,000 through the China Population Welfare Foundation to purchase medical equipment for Zhenxiang County, realizing synergies for promoting public welfare.



By fully integrating and mobilizing resources, China Minmetals has made solid progress in organizing targeted training programs, which are pragmatic and effective. According to the characteristics of projects on poverty alleviation through industry development that are aided by the Corporation, we carry out practical training on epidemic prevention and control, breeding, planting, and so on. Centering on innovative assistance methods, such as the export of labor services, our construction skills training was highly praised. With the support of government officials undertaking temporary positions in China Minmetals, we carried out training on e-commerce, trade negotiations, financial literacy, and so on.

◎ **Creating and disseminating mature models for alleviating poverty through industry development**

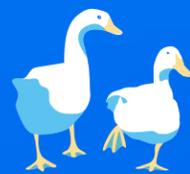
In 2019, China Minmetals spent more than 75% of raised funds on alleviating poverty through industry development, and based on the natural resource endowment in poor areas, we developed various projects with distinct local characteristics, which have begun to show effects. In Huayuan County, China Minmetals, through joint efforts with local governments and rural cooperatives, has developed a mature model with clear requirements on ownerships for alleviating poverty through industry development in the field of large-scale breeding of corn-eating ducks and shiitake mushroom growing. Featuring “funded by central SOEs + operated by rural cooperatives + increasing incomes of registered poor households + promoting sales of products in the company + fostering internal drivers through the clear distribution of incomes,” the model helps guarantee reasonable division of labor, professional operation, and targeted partner assistance, and gradually cultivates internal drivers for sustainable development of the Corporation,

and thus show strong vitality and driving force. In 2019, the Huayuan County Party Committee and County Government held a county-level promotional meeting on alleviating poverty through industry development at the base for alleviating poverty through industry development in Huayuan County built by China Minmetals, which attracted residents from surrounding towns and counties to participate and learn from each other.

In addition, China Minmetals has replicated the model to other fixed-point poverty alleviation counties. We have constructed a rabbit industry project in Zhenxiang County, carried out projects of Chinese bee breeding and building supporting facilities for greenhouses in Yiliang County, launched pig breeding projects in Weixin County, launched orange and muskmelon cultivation projects in Yanhe County, and built a navel orange industrial park in Dejiang County, etc.



China Minmetals aided the construction of the project for alleviating poverty through industry development in Huayuan County, Hunan Province: The shiitake mushroom growing Base



As of the end of 2019, China Minmetals built two corn-eating duck breeding bases, two shiitake mushroom growing bases, a slaughtering, processing, and refrigeration center, a bacon processing plant, and a new rural construction demonstration base in Huayuan County. Besides, there was an oil tea project under construction. In 2019, the duck breeding base distributed a total of 20,000 ducklings and 210,000 shiitake mushroom sticks, and the sales of industry projects amounted to RMB 3 million, lifting 2,000 registered poor people out of poverty.

◎ **Focusing on prominent problems in “addressing worries about food and clothing and access to compulsory education, basic medical services and safe housing.”**

Focusing on prominent problems of fixed-point poverty alleviation counties in “addressing worries about food and clothing and access to compulsory education, basic medical services and safe housing,” China Minmetals strengthened efforts in related fields and provided nearly RMB 13 million of funds to support projects concerning people’s livelihood. We supported the drinking water project of Qiaoshan Town, Yiliang County with an additional investment of RMB 6.5 million, which made the total investment reach RMB 10 million. Apart from that, we invested RMB 1.37 million into a water diversion project in Dazhu Village, Yiliang County, and RMB 1.706 million to support improvements of the living environment in Changyi Village. As we continued to strengthen efforts to support aid projects, we invested RMB 500,000 in the emergency rescue project in Huayuan County, through which we provided assistance to 87 needy local people.

provided nearly RMB

13

million of funds to support projects concerning people’s livelihood



The drinking water project of Qiaoshan Town, Yiliang County is a key project of Zhaogtong City supervised by the municipal government. Once completed, the project will benefit 22,328 people in five villages. It will guarantee the supply of drinking water for 15,810 farmers, 5,915 registered poor people, 4,280 teachers and students from six schools, and Anlechang Village.

◎ **Strengthening efforts to guarantee access to vocational education**

In 2019, we earnestly followed President Xi Jinping’s instruction on stepping up the development of modern vocational education, striving to cut off intergenerational transmission of poverty through the development of education. By fully mobilizing internal resources and relying on the Panzhihua Technician College, where the world welding champion was born, the Corporation launched the “Mining Center” education program for poor students from the six fixed-poverty alleviation counties. The program features distinctive characteristics of China Minmetals and provides employment opportunities for students after graduation.

China Minmetals invested RMB

1.133

million in Zhenxiang County to guarantee access of students from poor households to compulsory education and construct dormitories for teachers.

China Minmetals launched the “Loving Packages” campaign and distributed

9,118

packages in total



China Minmetals sent a workgroup to recruit poor students from the six fixed-point poverty-alleviation counties and offered those students the opportunity to participate in a three-year professional training program for free at Panzhihua Technician College that enables them to become intermediate technicians. During the training, students can get subsidies regularly to cover part of the living and communication expenses, and China Minmetals promises to provide all students with job opportunities after the completion of the program. In August 2019, China Minmetals appropriated a total of RMB 712,480 to recruit the first batch of 48 students from impoverished families to participate in the program to learn welding techniques, architectural metal construction, electrical automation, mechatronics, automotive maintenance, and so on. During the three years of study, China Minmetals, taking into consideration such factors as students’ strengths and development needs, and the demand on highly skilled talents in the new era for social and economic development, formulates practical, feasible, efficient, and reasonable training plans to comprehensively improve students’ skills and overall competence.

◎ Vigorously promoting poverty alleviation through consumption

In 2019, China Minmetals, starting from the design of work mechanisms and fully relying on more than 700 internal labor unions, we started the “people’s fight” against poverty through consumption.



Dong Mingjun inspected the Pueraria planting base of Weixin County.

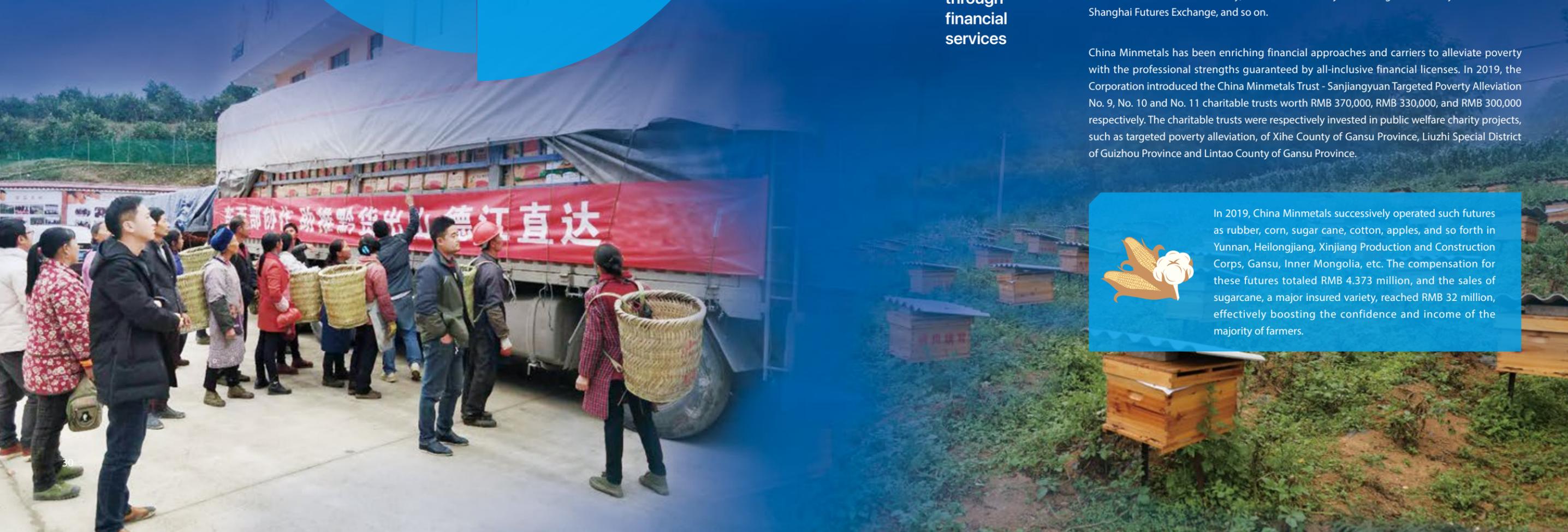


◎ Continuing to explore new featured paths for poverty alleviation through financial services

In 2019, China Minmetals continued to promote the “futures + insurances” poverty alleviation-oriented financial model, and continued to optimize the business structure for price guarantees, striving to provide more services for poor households in different regions that plant different varieties. Through the program, China Minmetals won multiple big prizes, including the Award of Best Innovative Financial Product on Poverty Alleviation in China’s Securities and Futures Industry, Award of Best Targeted Poverty Alleviation Program in China’s Securities and Futures Industry, Award of Pilot Project on Targeted Poverty Alleviation of Shanghai Futures Exchange, and so on.

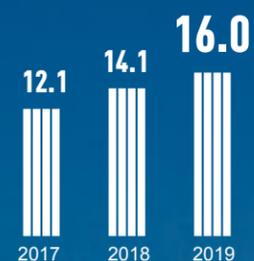
China Minmetals has been enriching financial approaches and carriers to alleviate poverty with the professional strengths guaranteed by all-inclusive financial licenses. In 2019, the Corporation introduced the China Minmetals Trust - Sanjiangyuan Targeted Poverty Alleviation No. 9, No. 10 and No. 11 charitable trusts worth RMB 370,000, RMB 330,000, and RMB 300,000 respectively. The charitable trusts were respectively invested in public welfare charity projects, such as targeted poverty alleviation, of Xihe County of Gansu Province, Liuzhi Special District of Guizhou Province and Lintao County of Gansu Province.

In 2019, China Minmetals successively operated such futures as rubber, corn, sugar cane, cotton, apples, and so forth in Yunnan, Heilongjiang, Xinjiang Production and Construction Corps, Gansu, Inner Mongolia, etc. The compensation for these futures totaled RMB 4.373 million, and the sales of sugarcane, a major insured variety, reached RMB 32 million, effectively boosting the confidence and income of the majority of farmers.



Total profit

RMB billion



Asset under management

RMB trillion



01

High-quality Development Boosts Remarkable Achievements

Undertaking the mission of guarding and serving the country, China Minmetals adheres to the path of high-quality development, and strives to build a high-quality business structure rooted in "four beams and eight columns". The Corporation has firmly implemented the "competitiveness improvement" campaign, highlighted the main responsibilities and main businesses of metal mining and metallurgical construction, promoted the transformation of traditional trade, and steadily developed diversified financial and real estate businesses. The Corporation has achieved sustainable growth in production and operation for four consecutive years, fully displaying China Minmetals' role as a stabilizer and a ballast stone of the national economy.

Stable Resource Development with Good Momentum

As of the end of 2019, reserves of major metals of China Minmetals included

4.094

billion tons of iron

30.2261

million tons of copper

12.5617

million tons of zinc

1.2036

million tons of nickel

1.5128

million tons of tungsten

142,900

tons of antimony

245,200

tons of bismuth

231,500

tons of rare earth.

We have been deeply aware of the important role of the metal mining industry as the cornerstone for of national economy, always stayed true to the original mission, and actively undertaken the duties of ensuring resource provision and leading the upgrading of industries, thus accelerating the building of a "world-class" metal mining group.

The Corporation possesses rich reserves of metals and minerals. Overseas mines are located in Asia, Oceania, South America, and Africa, etc. We own a number of world-class mines such as Las Bambas Copper Mine, Dugald River Zinc Mine, and Papua New Guinea Ramu Nickel and Cobalt Mine. The output of copper and zinc are listed in the world's first echelon in resource reserves and ranks among the global top 10, and the resources of tungsten, antimony, and bismuth lead the world in both resource reserves and production output.

Steady increase in production of the three world-class mines

China Minmetals possesses three world-class mines, among which the Las Bambas Copper Mine, as a globally-leading prime copper asset, has 6.9 million tons of copper ore reserves and 10.61 million tons of copper mineral resources. The Dugald River Zinc Mine in Australia is one of the largest and highest-grade zinc mines in the world, and the Papua New Guinea Ramu Nickel and Cobalt Mine is a world-class nickel-cobalt resource exploitation and utilization project.

We have strengthened the management and

operation in the project construction of large-scale overseas mines to keep up with the production schedule. In 2019, the Las Bambas Copper Mine produced 382,500 tons of copper concentrate, roughly the same as that of last year, the Dugald River Zinc Mine produced 170,000 tons of zinc concentrate, up 16.24% year on year, and the Papua New Guinea Ramu Nickel and Cobalt Mine produced nickel-cobalt hydroxide containing 33,000 tons of nickel and 2,915 tons of cobalt, maintaining a high and stable production output for three consecutive years.

As of December 23, 2019, Duddar Lead-Zinc Mine in Pakistan produced 502,800 tons of ore, over-fulfilling the production target of 2019 and achieving its peak annual production capacity of 500,000 tons one year ahead of schedule. As a result, the project was rated as one of the important engines for the socio-economic development of Baluchistan Province.



Successful Commencement of Chentaigou Project

Chentaigou Iron Mine of China Minmetals, located in Anshan City, Liaoning Province, possesses a super-large-scale iron deposit with total resources of 1,112 million tons. In terms of construction scale, Chentaigou Iron Mine has an annual designed iron ore output of 11 million tons in mining and dressing, making it one of China's super-large-scale black underground deep-shaft mines. In April 2019, the construction of prospecting well (auxiliary well and measure well) was completed with a depth exceeding 1,000 meters, playing a pivotal role in realizing the target of 11 million tons in mining and dressing.



Unveiling of Minmetals Rio Tinto Exploration Company Limited

Minmetals Rio Tinto Exploration Company Limited, jointly established by China Minmetals and Rio Tinto Group, was successfully unveiled in Sanya, Hainan on December 30, 2019. After its establishment, Minmetals Rio Tinto Exploration Company Limited would build a solid team, discover world-class mineral resources, and seek opportunities for prospecting prime mines. Meanwhile, China Minmetals and Rio Tinto Group would further strengthen exchanges and research on data, promote technological innovation, development and research, and build a highland for new technologies and methods of exploration in China, thus facilitating the long-term sustainable development of both sides in the mineral industry.





Robust Growth of Metallurgy Engineering Projects

China Minmetals boasts world-class metallurgical construction enterprises and leads the metallurgical construction industry to reach a higher level and move closer to the center of the world arena by virtue of its exclusive core technologies, continuous transformation and innovation capabilities, and irreplaceable metallurgical industry chain integration advantages. Meanwhile, relying on the hi-tech construction advantages accumulated in the metallurgical construction industry over the years, China Minmetals has set foot into such fields as high-end housing construction, urban development, urban transportation, municipal infrastructures, energy conservation and environmental protection, to pursue high-level and high-end development.

Metallurgical Construction

In the field of metallurgical construction, we have accelerated breakthroughs in key technologies such as green and intelligent technologies, and strengthened the reserve of applied technologies. We have aimed at the top ends of the value chain and the industrial chain, enhanced the capacity of integration and re-engineering of metallurgical construction, and provided domestic and foreign steel enterprises with industry-leading steel technologies and equipment, environmental protection technologies up to high standards, and efficient engineering construction and operation services.

HBIS Tangsteel Industrial Upgrading and HBIS Xuanhua Steel Capacity Relocation Projects

With the goal of building a new-generation "green, intelligent, and brand-based" process steel-making plant, MCC has assisted HBIS Group in building the HBIS Tangsteel industrial upgrading and HBIS Xuanhua Steel capacity relocation projects, and designed a world-class and green development-oriented coastal quality steel base with world-leading technologies, equipment, and energy conservation and environmental protection level.



No.3 Blast Furnace System of Baosteel Zhanjiang

The construction of No.3 Blast Furnace System of Baosteel Zhanjiang is a key step for the Corporation to meet the increasing market demand for super-strength steel products, respond to the structural adjustment of iron & steel industry in Shanghai and other regions, and give full play of Baosteel Zhanjiang's production technologies and cost advantages. Following the latest requirements of intelligent manufacturing and green manufacturing, MCC has introduced the new standards of whole-process ultra-low emission to help Baosteel Zhanjiang build an advanced, efficient, and competitive intelligent and green steel-making plant.





The world's first long-distance and large-scale production centralized control center project

CISDI Information of CISDI Group Co., Ltd. has built the world's first long-distance and large-scale production centralized control center project -- Shaogang Intelligent Center, which can realize trans-procedure, cross-area, long-distance, and large-scale centralized control, borderless coordination, and big data decision-making. The intelligent center has improved work efficiency by 20%-40%, reduced blast furnace fuel ratio by 2%-10%, lowered the cost of iron per ton by RMB 10-50, establishing a milestone benchmark for intelligent steel manufacturing.



Construction of Basic Engineering Projects

To serve national strategies, we are committed to high-end housing projects, urban development, urban transportation, municipal infrastructure, energy conservation and environmental protection, etc. By supporting the development of the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Guangdong-Hong Kong-Macao Greater Bay Area, and the Xiongan New Area, we contribute to the construction of basic engineering projects and rapid economic development.

Lanzhou Olympic Sports Center Project

In July 2019, the Lanzhou Olympic Sports Center Project undertaken by China MCC17 Group Co. Ltd. (MCC17) was kicked off. Upon completion, the project will become the main stadium for Lanzhou to host the 2022 Provincial Games, thus invigorating the construction and economic development of Lanzhou City.



Main body of the race track of the National Sliding Center completed

On September 17, 2019, Shanghai Baoye Group Corp. completed the main body of the race track of the National Sliding Center, which is the first of its kind in China to host bobsleigh, skeleton and luge events at the Beijing 2022 Winter Olympic Games. The completion of the main structure of the 1,975-meter track laid the foundation for the sliding test of the track in early 2020.



Transformation and Development of Trade and Logistics

Relying on our global marketing network and giving full play to China Minmetals' leading role in managing and serving the supply chain of commodities represented by metals and minerals, we have developed productive services, such as modern logistics, e-commerce and financial services, and vigorously carried out supply chain management and value chain integration. In this way, we have reduced the costs of the circulation of commodities and improved the operating efficiency of the industry.

In 2019

the volume of merchandise trade exceeded **86.27** million tons
 a year-on-year increase of **14.2%**

The 100-million-ton Caofeidian International Iron Ore Exchange Center

The 100-million-ton Caofeidian International Iron Ore Exchange Center is a new-type environmental, intelligent, efficient, and multi-purpose international ore trading center. As one of the projects vigorously promoted by China Minmetals, the trading center, upon completion, will significantly boost environmental protection and the international status of China's iron ore trading sector. In 2019, the first ship of overseas mixed iron ore operated by Caofeidian International Iron Ore Exchange Center arrived at the port, creating necessary conditions for mixing businesses.



The first cross-border settlement transaction at Dugald River Zinc Mine

Dugald River Zinc Mine is one of the world's largest-scale and highest-grade known zinc deposits and also the first mining project of Minerals and Metals Group (MMG) built and put into production from the greenfield stage. In December 2019, a zinc concentrate export transaction of the Dugalds River Zinc Mine was successfully settled in RMB for the first time. The transaction is a milestone event in bulk resource trade in Australia, and plays an example in promoting the internationalization of the RMB and innovating in methods of Sino-Australian trade settlement.



Making Significant Contributions with Diversified Businesses

By optimizing the structure of capital assets, China Minmetals realizes the transformation, upgrading and optimization of existing businesses, effectively responds to cyclical fluctuations in the metal mining industry, and promotes the sustainable and stable development of enterprises.

Finance

China Minmetals has obtained multiple licenses on financial business, and boasts significant advantages in trust, leasing, securities, futures, financial services, funds, and other financial sectors. We have improved the financial business management and control system, and perfected dynamic risk investigation, monitoring and early warning mechanisms, comprehensively improving our financial service capabilities and risk prevention capabilities.

Minmetals Capital Company Limited

ranked top among central financial holding SOEs in terms of overall strength.

Minmetals International Trust Co., Ltd.

won A rating in the industry evaluation for multiple consecutive years.

Minmetals Securities

improved the income structure significantly and developed into a medium-sized broker of China.

Minmetals Innovation Investment Co., Ltd.

improved fund running and launched funds for mass entrepreneurship and innovation, as well as for technological innovation, helping the Corporation realize industry development and conduct technological innovation.

China Minmetals H.K (Holdings) Ltd.

preserved and increased the value of overseas assets, effectively expanding overseas financial channels.



Tang Fuping inspects Shenzhen International Financial Building project

Real Estate

Acting on the principle that houses are for living in, not for speculation, we keep innovating in business models and improving development quality.

MCC Real Estate Group Co., Ltd. (MCC Real Estate) ranked the **40th** in China Top 100 Real Estate Developers and won the title of **Excellent City Developer and Operator in China**.



The company's brand value reached RMB 14.8 billion, and its long-term credit has been rated **AAA** by the domestic authoritative credit rating agency.

Leading the night economy in Tianjin with the MCC World project

The MCC World in Tianjin is the first commercial real estate project undertaken by MCC Real Estate in China. The project creates a high street for people to enjoy their life while meandering. MCC Real Estate integrates technological innovation into project development, construction and operation, and incorporates environmental protection measures relating land, water, and material saving into the entire lifecycle of the project. Besides, by taking measures to improve air quality and dynamic comfort, control pollution, guarantee safe water supply, etc., MCC Real Estate protects the health of consumers in the long business cycle. With the support of cutting-edge technologies, such as IoT and big data, the company has developed and applied intelligent business management systems to empower business operations.

Minmetals Hallstatt Tourism Town in Huizhou

Drawing on the Austrian architectural style, taking the town of Hallstatt in Austria as the model, and based on local characteristics, Minmetals Land made great efforts to build Minmetals Hallstatt Tourism Town and recreate the world-famous town of Hallstatt in Huizhou. Minmetals Hallstatt Tourism is now an AAAA Tourist Attraction of China. With a strong brand influence, the project is known across the Pearl River Delta and even the whole country, and is a masterpiece high-end residential project in Huizhou.



Constant Efforts in Emerging Sectors

China Minmetals has fully grasped opportunities to vigorously develop new energy materials. The Corporation owns a large number of large-scale new energy raw material mines, including the lithium mine in Qinghai Salt Lake and the world's third-largest laterite nickel mine, and has formed the first echelon of strategic emerging mineral miles such as lithium, graphite, and rare earth. We have built a new energy material industry chain from the resource side, which enables a production capacity of 100,000 tons of new energy battery cathodes and precursor materials and guarantees the Corporation's dominant market share of high-end cathode materials.

Enables a production capacity of **100,000** tons of new energy battery cathodes

Exploring seabed mining areas

China Minmetals is the first corporate contractor in the exploration of deep-sea mining areas in China, and has been approved as the exclusive explorer of 72,740 square kilometers of seabed areas in the Eastern Pacific. Through the Xiangyanghong 10 research vessel, China Minmetals carried out exploration tasks in 2019 around the seabed mining areas and completed the operation of two segments. Through the research tasks, we obtained a large amount of exploration data covering water depth, topography, geology, geophysics, hydrology, meteorology, and environment in the two blocks of A3 and A4, as well as over 1,400 kg of Seabed Polymetallic Nodule and sediment samples.



Operation of Graphite Resources

Graphite is an indispensable resource in some emerging industries, such as new energy and new materials. China Minmetals' graphite project in Longjiang County is larger, and the graphite resource is a favorable negative electrode material. The successful launch of the Longjiang graphite project guarantees access to rich reserves of graphite. In the future, China Minmetals will build world-class green and intelligent mines and create an integrated graphite industry chain covering the construction of graphite reserves, mining and selection, spherical graphite, and deep processing of graphite and other negative electrode materials.



14

independently established research and design institutions

39

national key R&D platforms including national key laboratories

29,000

scientific and technological staff

3

academicians of the Chinese Academy of Engineering

more than

80,000

technicians

30,516

valid patents accumulatively

led or participated in the formulation over

1,300

international and national standards accumulatively, topping among central SOEs in comprehensive scientific and technological strengths

6

subsidiaries of China Minmetals were selected in the comprehensive reform list of "double-hundred enterprises"

three

the top among central SOEs in terms of the number of "double-hundred enterprises"

02 

Innovative Models Enhances Vitality

As an innovator, China Minmetals adheres to innovation-driven development and strives to replace old development drivers with new ones. We comprehensively promote technological and management innovation, and earnestly build up corporate competitiveness, innovation capability, control, influence, and resilience in the high-end market.



Making Technological Advances

We strengthen R&D of core technologies, reserve superior scientific and technological achievements, and pay attention to market-based applications of these achievements to achieve a substantial leap in scientific and technological innovation. In 2019, China Minmetals was rated Enterprise with Outstanding Contribution to Scientific and Technological Innovation by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC).

Strengthening the Top-level Design

We engaged in the strategic research and technological forecast for the 2021-2035 national medium-long term development plan for science and technology in the areas of national resources, environmental protection, new materials, marine development, and so on, and integrated into the national scientific and technological innovation system. We have compiled the *Guiding Opinions on Accelerating Technological Innovation of China Minmetals* to enhance the top-level design and overall coordination of technological innovation work and clarify the development plan for technological innovation by 2030.



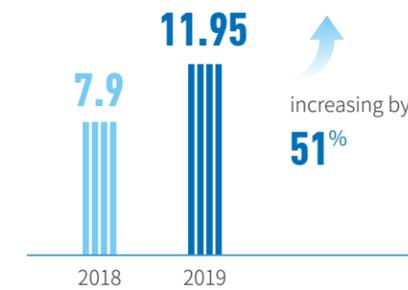
Tang Fuping visits the technical staff of Central Research Institute of Building and Construction Co., Ltd. of MCC Group

Enhancing Innovation Capacity

By strengthening the construction of technological platforms and consolidating the foundation for technology management, China Minmetals provides guarantees for technological innovation in main businesses. We have also improved mechanisms for technological investments, technology incentives, and introduction and training of technological talents, and established a technology evaluation index system to ensure the improvement of the Corporation's overall innovation capability.

We have set up the Minmetals Technology Innovation Development Fund to complement the scientific and technological fund, the innovation and entrepreneurship fund, and the PE fund. Based on this, we have launched research in applied basic and forward-looking technologies driven by the special scientific and technological fund, R&D of major, core, key, and common technologies supported by the Minmetals Technology Innovation Development Fund, the transformation and application of mature scientific and technological achievements promoted by the innovation and entrepreneurship fund, and the systematic and multi-level technological financial system supported by strategic emerging industries of the Corporation and participated by the PE fund.

R&D expenses of the Corporation (RMB billion)



- **39** national key R&D platforms, including national key laboratories
- Established the China Minmetals New Energy Materials Central Research Institute by restructuring Changsha Kuangye Academy, which is the first company-level institute under China Minmetals
- Capital Engineering & Research Incorporation Limited (CERI) and China MCC20 Group Corp. Ltd. won the title of National Technological Innovation Model Enterprises



Guo Wenqing presents the first prize of the State Scientific and Technological Progress Award for ACRE of MCC

Seeking Technological Breakthroughs

By comprehensively analyzing major technological gaps in mineral development, advanced materials, new energy materials, metallurgical engineering, and so on, we have developed an overall research plan on key technological breakthroughs which clarifies nine major research directions, objectives and tasks, and proposed measures for implementation. By pooling strengths in internal and external research and development, we strive to solve key problems restricting the development of the industry.



Conducting research in core technologies in key fields, such as "solid waste recycling and reuse" and "exploration and exploitation of underground resources." "The control and equipment technology for all core processes of medium-thick plates" breaks the international monopoly, and the technology of ultra-high temperature subcritical power generation with low BTU gas has become a key green energy-saving technology promoted by the Chinese Society of Metals.



China Minmetals has accelerated the application of core technologies and promoted a batch of related products, including the "environmentally friendly disc feeder", forming a group of independent brands that demonstrate strengths of and bring benefits to the Corporation.

Enhancing IPR Management

By systematically sorting out, analyzing and classifying existing patents, we track the development trend of superior products and services with market competitiveness, and strengthen our competitiveness in industries where the Corporation has strong capabilities. Besides, we have optimized functions of the science and technology management information platform, and built the science and technology information statistics system, the project statistics system, and the patent management information system to serve grassroots departments and divisions.



As of the end of 2019

the Corporation obtained
30,516
patents

among which
8,875
were invention patents

Harvesting Scientific and Technological Innovation Achievements



China Minmetals was rated **A** in the performance assessment of central SOEs from 2016 to 2018 and Enterprise with Outstanding Contribution to Scientific and Technological Innovation by the SASAC.

China Minmetals won **9** metallurgical science and technology awards issued by China Iron and Steel Association and the Chinese Society of Metals, including

4 first prizes, **1** second prize, and **4** third prizes.

China Minmetals actively participated in the research, planning and formulation of standards related to industry development, and led or participated in the formulation

of more than **1,300** international and national standards.

At the 21st China Patent Award Ceremony

11 patents of China Minmetals won the China Patent Award

including **2** silver prizes and

9 merit prizes

Projects that won science and technology awards in 2019

First prize of the State Scientific and Technological Progress Award

Project name

Theory, technology and engineering application of high-rise steel-concrete hybrid structure

Main completion organization

China Metallurgical Construction Research Institute Ltd. (the fifth completion organization)

Second prize of the State Scientific and Technological Progress Award

Project name

Development and application of equipment and technology in green and efficient electric arc furnace steelmaking

Main completion organization

CISDI Engineering CO., Ltd. (the primary completion organization), Xi'an Electric Furnace Institute Co., Ltd. (the third completion organization), MCC SFRE Heavy Industry Equipment Co., Ltd.(the seventh completion organization)

Second prize of the State Scientific and Technological Progress Award

Project name

The technology of high-efficiency and high-reliability micromachining and its application to high-end printed circuit boards

Main completion organization

Shenzhen Jinzhou Precision Industry Technology Co., Ltd. (the second completion organization), Zhuzhou Cemented Carbide Works Import & Export Company (the fourth completion organization)

Second prize of the State Scientific and Technological Progress Award

Project name

Technological innovation and engineering application of large-span structures

Main completion organization

China Metallurgical Construction Research Institute Ltd. (the second completion organization)

Deepening Management Innovation

As state-owned enterprises play a leading role in key industries and fields, their control and influence should be enhanced. Insisting on putting stability first, China Minmetals, by adopting market-oriented reforms to pilot state-owned capital investment companies, aims to regulate decision-making issues and procedures in the headquarters. In this way, the Corporation strives to reshape the management system, strengthen the anti-risk capability, and explore the "Minmetals Model" for deepening reforms of SOEs.

Deepening Reforms

In line with important requirements of the CPC Central Committee and the State Council on deepening the reform of state-owned enterprises, we have issued a reform work plan (upgraded version) for pilot investment companies, carried out comprehensive reforms, mixed ownership reforms, and technological innovation reforms of "double-hundred enterprises". Meanwhile, we have implemented in-depth contract-based management to make our contract system more scientific and further enhance employees' recognition of the value of contract honoring. We have initially created the ideological, institutional and practical bases for new management mechanisms of SOEs.

In 2019, the headquarters of China Minmetals adopted the "strategic management + financial benefit management + key operations management" model, which enhanced the relevance and effectiveness of the Corporation's management work. Hunan Changyuan Lico Co., Ltd. and China Metallurgical City Investment Construction Co., Ltd. were selected by the National Development and Reform Commission (NDRC) into the fourth batch of pilot enterprises in the mixed ownership reform. Minmetals Development Co., Ltd., China Tungsten, CISDI Engineering CO., Ltd. (CISDI), China ENFI Engineering Co., Ltd. (China ENFI), WISDRI Engineering & Research Incorporation Limited (WISDRI), and MCC17 were selected in the "double-hundred enterprises" list, the third most among central SOEs in terms of the number of "double-hundred enterprises."

Promoting IT Application

China Minmetals has formulated an IT application plan to support the implementation of corporate strategies and management innovation through information-based approaches. Through the monitoring system, human resources management project, ERP systems of China Tungsten and Changsha Kuangye Academy, coupled with other information-based platforms, China Minmetals lays a solid foundation for online management and businesses, as well as online query of employee data. Such efforts show that China Minmetals are taking new steps towards the transformation into a digital and intelligent enterprise with enhanced production, operation, and management.



WISDRI - National Research Center of Energy Efficiency Optimization of Steel Production

Risk Prevention and Control

We continue to improve our risk management system, enhance the governance of special risks, and effectively solve root causes of risks, making every effort to ensure that all risks are known, controllable, and tolerable and curb the spread of risks. With such efforts, we strive to contribute to stable economic and social development.

Preventing and controlling capital risks

With the financial company as the platform and supported by the capital system, we enhanced centralized capital management. We accelerated the construction of a firewall for financial businesses, went all out to pay off the wages of members of private enterprises and migrant workers, and improved capital safety and efficiency.

Preventing and controlling investment risks

We properly controlled capital investments throughout the year, monitored and resolved risks to PPP projects, investigated and eliminated risks to overseas projects, strengthened post-investment management, and effectively dealt with projects with financial risks.

Coordinated Development

We continued to strengthen coordinated operation and management of the 100 billion internal market, the scale of which has reached more than RMB 160 billion. Constantly expanding cooperation and deepening collaboration, we have upgraded project-to-project decentralized collaboration to the enterprise-to-enterprise centralized distribution and supply, which has brought about a batch of significant collaboration projects.

the scale of which has reached more than RMB **160** billion

Building a Leaner China Minmetals

By accelerating supply-side structural reforms and continuously strengthening the governance of loss-making enterprises, we realized declines in the number of loss-making enterprises, the amount of loss, and the scale of losses, exceeding the objectives set by SASAC. We also advanced the separation and handover of state-owned enterprises' "Three Supply and One Property" and other social undertakings in an orderly manner, made solid progress in the reform of collectively owned factories and other historical issues, and properly resettled 72% of laid-off workers.

properly resettled **72%** of laid-off workers

China Minmetals and all levels
of its subsidiaries organized

26,024

training sessions on work safety

which were participated by

889,341

trainees

03 

Whole-process Safe and Stable Operation

Safety and health form the basis for the greater happiness of employees at work. We closely focus on the overall goal of "preventing and defusing major safety risks and resolutely curbing all kinds of accidents". Through centralized investigation and rectification of hazards, we aim to improve safety management and safety measures, thus creating a healthy and safe work environment for employees.

In 2019, eight projects of MCC Group won the honorary title of "Excellent Construction Engineering Project up to Work Safety Standards for Construction" in a selection organized by the Professional Committee of Construction Safety of the China Association of Construction Industry. MMG's total recordable injury frequency (TRIF) per million of working hours was 1.58, one of the best among the 27 members of International Council on Mining and Metals (ICMM). Five technologies of China Huaye Group Co., Ltd., including the safe and efficient construction technology of the large-diameter 1,500m ultra-deep shaft, won first and third prizes of the first Safety Science and Technology Progress Award issued by China Association of Work Safety.

Strengthening Safety Management

Work safety management is the basis for all work. We strictly adhere to work safety and firmly implement the "one-vote veto" system in work safety management. Through greater efforts and stricter measures, we aim to guarantee efficient safety management in key industries, enterprises, areas, and links, and continuously consolidate the foundation for work safety. In 2019, China Minmetals withdrew work safety funds in full and used the funds in line with relevant rules, and reached a new high in the investment in work safety.

Establishing Long-term Mechanisms

Responsibility is the soul of safety, while standardization is the foundation of safety. We have established a work safety responsibility system of "both CPC committees and governments are held accountable, officials take responsibility for workplace safety in performing their duties, relevant government departments work together in a coordinated way on work safety issues, and those who fail to perform their duties are punished", and built a long-term work safety management mechanism to guarantee that all enterprises fulfill their responsibilities.

Improving the work safety responsibility system

- In line with requirements on contract-based management, China Minmetals optimized safety and environmental protection responsibility targets, which highlighted the precise management of safety and environmental protection work.
- China Minmetals continued to optimize safety and environmental protection responsibility lists and promoted the implementation of the work safety responsibility system among all staff.

Defining work safety management responsibilities

- China Minmetals issued the *Guiding Opinions on Defining Responsibilities for Work Safety Management* to clarify work safety responsibilities, including safety production responsibilities of leaders of different enterprises, business divisions, functional departments, and work safety supervision responsibilities of leaders and departments responsible for the supervision of work safety work.



Minmetals Development establishes the Safety and Environmental Protection Technology Service Center

Minmetals Development established the Safety and Environmental Protection Technology Service Center supported by a professional, practical, and efficient team in Northern China. The center will integrate work safety and environmental protection management resources of production enterprises, pool technical strengths, and comprehensively strengthen supervision and technical support. Based on the center, Minmetals Development will gradually build a regionally integrated work safety and environmental protection management system that features "complementary advantages, resource sharing, and coordinated management".



Improving Emergency Response

By organizing emergency training, improving contingency plans and conducting emergency drills, we strive to enhance employees' response to early warnings and emergencies, enhance the emergency rescue command system's ability to organize and coordinate emergency rescues and first aid, and strengthen the emergency rescue department's ability to respond promptly to accidents and the effectiveness and efficiency of on-site medical treatment.



Conducting an emergency rescue drill for underground fire accidents in non-coal mines

In June 2019, China Minmetals, and the Jinan Emergency Management Bureau, co-organized an emergency rescue drill for underground fire accidents in non-coal mines at Xiaoguanzhuang Iron Mine under Minmetals Luzhong Mining Co., Ltd. The drill strengthened the company's command of emergencies, emergency skills, coordination ability, and logistics support, and comprehensively tested the company's emergency response capabilities and measures to deal with underground fire accidents, thus providing effective guidance and reference for the prevention and handling of similar accidents.



The HSE emergency command center in Hunan Nonferrous Metals

Adhering to systematic management, Hunan Nonferrous Metals Holding Group Co., Ltd. (Hunan Nonferrous) has invested nearly RMB 3 million to build the HSE emergency command center to achieve information-based emergency management, making the company a pioneer among central SOEs in Hunan and provincial enterprises in the field. The center supervises subsidiaries of Hunan Nonferrous to actively promote the standardization of work safety, and guarantees that all member companies reach related industry standards.



Conducting an emergency drill involving multiple parties

In 2019, the Rosebery mine conducted an emergency drill to test the emergency preparedness and contingency plans of its operations. The emergency management team and the crisis management team of the mine, as well as its major stakeholders, including local and state emergency services organizations, representatives from local governments, dam safety and environmental regulatory agencies, and local residents, participated in the drill.

Through the drill, the Rosebery mine tested the effect of its contingency plan and emergency response, strengthened relationships with key stakeholders, and understood the constraints of local resources on emergency response. The mine and corporate crisis

management team also formulated an action plan to apply the experience of the drill to business models to ensure the safety of employees and the community.



Deepening Risk Prevention

We have actively promoted the construction of a dual-prevention system comprising safety risk grading management and hazard investigation and governance, strengthened the capacity of safety risk management and control, continued to deepen investigation and elimination of hazards, and carried out regular inspections and reporting of hazards.



With clear focuses, we made great efforts to prevent and control major safety risks, and solved key problems and difficulties standing in the way of the safe development of the Corporation. At the beginning of 2019, we conducted a centralized investigation of safety hazards that lasted for a month.

We carried out a three-month campaign to improve work safety, especially to launch special inspections of hazardous chemical enterprises. Production enterprises at all levels formulated a work plan for centralized rectification of hazards with strengthened organization and leadership.

Focusing on key links, tackling difficulties, implementing targeted measures, and carrying out more specific and effective work safety management: we comprehensively strengthened the management of major hazard sources of hazardous chemicals, and comprehensively strengthened safety management of tailings ponds and transportation systems.

MCC has strengthened supervision on construction sites, carried out hazard investigation and rectification, and comprehensively promoted the standardization of work safety. MCC's work safety inspections covered all projects, and the total inspected items reached 1,901.

Minmetals Mining Holding Limited (Minmetals Mining) conducted comprehensive inspections of eight subsidiaries engaged in production, two mines suspended for reconstruction, and two mines ceased production. By doing so, the company rectified all hazards.

Optimizing the Production Environment

We have increased investments in safety technologies to support the R&D, transformation, and promotion of safety technologies. By integrating safety technologies into intelligent construction of the Corporation, we have promoted the application of safety technologies to cover key areas of work safety, and enhanced the Corporation's intrinsic safety level.

Mining subsidiaries promote the application of advanced equipment, such as rock drilling trolleys and wet braking trackless transportation vehicles. Construction enterprises have continuously improved information-based work safety management, and made significant progress in the construction of smart construction sites.

Steadily promoting the construction of digital, automatic, and intelligent mines

Minmetals Luzhong Mining Co., Ltd. has steadily advanced the construction of "digital, automatic, and intelligent" mines, and accelerated the application of large equipment and facilities. The company has successively put in use 3m³ scrapers, 6m³ mine cars, rock drilling trolleys, welding robots, and remotely controlled scrapers, and launched trial runs of the tailings pond online monitoring and early warning system and the energy management system, significantly improving the level of the company's equipment, intrinsic safety level, and productivity.



Hunan Nonferrous improves equipment safety through hazard investigation

Hunan Nonferrous Metals has set up more than RMB 2 million of special funds for upgrading and transforming personnel transportation vehicles of Kangjiawan mine under HNG-Shuikoushan Company, and tested all mine cars to improve the safety of facilities and equipment.

Digital

Automatic

Intelligent

Building Safety Culture

Focusing on strengthening the construction of safety culture, we actively guide employees to hold proper attitudes towards safety issues and work safely, constantly improve the safety emergency management system, and effectively enhance our safety assurance capabilities.

Safety Quality

Production enterprises under China Minmetals at all levels organized

26,024

work safety training sessions, which were participated by

889,341

employees

In 2019, we supported the Emergency Management Department in sorting out key points and preparing the question bank for evaluating the performance of leaders of central SOEs. Besides, we organized Changsha Institute of Mining Research to complete the work safety guidance manual for first-line positions of high-risk industries, and compiled the operation guidance manual for six high-risk operational positions of mining enterprises, such as mine lifting workers, rock drillers, and tailings operators. Production enterprises under China Minmetals at all levels organized 26,024 work safety training sessions, which were participated by 889,341 employees.



Zhuzhou Smelter Group Company Limited under Hunan Nonferrous conducts on-site safety training through mentorship

Safety Awareness

Focusing on the theme of "risk prevention, hazard elimination, accident containment" during the national Work Safety Month, we carried out work safety activities with rich content in various forms, implemented safety responsibilities, and enhanced employees' safety awareness.



Work safety skill competition of Minmetals Development

Minmetals Development organized a company-level skill competition which was participated by the most competent teams selected by companies. During the Work Safety Month, in the Wuxi Logistics Park, the company organized exchanges and competition and mutual learning activities in the forms of theory tests and skill contests. Through the competition, Minmetals Development established a benchmark and promoted advanced experience, and initially formed a safety culture featuring "competition, learning and catch-up and excellence" for the whole company.



Occupational Health

Attaching great importance to the occupational health of employees, we have established the Corporation's occupational health and safety management system to improve the working environment of employees. By providing care and psychological counseling for employees, we have earnestly protected the physical and mental health of all employees.



MMG cares for employees' mental health and well-being

MMG has built a mental health framework comprising the three key areas of awareness and prevention, capacity building, and support and recovery, striving to promote good mental health practices. The framework also provides support for employees suffering from mental diseases (such as depression and anxiety) to ensure that every employee is safe and supported in the workplace and can seek help when needed. In 2019, to enhance employees' awareness of mental health, MMG organized various activities, including the "R U OK?" project seminar, professional support visits at the headquarters, mental health awareness lectures, and the Bangbas International Mental Health Day competition, etc.



MMG highlights the management of employee health and welfare

In 2019, the Dugald River Zinc Mine developed a comprehensive health and welfare program to provide employees with healthcare and monitoring services. The management team conducted structured risk assessments of occupational health hazards that may cause injuries to the staff of Dugal River Zinc Mine, identified existing health risks based on the assessment results, implemented control measures to minimize risks, and conducted lifelong health monitoring.



The Hsikwang Shan of Minmetals Rare Earth Co., Ltd. launches Law of the PRC on Prevention and Control of Occupational Diseases publicity week campaign



MCCS organizes occupational health first aid training

The Corporation has

199,141

employees

The Corporation has organized training for

421,655

trainees

04 

Staff Team Seeks Better Growth

Talented people are the driving force for corporate development. Following the strategy of strengthening the enterprise with talented people, we develop and cultivate talent resources, tap the potential of talented people to the full, and earnestly safeguard the rights and interests of employees. We also build an excellent platform for the growth and development of employees, and devote ourselves to the common growth of enterprises and employees.

China Minmetals boasts six collective and nine individual winners of the title of Advanced Collective and Model Worker of Central SOEs. CERI won the honorary title of National Worker Pioneer in 2019.



Respecting Labor and Creations

We attach importance to and safeguard the legitimate rights and interests of employees, and strictly abide by the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China* and other laws and regulations governing the employment of workers at overseas project locations. With respect for human rights, we pursue equal and non-discriminatory employment policies, and fulfill democratic management, so that each employee's value is fully respected and realized.

Equal Employment

We strictly follow the policy of equal and non-discriminatory employment, and treat employees of different nationalities, races, genders, religious beliefs and cultural backgrounds in a fair and equitable manner. Besides, we adhere to the principle of equal pay for equal work, and are committed to avoiding all forms of forced labor and child labor.

The Corporation creates unified recruitment platforms that offer diversified recruitment channels, emphasizes brand building as an employer, and strengthens the introduction of professional talents. During campus recruitment, we organize innovative labor contract signing ceremonies and offer New Year gift packages for new employees' families to extend our care for new employees with creativity, sincerity and ceremonies, and disseminate our corporate culture and brand communications. In 2019, the Corporation and subsidiaries of China Minmetals recruited 4,133 fresh college graduates.

Compensation and Benefits

We pay social insurance for employees in strict accordance with national policies and regulations and ensure that employees enjoy due social security benefits. Adhering to the concept of "value-based, performance-oriented, benefit-shared" in salary distribution, we have optimized the salary structure, and given full play to the incentive effect of the compensation and benefits system to enhance the employees' sense of gain.


Incentive mechanism of salary distribution

Strengthen the management of individual incentives and constraints, and establish an all-round salary distribution system at the micro and macro levels; Set up a comprehensive salary system with a full range of short-, middle-, and long-term incentives based on incentives for heads of subsidiary units during their as well as mid- and long-term incentives for key employees, so as to encourage innovation and entrepreneurship of employees.


Optimization of the enterprise annuity plan

Revise the *Enterprise Annuity Plan of China Minmetals* and *Enterprise Annuity Implementation Rules for the Headquarters of China Minmetals*, continuously optimize the welfare system, and further enhance employees' senses of gain, happiness and security.

Democratic Management

In 2019

all subsidiaries of China Minmetals established their labor unions with

100%
membership

We have been actively exploring new mechanisms for democratic management that are in line with the practical demands of corporate development, giving full play to the role of the democratic management system that takes the Workers and Employees' Congress as its basic form and the open system of factory affairs as its main content, and ensuring the unimpeded channels for democratic management, democratic supervision, and democratic decision-making of employees, thus enhancing employees' sense of ownership.



Raising employees' awareness of human rights through training

Las Bambas Copper Mine has endeavored to raise the awareness of human rights among its employees and security officers. The security team of Las Bambas Copper Mine has organized regular training on safety and human rights for all private and public security officers working in the mining area, security officers along the southern transport corridor (the national highway through which logistics transport fleet passes), as well as the Peruvian police. The training content includes interpretation of human rights, the history and development of the *Universal Declaration of Human Rights*, the *United Nations Global Compact* and the *Voluntary Principles on Security and Human Rights*, and the details of each framework. All trainees have been provided with tools to identify and protect human rights.



Employee Training and Development

Insisting on driving corporate development with the support of talents, we have focused on building the capabilities of employees and providing employees with a wide range of training opportunities and a broad platform for career development, and continuously enhanced their overall competences and working skills, aiming to realize the common progress and development of employees and enterprises.

Employee Education and Training

We have deeply promoted the strategy of strengthening the enterprise through talented people. Taking the in-depth reform of the talent development mechanism as the power and the implementation of major national talent projects as the leverage, we earnestly attract, gather and make good use of all types of talented people, tap the potential of talented people to the full, and provide the support of talented people for building a world-class metal mining group.

Official training plan

Compiling the 2019-2023 *Official Education and Training Plan* to guarantee a sound top-level design; build a competence and quality model for leadership teams of secondary institutions to clarify the core competences and expatiate on key behaviors required for different levels of positions; launch different categories of official education projects that teach trainees according to their aptitude, so as to enhance trainees' political standing and sharpen their professional skills.

Training for young employees

Targeting outstanding young officials, we organized three demonstration training classes for young talents in 16 days. The training content covered Party spirit learning, evaluation and interpretation, leadership training, introduction of businesses, seminars, learning through action, etc., and the training results include 32 personal study projects more than 70 management cases, and 46 internal training sessions covering more than 100 employees.



Training for secretaries of Party branches

China Minmetals successfully launched demonstration training classes for secretaries of Party branches in Yingkou, Liaoning Province, in which 101 secretaries of Party branches were trained in rotation. Main course modules such as policy principles, Party building practices, forging the Party spirit, etc. were carried out in forms of lecturing, case study, experience sharing, group discussion, etc. Through the training, we aim to further standardize and promote the Group's unique model of Party affairs training.

Pre-job training for new employees

China Minmetals held the 2019 pre-job training for new employees. 176 new employees from all subsidiaries based in Beijing received the training on Party style learning, lectures by the Group's leadership, corporate profile and strategies, business operation and development, and outward-bound training for teams. It is aimed to guide new employees to know the Group as soon as possible, realize the change of the role they play, and understand corporate culture.



Youth talent training demonstration class of China Minmetals



"Post-80s Class" Training Camp of the Second Course of Minmetals Land Youth Talent Training Program

Position System Optimization

Position management is the origin of personnel management. Adhering to uniform position establishment and focusing on human resources information, we strive to promote the construction of the basic system of human resources management, thus providing a mechanism to guarantee the establishment of a multi-dimensional career development path for employees.

Guiding the growth of employees

Introducing a four-dimensional human resources management plan, which covers the employee level, the position sequence, the employee position level, and the employee remuneration level, to provide two-way development opportunities for talented people (i.e., to be transferred to positions of the same level or to be promoted to higher levels), thus guiding employees' growth along the four dimensions.

Clarifying paths for career development

Revising the *Position System Management Measures* and *Employment Qualification Management Measures*, so as to further clarify the two-way promotion channel and career development paths for employees and help employees understand their position in the Group and identify their career development direction and plan.

Overview of the position system

Management sequence (Sequence M)	Professional sequence (Sequence P)	Operational sequence (Sequence O)	Special affairs sequence (Sequence C)
E2	P8 Chief experts	07 Chief technicians	Special affairs sequence
.....	P7 Senior experts	06 Master technicians	
.....	P6 Experts	05 Senior technicians	
M12	P5 Senior professional positions	04 Technicians	
.....	P4 Intermediate professional positions	03 Senior workers	
M8	P3 Junior professional positions	02 Intermediate workers	
.....	P2 Professional assistant positions	01 Junior workers	
M1	P1 Professional supporting positions		

Talent Communication and Growth

The unrestricted flow of talented people is the precondition for bringing out the best of talented people. We ensure unimpeded flow of talented people inside and outside the Group, promote orderly flow of talented people among China Minmetals' affiliated enterprises and within and outside the Group, put all kinds of outstanding talented people to the most suitable positions, and strive to build an ecosystem of "all creatures strive for freedom under frosty skies" for talented people.



- Selecting suitable talents within the Group and assigning them to frontline positions at foreign mines, so as to train excellent young talents, build an internal talent market and form a professional talent reserve, promote cross-organization talent exchange, and fully release the potential of talents
- For secondary divisions with excellent talents, launching open recruitment and selection of outstanding talents within the Group as department heads, thereby further strengthening the talent team building and promoting the integration of subsidiaries



- **Selecting and assigning officials to participate in aid projects** - Selecting officials to take up temporary positions in aid projects in Xinjiang, Tibet, and Qinghai, and recruiting two officials from western regions and minority areas to take up temporary positions and get trained in the Group
- **Exchanging officials with the People's Government of Beijing Municipality** - China Minmetals has established a long-term strategic partnership with the People's Government of Beijing Municipality to exchange officials for taking up temporary positions
- **Selecting and assigning high-quality talents to support external organizations.** In 2019, China Minmetals recommended the 20th batch of 9 talents with doctoral degrees to support the economic and social development of western and other regions in need, so as to sharpen their mind and skills



China Minmetals boasts six collective and nine individual winners of the title of Advanced Collective and Model Worker of Central SOEs

Employee Care

Caring for employees wholeheartedly, we provide employees with a favorable working and living environment, and show love and care to employees on significant festivals. We actively carry out various cultural and artistic activities to enrich the employees' spare time, promote communication among our employees, and enhance employees' sense of identity and belonging to the Group.

Care on Significant Festivals

We launch a variety of celebrating events on major festivals to motivate employees' vigor and strengthen the teams' cohesion.



Minmetals Land's regional company in eastern china organizes an Employees' Birthday Party in the first quarter of 2019

Leadership Concerns to Employees

We attach importance to employee care, and carry out various kinds of caring activities for employees in need, female employees, overseas employees and retired employees, so that our employees can better feel the love and warmth of the big family of China Minmetals.



Minmetals Trading Co. Ltd. affiliated to Minmetals Development carries out poverty relief activities for needy employees



An overseas labor union of MCC organizes an oil painting experience activity in celebration of the "March 8" Women's Day



Minmetals International Trust Co., Ltd. holds a farewell party for the employees who retired in 2019

Cultural Life

We organize and plan rich and colorful cultural and sports activities to enrich employees' cultural life and promote communications and exchanges among employees. Through such efforts, we strive to build a pleasant working environment to enhance the cohesion and centripetal force of the Corporation and motivate employees' passion for work.

- 1
- 2
- 3
- 4

- 1.China Minmetals organizes the "New Era, New Minmetals, New Glories" speech contest in honor of the third anniversary of the restructuring
- 2.China Minmetals organizes the "Splendid 70 Years of Development and Greater Progress for a New Era" chorus contest
- 3.The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals organizes a table tennis team match
- 4.Minmetals Land holds the fourth football league



9.5%

The year-on-year integrated energy consumption decreased by

13.5%

The year-on-year COD emissions decreased by

62.0%

The year-on-year SO₂ emissions decreased by

9,003

The number of environmental protection training sessions reached

250,000

The number of trainees of environmental protection training reached

05 

Eco-friendly Construction Facilitates Environmental Protection

Building an ecological civilization is vital for sustaining the development of the Chinese nation. During corporate operation and management, China Minmetals thoroughly implements President Xi Jinping's instructions on ecological civilization while focusing on ecological conservation and pursuing green development. The Corporation has achieved benign interaction between corporate development and environmental protection, and made unremitting efforts to contribute to the construction of a beautiful China.



Environmental Protection Strategy

China Minmetals earnestly implements national strategies on ecological and environmental protection, actively explores effective models for green development, and continuously improves the Corporation's environmental management capabilities and green competitiveness.

Identifying Pollution Hazards

We issued the *Guiding Opinions on Energy Conservation and Environmental Protection in 2019*, and set "fighting pollution according to high standards and promoting high-quality green development" as the main goal of annual energy conservation and environmental protection work. Strictly in accordance with the SASAC's standards and requirements for the supervision and inspection of ecological protection of central SOEs, China Minmetals has effectively strengthened the investigation and management of environmental hazards from four aspects, namely basic work, daily management, management of project sites and procedures, and identification and rectification of environmental risks. With such efforts, we aim to realize up-to-standard emissions and environmental risk control, and made comprehensive deployment for a tough battle against pollution. No environmental pollution accidents above grade occurred throughout the year.

Targeted pollution control



China Minmetals, in line with the principle of "investigating all pollution factors, not omitting any potential risks or carrying out a repeated investigation", carried out a general survey of sources of pollution. The Corporation established the first database of sources of pollution, which laid a solid foundation for targeted and scientific pollution control.



Minmetals Development updated the *Management Files for Sources of Pollution of Production Enterprises under Minmetals Development* and the "one factory, one file" policy to fully understand the pollution and emissions data of production enterprises, and cooperated with these enterprises to implement pollutant and emission control measures thus guaranteeing lawful pollutant production and emissions.

Upgrading the Statistical System

We have further strengthened the construction of the statistics monitoring system. According to the latest requirements of the SASAC on energy conservation and environmental protection reports, we have revised and improved relevant systems in a timely manner, straightened out the reporting mechanism, and expanded and upgraded the energy saving and emission reduction data reporting system, thus empowering all subsidiaries of China Minmetals in terms of energy-saving and emission-reduction management.

Supporting Supervision and Examination

With a great sense of political responsibility and a sincere and serious attitude, we fully support various ecological and environmental protection inspections. Based on the feedback on rectification work, we work to consolidate our political responsibility for environmental protection and avoid all pollution accidents throughout the year. With the approval of the CPC Central Committee and the State Council, the seventh Central Ecological Environment Protection Supervision team entered China Minmetals and conducted an environmental protection inspection from July 10 to August 10, 2019. During the inspection, China Minmetals and its subsidiaries actively collaborated with the inspection team by disclosing relevant information to stakeholders through various channels on a daily basis and revealed the corresponding rectification work in time.

Enhancing Employees' Environmental Protection Awareness

We have organized publicity and training activities on energy conservation and environmental protection, and actively created a green culture. According to the SASAC's overall deployment for the World Earth Day, the National Energy Conservation Week and the National Low Carbon Day, China Minmetals has organized a series of publicity activities centering on the theme of "green development, energy saving first" based on enterprises' production and living conditions. We have established and practiced a resource-saving and intensive recycling and reuse concept, and created a favorable atmosphere for energy saving and carbon reduction. Throughout the year, we organized a total of 9,003 environmental protection training sessions which were participated by more than 250,000 members.

Environmental protection activities





Development of Green Industries

We actively incubate diversified energy-saving and environmental protection industries, and have strengthened R&D efforts in related fields. By building a group of professional environmental protection enterprises and environmental protection projects, we strive to become a pioneer and leader in the development of green industries in the metal mining industry.

Green Metallurgical Construction

By applying green technologies to project construction and accelerating breakthroughs in pollution prevention, we aim to drive the green development of the metallurgical industry through technological innovation. "The development and application techniques and equipment technologies for the desulfurization and denitration of coke oven flue gas" technological achievement of ACRE of MCC and "The research and application of green and high-efficiency construction technologies for large hot-rolled strip engineering" of China MCC20 won first prizes of the China Metallurgical Science and Technology Award.

Cutting-edge green and energy-saving technology

brings about RMB

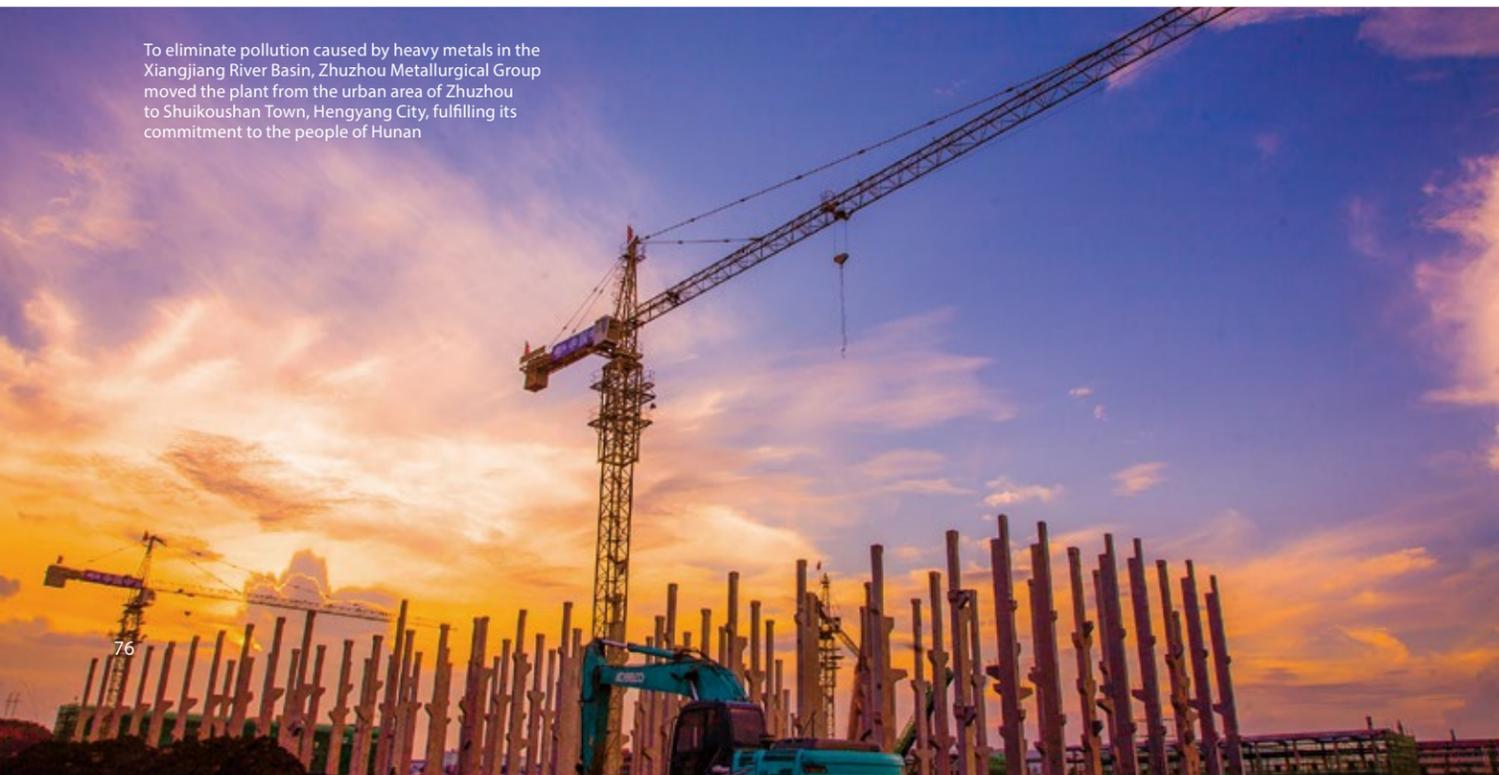
25

billion of economic benefits each year

Most iron and steel companies in China apply power generation technologies that use metallurgical coal gas with a low calorific value and low power generation efficiency. China City Environment Protection Engineering Limited Company (CCEPC) has made breakthroughs in the "technology and industrialization of efficient, clean, and intelligent power generation through metallurgical coal gas with a low calorific value," which has reached the advanced international level and become a key green and energy-saving technology promoted by the Chinese Society for Metals.

The total installed capacity of generating units that apply the technology has reached near 7,000MW, which generates more than 50 TWh annually and brings about RMB 25 billion of economic benefits each year.

To eliminate pollution caused by heavy metals in the Xiangjiang River Basin, Zhuzhou Metallurgical Group moved the plant from the urban area of Zhuzhou to Shuikoushan Town, Hengyang City, fulfilling its commitment to the people of Hunan



MCC Huatian leads the formulation of two national standards for the energy efficiency of sewage equipment

In April 2019, MCC Huatian Engineering Technology Co., Ltd. (MCC Huatian) led the formulation of two compulsory national standards - the *Minimum allowable values of energy efficiency and energy efficiency rating for submersible type push flow mixer for sewage treatment* (GB 37485-2019) and *Minimum allowable values of energy efficiency and energy efficiency grades for rotary aerator machine in wastewater treatment* (GB 37483-2019), which have been officially published and will be implemented on May 1, 2020. As the first batch of energy efficiency standards for major environmental protection equipment in the field of sewage treatment in China, the two standards are of guiding significance and are highly feasible. The standards will guide enterprises to use more energy-efficient, energy-saving, safe, and reliable equipment, which will comprehensively improve technologies of the industry.

Trial run of the set of equipment on the acid-free treatment of the surface of high-strength steel plates of Changsha Research Institute

In December 2019, the commissioning of the set of equipment for the acid-free treatment of the surface of high-strength steel plates independently developed by Changsha Research Institute was completed in the phase-two heat treatment project of Valinly Steel, which is a key project of the steel industry in Hunan Province. The successful commissioning marks the launch of the first set of equipment of its kind to be put in commercial use, and shows that the company's acid-free cleaning technology has reached another new level. The equipment, which abandons pickling and shot blasting processes, realizes environmentally friendly cleaning of the plate surface. It is estimated that the equipment can reduce the discharge of more than a million tons of waste acid each year while avoiding the generation of all kinds of dust and effectively protecting the safety of soil, water and atmosphere.





The desulfurization and denitrification upgrade and reconstruction project of sintering machines of Henan Jiyuan Iron & Steel Group Co., Ltd.



The first hydrogen-based metallurgical demonstration project

Build the world's first hydrogen-based metallurgical demonstration project with a capacity of

1.2

million tons



Creating an environmentally friendly sintering process

The desulfurization and denitrification upgrade and reconstruction project of sintering machines of Henan Jiyuan Iron & Steel Group Co., Ltd. constructed by Northern Engineering & Technology Corporation, MCC (NETC) was successfully put into operation. The project applies a number of independently developed energy-saving and environmental protection new technologies, such as activated coke flue gas purification technology, steam-electric dual-drive technology, flue gas recirculation sintering (FGRS) technology, new-type multi-purpose and high-efficiency circular coolers, middle sealing devices for new sintering machines, etc. Sintering machines of Jiyuan Iron & Steel are among the most advanced in China and represent the development direction of sintering technology.



Exploring a green and circular path for turning waste into treasure

MCC Baosteel Technology Service Co., Ltd. has established a technological research center on comprehensive utilization of metallurgical slag, and invented a series of unique formulas and processes. Produced from waste steel slag, the four major categories of products, namely steel slag micro powder, special-type grit of steel slag, steel slag permeable pavement bricks, and steel slag heavy soil, especially steel slag ecological permeable pavement products, are ideal raw materials for building sponge cities. The "steel slag mountains" in the past were replaced by lush trees and green grass, and these formulas and processes explored a practicable, advanced, green, and circular approach for steel slag treatment.

Development of Green Businesses

Solid waste treatment

We have built a comprehensive solid waste treatment system to promote the construction of "zero-waste cities" according to local conditions and lead industry development.



China ENFI undertakes the comprehensive waste treatment project in Xiongan New Area

China ENFI has won the bid for the comprehensive waste treatment project in Xiongan New Area. Once completed, the project will become the only comprehensive solid waste treatment facility in Xiongan New Area as well as China's first comprehensive waste treatment project with a fully hidden design. Working toward the reduction, recycling, and safe disposal of such waste, the project features a "de-industrialized" design and is located in the countryside while creating a unique landscape. The project contributes to the centralized treatment of solid waste in the Xiongan New Area as a whole along the whole production process while co-existing harmoniously with the environment.



Water Environment Governance

Focusing on water environment governance, China Minmetals has developed water pollution control and treatment technologies and systems to drive the technological upgrading and industrialization of the water pollution control and governance sector, thus effectively protecting precious water sources jointly with all sectors of society.



Water environment comprehensive governance project in Laian

MCC Huatian's water environment comprehensive governance project in Laian County, Chuzhou City, Anhui Province, is the first region- and basin-wide comprehensive water environment treatment PPP project in Laian County. With the goal of improving urban services for ecological progress, the project adopts solutions that address both the symptoms and root causes to improve the weaknesses of the water pipeline network, while focusing on the construction of the ecosystem. The landscape system composed of clear waters and blue skies, solves water-related problems in urban development from the six aspects, namely water resources, water security, water environment, water ecology, water culture, and water economy. Through scientific diagnosis, systematic planning, and targeted implementation, we integrate water governance into urban development, and thus promote sustainable urban development.

Eco-friendly Operation

Guided by the concept of ecological and environmental protection, China Minmetals saves resources and energy, controls emissions of pollutants, implements the concept of green office, to minimize the negative impacts on the environment.

Establishing an Environmental Protection Platform

To accelerate the incubation of energy-saving and environmental protection industries and seize opportunities for green development, China Minmetals has formulated the *Implementation Plan for the Establishment of an Energy-saving and Environmental Protection Industry Platform* with clear ideas, principles and options. The Corporation has also put forth options of implementation plans and paths, key concerns, technical requirements, and follow-up work.

Promoting Energy Saving and Emission Reduction

We adhere to green development, continue to increase investments in environmental protection management, upgrade the level of environmental protection equipment, and solidly promote energy conservation management. Through a series of energy-saving optimization programs, we have made targeted efforts to adjust our production methods and energy mix, realized efficient recycling and utilization of resources and energy, and increased comprehensive benefits. In such endeavors, we have achieved up-to-standard discharge of Wastewater and waste gases, continued to improve the environmental protection work of subsidiaries of China Minmetals, and gone all out to fight pollution.



The Wuxi Sewage Treatment Project site of Minmetals Capital Company Limited

Saving Resources and Energy

The green data center of Minmetals Plaza

Supported by technical methods, the data center of Minmetals Plaza has reduced energy consumption and promoted the construction of a green data center. The advanced water-cooled air-conditioning units of Minmetals Plaza save up to 30% of electricity compared to conventional AC fans. The UPS units adopt current-mode IGBT rectification technology, which occupies a relatively small area while effectively reducing the energy consumption of the data center. In the design of the data center, the airflow organization and design are considered to improve the utilization rate of precision air conditioning and enhance the cooling effect.

Save up to **30%** of electricity compared to conventional AC fans

Improving the recycling rate of iron through technological R&D

In order to further improve the recycling rate of iron, Luzhong Mining carried out more than 20 experimental research projects. Thus, the company accumulated a wealth of data to achieve the best matching of parameters. The recycling rate of iron used in wet iron operations was up to 84.55%, which means that the company can recycle 78,000 tons more of iron concentrate year on year, creating a profit of more than RMB 55 million.

The recycling rate of iron used in wet iron operations was up to **84.55%**

Recycling **78,000** tons more of iron concentrate year on year

Creating a profit of more than RMB **55** million

Energy saving and emission reduction measures of Minmetals Rare Earth

Using water sealing devices to prevent organic gases in the tank from diffusing, reducing material losses, and improving the environment.

Keeping heat inside the tank from getting out with thermal insulation cotton and boards to make it easy to clean.



Replacing transmission parts with synchronizers to effectively reduce noise and equipment wear.

Using frequency conversion devices to realize the soft start of tank facilities to significantly prolong the life of the equipment.

Reducing the "Three Wastes"

We have promoted low emission retrofit in key sectors, such as iron & steel to achieve ultra-low emissions, and rectified disordered emissions in the entire production process and all mines and construction sites, vigorously boosting the reduction of coal consumption by using more alternatives.

We have improved production processes, reduced emissions at the source, strengthened the treatment and reuse of wastewater, especially wastewater containing by heavy metals, and comprehensively promoted the regulation of rainwater and sewage diversion. While enhancing enterprises' sewage treatment ability, we have also improved the efficiency of water resource utilization and further reduced the amount of wastewater.

In strict compliance with national laws and regulations, we have introduced various technical means to handle solid waste, and urged subordinate enterprises to carry out investigation and management of pollution risks. In addition to meeting the requirements of various environmental protection standards, we have worked hard to realize the reduction, recycling, and safe disposal of solid waste.

Management of waste rock of tailings ponds of MMG



Developed standards for determining NAF (non-acid foaming) waste rock and PAF (potentially acid-forming) waste rock



Set up an independent dam audit committee and made engineering records



Conducted independent third-party inspections, including inspections of major repairs to tailings facilities



Checked all dams at the end of the year



Full view of the mine

Utilization of water resources in MMG



Creating the only zero-emission mine in the industry

Changsha Research Institute has undertaken the "demonstration project of building the southern mine of the tin ore into a zero-emission green mine" of Hsikwang Shan Twinkling Star Co., Ltd., and conducted research, design, and construction work targeting prominent historical problems of the southern mine of the tin ore, such as the risk of collapse faced by goaves, lack of space for emissions of tailings ponds to be closed, and wastewater and environmental pollution in tailings ponds. After completed, the project will be able to produce qualified dehydrated tailings, realize a daily production capacity of 400 tons of tailings, and become the only zero-emission green mine in the antimony sector. The project completely solves environmental protection problems and insufficient storage space of tailings ponds, becoming a comprehensive environmental management demonstration project of the antimony industry.



Developing integrated ore melting – extraction technology

The integrated ore melting – extraction technology developed by Minmetals Rare Earth can significantly reduce acid consumption in the extraction and separation of rare earth, purify the mixed rare earth feed liquid, and reduce the generation of waste residue. It can produce significant economic and environmental benefits, and will be first applied in the production processes of the Yunnan separation plant project.

Green Office Promotion

We integrate the concept of green development into daily work and strengthen energy saving and consumption reduction management in every little detail. We carry out in-depth publicity and education activities to contribute to clean development and environmental protection.

Biodiversity Conservation

Biodiversity is the basis for human society to survive and develop. Adhering to the philosophy of "cherishing limited resources and pursuing sustainable development", China Minmetals, has carried out environmental protection and ecological restoration work in line with strict standards, and regarded biodiversity conservation as the critical content in engineering construction management, striving to protect habitats and promote the harmonious coexistence of humans and nature.



Creating an eco-homeland through comprehensive improvement

In the process of promoting the comprehensive improvement of the Yanyang Lake water system, China Metallurgical Group Corporation repaired the earthwork around four high-pressure tower foundations and planted aquatic plants on it to form four ecological islands, which created a new ecological habitat for wild birds. The project not only helps maintain the original landform, but also avoids a huge amount of pollution caused by the relocation of the electric tower foundations, creating an urban waterfront with local characteristics for local citizens that can help control floods, improve local ecology, create beautiful landscapes, attract tourists, and provide a place of leisure.

MMG's Management of Mine Closure and Reclamation

By implementing integrated methods, MMG develops plans for the closure and transfer of mines, and integrate mine closure and transfer into the entire lifecycle of the mine. Through the formulation of the *Gradual Reclamation and Closure Standard and the relevant Work Quality Requirements*, MMG has developed unified methods for the closure of mines and gradual land reclamation. For mines that have already been reclaimed gradually or included in pilot reclamation projects, MMG monitors the effectiveness of reclamation and adjusts the reclamation plan based on the monitoring result, so as to ensure that reclaimed land can be used appropriately after mining.



Backfilling and afforesting barren mountains and hills

Luzhong Mining has accelerated the transformation of mining techniques, actively backfilled and regreened subsidence areas, updated the reclamation plan based on the actual situation, and continued to regreen tailings dams. With continued efforts in promoting the construction of green mines, Luzhong Mining provides animals with a habitat to survive and beautifies the barren mountains and ridges.



In 2019

a total of
27

projects won the National Quality Engineering Award

10

projects won the China Construction Engineering Luban Prize

2

projects were awarded the Tien-yow Jeme Civil Engineering Prize

All tenders concerning the company's headquarters were handled in a transparent and digital manner.

MCC Huatian, the only central SOE under China Minmetals, was selected as one of the third batches of enterprises for smart health and elderly care application pilot demonstration projects.

06 

Openness and Cooperation Promotes Mutual Benefit

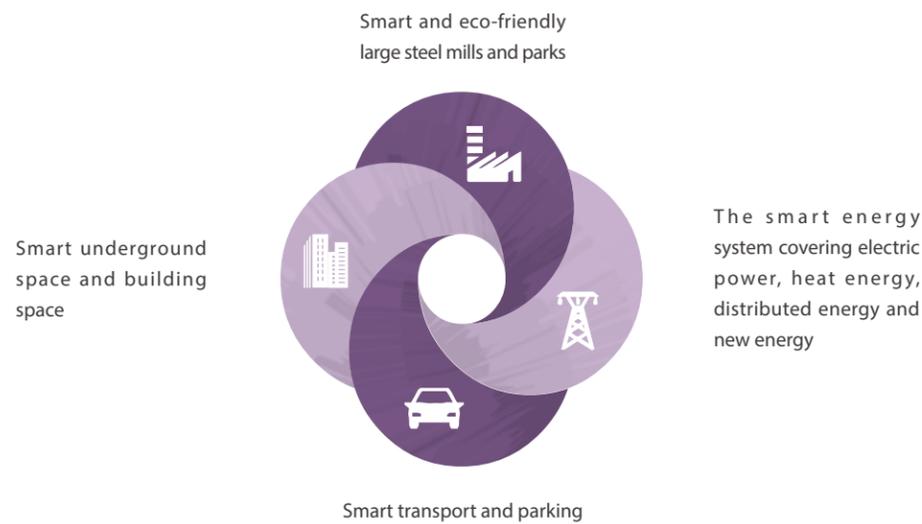
As a mining company with diversified businesses, we fully leverage our own advantages, and provide all-round services for all sectors of society. We have been constantly exploring the path to common prosperity through win-win cooperation. Working together with all stakeholders, we are creating a better life and ushering in a better future.



Contributing to a Better Life

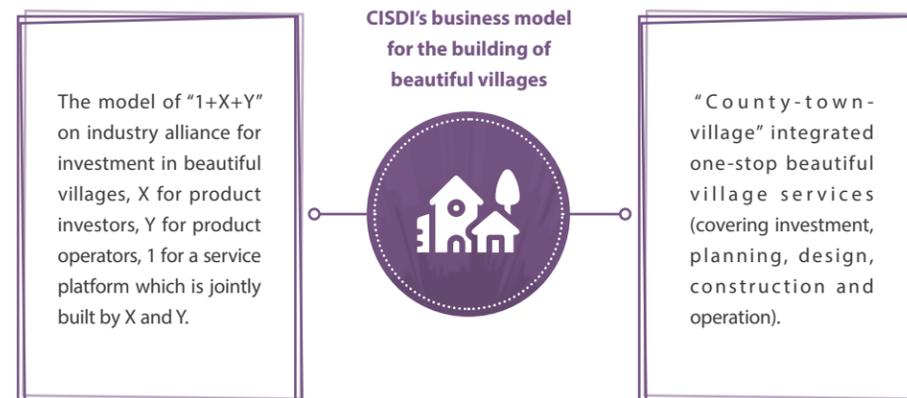
Smart City Solutions

China Minmetals is committed to sustainable economic development, a stable and harmonious society, and a sustainable natural environment. The Corporation provides comprehensive smart city solutions for smart industrial parks, smart campuses, smart neighborhoods, smart buildings, smart energy, smart tourism, and smart government services, in terms of planning and design, investment and financing, integrated general contracting services, project construction and delivery, project operation, etc.



Beautiful Villages

China Minmetals actively participates in the construction of beautiful villages in response to national strategies for targeted poverty alleviation and rural revitalization. The Research Institute for Beautiful Village and the Smart City of MCC develops industrial and economic development modes for villages according to their resource reserves, customizes development and construction modes, and provides “county-town-village” integrated one-stop beautiful village services (covering investment, planning, design, construction and operation), so as to build a “beautiful village industry integration platform”.



Planning the internet town with agricultural characteristics

MCC-CISDI participates in the consultation project of the agricultural Internet town in Meizhou, Guangdong Province, contributing to China's Rural Revitalization Planning. The project focus on local agricultural products, such as grapefruit planted in eastern Guangdong, accompanied by thematic agricultural tourism, health care, agricultural financial services, agricultural big data, cold chain logistics for local agriculture products, deep processing and other related characteristic industries. With the adoption of internet thinking, we integrate the modern information technology such as big data and the internet of things into the local industries development to build the Internet agricultural town characterized by production supervision, safety supervision, price formation, information exchange, R&D, convention and exhibition centers, logistics distribution, and brand building.



Upgrade of the Jiulongdong Scenic Area in Tongren, Guizhou Province

The upgrade project of the Jiulongdong Scenic Area located in Tongren, Guizhou, is the first scenic area construction project carried out by SBC-MCC. The project, which has realized the transformation of the scenic area's business to ecological and garden landscaping, was carried out in an EPC model covering scenic area planning, research and design, and construction. Its engineering process involves civil engineering, steel structure, electromechanical installation, interior and exterior decoration, scenic area smart system, etc.



Underground Utility Tunnels

China Minmetals has actively invested in the construction of utility tunnels and contributed to the improvement of urban infrastructure. As of the end of 2019, MCC had won the bids for 111 PPP and EPC utility tunnel projects with a total length of 1,227.9 kilometers, undertaken the underground utility tunnel project in urban Hengqin New Area, Zhuhai, the first Utility Tunnels winning China Construction Engineering Luban Prize and a national demonstration of Ministry of Housing and Urban-rural Development, as well as the 255.63-km Xi'an utility tunnel project, a winner of the first prize of China Construction Engineering BIM Excellent Project.

MCC had won the bids for

111

PPP and EPC utility tunnel projects



Phase-I project of the smart utility tunnel of Yunnan Dianzhong New Area

CERI has completed the phase-I project of the smart utility tunnel of Yunnan Dianzhong New Area, which supports visual management, automated maintenance inspection, intelligent emergency response, standardized data, overall analysis, and precise management and control. The project features more intelligent and efficient management and operation, and is the first smart utility tunnel demonstration project of China, setting a model for similar projects nationwide.



Health and Elderly Care Industry

As the Healthy China initiative is being further promoted and population aging keeps accelerating, the health and elderly care industry has ushered in a period of major development opportunities. We organized subordinate enterprises of China Minmetals to apply for 2019 national technological innovation demonstration enterprise and the third batch of smart health and elderly care pilot demonstration enterprises of the Ministry of Industry and Information Technology, in which MCC Huatian was selected as the only central SOE subsidiary to be selected as one of the third batches of smart health and elderly care pilot demonstration enterprises.

MCC has three health and elderly care industrialization research bases



Promoting Win-win Cooperation

Only through opening up and cooperation could the road become wider and wider. Insisting on seeking development through cooperation and pursuing a win-win situation in development, China Minmetals has pooled strengths and resources from all sides to continuously expand new areas and new spaces for foreign cooperation, and draw a blueprint for mutual benefit.

Building a Sustainable Supply Chain

Nowadays, the sustainable supply chain is the core competitiveness for corporate development. Integrating the concept of social responsibility into the whole process of supply chain construction, we continue to improve procurement management, optimize supplier management, and work with upstream and downstream partners to achieve mutual benefit and win-win.



The plant of Guangxi Huayin Aluminium Co., Ltd.

Procurement management

By continuously improving our procurement platforms, standardizing bidding-related businesses, and tapping the value of data and information, we aim to save procurement costs and increase procurement efficiency continuously. Through strengthened performance assessment and evaluation of suppliers, we seek to work with our suppliers on the path towards sustainable development.

Two 100% indicators in bidding-related businesses of the headquarters

100%
Electronic bidding

100%
Open bidding

Improving the procurement management system

Standardized procurement at the headquarters

- We have fully implemented electronic and open bidding, and conducted centralized management of bids for major investment projects.

Data analysis decision-making

- We have launched the "Procurement Data Registration System." Based on statistical analyses of the system, we determine the trend of prices, implement cost reductions, and conduct strategic procurement, thus continuously improving procurement management.



Optimizing supplier management

The improved supplier management regulation integrates management processes and procurement platforms, and realizes the regulation of registration, access, use, control, assessment, and exit of suppliers. Leveraging e-commerce platforms, we continue to implement information management in the full lifecycle of supplier management, including supplier sourcing, access, evaluation, and exit. At the same time, we further promote the unified centralized and full-coverage management of suppliers, so as to restrict and standardize the management of suppliers by various subsidiaries.



MMG grows together with local suppliers

MMG is committed to helping local suppliers build sustainable business models and providing supply services to mines as well as local and global customers. While selecting suppliers, MMG comprehensively evaluates suppliers' competences in aspects related to business, society, quality, and technology, as well as their health and safety management performance, environmental management, local training, social contributions, and commitments to local employment.

Whenever possible, MMG chooses the products and services of local suppliers that meet relevant standards. When local products and services fall short of related standards, MMG help enhance local suppliers' capabilities and enable local suppliers to seize opportunities. This will not only strengthen MMG, but help more customers of MMG grow stronger.



Communication with a local supplier

Providing Quality Services

In 2019

a total of

27

projects won the National Quality Engineering Award

10

projects won the China Construction Engineering Luban Prize

2

projects were awarded the Tien-yow Jeme Civil Engineering Prize

Attaching significance to quality management, China Minmetals earnestly improves the quality of products and projects, and provides customers with high-quality and considerate services to meet customer demand while seeking common growth of corporate value and customer value.

Quality Management

Based on an improved quality management system, we provide customers with high-quality products that meet the diversified needs of customers in different regions. We earnestly carry out project quality supervision, promote standardization of excellent projects and project management, and create high-quality projects for customers.



Helping customers reduce costs and increase efficiency

CERI successfully applied the enterprise-level smart grid management and control platform in Fengnan Iron & Steel Co., Ltd. affiliated to Hebei Zongheng Iron & Steel Group Co., Ltd. Through comprehensive intelligent management and control of substations at all levels, the platform realizes unattended operations and unified monitoring, management, operation, maintenance and dispatching of subsystems. The project enables unattended operations of 13 110kV substations, which cuts the number of on-duty operators by 117, saves tens of millions RMB of operating costs, electricity costs, investments in network systems, reduces operation and maintenance costs by over 50%, and significantly shortens accident analysis time.

Quality Services

Always being customer-centric, we deeply understand customers' needs and expectations for our products, provide targeted and quality services, and provide customers with personalized solutions elaborately developed. By continuously innovating in our service models, enriching service content, and promoting the construction of a global marketing service network, we endeavor to enhance our comprehensive customer service capabilities. We also attach great importance to the safety of customer information, and inform customers of the fields and scope where their information will be used, thus avoiding leakage of customer information.



37°C daily-life service

Adhering to the mission of co-creating a happy life with customers, Minmetals Property Company actively explored and created a 37°C living service in the new era. Through the system, the company aims to provide customers with value-added services covering home affairs, home repair, assets, health and early education, thus creating a colorful life, providing warmhearted services, and creating a warm living atmosphere of "peace of mind is our home" for customers. Through the endeavors, we strive to lead a new way of life with high-quality services, upgrade customer services, and guarantee high satisfaction and loyalty of customers.

Enhancing Communication

To further deepen strategic cooperation with external partners, we have formulated the *China Minmetals Work Plan for Further Deepening Strategic Cooperation with External Partners*. Based on our own business development needs, we jointly promote major strategic cooperation projects with the government, enterprises, universities and other stakeholders. Besides, we work hard to promote our presence in key regional markets with the aim to achieve shared growth and integrated development.

International cooperation

China Minmetals carries out extensive and in-depth cooperation with Brazil, Pakistan, Chile and other countries in the fields of metal mining, steel metallurgy, and infrastructure construction. For example, Changsha Research Institute has made a series of breakthroughs during the implementation of the Belt and Road initiative, launched technical exchanges with more than 30 mines in Australia, Peru, Czech Republic, and Germany, and signed eight contracts with overseas mines with a total amount over RMB 100 million.

Enterprise-enterprise cooperation

China Minmetals has established strategic cooperation with China Life Insurance, China Three Gorges and so on. By pooling the strengths and service capabilities of all partners in the fields of mineral resource development, infrastructure investment, supply chain finance, and financial leasing, China Minmetals strive to deepen financial reforms and innovations, and promote the integration of industry and finance.

Government-enterprise cooperation

By communicating and negotiating actively with Heilongjiang Province, Guangdong Province, Guangzhou City, and Sanya City, China Minmetals has created favorable conditions for business development in key regions and the implementation of major projects.

University-enterprise cooperation

We have signed strategic cooperation agreements with Central South University, Beijing University of Science and Technology, Northeastern University and other universities, and strengthened cooperation with well-known domestic scientific research institutes and universities, such as Chinese Academy of Sciences and Central South University, to apply for national research projects, make breakthroughs in key technologies, and realize the transformation of technological achievements. Minmetals Rare Earth participated in the formation of the National Rare Earth Functional Material Innovation Strategic Alliance, and established close ties with Changchun Institute, Shenyang Institute, Ningbo Institute, and Dalian Institute of Chemical Policies of the Chinese Academy of Sciences, as well as the Ansteel Beijing Research Institute.

In 2019

Changsha Research Institute signed

8

contracts with a total amount of over RMB

100

million



Changsha Research Institute participates in the Belt and Road CEO Conference and signs contracts with Europe on cooperation in the manganese sector



China Minmetals hosts the Third International Seabed Authority Contractor Conference

On October 11, 2019, the Third International Seabed Authority Contractor Conference hosted by China Minmetals and organized by Changsha Research Institute, was held in Changsha. The conference is the first International Seabed Authority Contractor Conference hosted by a Chinese company, which further deepened and expanded the Corporation's international influence. It promoted deepened cooperation in the development of deep-sea mineral resources as well as R&D of engineering equipment and technologies, further enhancing China Minmetals' influence in exploring new deep-sea strategic regions.



Supporting high-quality development through financial cooperation

China Minmetals has signed a strategic cooperation framework agreement with the Shenzhen Stock Exchange. Based on the agreement, the two sides will work to build multi-dimensional, multi-level, prolonged, and mutually beneficial partnerships based on their own needs in development and planning. Their partnerships will focus on the capital operation of listed subsidiaries of China Minmetals, cultivation of companies preparing for listing, expansion of multi-channel financing, cooperation with integrated industry-finance platforms, training and consulting on capital operation and planning.



Integrating internal and external resources and carrying out collaborative innovation

To address bottleneck problems caused by rare resources, rare earth, and rarely scattered resources, China Minmetals conducted technological exchanges with Dalian Institute of Chemical Policies of the Chinese Academy of Sciences, Shenyang Institute of Metal Research of the Chinese Academy of Sciences, and Shenyang National Laboratory for Materials Science to jointly discuss the basic application and research of antimony, bismuth and other rare earth, and rarely scattered resources in the iron & steel industry (such as silicon steel, free cutting steel, and weathering steel), so as to broaden and deepen the application of such rare resources, rare earth, and rarely scattered resources in the iron & steel industry.

A Good Neighbor to the Community

In 2019
the Corporation invested a total of RMB
8.837
million in public welfare donations (excluding poverty alleviation input)

Deeply aware that corporate development is inseparable from the support of all social forces, China Minmetals takes the initiative to engage in community development and strengthen exchanges with communities. We have organized various social welfare activities to create positive energy for society with practical action and show our love to the community.



Nanjing Minmetals Grace Home Property Management Co., Ltd. organizes the public welfare activity "Journey of Love."

Engaging in Community Development

We have actively engaged in community development and established ties with all sides to seek common prosperity by organizing SOE Open Day campaigns and planning all kinds of themed activities. We have been deeply concerned about society, carried out all types of public welfare activities, and fulfilled the "Spirit of Lei Feng" with practical actions. Through such practices, we aim to deliver our care to others, and become a front-runner and pace-setter to contribute to social development.



Organizing the SOE Open Day campaign

On May 22, Changsha Research Institute invited more than 50 teachers and students from the School of Materials Science and Engineering of Central South University to participate in the SOE Open Day campaign themed Central South University Students Enter the Changsha Research Institute of Mining and Metallurgy. The event was one of the series of activities of "Officials of SOEs Giving Lectures - 100 Open Classes for SOEs, and Key Staff of SOEs Serving as Off-campus Tutors" launched by China Minmetals and Central South University, with the purposes to make all sectors of community gain a better understanding of the development plan of the new-energy materials demonstration base for mass entrepreneurship and innovation of China Minmetals, and facilitate deeper university-enterprise cooperation.



Participating in the Volunteer Day theme activity

On the occasion of the 34th International Volunteer Day, members of the Youth League of China MCC International Economic and Trade Co., Ltd. participated in the volunteer activity themed "Responsible Practice, Volunteer First" - Yuepu Town "International Volunteer Day" of 2019. Volunteers wearing service vests provided by the Civilization Office of the CPC Central Committee enthusiastically participated in the cleaning of streets, which significantly improved the environment of local communities.



Caring autistic children

The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals organized the "Light up the Stars, Live with Love" public welfare activity for caring autistic children at Changsha Aimeng Rehabilitation Center for exceptional children, and donated supplies such as drinking fountains, school supplies, and toys to the Center. The volunteers also prepared school bags and small gifts for the children in advance and interacted with them in artistic performances and games to bring warmth and concern to the children.



Overseas Community Development

We have joined hands with all sides to promote Belt and Road international partnerships. Sticking to responsible community building, we share our development fruits with local communities, which injects strong impetus for realizing the common prosperity of all countries and contributes to a good and responsible image of the Corporation in the international community.



MCC Tongsin Resources Limited holds a National Day reception party themed the "Celebration of the 70th Founding Anniversary of the PRC & the 30th Anniversary of the Development of the Saindak Copper-zinc Project", and invites relevant departments of the local government of Baluchistan Province, frontier force regiment of Pakistan, and elders of the surrounding tribes to attend the grand event

Strengthening cultural exchange and communication to promote mutual understanding and friendship

Minmetals Japan Corporation, as a vice-chairman member of China Enterprises Association in Japan, has actively participated in all kinds of activities organized by the Embassy of the People's Republic of China in Japan and China Enterprises Association in Japan. In May 2019, Minmetals Japan Corporation participated in the "Visit of Elderly Care Centers in Japan" to convey the sincere care and kindness of Chinese people to Akasaka Sunshine Senior Care and Kids Activity Center in Tokyo Prefecture. On September 21, Minmetals Japan Corporation participated in the "Chinese Festival of 2019" sponsored by the Embassy of the People's Republic of China in Japan. The event, serving as a tie between China and Japan for inheriting traditional culture, has become a window for all sectors of the community in Japan to learn about the development and changes of China in the new era.



Minmetals Germany GmbH, as a chairman member of the Chinese Enterprises Association in NRW, launched a series of foreign affairs activities over the past years, including disaster relief operations and supporting the construction of the first Chinese-German bilingual kindergarten in Germany. It also actively participated in activities organized by embassies and consulates established in the locality, maintained friendly and close communication and interaction with local government organizations, and fulfilled the corporate social responsibility, thus winning a sound reputation in the local community.

About **80%** of radio programs of the radio station are broadcast in local language Quechua

The Community Radio Station "Radio Surphuy" of Las Bambas Copper Mine

Radio Surphuy is a community radio station established in 2010 by Las Bambas Copper Mine, with an aim at education and publicity & promotion of local culture. About 80% of radio programs of the radio station are broadcast in local language Quechua, covering local news, health care, agriculture, safety, activity forecast, festivals, and other programs supported by Las Bambas Copper Mine. The community members, local organizations and staff of Las Bambas Copper Mine are allowed to dial the hotline to share the local news with the audience. In February 2019, Radio Surphuy launched its new website to assist in broadcasting local news and activities in Cotabambas Province.



Building the demonstration agricultural project

The Andean Crops Project at Las Bambas Copper Mine was launched in 2016 to support traditional agriculture in the local area, help local residents improve food safety, create reliable sources of family incomes, create job opportunities, and contribute to sustainable development. Since 2016, the project has attracted 1,655 families from 17 communities and 45% are female participants. It covers 120 hectares of cultivated land, with a yield growth per hectare of 100%. It has been recognized by the Peruvian Mining Association as a demonstration agricultural project, becoming a model of the harmonious co-existence between mining and agriculture.

The project has attracted **1,655** families

45% are female participants

It covers **120** hectares of cultivated land

With a yield growth per hectare of **100%**



Providing student aid

Education is one of the investment priorities of all mines operated by MMG. Through the Kinsevere scholarship program and cooperation with local NGOs, Réseau des Oeuvres Maman Marguerite and Waza Alliance, MMG covered tuition fees of students, offered teaching support to illiterate parents, provided tutors for students, contacted with administrators of schools, attended school meetings, and reported to parents. MMG also carried out follow-up work throughout the academic year to ensure that all students in the program could finish school successfully. Among the students granted scholarships, around 50% were girls.



Improving the health status

Las Bambas Copper Mine continues to work closely with health care providers to improve health indicators of the community. We have reached a resettlement agreement with the surrounding Fuerabamba community to finance the construction of the Nueva Fuerabamba Health Center, provide complete medical equipment and supplies, and continue to support the maintenance of the hospital and the medical care of all residents in the community.

From 2016 to 2019

There was a
12.7%
decline in chronic malnutrition among children under the age of five

There was a
16%
reduction in anemia among children in grades 1-3 of primary school



Launching the sewing workshop programme

The sewing team now consists of

15
female workers

4
male workers

2
of whom are physically challenged

The Kinsevere Mine launched its sewing workshop programme four years ago. The workshop employed professional tailors to train the first 14 participants, provided sewing machines, workbenches, cloth materials, and other stuff, and renovated an office into a sewing workshop. In addition to making uniforms for MMG employees, the Kinsevere sewing workshop now makes school uniforms for schools of local villages and protective supplies for contractors.

"I am now able to support my family. Some young people in the village also want to be a tailor like me."
—Theodore Mufunga, a participant in the sewing workshop programme



Outlook 2020

	Review 2019	Outlook 2020
 <p>High-quality Development Boosts Remarkable Achievements</p>	<ul style="list-style-type: none"> ● Achieved sustainable growth in production and operation for four consecutive years ● Realized the stable operation while maintaining good momentum for resource development ● Maintained robust growth of metallurgy engineering projects ● Accelerated the transformation of business models through trade logistics ● Maintained solid growth of the financial real estate sector ● Enhanced the strength of the new energy material sector 	<ul style="list-style-type: none"> ● Drive the operation optimization of all mines in production, prioritize expansion and reconstruction, and promote the resource substitution ● Target at downstream high-end materials, and strengthen the competitiveness and influence in the new material industry and market ● Improve the leading role of metallurgical construction ● Enhance the influence of trade logistics ● Promote the steady development of diversified businesses in a coordinated manner
 <p>Innovative Models Enhances Vitality</p>	<ul style="list-style-type: none"> ● Strengthened strategic and systematic planning of technological innovations ● Made breakthroughs in a batch of key technologies for cost cutting and efficiency improvement ● Accelerated the commercialization of key technological achievements ● Made national and provincial-level scientific research project management and control systems more effective ● Completed the special task of streamlining businesses 	<ul style="list-style-type: none"> ● Make concentrated efforts in tackling generic technologies and key technologies ● Accelerate the commercialization of technological achievements ● Fully stimulate the vitality of scientific and technological staff ● Further promote the system reform
 <p>Whole-process Safe and Stable Operation</p>	<ul style="list-style-type: none"> ● Firmly implemented the "one-vote veto" system in work safety ● Withdrew work safety funds in full and used the funds in line with relevant rules ● Continued the in-depth investigation and rectification of safety hazards and realized regular self-examination and reporting of hazards ● Carried out the Work Safety Month campaign, fulfilled safety responsibilities, raised safety awareness ● Built an intelligent workplace, and promoted safe technology to cover key areas of work safety ● Improve occupational health management 	<ul style="list-style-type: none"> ● Strengthen precise management and improve safety management ● Identify and eliminate safety hazards in an all-round way, resolutely guarantee work safety ● Review and investigate major accidents, identify the persons responsible for the accidents, and take corresponding rectification measures

	Review 2019	Outlook 2020
 <p>Staff Team Seeks Better Growth</p>	<ul style="list-style-type: none"> ● Optimized the salary structure and promoted the effect of incentives for talented people ● Introduced a four-dimensional human resources management plan to provide two-way development opportunities for talented people ● Focused on the scientific allocation of human resources and activated the in-house talent market ● Promoted exchanges of officials with external stakeholders and optimized the growth path of talented people ● Organized abundant activities for the work-life balance of employees and strengthened support for employees in need 	<ul style="list-style-type: none"> ● Promote the strategy of strengthening the enterprise through talented people to develop in depth and breadth ● Promote the building of a basic human resources management system ● Explore to establish a multi-optional career development path for talented people ● Launch the youth talent training program ● Improve the incentive and constraint mechanisms
 <p>Eco-friendly Construction Facilitates Environmental Protection</p>	<ul style="list-style-type: none"> ● Promoted environmental governance in key areas for the clean production processes of mining and smelting operations ● Put an accountability system in place for the fulfillment of annual targets of energy conservation and emission reduction ● Established platforms for communication and cooperation on energy saving and environmental protection issues ● Promoted green construction ● Developed green businesses 	<ul style="list-style-type: none"> ● Build an energy saving and environmental protection industry platform ● Strengthen precise management and ensure the standardization of environmental protection in construction ● Fulfill the main responsibilities of pollution prevention and control, comprehensively investigate potential pollution hazards and prevent major pollution accidents ● Improve the comprehensive utilization rate of energy to realize energy saving and consumption reduction ● Vigorously promote environmental protection businesses and explore the development path of a circular economy ● Conserve biodiversity
 <p>Openness and Cooperation Promotes Mutual Benefit</p>	<ul style="list-style-type: none"> ● Improved the product-service system ● Carried out technical cooperation with external institutions ● Strengthened communication and exchanges, and increased areas of cooperation ● Built a sustainable supply chain and conducted supplier management ● Organized public welfare donations, volunteer services, and other public welfare activities 	<ul style="list-style-type: none"> ● Improve product quality and create quality service ● Consolidate the cooperation results, expand the space for cooperation, and achieve win-win and coordinated development in more areas ● Innovate in the poverty alleviation model and make constant efforts in targeted poverty alleviation ● Engage in community building

Appendix

Sustainability Performance

Economic Performance	2015	2016	2017	2018	2019
Operating income (RMB 100 million)	2,004	4,355	4,934	5,297	6,104
Operating income (RMB 100 million)	77.86	184.36	182.26	200.31	224.11
R&D investment (RMB 100 million)	33	38	59	79	120
Number of new patents	198	3,148	3,709	4,641	4,278

Environmental Performance	2015	2016	2017	2018	2019
Year-on-year decline in energy consumption (%)	24.01	2.00	2.50	10.8	9.5
Year-on-year decline in SO ₂ emissions (%)	11.15	5.70	4.40	40.7	62.0
Number of environmental training sessions	4	267	817	1,637	9,003
Number of environmental training participants	1,770	13,670	38,160	94,696	250,000

Social Performance	2015	2016	2017	2018	2019
Number of employees	143,517	192,023	196,609	186,258	199,141
Number of female employees	22,324	-	45,200	40,977	39,828
Work safety investment (RMB 10,000)	39,308	189,093	299,058	404,000	559,395
Number of fatalities	3	3	16*	18*	24*
Number of employee training participants	149,153	263,087	317,713	355,441	421,655
Proportion of contracts executed (%)	100	100	100	100	100

* Including construction personnel of labor outsourcing

Assurance Statement



社会责任报告验证声明书

Assurance Statement of Corporate Social Responsibility Report

TUV Asia Pacific Ltd. (‘TUV NORD’) has been commissioned by the management of China Minmetals Corporation (‘China Minmetals’ for short) to carry out an independent assurance of the *2019 sustainability Report* (‘the report’ for short) .

China Minmetals is responsible for the collection, analysis, aggregation and presentation of information within the report. TUV NORD’s responsibility in performing this work (assurance of the report) is in accordance with terms of reference agreed in the scope of engagement with China Minmetals. China Minmetals is the intended users of this statement.

This statement is based on the assumption that the data and information provided in the report is complete and true. This report is the thirteenth report of China Minmetals, and it’s the forth time for China Minmetals to invite TUV NORD give an independent assurance.

Assurance Scope

- The report revealed the accuracy and reliability for key performance, information and management system which happened in 2019.
- Due to the impact of the Covid-19 this year, according to the request of China Minmetals, it was changed to online remote audit.
- We evaluate the collection, analysis, aggregation of the information and data.

Online assurance of the Report was done on June 4-5, 2020.

Assurance Methodology

Assurance process including following activities:

- Review the document information which provide by China Minmetals;
- Interview the person who collected the report information;
- View the related websites and media reports, verify the data and information through sampling method;
- Refer to GRI Sustainability Reporting Guideline(GRI Standards) on balance, comparability, accuracy, timeliness, clarity, reliability, and give the evaluation;
- Refer to AA1000AS (2008) Assurance methodology;
- Assurance activity is based on TUV NORD CSR report assurance management procedure.

Assurance Conclusion

China Minmetals sustainability Report provides an appropriate and objective view of the sustainability & social programs and performances in 2019. The data in report is reliable and objective, TUV NORD didn’t find the system error or substantial error, which meets the disclosure requirement of GRI Standards core option.



- The structure of report is complete, the revealed information is clear, easy-understand and available;
- The report disclosed the company’s social responsibility performance in 2019 from six chapters, such as “High-quality Development Boosts Remarkable Achievements” and “Whole-process Safe and Stable Operation”. In addition, it sorted out the development of China Minmetals in the past 70 years and the promotion of poverty alleviation in two Features, so that stakeholders have a deeper understanding of the development of China Minmetals;
- The report benchmarks the ten principles of the United Nations Global Compact and the United Nations Sustainable Development Goals (SDGs).

Suggestion for improvement

Through assurance and evaluation, we had following improvement suggestion on CSR practice and management:

- For data in key performance with large changes, it is recommended that the changes can be supported by cases or action plans;
- It is recommended that the company can regularly update corporate responsibility dynamic information through multiple channels so that stakeholders can further understand the progress of corporate social responsibility.

Special statement

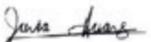
This statement excluding:

- The activity outside information reveal;
- The position, idea, faith, object, future developing direction, and promise which stated by China Minmetals.

Statement of Independence and Competence

TUV NORD Group is the world’s leader in inspection, testing and verification, operating in more than 70 countries throughout the world and providing services which includes management systems and product certification; quality, environmental, social and ethical auditing and training; environmental; social responsibility and sustainability report assurance.

TUV Asia Pacific Ltd. affirms its’ independence from China Minmetals and confirms that there is no conflicts of interest with the organization or any of its subsidiaries and stakeholders when performing the assurance of the Report. TUV Asia Pacific Ltd. was not involved in any manner with China Minmetals , when the latter was preparing the Report.



The team leader: Ms. Huang Li
Date :15.06.2020



The Authorized person: Mr. Song Haining
Date: 15.06.2020

Note: When there is a conflict between the declared in Chinese and English versions, please prevail in Chinese.

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Feedback Sheet

Dear readers:

Thank you for reading the report. Any constructive suggestions to improve our CSR program and the quality of our sustainability reports are welcomed. Thank you for your support.

1.To China Minmetals, you are a/an:

- customer government agency employee supplier (in its broad sense, including contractor)
- environmental protection organization/NGO charity media The public others

2.Your overall impression of the sustainability report:

- Very good Good Fair Poor Very Poor

3. What do you think of this report?

	Very good	Good	Fair	Poor	Very Poor
Information quality	<input type="checkbox"/>				
Structure	<input type="checkbox"/>				
Layout and design	<input type="checkbox"/>				
Readability	<input type="checkbox"/>				

4.What are the most important issues to you?

5.If you have any comments or suggestions on our CSR program and sustainability report, please specify.
