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Zijin Mining Group Co., Ltd.*

紫金礦業集團股份有限公司

(a joint stock limited company incorporated in the People's Republic of China with limited liability)
(Stock code: 2899)

2018 Environmental, Social and Governance Report

Attached herewith the 2018 Environmental, Social and Governance Report of Zijin Mining Group Co., Ltd.* (the "Company") for the period from 1 January 2018 to 31 December 2018.

Investors and shareholders are advised by the board of directors to exercise caution when dealing in the securities of the Company.

This report is written in both Chinese and English. In the case of any discrepancies, the Chinese version shall prevail over its English version.

As at the date of this announcement, the Board of Directors of the Company comprises Messrs. Chen Jinghe (Chairman), Lan Fusheng, Zou Laichang, Lin Hongfu, Fang Qixue, and Ms. Lin Hongying as executive directors, Mister. Li Jian as non-executive director, and Messrs. Lu Shihua, Zhu Guang, Sit Hoi Wah, Kenneth, and Cai Meifeng as independent non-executive directors.

By Order of the Board of Directors
Zijin Mining Group Co., Ltd.*
Chen Jinghe
Chairman

Fujian, the PRC, 24 July 2019

** The Company's English name is for identification purposes only*

Content

	Page
Definition	5
Part I. 2018 Environmental, Social and Regulatory Report	7
Remarks by the chairman	9
About the report	12
Company profile	13
Enterprise culture	14
The core ideas of Zijin enterprise culture	14
A responsible Zijin - leading sustainable management	15
Missions and goals for social responsibilities	15
Social responsibility beliefs	15
Management system of social responsibilities	16
Social responsibility risk management	16
Communication with stakeholders	16
Major awards received in respect of corporate responsibility during 2018	18
Earn respect with quality products - driving industrial innovation	19
Corporate governance	19
Scientific and technological innovation	20
Sustainable exploitation of resources	23
Supply chain management	25
Product quality and customer satisfactory management	25
Prohibition of commercial bribery and corruption	26
A green Zijin - focusing on energy conservation and emission reduction	29
Environmental management system	29
Emergency management for environmental risks	30
Clean production	31
Water conservation management	31
Wastewater management	33
Exhaust gas management	35
Management of general solid waste and hazardous waste	36
Eco-mine development	38
Environmental protection education and training	42
Energy management	43
A safe Zijin - relentless pursuit of production safety	47
Production safety management	47

Measures and effectiveness of production safety	48
Emergency management of safety risks	51
Safety management for contractors	52
Management of explosives for civil use and hazardous chemicals	53
Safety education and training	54
Occupational health	55
People-oriented approach - caring for the development of employees	59
Equality and protection for employment	59
Employees' career development	60
Trainings for employees	61
Salary and benefits	62
Caring for employees	62
Charity practice - contribution to local communities	65
Community building and social welfare	65
Precise poverty alleviation	69
Voluntary services	71
An internationalised Zijin - first-mover of the Belt and Road Initiative	73
Overview of major overseas operations	74
Appendix	79
Index for indicators in the report	79
Opinion and feedback	83
Part II. 2018 Environmental Report	86
1 Chairman's statement	88
2 Overview of the Company	96
2.1 Information of the Company	96
2.2 Enterprise culture	97
2.3 Organisational structure	97
2.4 Party development in Zijin Mining	98
2.5 Zijin's products	99
2.6 Zijin in the spotlight	100
3 Environmental management	106
3.1 Environmental protection beliefs	106
3.2 Environmental management hierarchy and environmental protection targets	106
3.3 Certification of environmental management system	108
3.4 Development of circular economy	108
3.5 Management of hazardous chemicals	109
3.6 Environmental information disclosure	110
3.7 Training on environmental protection	110

3.8 Biodiversity conservation	113
4 Environmental emergency incident	122
5 Compliance with environmental protection laws and regulations	122
5.1 Environmental impact assessment and implementation progress of the “three simultaneous” policy	122
5.2 Application status for pollutant discharge permits	126
5.3 Emission of pollutants within regulatory limits	128
5.4 Payment of environmental protection tax	128
5.5 Regulating discharge outlets and automatic monitoring	128
5.6 Treatment and disposal of general industrial solid waste and hazardous waste	129
5.7 Implementation of clean production	130
5.8 Formulation and implementation of environmental risk and emergency response policies	130
5.9 Promotion for environmental protection	132
5.10 Awards received for environmental protection	135
6 About the report	137
6.1 Branch companies and subsidiaries of the Company covered in the 2018 Environmental Report	137
6.2 Period of 2018 Environmental Report	137
6.3 Third-party verification on environmental data	138
6.4 Warranty and commitment to enhance the accuracy and reliability of the 2018 Environmental Report	138
6.5 Publication of the 2018 Environmental Report	138
6.6 Opinion and feedback channels	138
7 Conclusion	138

Definition

A Share(s)	The domestic share(s) issued by the Company to domestic investors with a nominal value of RMB0.10 each, which are listed on the Shanghai Stock Exchange
Altynken	Altynken Limited Liability Company, a subsidiary of the Company
Ashele Copper, Xinjiang Ashele, Xinjiang Ashele Copper	Xinjiang Habahe Ashele Copper Company Limited, a subsidiary of the Company
Bayannaoer Zijin	Bayannaoer Zijin Non-ferrous Metals Company Limited, a subsidiary of the Company
Board, Board of Directors	The board of Directors of the Company
Company, Zijin Mining, Zijin	Zijin Mining Group Co., Ltd.*
CSRC	China Securities Regulatory Commission
Director(s)	The director(s) of the Company
DR Congo	The Democratic Republic of the Congo
Duobaoshan Copper, Heilongjiang Duobaoshan Copper	Heilongjiang Duobaoshan Copper Co., Ltd., a wholly-owned subsidiary of the Company
Group	The Company and its subsidiaries
Guizhou Zijin	Guizhou Zijin Mining Company Limited, a subsidiary of the Company
H Share(s)	The overseas-listed foreign invested share(s) in the Company's share capital, with a nominal value of RMB0.10 each, which are listed on the Hong Kong Stock Exchange
Hong Kong Stock Exchange	The Stock Exchange of Hong Kong Limited
Hunchun Zijin	Hunchun Zijin Mining Company Limited, a wholly-owned subsidiary of the Company
Jilin Zijin Copper	Jilin Zijin Copper Company Limited, a wholly-owned subsidiary of the Company
Jinbao Company, Xinjiang Jinbao	Xinjiang Jinbao Mining Company Limited, a subsidiary of the Company
Jinzhong Mining, Inner Mongolia Jinzhong Mining	Inner Mongolia Jinzhong Mining Company Limited, a wholly-owned subsidiary of the Company
Kamoa Copper	Kamoa Copper SA
Kamoa Holding, KHL	Kamoa Holding Limited
Kuitun Tongguan Metallurgical Chemical	Kuitun Tongguan Metallurgical Chemical Company Limited, a subsidiary of the Company
Longnan Zijin	Longnan Zijin Mining Company Limited, a subsidiary of the Company
Longxing, Russia Longxing	Longxing Company Liability Limited, a subsidiary of the Company
Luoning Huatai	Luoning Huatai Mine Development Co., Ltd., a subsidiary of the Company
Luoning Zijin	Luoning Zijin Gold Refining Co., Ltd., a subsidiary of the Company
mu	A unit measurement of land area in the PRC, equivalent to approximately 667 square metres
Musonoie, Musonoie Mining, COMMUS	La Compagnie Minière de Musonoie Global SAS, a subsidiary of the Company
Nevsun	Nevsun Resources Ltd., a subsidiary of the Company and delisted in March 2019
Norton	Norton Gold Fields Limited, a wholly-owned subsidiary of the Company
Papua New Guinea	Independent State of Papua New Guinea
Porgera Joint Venture	Porgera Joint Venture

PRC	The People's Republic of China but for the purpose of this report, excludes Hong Kong SAR, Macau SAR and Taiwan
Processing Chemicals Company	Fujian Zijin Processing Chemicals Company Limited, a subsidiary of the Company
RMB	Renminbi, the lawful currency of the PRC
RTB Bor	Rudarsko-Topioničarski Basen RTB Bor Doo, changed its name to Serbia Zijin Bor Copper doo Bor after the acquisition, a subsidiary of the Company
Shanxi Zijin	Shanxi Zijin Mining Company Limited, a wholly-owned subsidiary of the Company
Testing Company	Fujian Zijin Mining and Metallurgy Testing Technology Company Limited, a wholly-owned subsidiary of the Company
West Copper, Qinghai West, Qinghai West Copper	Qinghai West Copper Company Limited, a wholly-owned subsidiary of the Company
Wulatehouqi Zijin	Wulatehouqi Zijin Mining Company Limited, a subsidiary of the Company
Wuping Zijin	Wuping Zijin Mining Company Limited, a subsidiary of the Company
Zeravshan	Joint Venture Zeravshan Limited Liability Company, a subsidiary of the Company
Zijin Copper	Zijin Copper Company Limited, a wholly-owned subsidiary of the Company
Zijin Gold Refinery Company	Zijin Mining Group Gold Refinery Company Limited, a wholly-owned subsidiary of the Company
Zijin Tungsten, Wenshan Malipo Zijin	Wenshan Malipo Zijin Tungsten Group Company Limited, a subsidiary of the Company
Zijin Zinc Industry, Xinjiang Zijin Zinc Industry	Xinjiang Zijin Zinc Industry Company Limited, a wholly-owned subsidiary of the Company

Part I. 2018 Environmental, Social and Regulatory Report



紫金礦業集團股份有限公司
Zijin Mining Group Co., Ltd.

2018年度環境、社會及管治報告
Environmental, Social and Regulatory Report



Remarks by the chairman



**Mr. Chen Jinghe, Chairman of the Board of Directors and Secretary of the Party
Committee of Zijin Mining Group Co., Ltd.***



Mineral resources are the significant material base for human beings' existence and development, occupying a crucial position in the evolution of the economy and the society. Owing to the accelerating course of China's reform and opening-up and our arduous striving over the past 25 years, Zijin Mining has stepped up to become a large-scale mining group at its beginning stage of internationalisation. As the beneficiary of the era, we stick to the development principle of "founding business on mining, making contribution to the country and the people" and firmly move along the path of innovation and development, realising significant progress in terms of major financial indicators, comprehensive sustainable development and active fulfillment of social responsibility.

In 2018, the world's economic landscape experienced profound adjustments and the Chinese economy made entrance to a new era of quality development. We firmly upheld the work focus of "clinging to reforms, stabilising growth and boosting development", deepened the reform on management system of the Company, realised steady and healthy growth in the aspects of asset scale, operating income, profit, operating cash flows, etc., and generated decent return for shareholders and investors. We are engaged in mine development around the globe, with investments in mining projects in 5 continents and 9 overseas countries, employing around 30,000 Chinese and foreign employees. We successfully acquired two significant resources projects, namely RTB Bor in the Republic of Serbia and Nevsun in Canada, which considerably raised the strategic resources reserve. Copper resources reserve volume exceeds 49.5 million tonnes, which is close to the level of top international mining companies and provides new driving force for the sustainable development of the Company and locality of the projects.

Based on the values of "creating wealth in harmony, balancing development of the corporation, the employees and the society", we carried out our duties as a citizen in the mining industry. We persisted in compliance with laws and regulations in operation, promoted integration of Zijin's innovative ideas and local culture of the places where the projects are situated, and fully pushed forward safety and environmental protection, occupational health, human rights and development of "local enterprises". We implemented the idea of "a high degree of unity between mine development and ecological environment remains compulsory" and benchmarked against the environmental protection criterion of "the higher standard shall prevail", therefore presenting the beautiful namecard of domestic and overseas green mines of Zijin Mining. Innovation of science and technology and informatisation development of traditional mining industry were consistently explored, which pushed forward the implementation of Zijin plan and Chinese standards in underdeveloped regions. With gratitude to our place of origin, we worked on precise poverty alleviation and deep integration among poverty alleviation, increasing people's confidence and assistance in improving their ability, in order to help them live a better life and benefit more people through our efforts.

The year 2019 is the 70th anniversary of the founding of the PRC, which also renders a year of sprinting to the strategic goal of internationalisation. At the new historical starting point, we have a clearer and more thorough understanding of the responsibilities we are shouldering than ever before. We will always bear in mind to integrate Zijin Mining's global mining dream into the Chinese Dream, and ensure that the Company's strategic goal of internationalised development will be compatible with the long-term development goal of the society. Corporate responsibilities in legal compliance, environmental protection, economy, employees, industry and communities will be actively carried out, and quality mineral raw materials will be provided consistently for the development of the society and economy. We shall be a warm, responsible, daring, committed and trust-worthy large-scale international mining group in the society, instead



of sacrificing the well-being of human existence and development for short-term benefits.

We are fully aware that the development of enterprise is intimately intertwined with state strategies and development of the society and people. The existing achievements of Zijin Mining are obtained on the basis of support and help from various social sectors. During the new era, we will always bear in mind the return expectation of shareholders and investors, the longing for a good life of employees and the development of communities and locality of the projects, and create more enduring and sustainable economic and civilisational values powered by innovative development.



About the report

This is the 11th corporate social responsibility report that the Company has published since 2008, and is also the 3rd Environmental, Social and Regulatory Report (ESG). The Company's management policies, actions and performance in the aspects of corporate governance, environmental protection, production safety, employee rights, social welfare and innovation in science and technology are disclosed.

Reporting period

The reporting period is from 1 January 2018 to 31 December 2018. Certain descriptions and data are related to prior periods to enhance comparability.

Publication interval

This report is published on a yearly basis.

Reporting scope

The contents in this report cover the Company and its major subsidiaries.

Expression of the Company's name

"Zijin Mining Group Co., Ltd.*" is referred to as "Zijin Mining", "Zijin" and "the Company" in this report.

Sources of data

The data used in this report is extracted from the Company's official documents and statistical reports.

Basis for the compilation

Shanghai Stock Exchange: Guidelines on Preparation of Report on Company's Performance of Social Responsibilities

Hong Kong Stock Exchange: Environmental, Social and Governance Reporting Guide

The Global Reporting Initiative (GRI): Sustainability Reporting Guidelines

Guidance on social responsibility reporting (GB/T 36001-2015)

Chinese Academy of Social Sciences: Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises CASS-CSR4.0 - General Mining Industry



Company profile

Zijin Mining Group Co., Ltd.* is a sizeable mining group focusing on exploration and development of gold, copper, zinc and other metal mineral resources. The Company is listed in the H Share market of Hong Kong and then in the A Share market of Shanghai successively, with all of its shares listed. The metal resources reserve volumes of gold, copper and zinc, which are the Company's major products, and the production volumes of mineral products are among the top three in the PRC mining industry. With total assets and operating income both exceeding RMB100 billion, the Company is one of the large-scale mining companies in the PRC with the best efficiency and the largest volume of metallic mineral resources under control, and one of the most competitive as well. The rankings published by the Forbes Magazine in 2018 show that the Company ranked 947th in the list of "Global 2000: World's Largest Public Companies", 14th among the global non-ferrous metals corporations and 2nd among the global gold corporations, and 82nd in Fortune China 500 for the year 2018.

The Company's major investment projects currently spread across 23 provinces and regions in the PRC and 9 overseas countries. Its major mines in the PRC include the Zijinshan gold and copper mine in Shanghang, Fujian Province, the Hunchun gold and copper mine in Jilin Province, the Ashele copper mine in Xinjiang, the Duobaoshan copper mine in Heilongjiang Province and the Wuqia zinc mine in Xinjiang; it owns interest in 12 major overseas mines in current production including the Porgera gold mine in Papua New Guinea, the Kolwezi copper mine in the DR Congo, the Tuva zinc mine in Russia, etc., and the world-class super-large-scale and high-grade copper mines in construction including the Kamoa copper mine in the DR Congo and the Timok copper mine in Serbia, etc. Among which, the Kamoa copper mine, with copper metal resources reserve volume of 42.49 million tonnes, is the largest copper mine in Africa and also the fourth largest copper mine in the world. Currently, the volume of controlled resources, production volume of mineral products and amount of profits of overseas projects represent over one-third of those of the Group respectively. The Company has become one of the Chinese enterprises with the largest production volume of mineral products and resources reserve volume overseas.

Innovation, especially those in the field of science and technology, is the Company's core competitiveness. The Company has the advantages of possessing abundant practical experience and leading technological comparative advantages in the industry in the aspects of geological prospecting, hydrometallurgy, comprehensive recovery and utilisation of low-grade refractory resources, large-scale engineering development and so on. It always takes safety and environmental protection as the lifeblood in its existence and development, fully promotes the development of green mines and ecological civilisation, and has a leading position in the industry in the aspects of comprehensive resources utilisation level and energy consumption indicators. The Company practises the enterprise value of "creating wealth in harmony, balancing development of the corporation, the employees and the society", and proactively discharges its social responsibilities as well. It was awarded "China Charity Award" for three times.

The Company proactively echoes to the national strategy of the "Belt and Road Initiative", insists on innovation and development, internationalisation, project upsizing and asset securitisation, endeavours to become an extra-large scale international mining group with high technology and efficiency, and assists the economic development of China and the world by providing quality mineral raw materials.

Enterprise culture

Zijin Mining insists on integrating the core socialist values with the actual situation of the corporation. It has achieved fruitful outcomes in terms of material, political, spiritual, social and ecological civilisations, and promotes the innovation and continuity of Zijin's culture. In 2017, the Company was awarded the title of National Civilised Unit for the Fifth Term from the Central Guidance Commission on Building Spiritual Civilisation.

The core ideas of Zijin enterprise culture

Corporate tenet: Founding business on mining, making contribution to the country and the people

Mission: Assisting the economic growth of China and the world by providing quality mineral resources and becoming an important force in the global metal and mining markets

Vision: To become a globally important gold and metal raw material producer, gain broad recognition from mining counterparts, stakeholders and employees worldwide

Strategic goals: To build an extra-large scale international mining group with advanced technology and efficiency, constantly create value for the society and investors, and benefit our employees and stakeholders at the same time

Value: Creating wealth in harmony, balancing development of the corporation, the employees and the society

Corporate spirit: Founding the business by overcoming hardships with exploratory and innovative spirits

Operational philosophy: Earning respect with quality products, achieving mutual benefits and win-win situation

Operational belief: People orientation, striving for excellence

Rules for employees: Integrity, diligence, cooperation and friendship

Policy on environmental protection and safety: Life comes first, giving priority to environmental protection





A responsible Zijin leading sustainable management

Missions and goals for social responsibilities

Zijin Mining formulates its missions and goals for social responsibility according to its corporate strategic goals. During the formulation of corporate strategies and daily operation, social responsibility beliefs and acts are taken into account in order to satisfy the expectations of the society and the stakeholders of the enterprise, and achieve the integration of sustainable development and fulfillment of social responsibilities.

Missions of the corporation's social responsibilities:

Sustainable mining, supplying responsible mineral products and promoting civilisation advancement and economic development.

Goals of the corporation's social responsibilities:

Keeping harmonious relationship with the environment and stakeholders to become a respectable extra-large scale international mining group with advanced technology and efficiency.

Social responsibility beliefs

Fulfill legal responsibility: Legal responsibility is the most fundamental social responsibility of the Company. The Company shall comply with all applicable laws and regulations, conform to industrial standards, manage and operate its business in compliance with laws and regulations with integrity, and assume the duties of a corporate citizen.

Fulfill environmental responsibility: Environmental responsibility is the most important social responsibility of the Company. The Company shall respect the nature, protect the environment, minimise the impacts of its operation on the environment, target to achieve “zero environmental incident”, and insist on being an advocate for eco-mining.

Fulfill economic responsibility: The Company's sustainable value is reflected by its profit creation ability and assumption of economic responsibility. The Company shall achieve innovation in technology and management, enhance profitability and competitiveness, and return to investors and the society.

Fulfill responsibility to employees: Employees are the Company's most vital stakeholders. The Company shall respect human rights, comply with applicable labour conventions, provide safe and healthy occupational conditions to protect employees from physical and mental harms, and help them have a decent life.

Fulfill responsibility to the industry: The Company shall make contribution to the country by promoting the betterment of the industry, and go forward hand in hand with stakeholders. It shall implement responsible procurement and supply and provide responsible and quality mineral products. It shall also incorporate ethical, social and environmental standards into the upstream and downstream cooperative arrangements, optimise the value chain of mining industry, and lead the scientific development of the industry.



Fulfill responsibility to communities: The Company shall be an ethical mining citizen, respect local cultures, promote traditional virtues, take an active role to implement community development schemes, carry out charitable activities, and promote harmonious development of the Company and the society.

Management system of social responsibilities

Under the leadership of the Board and the management, Zijin Mining has established a unified, effective organisation and management system of social responsibilities based on three aspects, namely decision-making, operation and execution. The Company has established the Social Responsibilities Working Committee, Social Responsibility Department at the headquarters and responsible management departments at the subsidiaries, which are staffed with full-time or concurrent staff to manage social responsibility affairs, realising the organic combination of social responsibility management and corporate management system.

Under the Social Responsibilities Working Committee, there are one leading team and three working teams. The leading team is composed of members of the Company's Board and management, which is mainly responsible for guiding and formulating the working missions, strategies and fundamental rules and systems of the Company's practice of social responsibilities, researching and decision-making for significant matters relating to the Company's environmental protection, social and corporate governance, assessing and determining the risks of such areas and if the internal control system is appropriate and effective, strengthening management and controlling capacity, guiding and reviewing information disclosure including social responsibility report cum ESG report (environmental, social and governance) to ensure that the information disclosed relating to social responsibilities is comprehensive and standardised, and improve the structure of the organisations responsible for social responsibility work. It also guides, supervises and assesses the work of its subordinate teams.

Social responsibility risk management

For the purpose of continuously managing and lowering the risks on the economy, society and environment possibly arising from corporate operation, the Company compiles "Social Responsibility Risk Diagnosis Service and Internal Supervision on Responsibility Fulfillment Handbook" in accordance with the supervisory rules of the stock exchanges of Shanghai and Hong Kong, social responsibility management systems including ISO 26000, SA8000 and other standards including the United Nation Global Compact, Guiding Principles on Human Rights, etc. A review system comprising of eight responsibility issues and forty indicators is formed. Areas with potential risks including compliance of laws and regulations, environmental quality and occupational health and safety, community development and communication, responsible supply chain, employee rights, human rights, information disclosure, etc. are the key items to be assessed and controlled. The Company also supervises its enterprises to implement effective measures for risk control and management, elimination, review and management of hidden dangers, in order to attach the Group's social responsibility strategies into every task in each unit's daily operation, and ensures that each unit of the Group has sustainable development.

Communication with stakeholders

The Company highly values communication and exchange with stakeholders. Its social responsibility beliefs and practices are promoted through various channels. It also listens to the requests of the stakeholders, takes corresponding measures to meet their reasonable expectations and demands, and ensures that the Company has a stable internal and external development.

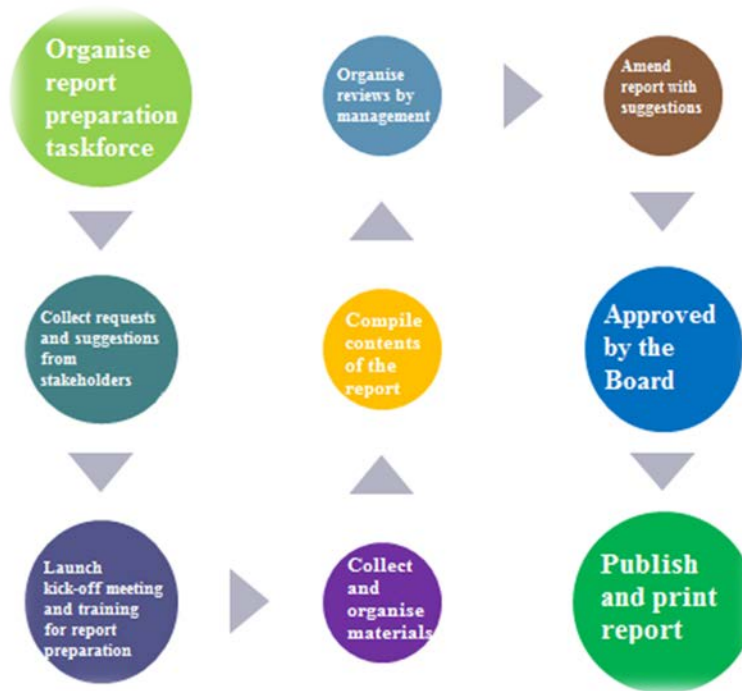
Identification of social responsibility issues

The Company carried out research based on two aspects, namely “the importance to the Company’s sustainable development” and “the importance to the stakeholders’ sustainable development”, taking into account the Group’s core strategies from the aspects of economy, environment and the society. Important and substantial issues mutually concerned by the Company and the stakeholders were identified and selected to be included in the report.

Category of stakeholders	Issues concerned	Communication channel/feedback method	Frequency/time
Employee	Employment and labour, salaries and benefits	- Employee performance appraisal and interview - Seminar	Irregular
Shareholder/investor	Operating performance, ESG management belief	- Shareholders’ general meeting/extraordinary general meeting - Investor meeting - Results press conference - Press release/announcement - Field study	Year-end /interim
Government department	Eco-production, legal compliance	- Field study - Meeting	Weekly
Supplier	Product responsibility, supply chain management, operating performance	- Field study - Meeting	Irregular
Community representative/social organisation/non-governmental organisation	Eco-production, product responsibility	- Field study - Meeting	Irregular
Media	Community investment, product responsibility	- Press release/announcement - Meeting	Irregular



Preparation procedures of the Report



Major awards received in respect of corporate responsibility during 2018

Number	Award	Institution
1	947th in the list of “Global 2000: The World’s Largest Public Companies”, 14th among the global non-ferrous metals corporations and 2nd among the global gold corporations	Forbes Magazine
2	82nd in Fortune China 500	Fortune
3	7th in top 100 Fujian enterprises	Fujian Enterprises and Entrepreneurs Confederation
4	Excellent national organiser of Ankang Cup	All-China Federation of Trade Unions and the Ministry of Emergency Management of the PRC
5	Green enterprise management award for the year 2018	China Environment News
6	10th on the 15th China Charity Rankings (2017)	China Philanthropy Times
7	SynTaoGF - Caixin ESG 50 Index	Caixin Media
8	CSR Cloud ESG100	China Academy of Social Sciences, CSR Cloud
9	48th in Top 500 Chinese Enterprises for Corporate Social Responsibility	China Enterprise Evaluation Association
10	National Model of Harmonious Community Enterprise	China Enterprise Evaluation Association



Earn respect with quality products driving industrial innovation

Corporate governance

Pursuant to the stipulations of the Company Law of the PRC, the Securities Law of the PRC, Code of Corporate Governance for Listed Companies, Rules Governing the Listing of Stocks on Shanghai Stock Exchange, Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited, the Company's articles of association and other relevant laws and regulations, Zijin Mining continues to improve and optimise its corporate governance system proactively. During 2018, the Company pushed forward reform on corporate governance mechanism in a fast but steady manner. Through designing the top level and revising policies, the Group's corporate governance system was further optimised. The important position of the Party Committee and the Board in leadership and decision-making of significant matters was established, and the decision-making function of the Execution and Investment Committee of the Board in significant production and operation, major human resources matters and investment was clarified. At the same time, through delegation of authorities to subordinate levels, clarification of authorisations, division of job functions, optimisation and simplification of approval procedures, enhancement of corporate governance status of subsidiaries and establishment of information database for the Board's strategic decision-making, a concise, regulated and efficient operation and management system was formed, the Company's management capability and modernised governance level were enhanced, and there was an obvious improvement in the enterprise's vitality of sustainable development.

Information disclosure

The Company strictly followed the listing rules of the PRC and Hong Kong, fulfilled information disclosure obligations in accordance with laws and complied with the principles of "fairness, impartiality, openness" to disclose relevant information in its periodic reports and announcements truthfully, accurately, timely and completely. The Company always maintains a relatively high information disclosure level and proactively discloses sensitive information pursuant to the requirements of supervisory authorities, ensuring the Company's operation in a regulated manner effectively. In 2018, the Company's work of information disclosure obtained grade A, the highest level in the rating of the Shanghai Stock Exchange. The Company has also been granted the title of "Company of Outstanding Information Disclosure" for five consecutive years.

Management of inside information

The Company strictly followed the Management Policy of Inside Information and Insiders, worked well on registration, reporting and filing of insiders based on the development of the relevant significant events and the situations for which maintaining confidentiality was required. There was no unusual volatility of the Company's stock price attributable to leakage of inside information. The principle of fairness in information disclosure was upheld, and the legitimate interests of the Company's shareholders were practically protected.

Investor relations management

The Company pays attention to investor relations management. Through adequate information disclosure, regular and occasional roadshows and reverse roadshows, attending investor meetings held by securities companies, on-site receptions of investors, teleconferences, interaction via online platforms, etc.,



communication and interactions with investors were carried out through various channels, which help investors understand the Company's business and development status, and address investors' concerns promptly. In 2018, the Company received numerous groups of local and overseas investors, hosted interim and annual results briefings and roadshows in Shanghai and Hong Kong, and successfully organised on-site research activities at the Xinjiang Ashele copper mine and other activities.

Protection of investors' rights and interests

The Company convened shareholders' general meetings strictly in compliance with the provisions of the articles of association of the Company and the Rules Governing the Procedures of the Shareholders' General Meeting of the Company, which ensured that all of the Company's shareholders, especially minority shareholders, could enjoy equal rights. The Company and its substantial shareholder are completely independent and separate in terms of assets, personnel, finance, institution and operation; the controlling shareholder of the Company strictly complies with the commitments made to the Company to avoid mutual competition within the same industry. During 2018, the controlling shareholder of the Company did not use its special status to encroach and prejudice the interests of the listed company and other shareholders.

Return to investors

Always attaching great importance to shareholders' return and protection of shareholders' interests, the Company maintains a comparatively high cash dividend payout ratio for many years. The amount of dividend distributions for the recent three years far exceeded the amounts under "Profit Distribution and Return Plan for the Next Three Years (Year 2015-2017)". On 29 June 2018, the Company distributed cash dividend of RMB0.09/share (tax included) for the year 2017, totalling RMB2.073 billion in cash, accounting for 59.09% of the Company's net profit attributable to owners of the parent for the year 2017.

Scientific and technological innovation

Zijin Mining adheres to the ideology of "science and technology create Zijin", considering scientific and technological innovation as its core competitiveness. The Company owns the exclusive State Key Laboratory in the Chinese gold industry - the State Key Laboratory of Comprehensive Utilisation of Low-grade Refractory Gold Resources, as well as the first workstation for post-doctors in the Chinese gold industry. The Company possesses testing platforms and capability for lab-scale, pilot-scale and scale-up testing, and has leading technological comparative advantages within the industry in the aspects of biometallurgy of low-grade copper mineral resources, pressurised pre-oxidation of complex gold ore, separation and processing of polymetallic ores, extraction of rare and precious metals, high-value transformation, etc. It also ranks top in the aspects of research on process mineralogy and evaluation for gold and copper ores in the PRC.

During 2018, the Company invested RMB274 million in scientific research, obtained 1 and 6 scientific and technological awards at state level and provincial/municipal level respectively, as well as 18 patents. It also participated in and completed preparation work of 3 national standards and 10 group methods. The State Key Laboratory of Comprehensive Utilisation of Low-grade Refractory Gold Resources successfully passed the first assessment organised by the Ministry of Science and Technology of the PRC and received a "good" rating. Subsidiaries including Testing Company, Wulatehouqi Zijin, Zijin Tungsten and Kuitun Tongguan Metallurgical Chemical, etc., passed the certification of National High and New Technology Enterprise. The number of subsidiaries with the title of National High and New Technology Enterprise grew rapidly.



“Ammonia-cyanide selective gold extraction for copper-containing oxidised gold ore” of the Company won the China Patent Excellence Award. The super-fine grinding technology reform of the Tuva zinc and polymetallic mine in Russia, optimisation of refractory ore processing of Taror, Zeravshan and a number of other projects obtained material breakthroughs and generated significant benefits.

In order to adapt to the development needs of traditional industry in the Information Age, the Company fully initiated informatisation development for industrial upgrade. In 2018, the Informatisation Working Committee was formed within the Group, with Mr. Chen Jinghe, the chairman of the Board, serves as the chief officer. The “Five-Year Informatisation Development Plan” was formulated, raising the general objective and a three-step implementation plan for informatisation development, stressing that the Company should build up a modernised information management system to achieve a fully upgraded operational management. The Group made new progress for its informatisation, automation and intelligent development within the year 2018. The intelligent mine construction of the Zijinshan gold and copper mine was selected as a provincial key intelligent manufacturing project, while intelligent mine construction of Xinjiang Ashele Copper and Zijin Zinc Industry was carried out in good order. The intelligent truck dispatching systems of the Zijinshan gold and copper mine, Duobaoshan copper mine and Zijin Zinc Industry were put into operation, generating obvious improvement in production efficiency.

Case

Technological breakthroughs in Zeravshan’s Taror refractory ore comprehensive recovery project

The ores of the Taror mine are recognised as complex and refractory polymetallic ores by the industry, as the current mining area is situated in a mixed mineralised zone, where numerous types of oxidised and sulphuric ores coexist with vast varieties. There are as many as 8 types of useful and harmful elements. In addition, the gold is ultrafine gold particles, resulting in large fluctuation in grade, long technique processes and difficulties in adjusting and managing the processing techniques, as well as immense difficulties in reaching designated production volume and targets. Through a series of technological and management innovation including sophisticated ore blending, enhancing property studies of crude ore, transforming facilities in flotation processing bottlenecks, strict control of parameters and indicators of techniques, flexible adjustment of chemicals used, strengthening staff training and assessment, etc., Zeravshan obtained significant breakthroughs for the Taror refractory ore comprehensive recovery project in 2018. Comprehensive recovery rate of gold increased significantly by 17%, and the net profit newly generated in 2018 amounted to RMB126 million.



Case

Industrial application of superfine grinding technique of complex zinc and polymetallic ore at Longxing Company in Russia

During 2018, Longxing Company carried out laboratory research for superfine grinding technique of mixed ore concentrate of the Tuva copper-lead mine project, and completed industrial installation and tuning for the superfine grinding machine. Copper and lead concentrates reached the standards in the industrial trial run, and the recovery rate and grade of concentration of copper and lead increased to a large extent. The recovery rate of zinc increased by more than 3% at a stable level of 88~90%. It is expected that additional economic benefit of RMB80 million can be generated annually, realising prominent achievement in comprehensive recovery of resources.

Case

Guizhou Zijin obtained 6 national patents for filling and mining techniques

In 2018, Guizhou Zijin increased investment in scientific and technological research, carried out intensive research in comprehensive utilisation of slag materials, and successfully developed a technique of using neutralised calcium sulphate slag materials produced from pressurised pre-oxidation system as aggregates for underground filling. Six new national utility model patents, namely “a manufacturing device for filling pulp”, “a screening device for equipment converting tailings to pulp”, “a mixing equipment for filling pulp”, “a double spiral feeding device”, “a device for filling with solely tailings” and “an installation device for drain valve for mining” were formed, solving the technical difficulties in saturating, pulping and transporting neutralised calcium sulphate slag materials, as well as turning useless slags into usable treasures.

Case

Zijin Copper's technological project received specific award from the government for prevention and control of hazardous waste pollution

Zijin Copper's comprehensive utilisation of copper refining resources and harmless treatment project is an outsourced engineering project of Fujian Province in relation to prevention and control of hazardous waste pollution. It is the first project in the PRC to successfully achieve separation of valuable metals and arsenic in dust and copper sludge, and intensive harmless treatment of slags. The research project was jointly carried out by Central South University and Zijin Mining and Metallurgy Research and Design Institute. The project can carry out reuse of resources, harmless treatment, clean production and disposal for fly ash, sludge and other wastes produced in copper refining process. Zijin Copper received the Longyan City specific award for prevention and control of hazardous waste pollution in 2018.



Manufacturing device for targeted selection of rhenium from waste acid generated from copper refining and rhenium product high-value transformation

Sustainable exploitation of resources

Zijin Mining always considers mineral resources as its core assets, continuously increases input in geological prospecting, and strives to enhance the fundamental of sustainable development. In 2018, the Company invested RMB301 million (on equity basis) in geological exploration and the volumes of resources reserve (grade 333 or above, on equity basis) newly added from exploration were 39 tonnes of gold, 3.03 million tonnes of copper, 520,000 tonnes of lead and zinc, 168 tonnes of silver and 32,400 tonnes of cobalt. It used funds and technological research ability to focus on obtaining technological breakthroughs in mining and processing operations, as well as adhered to exploit both lean and rich ores, ores which are easy or difficult to be mined, thick and thin deposits, and reduce mining loss rate and ore dilution rate continuously. It insists on reasonable ore blending with ores in both high and low grade, and improved resource recovery rate in ore processing in order to achieve reasonable development and efficient use of resources.

In 2018, the Company's mining subsidiaries focused on managing and controlling the whole process of production, operation and sophisticated management to further strengthen the management and control of the "five rates" including mining loss rate, ore dilution rate, ore recovery rate, equipment operation rate, labour productivity rate, etc. The average ore recovery rate of the Company's domestic mining sector increased by 1.74% amid a decrease in the ore milling grade of most of the enterprises. Average mining loss rate and ore dilution rate decreased by 1.64% and 0.42% respectively; and average equipment operation rate increased by 6.62%. The average mining loss rate of six overseas mining enterprises decreased by 7.62% while their ore recovery rate increased by 7.53%.

Case

Zijin Copper turning copper slag to resources, having solved the problem of copper slag accumulation

In order to turn copper slag to resources and solve the problem of copper slag accumulation, Zijin Copper conducted research on the technique of iron recovery from copper slag through reduction and production of new type of binding material by synergistic activation. Iron and zinc are reduced and copper slags are activated through adding reducing and activating agents into the fusion reduction process. The technique can recover 90% of the iron and zinc in copper slag, and the copper slag after activation can be used for producing new type of binding materials to replace steel slag and cement for backfilling of mine, achieving effective use of copper slag resources.



Technique of iron recovery from refining slag and development of comprehensive utilisation technology

Case

Kuitun Tongguan Metallurgical Chemical recycling and reusing tailings resources

Kuitun Tongguan Metallurgical Chemical used tailings of Xinjiang Ashele Copper as raw materials, adopted techniques of fluidised roasting and double conversion double absorption process to produce sulphuric acid. At the same time, it recovered the copper in furnace slag by using the diluted acid it produced through leach-solvent extraction-electrowinning technique. The iron concentrate powder was finally purified to quality raw materials and sold to steel smelting industry. In 2018, the Company purified 18,000 tonnes of waste acid and recovered 155.46 tonnes of copper cathode. The comprehensive utilisation level of mineral resources was effectively increased.

Case

Subsidiaries consistently promoting the technique of cemented paste backfill during mining

Underground mines including the Xinjiang Ashele copper mine, Wuping Zijin's Yueyang silver mine, Guizhou Zijin's Shuiyongdong gold mine, the underground mine of Zijinshan, etc. adopted the technique of cemented paste backfill with tailings sand during mining. The waste rocks from mining and tailings from floatation processing were used for backfilling underground goaves, which can consume approximately 1.5 million cubic metres of tailings per year. Not only did the recovery rate of mine prop increase, but the volume of tailings discharged also decreased, and the service life of tailings yard was extended, saving precious resources at the earth surface.

Supply chain management

Zijin Mining adheres to the idea of cooperation and achieving win-win situation, persists in conducting business in good faith, requires both the Company itself and the suppliers to abide by relevant laws and regulations including Labour Law, Environmental Protection Law and Production Safety Law of the PRC, raises suppliers' awareness of discharging social responsibilities, and pushes forward development of responsible supply chain. The Company, Jiangxi Copper and 2 other entities jointly entered into a Procurement League Memorandum, pursuant to which they will share their experience in supply chain management and data of suppliers which discharge their social responsibilities, implement joint reserve, provide guidance and help to each other during emergency situation, and establish an exchange platform for the industry in order to promote the industry's sustainable development.

Responsible supply chain development

In 2018, the Company continued to push forward supply chain development, and organised supply chain management personnel to visit Tongling Nonferrous, Jinchuan Company and Jiangxi Copper for benchmark learning successively. The Group's supply chain management level was further enhanced. For the purpose of carrying out the Group's branding procurement and responsible procurement management, the Company specifically formed a supplier development team to carry out field visit to the suppliers. On-site working environment, production safety condition, environmental protection measures, employment conditions and other social responsibility issues of the suppliers were included as the key investigation matters. 24 suppliers not meeting the standards were screened out after such quantitative assessment.

Data of Zijin Mining's suppliers for the recent three years

Item	Unit	Data of 2018	Data of 2017	Data of 2016
Number of suppliers	Number	4,513	7,375	6,778
Tier-1 suppliers	Number	179	224	161
Suppliers from Fujian Province	Number	624	2,574	2,318
Suppliers from other provinces	Number	3,820	4,612	4,297
Overseas suppliers	Number	69	189	163

Product quality and customer satisfactory management

Zijin Mining formulated "Administrative Policy on Product Quality Incidents", "Customer Satisfactory Research Procedure" and other assessment regulations relating to customer service and quality assessment. Various channels were used to collect customer information regarding its products and services. Customer demand database was built up to timely transfer customers' demands and suggestions to production units responsible for production, technologies, techniques, equipment, quality control, etc. Product improvement plans were timely formulated to continuously improve product and service quality.

The Company is a multi-business member of the Shanghai Gold Exchange as well as a member of the Shanghai Futures Exchange. The technical parameters of the quality of gold bullion, silver bullion, copper cathode and zinc bullion produced by the Company all meet and exceed the technical indicators of national standards GB/T4134-2015 (gold bullion), GB/T4135-2016 (silver bullion), GB/T467-2010 (copper cathode)

and GB/T470-2008 (zinc bullion). The Company's "ZIJIN" brand gold bullion, "ZIJIN" brand silver bullion and "ZIJIN" brand copper cathode received the title of "Famous Brand Product of Fujian Province". "ZIJIN" brand zinc bullion also received the title of "Famous Brand Product of Inner Mongolia". In particular, "ZIJIN" brand gold bullion and "ZIJIN" brand silver bullion already passed the certification of the London Bullion Market Association ("LBMA"); and the quality of "ZIJIN" brand grade-A copper and "ZIJIN" brand zinc bullion obtained official and global recognition as they were registered as brands for settlement on the London Metal Exchange ("LME"). Zijin Gold Refinery Company has been awarded with the title of "Outstanding Member Unit and Supplier of Standard Gold Bullion" by the Shanghai Gold Exchange for 12 consecutive years.

Mineral products and customer relationship management data of the Company for the recent three years

Item	Unit	Data of 2018	Data of 2017	Data of 2016
Amount of products recalled	Tonne	0	0	0
Passing rate of mineral products	%	100	100	100
Number of complaints	Case	0	0	0
Customer satisfaction rate	%	100	100	100

Use of packaging materials for mineral products of the Company for the recent three years

Item	Unit	2018	2017	2016
Wood materials used for product packaging	Tonne	242.2	298.2	277.3
Destination of the wood materials used for product packaging	Mostly reused by the customers			
Wrappings for mineral concentrate products	Tonne	1,086.48	2,184.7	2,128.4
Destination of the wrappings for mineral concentrate products	Mostly reused by the customers			

(Reason for significant decrease in wrappings for mineral concentrate products: the ore powders of mining subsidiaries were transported by truck and sold separately instead of being sold in wrapping bags)

Prohibition of commercial bribery and corruption

The Company always complies with relevant laws and regulations of the state and the Company's fundamental rules, upholds zero tolerance attitude, rigorously investigates different forms of regulation violation, discipline violation and corruption, and imposes penalties. The Company formulated a series of policies, namely "Administrative Disciplinary Measures", "Implementation Policy for Inspection Work" and "Management Policy on Letter and Visit Report", etc. The Company endlessly improves its supervisory structure and implements the "five-in-one" interconnected supervision mechanism comprising supervisory committee, disciplinary inspection committee, supervision, audit and internal control. During 2018, the

Company's discipline investigation department accepted and transferred 37 cases, and 3 suppliers were blacklisted.

In 2018, the Company adopted a problem-based approach, targeted value creation, value adding services and effective supervision, continued to carry out development and assessment of internal control, focused on key sensitive areas and performed specific supervision on key areas including infrastructure construction, logistics, finance, etc. The Company organised investigation work on 3 subsidiaries and lookback investigation on 1 subsidiary respectively. 56 projects regarding audit and review on internal control and specific areas were carried out. 38 subsidiaries were ordered to carry out self-review on internal control and rectification of defects under guidance.

Integrity education

In order to further strengthen the Party's conduct and the work on promoting integrity, anti-corruption and integrity education, promoting the concept of integrity at the workplace as well as enhancing the awareness of honesty and self-discipline among cadres, the Company organised various types of activities for promotion of anti-corruption and integrity including a series of educational campaigns themed "Clean and Honest Zijin is Advancing", card making, signing Party's conduct integrity commitment letters, reporting the practice of integrity at the workplace, etc. Warnings were given to cadres to observe disciplines and laws and practise integrity at the workplace. The concept of honesty and integrity was spread continuously within the Group.

Case

The Company's headquarters held a seminar for family members of expatriate staff during Dragon Boat Festival to promote integrity



For the purpose of creating a healthy, proactive, optimistic and diligent cultural ambience for employees' family and integrating the idea and concept of anti-corruption and integrity into the family life of expatriate staff, the Company's trade union and female employee committee jointly held a seminar at Zijin Hotel for family members of expatriate staff during Dragon Boat Festival to promote integrity in 2018. In addition to preparing rice dumplings and participating in other interactive activities, the participants studied "Several Rules Regarding Further Strengthening the Integrity and Self-discipline of Management Cadres of the Company", read classic poems relating to Dragon Boat Festival, as well as signed the Family's Commitment Letter for Promoting Integrity, which required the participants to wisely support the expatriate staff in the household and promote integrity in the workplace. The participants were also required to uphold integrity in the family to support the Company's business development.

Case

Qinghai West held a themed seminar for promoting integrity at the workplace

Qinghai West Copper Company Limited held a themed seminar for promoting integrity in the workplace to consolidate the defense line against corruption. More than 150 participants including the company's Party leaders and top management, all party members, managing staff above the rank of assistant team leaders and back office staff attended the seminar. At the seminar, classic cases inside and outside the Company were discussed in detail and warnings were given. Managing cadres of all grades were advised to build up correct concepts of power and wealth, follow regulations and disciplines, work in a fair manner, prevent and fight against corruption, separate public and personal interests, work with integrity and self-discipline and firmly guard the "bottom line" and "red line" of integrity at the workplace.



Case

Shanxi Zijin organised its staff to receive education at the integrity educational centre in Fanshi County

The discipline inspection committee of Shanxi Zijin and the supervisory and audit office organised 26 Party cadres and staff in key sensitive positions to receive integrity education at the Party Conduct, Integrity Development and Warning Educational Centre in Fanshi County. In the integrity educational centre, the participants attended the integrity educational exhibition with several topics including leaders' view on integrity, the history of integrity, achievements of exerting punishment, details of punishment, integrity in China, integrity culture, exploration and practices, etc. They systematically understood the history and progress of anti-corruption and integrity promotion of China, and learned the classic cases of violation of discipline and law at different periods. Integrity awareness of the staff was further raised.



Performance of Zijin Mining's integrity educational training for the recent three years

Item	Unit	Data of 2018	Data of 2017	Data of 2016
Integrity educational training	Time	199	187	114
Number of staff receiving integrity educational training	Person	21,989	19,361	10,085



A green Zijin focusing on energy conservation and emission reduction

Environmental management system

Zijin Mining strictly follows national laws and regulations, technological specifications, technological standards and policies in respect of ecological and environmental protection of the countries where the projects are situated, closely focuses on the striving goal of “building an eco-friendly mining enterprise and developing a beautiful Zijin”, and adheres to the environmental protection belief of “green mountains and clear water are our invaluable assets”. Great importance is attached to continuously enhance ecological and environmental protection work. The Company sets up the Safety, Environmental Protection, Security and Fire Services Committee (the “Safety Committee”), of which Lan Fusheng, the president of the Company, is assigned as chief officer and divisional vice presidents are assigned as deputy chief officers. The director of safety and environmental protection is responsible for the daily management of safety and environmental protection affairs of the Company. Environmental Protection and Ecological Affairs Department is established at the Company’s headquarters, which is in charge of the routine environmental protection and ecological management matters of the Company and guidance, review and supervision on the subsidiaries for such matters. Environmental protection management function of the subsidiaries is also built up to carry out daily environmental protection management work.

In 2018, the Company deepened the reform on environmental protection system and mechanism, revised 6 environmental protection policies including the Responsibility System on Environmental Protection, Environmental Protection and Ecology Assessment Administrative Regulations, Administrative Regulations on Environmental Protection and Ecological Inspection, Emergency Plan for Environmental Incidents, Guidance on Greening Work, and the Technical Standards for Management Measures of Greening, Land Restoration and Water Conservation, and abolished 3 management systems that were not applicable to the current situation. Therefore, the environmental protection and ecological management systems and mechanisms turned more precise and practical. The Company vigorously required the subsidiaries to implement various environmental protection and ecological management systems and mechanisms. No severe environmental emergency incident occurred in the Group throughout the year and all subsidiaries achieved the target of “zero environmental incident”. No evident impact was made on the ecological environment of the surroundings.

The Group positively promotes the ISO 14001 certification for environmental management systems. By strengthening “6S” management of subsidiaries’ work sites, maintaining good environmental order and improving work site conditions, employees are able to carry out their work in an eco-friendly manner. The Group’s 17 mining entities have obtained certification for their environmental management systems.

The Porgera gold mine has been acknowledged by international environmental protection institutions for six consecutive years since the first certification from ERM CVS, an international environmental protection certification institution, in December 2012.



ISO 14001 Certificate 489



Emergency management for environmental risks

In accordance with the relevant requirements stipulated by Notice on Issuance of Tentative Administrative Policy on Emergency Plan in Response to Environmental Incidents and National Environmental Emergency Response Plan issued by the Ministry of Environmental Protection of the PRC and based on the production techniques, pollution-intensive production stages and environmental risks, the Company formulated corresponding Emergency Plans for Environmental Incidents and various specific emergency plans which were reported and filed to the local environmental protection administrative authorities. Each subsidiary has established its own emergency relief division led by general manager of the enterprise and regularly organises emergency drills on different environmental emergency incidents, so as to enhance the abilities in prevention and handling of environmental emergency incidents as well as employees' actual implementation ability.

Emergency drills organised by subsidiaries



Emergency drill held by Jinbao Company for tailings dam overtopping



Emergency and rescue drill held by Zijin Copper for leakage of liquefied petroleum gas ("LPG") at a LPG station

Comprehensive emergency and rescue drill for incident at tailings yard of Zijinshan



Emergency and rescue drill held by Kuitun Tongguan Metallurgical Chemical





Clean production

The Company always regards green, circular and low-carbon development as the basic approach for the Company's eco-transformation. It promotes high-efficiency, low-energy consumption production methods within the Group, encourages transformation and upgrade of production techniques, elimination of outdated capacity, and elimination and reduction of pollutants from the source. Through eco-procurement, clean production, reuse, recycle and other methods to raise the comprehensive utilisation rate of resources, the Group aims to create a green industrial chain. In 2018, the Company was appraised as a "Leading Enterprise of Eco-development in China's Non-ferrous Metals Industry". Zijin Copper was selected in the first batch of national green manufacturing demonstration companies. The domestic mines and refining entities in production of the Company carried out review work on clean production.

Case: Bayannaoer Zijin and Zijin Copper were included in the pilot run list of green circular development

In 2018, the Ministry of Industry and Information Technology of the PRC issued the second batch of national green production demonstration units, in which Bayannaoer Zijin was included. Bayannaoer Zijin is the only non-ferrous enterprise in Inner Mongolia Autonomous Region included in such list, and is also the first enterprise in Bayannaoer City to receive the honour of national "Green Factory". Zijin Copper was granted the titles of national "Industrial Products Eco-friendly (Green) Design Pilot Enterprise" and "Circular Economy Demonstration Pilot Unit" of Fujian Province.

Water conservation management

The Company attaches great importance to energy and water conservation and strictly abides by the laws and regulations of the countries where it operates. It always adheres to the guiding concept of building a resource-conserving and environmentally friendly enterprise. The Company promoted water conservation by a number of measures, such as strengthening organisation and leadership, establishing awareness of water saving among all staff, installing high-standard water saving equipment and strengthening indicator assessments. It actively explores the way to become a water-saving enterprise that manages water according to laws, saves water and carries out quantitative assessment. The average utilisation rate of recovered water of the Group's subsidiaries was above 85% in 2018.



Case

The Company launched a series of campaigns themed “World Day of Water, Chinese Week of Water”

On 22 March 2018, Zijin Mining, together with the Party Committee, Water Resources Bureau and River Chief Office of Shanghang County and other units, held the opening ceremony of a series of campaigns themed “World Day of Water, Chinese Week of Water”. As “World Day of Water” and “Chinese Week of Water” were approaching, a series of campaigns commenced in Shanghang County, including themed quiz competition for popularisation of water law, essay competition themed “The Beautiful Ting River”, mobile phone photo



competition, tree planting activities themed “Treasuring the Water Source and Building a Green Shanghang”, etc. The activities aimed at encouraging all residents to save water, enhance their awareness in water protection and conservation, foster a scientific water saving concept, and treasure all natural resources on the Earth in practice.

Case

The Company received Green Enterprise Management Award for the year 2018

In October 2018, at Green Development Forum and Exchange and Matchmaking Meeting of Green Technology Innovative Application of Chinese Enterprises, Zijin Mining received Green Enterprise Management Award for the year 2018 due to its outstanding accomplishments in respect of sustainable development, energy conservation and emission reduction, research and development of new environmental protection products and technologies, rigorous implementation of environmental protection measures, etc.





Use of land and water resources of the Group's mining and refining subsidiaries for the recent three years

Item	Unit	2018	2017	2016
Water resource consumption (newly drawn water)	Tonne	76,663,743.3	77,597,940.84	70,647,060.3
Water resource recovery rate	%	87.17	87.44	87.86
Water consumption per RMB10,000 of production value	Tonne/RMB10,000	7.23	8.21	8.96
Additional mining areas	Square metre	5,029,511	4,083,920	4,367,259

Wastewater management

Following the wastewater emission reduction idea of “prevention from the source, process control and management at the final stage”, the Company required its subsidiaries to divert wastewater from clean water and rain water from sewage, in order to reduce generation of wastewater from the source, and conduct intensive treatment at the final stage. Wastewater after treatment was collected according to the category, processed according to the quality and reused. Furthermore, the third-party management system for environmental pollution was actively explored and introduced, so as to enhance the intensive treatment at the final stage. The processed wastewater of the subsidiaries was mostly recovered and reused for industrial purpose, while the rest was discharged according to the wastewater emission standards in the countries where they are located. In 2018, 100% of the discharged water after treatment of the branch companies (subsidiaries) met the required standards.

Case

The Zijinshan gold and copper mine turned copper-containing acidic water from waste to treasure

The Zijinshan gold and copper mine attaches high importance to reduction of pollutant discharge. By directing copper-containing pit water to copper hydrometallurgy plant for reuse, not only did the comprehensive recovery rate of wastewater resources rise, but the processing pressure of environmental protection was also considerably relieved, and water treatment cost was reduced. In 2018, 7.92 million cubic metres of copper-containing acidic water was recovered, and 7,255 tonnes of copper metal resources at the value of RMB363 million were recovered.



Environmentally friendly treatment system for copper-containing acidic water of the Zijinshan gold and copper mine at a capacity of 30,000 cubic metres/day

Case

Wulatehouqi Zijin increased the efforts in mine drainage water management and quality of mine water inrush was further optimised

In 2018, in accordance with the requirements of local government, Wulatehouqi Zijin invested in and constructed a treatment system for mine water inrush. RMB140 million was accumulatively invested and the phase 1 project construction was completed. The pilot operation of the project realised daily treatment capacity of 10 thousand tonnes of natural mine water inrush, and the concentration at the wastewater outlet met the Emission standard of pollutants for lead and zinc industry (GB25466-2010) and Category V standard in Environmental quality standards for surface water, while freshwater at the outlet met the Discharge standard of pollutants for municipal wastewater treatment plant (GB18918-2002) and Category IV standard in Environmental quality standards for surface water (GB3838-2002).



Processing system for mine drainage water of Wulatehouqi Zijin

Discharge of major water pollutants from the Group's mining and refining subsidiaries for the recent three years

Type of pollutant	Pollutant emission factor	Unit	2018	2017	2016
Water pollutant	COD	Tonne	206.85	809.9	858
		Tonne/RMB10,000 of production value	1.95×10^{-5}	8.57×10^{-5}	1.09×10^{-4}
	Ammonia nitrogen	Tonne	6.82	35.83	37
		Tonne/RMB10,000 of production value	6.43×10^{-7}	3.79×10^{-6}	4.92×10^{-6}
	Zinc in total	Tonne	0.81	1.24	1.3
		Tonne/RMB10,000 of production value	7.64×10^{-8}	1.31×10^{-7}	1.65×10^{-7}
	Copper in total	Tonne	0.11	1.13	1.2
		Tonne/RMB10,000 of production value	1.04×10^{-8}	1.19×10^{-7}	1.52×10^{-7}



Exhaust gas management

On top of meeting emission standards for exhaust gas, the Company vigorously promoted the treatment and reduction of exhaust gas emission. Each subsidiary took the initiative to carry out clean production and keep optimising their techniques, processes and facilities, such as adopting advanced dust removal and exhaust gas purifying equipment to achieve reduction of energy and raw material consumption, recovery of hazardous gas and increasing the comprehensive utilisation rate of exhaust gas.

Case

The subsidiaries actively implemented exhaust gas emission permission system, realising waste discharge under permits

In 2018, Jilin Zijin Copper, Zijin Copper and Bayannaoer Zijin were granted the new waste discharge permit respectively by local environmental protection administrative authorities. Altynten was granted the exhaust gas emission permit by the Kyrgyz Republic.



Case

The subsidiaries actively promoted and carried out “converting coal to electricity” of boilers for reducing air pollutant emission

In 2018, Wulatehouqi Zijin terminated two coal-burning boilers at the capacity of 10 tonnes of steam and invested approximately RMB20 million to construct a clean heating system combining electric boiler and heat exchange of mine water inrush. The system was put into use in November 2018. Luoning Huatai, Shanxi Zijin and Longnan Zijin also completed the conversion to electric boilers. Converting coal to electricity of mine boilers reduced generation of dust, sulphur dioxide and nitrogen oxides, and therefore relieved exhaust gas pollution.



Equipment of “converting coal to electricity”

Air pollutant emission of the Group's mining and refining subsidiaries for the recent three years (unit: tonne)

Type of pollutant	Pollutant emission factor	Unit	2018	2017	2016
Air pollutant	Sulphur dioxide	Tonne	1,328.49	1,929	2,098
		Tonne/RMB10,000 of production value	1.25×10^{-4}	2.04×10^{-4}	2.66×10^{-4}
	Nitrogen oxides	Tonne	875.81	983	1,082
		Tonne/RMB10,000 of production value	8.26×10^{-5}	1.04×10^{-4}	1.37×10^{-4}

Management of general solid waste and hazardous waste

Vigorously adhering to the requirements of Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste, the Company emphasised on waste management in production and operation and requires the subsidiaries to select low-harm and low-toxicity raw materials which generate less waste from the source. In the aspect of techniques, the design, operational conditions, etc. were improved, the process was optimised, and the conversion rate of raw materials and production rate of products were raised. At the end of the production, resources reuse and recycle were carried out to the greatest extent, so as to cut down on the generation of waste.

The major kinds of industrial solid waste generated from mining and processing are waste rocks and tailings. Some waste rocks were used for underground filling or storing in waste rock dumps, and tailings were transported to tailings yards or used for underground filling. The rests were identified and managed according to the new version of National Catalogue of Hazardous Wastes. Furthermore, pursuant to relevant provisions in Standard for pollution control on hazardous waste storage (GB18597-2001) and Multi-copy Receipt-based Administrative Policy on Hazardous Waste Transfer, the Company made efforts in temporary storage, transfer and safe disposal of hazardous waste, to comprehensively utilise waste to the greatest extent.



Case

Zijin Copper received the honour of demonstration enterprise of “Meeting the Standards and Upgrade” in hazardous waste standardised management in Longyan City

Zijin Copper followed the principle of turning waste into reusable resources and obtaining “treasure” from waste. It re-processed waste smelting furnace slag, recovering nearly 13,000 tonnes of copper from furnace slag annually. The slag, after re-processing, can be used as an additive for cement building materials in the surrounding cement plants to realise the conversion of waste into resources. Furthermore, comprehensive recovery system of end materials with treatment capacity of 2,000 tonnes/year was installed for effective handling of anode slime, which is the final waste of copper refining. The system achieved the recovery of rare and precious metals such as gold, silver, selenium, tellurium, platinum, palladium, rhenium, etc., to the greatest extent. In 2018, the company’s effectiveness of hazardous waste management was acknowledged by superior supervisory authorities and the society. The company was recognised as the only demonstration enterprise of “Meeting the Standards and Upgrade” in hazardous waste standardised management of Longyan City.

龙岩市固体(危险)废物环境监督管理中心

关于树立紫金铜业有限公司为危险废物规范化管理“达标升级”示范企业的通知

紫金铜业有限公司：

为全面贯彻环境保扩法，进一步加强我市危险废物污染整治工作，切实保障生态环境安全和人民群众身体健康，根据福建省人民政府《关于进一步加强危险废物污染防治工作的意见》（闽政〔2015〕50号）、福建省生态环境厅《福建省“十三五”危险废物污染防治规划》闽环保土〔2016〕3号、龙岩市人民政府《关于进一步加强危险废物污染防治工作的意见》（龙政综〔2015〕336号）精神，并按照省环保厅在全省危险废物监管现场培训暨规范化管理“达标升级”试点推广会要求，我中心对全市范围内的危险废物产生单位进行了全面排查，现将我市危险废物规范化管理“达标升级”示范企业名单公布如下：

Notice of demonstration enterprise of “Meeting the Standards and Upgrade”

Case

Luoning Zijin realised harmless treatment of cyanide tailings

Pursuant to the requirements in the No. 17 announcement of the Ministry of Environmental Protection of the PRC in 2018, Technical specification for pollution control of cyanide leaching residue in gold industry (HJ943-2018), Luoning Zijin Gold Refining Company Limited invested RMB8.8 million in the construction of harmless treatment project for cyanide tailings at the processing capacity of 99 thousand tonnes/annum. It successfully converted cyanide tailings from hazardous solid waste to general solid waste, recovered certain resources and lowered production cost.



Harmless treatment facilities for cyanide tailings

Comprehensive utilisation and disposal of solid waste of the Company for the recent three years

Nature of solid waste	Type of waste	Unit	Volume disposed in 2018	Volume comprehensively utilised in 2018	Volume disposed in 2017	Volume comprehensively utilised in 2017	Volume generated in 2016
General solid waste	Tailings	Million tonne	51.5323	1.0929	53.1990	1.1636	37.7758
		Tonne/RMB10,000 of production volume	4.86×10^{-4}	1.03×10^{-5}	5.63×10^{-4}	1.23×10^{-5}	4.79×10^{-4}
	Waste rock	Million tonne	116.745	22.1081	169.2299	15.4687	117.9777
		Tonne/RMB10,000 of production volume	1.10×10^{-3}	2.09×10^{-4}	1.79×10^{-3}	1.64×10^{-4}	1.49×10^{-3}
	Domestic refuse	Tonne	3,500		4,980		5,110
		Tonne/RMB10,000 of production volume	3.30×10^{-8}		5.27×10^{-8}		6.48×10^{-8}
Hazardous waste	HW48 non-ferrous metal smelting waste	Million tonne	0.2909	0.0183	0.2321	0.0268	0.2856
		Tonne/RMB10,000 of production volume	2.74×10^{-6}	1.73×10^{-7}	2.45×10^{-6}	2.83×10^{-7}	3.62×10^{-6}
	Used motor oil	Tonne	460	160	370	240	350
		Tonne/RMB10,000 of production volume	4.34×10^{-9}	1.51×10^{-9}	3.91×10^{-9}	2.53×10^{-9}	4.44×10^{-9}

Eco-mine development

Zijin Mining always insists on the eco-concepts of “harmonious co-development of human and nature” and “environmental protection and development going together”. The Company made reference to national laws and regulations and technical standards for green factories in the aspects of water and soil conservation, land restoration, rehabilitation and management of the environment and ecology of mines, etc. The Technical Standards for Management of Greening, Land Restoration and Water Conservation Measures, Ecological Civilisation Development and Green Mine Construction Plan (2013-2020) of Zijin Mining Group Co., Ltd.* and 2018-2020 Zijin Mining Specific Plan of Environmental and Ecological Protection were formulated to require each subsidiary to carry out management of the ecology and environment, rehabilitation and greening based on local conditions and specific mines’ situations, and strive to build a green Zijin and eco-mining industry.

In 2018, the Company fully promoted the construction of green mines and green factories. Throughout the year, the Company invested RMB663 million of environmental and ecological protection fund in total, restored 3.9936 million m² of vegetation and planted 602.3 thousand plants of various kinds. At present, the Company owns 8 “green mines” at state level (including pilot units), 2 “green factories”, 2 green mines at provincial (autonomous region) level, 2 national industrial tourism demonstration sites, 1 national mine park and 1 national science popularisation education base.



Case

Glimpses of environmental protection campaign themed “I take actions to build a beautiful Zijin” held by subsidiaries of the Group

In 2018, to echo the “World Earth Day” and “World Environment Day”, the Company coordinated the subsidiaries to host a campaign themed “I take actions to build a beautiful Zijin”. The purposes of the campaign were protecting wild animals and plants by voluntary tree planting, signing campaign for protecting wild animals and plants and distributing proposal for wildlife protection, etc.



“World Earth Day” science popularisation activities in schools held by the Company together with China Fossil Preservation Foundation and Zijin Mining Charity Foundation



Tree planting activity themed “Develop Green Mines and a Beautiful Zijin Together” launched by the Zijinshan gold and copper mine



A series of activities including vowing, signing campaign and tree planting launched by Jilin Zijin Copper



Charitable activity for environmental protection at Kangsu River launched by Zijin Zinc Industry



Grass planting campaign in the desert launched by Jinzhong Mining



Case

Zijinshan gold and copper mine worked along both lines to solve the ecological restoration problem at high and steep slopes

In 2018, the Zijinshan gold and copper mine fully enhanced the greening work at high and steep slopes of the southeast open-pit mining section. The platform of the section is mainly consisted of weathered rocks with impoverished soil where plants grow slowly. By means of refilling quality soil dressing from other places, based on the fast regreening characteristic of farmyard vines, Zijinshan experimented and planted single cropping farmyard vines including pumpkin and white gourd as the pioneer plants for regreening. Kudzu vine, grape ivy, gaird morning glory and other perennial climbing vines were also grown, accompanied with broadcast seeding of grass and irrigation. Further, arbors were planted to cultivate forest and foster greening. During the year, RMB43.2915 million was invested and 60 thousand flowers and trees of various kinds were planted, covering a revegetation area of 1.0336 million square metres.

Case

West Copper moved forward the construction of high-altitude green mine



Located in Maqin County at an average altitude of approximately 4,100 metres, West Copper is confronted with fragile ecology and extreme environment. It adopted integrated production techniques of mining, managing and rehabilitating at the same time and recovered all the turfs and meadows in the production and living area for replanting. In consideration of the special local climate and soil condition, the company



experimentally used degradable environmentally friendly bags for planting at selected sites. After experiments in stages, grass seeds selection, dump maintenance, etc., the ecology of the mine was effectively recovered. As at the end of 2018, the tailings yard, processing plant and living areas of West Copper realised 807.2 thousand square metres of greening, with investment of approximately RMB18.37 million and survival rate of over 75%. New experience was gained for artificial grass planting in high-altitude region. West Copper was also granted the honourable title of “2018 Green Development Exemplary Enterprise” from China Environment News.

Status of environmental impact assessment and “three simultaneous” policy for environmental protection

In 2018, the Company continued to strengthen environmental impact assessment of the newly reformed and expanded projects, supervision and management on acceptance check, etc. Strictly adhering to the relevant provisions in the locations of the projects regarding environmental impact assessment, environmental impact assessment was conducted together with the vigorous implementation of “three simultaneous” policy for environmental and water protection. It ensures the smooth execution of projects in compliance with laws and regulations. During the reporting period, 20 constructions or projects obtained approvals for environmental impact assessment and 9 projects passed the environmental protection self-acceptance check at the conclusion stage.

Environmental protection education and training

The Company pays attention to improve the environmental protection awareness and ability of employees through education and training. In order to enhance the knowledge of the latest national environmental protection policies of environmental protection management personnel of various levels, the Company arranged three sessions of trainings relating to environmental protection in Shanghang headquarters in 2018 respectively and arranged 27 video meeting venues on live. Over 400 environmental protection personnel attended the trainings accumulatively. The contents of the trainings included Chinese and foreign environmental protection history, and latest policies such as Law on Prevention and Control of Soil Pollution, Environmental Protection Tax Law, etc.

Zijin Mining sets “Environmental Safety Day” on 3 July and “Environment Safety Month” from 5 June to 4 July every year. In 2018, the Company organised and held the 8th “Environmental Safety Month” at the headquarters and subsidiaries. The consciousness of environmental protection and managing ability of the staff were fully enhanced by initiating environmental protection awareness-raising educational training, fish breeding and releasing, environmental protection charity riddles, rectification of environmental order, environmental emergency drills, inspection, prevention and rectification of environmental safety risks, etc.



Environmental protection training and fish breeding and releasing activity held by the Company

Energy management

Zijin Mining attaches importance to the impact of greenhouse gas on global environment and sustainable development, and takes into account the low-carbon concept in the Company's production and operation. Circular and low-carbon economy was proactively developed; plans for reservation and comprehensive use of resources were formulated; and a three-level energy management system comprising the headquarters, units and plants as main subjects was built up. The Energy Management Policy of Zijin Mining Group Co., Ltd.* was formulated to regulate subsidiaries' management of energy consumption. Each subsidiary was also required to establish their own energy management policies based on their actual situation, which shall conform to the GB/T23331 standard, and implement energy conservation and consumption reduction initiatives, in order to respond to global climate change and realise sustainable development.

In 2018, according to the "13th Five Year" specialised energy conservation plan on a rolling basis, the Company implemented key energy conservation tasks. By energy conservation reform on electrical equipment, termination of high energy-consuming electric machine, replacement with super high-efficiency energy-conservation electrical equipment, disuse of high energy-consuming lighting, eco-friendly LED lighting reform, etc., the Company reduced energy consumption, specifically decreased the consumption of 260 tonnes of standard coal in 2018. Meanwhile, the Company devoted to planting on the wasteland of mines throughout the year, resulting emission reduction of 15 thousand tonnes of carbon dioxide equivalent by cultivating forest as carbon sink. In 2018, the Company realised energy consumption of 0.194tce per RMB10,000 of production value (outsourcing excluded) and 0.335tce per RMB10,000 of production value (outsourcing included), with weighted average energy consumption of 0.084tce per RMB10,000 of production value.



**Statistics on energy consumption for the Company's industrial added value and production value
for the recent three years**

Indicator	Year	2018	2017	2016
Energy consumption per RMB10,000 of production value of the Company	Comprehensive figure of gold and copper mine (outsourcing excluded)	0.194	0.193	0.167
Energy consumption per RMB10,000 of production value of the Company	Comprehensive figure of gold and copper mine (outsourcing included)	0.335	0.312	0.327
Weighted average energy consumption per RMB10,000 of production value of the Group	26 production and mining units of the Group, including refining entities	0.084	0.081	0.098
Energy consumption per RMB10,000 of national GDP	/	/	0.543	0.586
Energy consumption per RMB10,000 of Fujian Province GDP	/	/	0.401	0.497
Energy consumption per RMB10,000 of Longyan Municipal GDP	/	/	0.620	0.634
Energy consumption per RMB10,000 of industrial added value of Fujian Province (industry above designated size)	/	/	0.614	0.614
Energy consumption per RMB10,000 of industrial added value of Longyan Municipal (industry above designated size)	/	/	0.834	0.844

Case

The Company took an active role in promoting green office



The Company issued policies including Notice on Further Enhancing Environmental Order Management of Office Area and required the subsidiaries to adopt environmental order inspection and other measures in the office area, with the purpose of promoting green office and low-carbon emission. At the same time, other steps such as displaying banners and slogans, carrying out specific inspections, etc., were taken to achieve extensive publicity effects for energy conservation.



Measures and effectiveness

The temperature of air conditioners must be above 26 degree Celsius during summer time. All the lights in the office must be switched off after leaving the office. Employees are required to switch off the computers, electric fans, air-conditioners and other electrical appliances if they are away from their workstations for more than 30 minutes. Occasional specific inspections on energy conservation were carried out. Any employee not conforming to energy conservation rules would be penalised.

Paperless office was promoted with the application of OA, an automatic and integrated work system, and other e-systems such as ERP, financial sharing system and so on to carry out daily approval processes. In 2018, more than 3 million work processes were carried out on e-platforms, reducing the use of A4 paper by 4.5 million sheets, which was equivalent to emission reduction of 9,000 tonnes of carbon dioxide.

Conventional conference was replaced by video conference with televisions or tablets. In 2018, the Company convened approximately 3,000 video conferences, which was equivalent to emission reduction of 11,179 tonnes of carbon dioxide.

Case

Effective energy conservation management of the subsidiaries

The subsidiaries focused on energy conservation technological reform, upgrading equipment and terminating outdated equipment. By introducing large-scale energy conservation equipment and improving the techniques of mining, processing and refining, making use of residual energy and waste heat to generate electricity and heating for household, reinforcing energy conservation management by managing electricity consumption at peak and valley periods and power factor, etc., energy loss was effectively reduced.

Shanxi Zijin saved 3.04 million units of electricity in 2018 by way of air compressor reform, direct power purchase, reactive electricity compensation, peak shaving in the use of electricity, transformation of coal-burning boiler, etc.

Bayannaoer Zijin transformed the heat from furnace into steam through waste heat boiler to generate electricity, and adopted measures including reactive power compensation for energy conservation reform in the electricity system. Hence, 8 million units of electricity were saved in 2018. By frequency conversion and energy conservation transformation on high energy-consuming draught fans and water pumps, 1,200 tonnes of coal were saved in 2018.

**Energy consumption and greenhouse gas emission data of the Company's mining and refining subsidiaries
(including overseas operations) for the recent three years**

Indicator	Unit	2018	2017	2016
Data on greenhouse gas emission				
CO ₂ emission from burning of fossil fuels	Tonne	692,288	445,704	391,777
CO ₂ emission from decomposition of carbonates	Tonne	43,590	12,107	5,979
CO ₂ emission from consumption of net purchased electricity and heat	Tonne	1,725,253	1,669,618	1,449,444
Total emission of greenhouse gases by the enterprise (electricity and heat included)	Tonne	2,458,384	2,125,244	1,820,354
Total emission of greenhouse gases by the enterprise (electricity and heat excluded)	Tonne	716,101	458,025	422,008
Total emission of greenhouse gases by the enterprise from the use of electricity generated from new energy outside electric grid	Tonne	4.6	/	/
Data on energy consumption				
Electricity purchased externally	Megawatt hour	2,520,479	2,307,058	2,011,184
Steam purchased externally	Tonne		530	9,295
Electricity generated from new energy purchased externally outside electric grid (wind energy, solar energy, etc.)	Megawatt hour	4.8		
Natural gas	Cubic metre	3,194,633	5,069,343	7,391,839
Diesel	Litre	83,686,048	66,176,770	60,102,779
Liquefied petroleum gas	Litre	1,405	1,646	2,119
Heavy oil	Litre	5,318	5,310	5,588
Kerosene	Tonne	87	64	68
Gasoline	Litre	873,733	813,706	847,135
Other types of coal	Tonne	40,746	40,570	42,994
Equivalent comprehensive energy consumption	Tonne of standard coal	601,961	522,454	461,032
Energy consumption per RMB10,000 of production value	Tonne of standard coal per RMB10,000	1.55	2.01	1.78

Note: There were large fluctuations in certain indicators in 2018, which were mainly due to new commencement of production and increase in overall production capacity of certain subsidiaries and projects of the Group in 2018.

A safe Zijin relentless pursuit of production safety

Production safety management

Zijin Mining discharged its production safety responsibility strictly adhering to high standards and stringent requirements. Sticking to the concept of development amid safety, the Company insisted on the awareness of red line and bottom line, put the safety idea of “life comes first” into practice and pursued for the ultimate goal of “zero injury at workplace” in safe production work. In 2018, the Company enhanced the production safety management system comprehensively and further improved the Production Safety Assessment Management Policy and Regulations on Management of Production Safety Responsibility System. The production safety responsibility system of “decision-making and execution personnel shouldering their own responsibilities, dual responsibilities for one role, safety officer, improving and managing safety together and holding negligent personnel accountable” was strengthened and put into practice. Under the guidance of “Ten Safety Principles of Zijin”, the Company took measures including implementing dual prevention mechanism development, pushing forward paramilitary management of production safety, establishment of safety guard team, unified management of outsourced construction team, safety scoring system and the project of “everyone is the safety officer”. Therefore, the dual prevention mechanism was put into practice, the safety and environmental protection awareness of the staff were enhanced, and safety and environmental protection management system was optimised.

Zijin Mining’s management performance of production safety for the recent two years

Key performance indicator	2018	2017
Fund used in production safety (RMB million)	560.79	597.74
Safety training coverage rate (%)	100	100
Coverage ratio of pre-employment, employment and post-employment occupational physical examination (%)	100	100
Loss time rate per a million working hours (working hour/a million working hours)	105.6	130.0
Loss time and injury frequency rate per a million working hours (person/a million working hours)	0.6	0.7
Recordable incident rate per a million working hours (person/a million working hours)	1.0	1.2

Measures and effectiveness of production safety

Comprehensive development of dual prevention mechanism

Pursuant to the requirements of the Ministry of Emergency Management of the PRC, the Company fully promoted the development of dual prevention mechanism of the subsidiaries, put into practice risk identification, control and investigation and management of hidden risks at each level, and realised forecast, warning and pre-control of safety risks and self-investigation, self-correction and self-reporting of the hidden risks.



Case

Ashele Copper's dual prevention mechanism was recommended as the new innovative example of production safety of the autonomous region

In 2018, commissioned by Xinjiang Uyghur Autonomous Region, Administration of Work Safety Bureaus of Aletai Region and Habahe County launched a special team for examination and acceptance check, in order to conduct the on-site assessment of the "pilot development of Ashele Copper's dual prevention mechanism". After on-site examination and comprehensive assessment, the acceptance check team recognised the pilot development of Ashele Copper's dual prevention mechanism and approved the acceptance check.



Night view of Ashele Copper

Promotion of automatization, informatization and intellectualisation of production safety and enhancing safety technology quality

In 2018, the Company fully implemented "replacement and reduction of headcounts by machinery and automation", strengthened technological transformation and upgrade, actively pushed forward replacing work positions in dangerous conditions with automatic equipment and improved the quality of production safety technologies. Big data and mobile internet of things technology were fully made use of to secure production safety.



Case

The Zijinshan gold and copper mine carried out safety enhancement with science and technology

The Zijinshan gold and copper mine comprehensively put the Company's development requirements of automatization, informatization and intellectualization construction into practice, and set up a leading team headed by the mine commander. It conducted the construction of three-dimensional coordination platform revolving around production safety, environmental protection, management, etc. based on the main focus on intelligent mine development plan, which was formulated at the beginning of the year. Through reform and introduction of intelligent equipment and linking up different systems, a complete production information tracking system was developed, and goals including automatic data collection, long-distance rock drilling, automatic shoveling and transportation, intelligent dispatch of open-pit mining trucks and self-driving underground electric vehicles were achieved. The mine invested RMB260 thousand to purchase 6 sets of all-in-one VR glasses, in order to conduct safety training for the staff in twenty virtual scenarios, including simulation of falling from height, landslide, object strikes and mechanical injury. It continuously promoted the management of mine production from experience-based to intelligence-based.

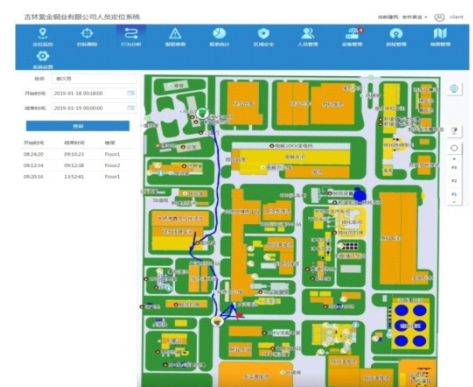


“Six systems” of the mines

Case

Jilin Zijin Copper installed an “intelligent brain” for safety management

Jilin Zijin Copper completed the initial development of intelligent tracking management and monitoring system. The system accurately shows the dynamics of personnel of all levels and alerts if the number of staff exceeds or is below the designated number in the monitored areas. The system is able to manage the authorisation of accessing to important and restricted areas. The system will automatically alarm the police station if there is any intrusion of unauthorised person. It is also equipped with the function of instant distress signal, so that emergency management becomes more sophisticated and platformatised, providing support for warning and decision-making.



“Positioning system for staff”



Standardising incident management to provide decision-making basis for improving safety management

The Company brought in advanced Western concepts and practices of safety management, and replaced “zero work fatality” with “zero injury at workplace” as a higher goal of production safety. Statistics of safety indicators per a million working hours were implemented for trial, which summarised and analysed various production safety incidents, as well as raised warning signal and corresponding preventive measures. It effectively reduced the incidents of the same nature.

Consistently giving impetus to paramilitary management

Earnestly following the spirit of production safety on-site meeting, the subsidiaries consistently gave impetus to paramilitary management and enhanced the cultivation of safety guards, unified management of outsourced construction team, implemented safety scoring system, launched the campaign of “everyone should be qualified” and promoted the safety responsibility system of “everyone is the safety officer” for all staff. The subsidiaries vigorously summarised various measures of and experience in production safety and shaped the paramilitary safety management with the core of “strict entrance permission, strict training and strict control with responsibility and caring”. The safety awareness and capability of the head commanders were fully raised and improved. The spirit of the staff, production and living conditions as well as environmental order of mines and plants were in a good trend.

Case

Musonoie Mining integrates Chinese ideas into Western context to promote a safe development

Musonoie Mining issued a management policy, “Safety Redlines”, in which Chinese and Western safety management concepts were merged into corporate safety management to raise the personal safety consciousness of the staff. 9 safety redlines including working after drinking or taking drugs, working-at-height without safety precaution, operation in confined space without approval and safety check, smoking in flammable or explosive atmospheres, etc. were listed as safety redlines. In the event that the safety redlines were violated, suspension from duties and disciplinary actions would be imposed on the relevant staff, including summary dismissal.



Training on safety management laws and regulations were organised for the staff

Case

Zijin Copper conducted production safety scoring system for all staff

Zijin Copper conducted production safety scoring system for all staff and fostered a good atmosphere of participation among all staff to manage and supervise together. It realised mutual supervision, mutual reminding and mutual inspection of production safety for all staff. The safety scoring system policy of “100 points per person each month” was implemented. Zijin Copper encouraged the staff to take an active role in investigation and examination of hidden risks, reporting three types of violation and raising reasonable suggestions. Safety scores could be therefore gained, and the enthusiasm of all the staff to participate in safety management was greatly stimulated.

Emergency management of safety risks

In response to the transformation of the state's emergency and production safety system, the Company correspondingly optimised and adjusted its emergency system in a timely manner. Emergency plans were revised and improved, including Comprehensive Emergency Plan for Production Safety Incidents, Emergency Plan for Geological Hazards and Emergency Plan for Flooding. Emergency management and emergency responsive programme for production safety incidents were further regulated. Each unit was urged to organise emergency drills based on the characteristics of production safety risks, for example, intoxication caused by sodium cyanide leakage, blast smoke intoxication, ammonia gas leakage, tailings yard incidents, fire drill, etc. The response speed and emergency management skills of cadres of each level, dispatchers, team leaders and on-site workers were practically enhanced.

Case

The Zijinshan gold and copper mine established an emergency mine rescue team with superior standardised quality

Established in November 2008, the Zijinshan gold and copper mine rescue team is the first full-time rescue team of non-coal mines in Fujian Province. The mine rescue team is managed in a military manner as a rescue squadron, with 32 registered officers and three subordinate teams. Over RMB8 million was invested accumulatively in the relevant facilities including rescue vehicles, personal rescue equipment, forcible entry tools, testing instruments, etc. In 2018, the rescue team passed the standardised quality assessment of domestic mine rescue teams organised by the National Production Safety Emergency Command Centre, and was promoted to a mine rescue team with superior standardised quality.





Case

Russia Longxing was equipped with rescue helicopter

Situated in primitive forest, in order to overcome the difficulties of communication and rescue in mining area, Russia Longxing cooperated with the Ministry of Emergency Situations of the Russian Federation to set up a mine rescue station equipped with rescue vehicles and satellite phones. Russia Longxing also partnered with rescue helicopter companies and built a helipad for rescue helicopter at dump no. 1670.



Rescue vehicle and helicopter

Safety management for contractors

The Company included contractors into its unified safety management system, which is the key focus of safety supervision and management. Vigorous management was combined with great kindness, and the paramilitary working style was continuously promoted and implemented. By way of formulating the entry standard of newcomers of the contractors, the Company strictly assessed the potential newcomers in the aspects of age, working experience, health condition, etc., and adopted the safety redline policy of the Company to regulate the behaviour of the contractors' employees. Hence, the safety management level of contractors was consistently improved. Stringent management was imposed on the equipment and vehicles of the contractors, regulating the principles and procedures of disposing of and obsoleting vehicles of outsourced mining project companies, and requiring them to conduct semi-annual performance evaluation on vehicles.



Case

Management of the subsidiaries participated in the safety management of contractors

All-level management of the Zijinshan gold and copper mine, Heilongjiang Duobaoshan Copper and other units took their initiative to participate in the safety management of contractors, so that they could be aware of the difficulties and focuses on the safety management of contractors in time, strengthen the process management and ensure that production safety activities of every construction unit were under control and would be controllable.

Case

Hunchun Zijin improved the living conditions of contractors' employees

In 2018, the company rigorously implemented unified management of contractors and invested over RMB2 million in constructing over 200 square metres of work stations for contractors, renovating staff dormitories and opening its canteen to contractors' employees. The production and living conditions of contractors were conscientiously improved and the safety of contractor's work was essentially enhanced.

Management of explosives for civil use and hazardous chemicals

Pursuant to relevant national laws and regulations, the Company revised the Policy of Hazardous Chemicals Management and the Policy of Safety Management of Explosive for Civil Use, in order to exert more functions of guidance and practicability. The Company conducted special management on hazardous chemicals, formulated special treatment plan for hazardous chemicals of the Company and actively promoted other relevant work. At the same time, in accordance with the requirements of risk control and management by classification and dual prevention mechanism of investigation and management of hidden risks, the Company issued a risk list for explosives for civil use and detailed operation instruction manuals for relevant positions, which made the safety management of explosives for civil use more regulated and standardised.

Case

The Company carried out national policy and completed the relocation of warehouse for hazardous materials

In 2018, the Company followed the Comprehensive Plan for the Safety Management of Hazardous Chemicals of the state to carry out relocation of hazardous chemical enterprise and warehouse for toxic substances. Fujian Zijin Processing Chemicals Company Limited, originally located in an area with high population density, was relocated to a remoted safe area to secure regional safety.



Safety education and training

Strictly adhering to the state's requirements, the Company formulated and carried out the Policy of Production Safety Training and innovated safety training methods. Through setting up an exhibition platform for the full set of production safety equipment, VR scenario experience showroom, etc., safety education is combined with experience, making safety protection training more targeted. The campaign of "everyone should be qualified" was put into practice, which fully enhanced the production safety knowledge and skills of management and all the staff at all levels. In 2018, the Company accumulatively completed 13 safety educational trainings. Employees attended the training for over 4,315 times in total. 21,445 employees were organised to take the test of "everyone should be qualified" and realised a 100% passing rate.

Case

Safety experience showrooms were built in subsidiaries and the safety education and training methods were innovated



For the purpose of changing the previous safety education model, which was only lecturing without practising, and strengthening the perceptual understanding of the participants in safety incidents, Heilongjiang Zijin Copper, Zijin Copper, the Zijinshan gold and copper mine and other subsidiaries effectively innovated training methods for safety education, and set up safety experience showrooms. By means of simulation of safety incidents that possibly happen in construction sites, the construction workers received three-dimensional education and experienced source of hazards that will be encountered in working environment lively and directly. They were conscious of the danger of violating regulations at workplace. Theoretical education was turned into a simulation experience in practice.



Case

Jilin Zijin Copper conducted visible management of safety training

Making use of the online assessment system, Jilin Zijin Copper conducted online assessment test on the staff in terms of laws and regulations of safety and environmental protection, management policies, common knowledge of production safety, emergency aid knowledge, operation regulation and procedures of different posts. Based on the assessment results, scores of the staff were classified into 4 categories from excellent to fail, which were represented by badges in the colour red, yellow, blue and green respectively. Meanwhile, targeted trainings were provided for staff with different scores and supplementary assessments were organised, in order to heighten the safety management and operational skill of all staff.



“Identification cards for staff’s skill assessment grade”

Occupational health

Zijin Mining implemented the idea of “occupational health management shall be included in production management”, took the initiative to advance occupational health management, enhance the source management of occupational diseases and harms, and prevent and control the occurrence of occupational diseases. To guarantee the occupational health of employees of the Company and contractors is a sublime commitment of the Company to workers and the society.

Practice of “three simultaneous” policy for occupational health protection

In order to prevent, control and eliminate the threats of occupational diseases possibly resulting from construction projects, and carry out the national policy of “three simultaneous”, the Company actively pushed forward the subsidiaries to construct occupational disease protection facilities for new projects, project transformations and project expansions, and carried out supervision and management. In 2018, the subsidiaries effectively promoted the development of “three simultaneous” projects. For instance, Zijin Copper completed the assessment on the results of occupational disease control of capacity expansion project for comprehensive recovery of end materials in production, pre-assessment of occupational disease of comprehensive utilisation of copper refining resources and harmless treatment project and pre-assessment of safety and occupational diseases of “expansion and reform project”; Xinjiang Zijin Non-ferrous Metals Company Limited completed pre-assessment of occupational diseases of the newly constructed 100 thousand tonnes/annum zinc refining project; Processing Chemicals Company completed the pre-assessment of occupational health in the “relocation, expansion and construction project”; and Luoning Zijin Yinhui and Shanxi Zijin completed the acceptance check of protection facilities for occupational diseases.



Source management of occupational hazards

In 2018, the Company launched the Occupational Health Law Enforcement Year. Supervision and inspection on occupational health were strengthened. Subsidiaries were required to install water cannon sprayer in shaft and open-pit areas and equipped water-mist machine and various types of high-efficiency dust removers in positions at jaw crusher, cone, belt, etc. Mechanical transformation of drilling jumbo and wet spraying machine was promoted for underground mining, so as to avoid resuspended dust in working areas. Silencers were installed for the underground fans of the mines to lower the noise. Soundproof and shock absorption rooms were equipped for staff of all posts. These effective measures managed the occupational hazards from the source and carried out the primary responsibilities.

Popularisation educational training launched for occupational health, boosting the precautions against occupational hazard incidents

The Company firmly implemented the prevention strategy of “prevention as the focus and combine caution and management” for occupational diseases, and consistently enhanced occupational health training and education. In 2018, the Group had over 300 management personnel trained and assessed for occupational health, hosted awareness-raising week of Law of the Prevention and Control of Occupational Diseases and production safety month, which practically raised the occupational health awareness and management quality of management personnel of the subsidiaries.

The Company required all the subsidiaries to formulate comprehensive or specific emergency plans for occupational hazard incidents and organise at least one emergency rescue drill regarding production safety and occupational health incidents each year, in order to perfect the emergency plans and improve emergency rescue capability. For working environments exposed to toxic and hazardous substances where acute occupational injury possibly occurs, alarms as well as on-site emergency relief items, rinsing equipment, emergency ventilators, compulsory hazard buffer zones, etc. were equipped. The prevention and protection measures relating to occupational health in toxic and harmful working environment were strengthened in all aspects.

Vigorous practice of occupational health examination

The Company required that pursuant to relevant laws and regulations including the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, Provisions on the Supervision and Administration of Occupational Health at Work Sites, Measures for the Supervision and Administration of Employers' Occupational Health Surveillance, etc., entities shall continuously improve the equipment and facilities for occupational health protection as well as relevant regulations, policies and operational procedures. Pre-employment, employment and post-employment occupational health examinations were strictly executed for the staff exposed to occupational hazards. The results of the health examination were notified in written form. Meanwhile, qualified professional hygiene and health technology service agencies were engaged to inspect occupational hazard factors and evaluate their conditions. The results of the inspection and evaluation were timely issued to the public. Throughout the year, the percentage of the staff exposed to occupational hazards receiving health examination was 100%, and the percentage of file establishment, i.e. “one file for one person”, was 100% as well.



**Activities of awareness-raising week of Law of the Prevention and
Control of Occupational Diseases in the subsidiaries**



Jilin Zijin Copper arranged occupational health expert to provide a specific training for occupational health management knowledge



Competition of safety, environmental protection and occupational health knowledge held by Kuitun Tongguan Metallurgical Chemical during the "Production Safety Month"



Seminar of first aid knowledge and training for practical operation for professional and concurrent safety officers and personnel of team leader and group leader and above organised by Duobaoshan Copper



People-oriented approach caring for the development of employees

Equality and protection for employment

In terms of human resources management strategies, Zijin Mining strictly complies with the laws and regulations regarding labour and employment at the places where its operations are situated. The fundamental rights and interests of employees were protected according to the law. Basic Policy for Human Resources Management was also formulated, which explicitly prohibits the use of child labour and any form of employment discrimination or forced labour in the Group's headquarters and any of its subsidiaries, and prohibits any default on salary payment. All of the Group's enterprises entered into labour contracts with their employees in compliance with statutory requirements, and ensured that no employee was discriminated against due to ethnicity, gender or other factors. In 2018, the number of employees averaged 27,010 per month (including foreign employees of overseas subsidiaries). 100% of the employees entered into labour contracts with the Group; 100% of the employees were covered by social insurance, and the trade union membership rate of the PRC staff also reached 100%. There was no default on salary payment.

The Company developed the plan of "Talent 200" and "Elite Students" talent fostering scheme. High-quality fresh graduates were recruited around the globe every year. In 2018, apart from the recruitment sessions in domestic universities including Peking University, Fudan University, Shanghai Jiao Tong University, Central South University and Northeastern University, recruitment talks also made their debut in famous overseas universities including the University of Melbourne, the University of Western Australia, the University of British Columbia, Colorado School of Mines, the University of Arizona and so on. A total of 279 outstanding fresh graduates were recruited, and the number and quality of "Elite Students" made a breakthrough compared with the previous years.

Case

The recruitment talk in the University of Melbourne attained overwhelming popularity, being the most popular university recruitment talk in Australia in the recent years



In 2018, the Company launched campus recruitment in Melbourne, Australia. "Talent 200" programme and "Elite Students" talent fostering scheme of the Company highly attracted Australian university students. Nearly 400 students participated in the event on-site.

Employees' career development

The Company adopts a people-oriented approach as its employee development strategy. It formulated Guidelines for the Development of Industrial Workers, Management Methods for Cultivation of Artisans, etc., vigorously promoted the evaluation and recruitment model of technical staff (specialists), identified the positions of frontline key technical staff, further clarified the entry requirement of key positions, and actively provided necessary preferential benefits. The Company established career development paths for talents in three major streams, namely administrative management, business management and technical profession. Employees are free to choose the course for their career development among the aforesaid three streams, so that they could fully exert their potentials and achieve success in their career development.

Case

Zijinshan gold and copper mine hired the first batch of 13 artisans



In 2018, the Zijinshan gold and copper mine convened the seventeenth Employee Commendation and Conclusion Congress of Technical Competition. Employees who had outstanding performance in the “China Copper Cup” National Nonferrous Metals Industry Team Leader Comprehensive Management Skill Competition, the “Zijin Cup” Skill Competition in Shanghang County and this competition were commended. 13 artisans specialised in electrical and mechanical engineering, information technology, mineral processing and geology were hired as the first batch of artisans of Zijinshan. They were given annual artisan allowance of RMB50,000, RMB30,000 and RMB18,000 respectively within the employment period.



Case

“Five Ones” training model for outstanding young talents

In 2018, the Company established the “Five Ones” training model for outstanding young talents, i.e., “one seminar, one training at headquarters, one customised training in Xiamen University, one interactive communication platform and one systematic briefing report”. Among the 40 outstanding young talents of the first session, 23 were promoted, 5 were promoted to middle-level management cadres, and 6 were chosen to work overseas. The model had a positive impact on accelerating the growth and development of young talents and lowering the age of cadres and team members.



Trainings for employees

Guided by the internationalisation strategy, the Company has established a complete, well-structured and broad-ranging management system on training. It has also developed an employee training and development system, and an interconnected three-level (headquarters - business segments - subsidiaries) training mechanism. These measures aim at motivating employees to pursue for higher education and further development.

Case

Seminars collaborated with universities for building an excellent team of management talents



In 2018, the Group’s headquarters organised two phases of seminar with Peking University and one phase of seminar with Xiamen University respectively. The seminars with Peking University mainly focused on training for general managers of the subsidiaries. It broadened the horizons of the Group’s middle-level management team and simultaneously helped the general managers who participated in the seminar to promote training and talent cultivation for the enterprise. The seminar with Xiamen University targeted the

Group's first batch of outstanding young talents, the representatives of young talents under 35 years old and 2017 outstanding "Elite Students". It boosted the development of young talents and is one of the important measures for the Group to continuously build an excellent young talent team.

Case

Training classes at headquarters for new employees

In 2018, the Group organised 2 sessions of training at the headquarters, site visit and field study for new employees of the subsidiaries. 176 trainees participated in total. The training strengthened their study and knowledge of the Company's organisational structure, management mechanism and development strategy, forming a strong cohesion and loyalty to the Company.



Salary and benefits

The Company adheres to the values of "balancing development of the corporation, the employees and the society", actively focuses on the needs of employees and contractors for a better life and promotes the building of a "Zijin Big Family". During the year, the remuneration of the lower-level employees was further increased. The Group's unified basic welfare system raised employees' satisfaction and provided employees with more sense of gain, happiness and accomplishment. In addition to social insurance and housing provident fund which are provided in compliance with the law, employees also enjoyed supplementary medical insurance, paid leaves, festival allowances and other benefits provided by the Company. Benefitted from good market environment and outstanding operating results of the Company in 2018, frontline workers enjoyed a substantial pay rise – an average 10% increase in salary for non-senior management personnel across all the business entities of the Company.

Caring for employees

The Company took the initiative to create a harmonious "Zijin Big Family" to establish a fundamental in protecting the legal interests of employees and promoting the healthy and harmonious development of the enterprise. The Company's trade union entered into the Employees Salary Collective Agreement and the Workers' Collective Labour Contract on behalf of the employees with the Company through negotiation on



an equal basis. The legitimate interests of employees in respect of employment, salary and benefits, rest and leave, occupational safety, health and social insurance, etc. are protected.

The trade union of the Group organises employees to participate in the Company's decision-making, management and supervision in a democratic manner. It convenes workers' representative meetings and workers forums at least twice a year to protect the right to access information, participate and vote of employees and realise employees' democratic rights. The trade union of the Group and trade unions at different levels established a special reception office for employees to listen to their opinion and suggestions so as to fully exert the function of democratic supervision and management of the worker directors and worker supervisors.

Case

The Company established a nursery room with care



Along with the introduction of the national two-child policy, female employees gradually encountered a birth peak. In order to solve the problem of breastfeeding of female employees, the Company established a nursery room with care in the headquarters building. The nursery room is equipped with user-friendly facilities such as sofa for breastfeeding, milk warmer, baby care station, air conditioner, refrigerator, etc. Books and promotional materials relating to breeding science are also placed in the room. These effectively solved the difficulties of breastfeeding and breast milk storage for female employees during their working hours.

Case

Alleviating employees' difficulties in visiting doctor





In 2018, the trade union of the Group signed up for 3,384 union members to participate in the 11th Employees' Medical Mutual Aid Activity in Longyan City, providing a biennial body check for 336 retired employees, so that they can fully feel the care and warmth of Zijin Big Family and enhance their resistance to serious illness. Also, the trade union of the Group provided medical assistance for 42 employees to alleviate their difficulties in visiting doctor, high cost of visiting doctor and unaffordability to visit doctor. As a result, the employees were practically benefited.

Case

Employee vocational skill competitions were vigorously developed

In 2018, the trade union of the Group held the 17th vocational skill competition, in which more than 8,000 workers participated. A large number of outstanding talents were discovered and cultivated through labour competition, technical competition, technical breakthroughs, etc. The vocational skills of workers were continuously improved, and a team of quality industrial workers was established.



Employee distribution and structure of the Company for the recent three years

Item	Unit	2018	2017	2016
Total number of employees	Person	28,179	26,407	24,784
By type of employment:				
Employed by the Group	Person	2,667	2,632	2,593
Contract labour employed by the Group	Person	159	213	340
Employed by the Group's subsidiaries	Person	25,322	23,339	21,851
By region:				
In the PRC	Person	18,329	17,768	17,048
Outside the PRC	Person	9,401	8,639	7,736
By gender:				
Male (in the PRC)	Person	14,939	14,644	14,061
Female (in the PRC)	Person	3,390	3,428	3,334
By age:				
18-29	Person	6,379	4,734	4,888
30-39	Person	10,077	8,262	7,289
40-49	Person	7,557	6,453	6,416
50-59	Person	3,552	3,219	2,777
60 or above	Person	303	249	214
Turnover rate	%	0.0013	0.0043	0.0066

Note: 1. Employees of the Group's associates are excluded from the above figures. 2. The gender and age structure of the employees of some overseas operations are not available due to restriction to access personal data according to the privacy law of the relevant jurisdictions or incomplete employee records for foreign staff.

Charity practice contribution to local communities

Community building and social welfare

Eliminating poverty and improving living condition are the goals for sustainable development for the world to work together. The Company's mines are usually located in economically backward and less developed areas. On the basis of this, the Company established a community co-development and charity support system with its own characteristics to fully exert its advantages and strengths, identify community's difficulties and needs, and actively participate in local community development. In 2018, the Company donated RMB207 million to make contribution in the aspects of precise poverty alleviation, disaster relief, education, environmental protection and community building, leading the community to achieve sustainable development.

Zijin Mining Charity Foundation, which was established by the Company, is one of the important public welfare platforms in Chinese mining industry. In 2018, Zijin Mining Charity Foundation comprehensively standardised its operation and management, and strived to strengthen its own development. It continuously raised its management level and actively launched charity activities such as poverty alleviation, distress relief, disaster relief and other social assistance, educational aids, environmental protection and other charitable activities. The operation and management of Zijin Mining Charity Foundation was recognised by the Ministry of Civil Affairs of the PRC. It passed the annual inspection of the Ministry of Civil Affairs of the PRC consecutively, obtained non-profit organisation's qualification for tax exemption, and ranked joint first in the China Foundation Transparency Index with a total score of 100 points.

Case

Contribution to Shanghang Old Revolutionary Base Area, establishing Zijin Secondary School



In recent years, along with the acceleration of urbanisation and introduction of two-child policy, high-quality educational resources have become increasingly tense in Shanghang County, where the Company's headquarters is located, and the surrounding mountainous areas. A variety of educational resources has become necessities for the residents in the community. In 2018, in order to satisfy the needs of the society for education development and contribute to the residents in the Old Revolutionary Base Area, the Company founded a non-profit Zijin Secondary School. Teachers of the school were hired with high salaries nationwide. The school implements small class teaching with 40 students for each class, adopts closed-off



management and bilingual teaching model, sets up a variety of interest classes, teaches students in accordance with their aptitude and cultivates all-rounded modernised talents with moral, intellectual and physical development, which is a refreshing mode of education. A total of 1,500 outstanding students in the county were attracted at the beginning of the establishment of Zijin Secondary School. The first batch of 160 freshmen were outstanding students from the county and neighboring counties. The academic performance of the students in 2018 ranked top in the county. A brand new private secondary school is exploring its pathway of secondary education and also conveys Zijin's confidence in fulfilling social responsibilities.

At the same time, Zijin Mining College of Fuzhou University jointly established by the Company and Fuzhou University (a first-tier university) became a star in the field of education in a short span of 10 years. It was rated as "Excellent Engineer Education and Training Program" by the Ministry of Education of the PRC, awarded "National Education Reform and Innovation Excellence Award", "Fujian Province Demonstrative Industrial College" and "Fujian Province Education Achievement Special Award". The Shanghang Teaching Base was also rated as "National Engineering Practice Education Centre".

Case

**Porgera gold mine actively fulfilled corporate citizen responsibility,
widely recognised by the society of Papua New Guinea**



In February 2018, a once-in-a-century 7.5-magnitude earthquake occurred in Papua New Guinea. Four provinces including Enga Province where the Porgera gold mine is located were affected. Immediately after the earthquake, although parts of the production activities were affected, the Porgera gold mine took action promptly, actively guided and supported Porgera Women's Association to carry out earthquake relief work. At the same time, the Porgera gold mine donated USD2 million to support the local government for earthquake relief and post-earthquake reconstruction. The hospital in Aiam Town is the only local community hospital around the Porgera gold mine. It was closed for several years due to poor operation. The difficulties in visiting doctor became the major livelihood difficulty of local residents. The Porgera gold mine discussed with the local government and donated funds for reconstructing the hospital after learning such situation. The hospital turned from private to public, solving the difficulties of visiting doctor of tens of thousands of residents in the Porgera community after its reopening.



In November 2018, Chen Jinghe, the chairman of the Company, accepted the invitation from the organising committee to attend the APEC CEO Summit held in Port Moresby, the capital of Papua New Guinea. During the meeting, Chen Jinghe met Peter Ipatas, the governor of Enga Province where the Porgera project is located. Mr. Ipatas highly praised Porgera Joint Venture for playing a decisive role in promoting local economic development and solving local employment problem. The Company's investment in Porgera was sincerely recognised.

Case

**Zeravshan supported kindergarten building in Penjikent City,
highly praised by the President of Tajikistan**



Zeravshan is the largest gold producer in Tajikistan. The company is constantly developing itself while emphasises on improving the local backward social development in Tajikistan at the same time. In March 2018, the President of Tajikistan, Emomali Rahmon, attended the plaque unveiling ceremony at the kindergarten supported by Zeravshan and highly praised Zijin's contribution to integrity investment, public welfare and local economic development. Zeravshan was awarded the "Excellent Operation and Management Enterprise" and "Best Taxpayer" in 2018 at the annual work conference of the National Industrial Enterprises of Tajikistan.



Case

Wulatehouqi Zijin's donation helped herdsmen encounter with drought



In 2018, Wulatehouqi suffered from a severe and historically rare drought which caused heavy losses to the farmers and herdsmen, especially to the production activities and living condition in pastoral areas at the rear mountain. There was a severe lack of drinking water for the people and livestock. Some livestock died of thirst. Wulatehouqi Zijin and Bayannaoer Zijin, subsidiaries of the Company, upheld the traditional Chinese virtue, “when disaster strikes, help comes from all sides”, and donated RMB250,000 to help the residents in pastoral areas solve the difficulties.

Case

Altynken took the initiative and had the courage in shouldering its social responsibilities

Altynken attaches great importance to promote the economic and social development of local communities through mine development for many years. It implements localised procurement and workforce localisation policy, provides more than 1,500 jobs for local residents; and donates USD60,000 monthly to “Keming Future” development fund to improve local community infrastructure, medical care and village construction. It also actively participates in community activities and public welfare assistance with annual donation not less than USD100,000.



Paying visit to combat veterans



Case

**President of the DR Congo, Kabila, fully recognised Zijin's
contribution to the community**

On 1 September 2018, after the closing ceremony of the third mining conference in the DR Congo, President Joseph Kabila and Prime Minister Bruno Tshibala visited Musonoie's exhibition booth for on-site inspection and instruction. Kabila highly recognised Zijin Mining's contribution to the donation and construction of the municipal drainage and water well in Lualaba Province and the participation in the local social welfare construction. They hoped that the Company will continue to actively fulfill its social responsibilities and make more efforts and greater contribution to improve local livelihood.



Precise poverty alleviation

In 2018, the Company focused on the overall goal of building a moderately prosperous society in all aspects by 2020. Under the guidance of "Opinion on Serving the National Poverty Alleviation Strategy by Making Use of the Capital Market", the Company highlighted the importance of poverty alleviation work and formulated corresponding poverty alleviation strategies. The Company allocated manpower, resources and capital to assist the poor villages around mining sites, and worked together with local governmental poverty alleviation authorities and other charity social organisations, to involve deeply in the poor villages in the surroundings of mines and provide assistance in Fujian Province Minxi Old Revolutionary Base Area, Aletai Region of Xinjiang Uyghur Autonomous Region, Hebei Province, Henan Province, Inner Mongolia Autonomous Region, Shanxi Province, Yunnan Province, Jiangxi Province, Guizhou Province, etc., by a series of infrastructure construction, industrial development, environmental protection, poverty alleviation by education and improving educational facilities, proactively enhancing the production and living conditions of impoverished population.





Case

Hunchun Zijin assisted in precise poverty alleviation for the community

In line with the needs of the community, Hunchun Zijin precisely identified and launched community projects such as infrastructure construction assistance and industrial support in the surrounding impoverished villages. In 2018, the Company funded 48 impoverished households in Xitumenzi Village, Chunhua Town to repair their houses and solve the safety problems of their houses, and donated colour-coated steel chicken coops, chicks and feeds, third-class agaric cultivation rods and other production tools to help them escape from poverty through industrial development.



Case

The most influential public welfare project of “China Charity Award” was continuously implemented



In 2018, the Company worked together with Zijin Mining Charity Foundation to implement “Poverty Alleviation Assistance to Senior Citizens and Orphans in Shanghang County” for the ninth consecutive year. With the assistance from the local government, it accurately identified rural impoverished elderly and orphans at school age in Shanghang County, providing them with monthly living allowances. More than 13,000 people were benefited in the year. During Chinese New Year, the Company paid visit to the elderly and disabled orphans registered under the category of population in poverty, and provided them with warmth and blessings during the festival.



Case

Education for poverty alleviation was actively carried out

The Group and the Shanghang County Education Bureau carried out educational activities for poverty alleviation such as “respecting teachers and their teaching”, “Spring Bud Action”, “Golden Autumn Education Sponsorship” and “Dream Comes True Programme of Project Hope”, and distributed sponsorship for impoverished university freshmen with excellent conduct and academic performance and impoverished high school students for consecutive years. These activities aimed to give continuous care for those students, understand their learning and living conditions at school, guide them to be grateful and inspirational, and pass the message of love and self-improvement.

Case

Longnan Zijin’s innovative precise poverty alleviation + ecological restoration and management brought about beautiful ecology and wealth

Since 2018, Longnan Zijin has vigorously carried out mine ecological environment restoration and management projects in accordance with the requirements of national green mine development standards, and created a new model of mine ecological environment restoration and management + precise poverty alleviation. It implemented national and local precise poverty alleviation policies to increase the income of surrounding impoverished villagers and help them escape from poverty through signing contracts of compensatory tree planting service and sapling purchase order contract. The annual expenses for tree planting services paid to the villagers amounted to RMB544,800, which was highly recognised by the local government, employees and surrounding villagers. The brand of green mine and core competitiveness were initially formed.

Voluntary services

In order to vigorously promote the spirit of “dedication, friendship, mutual assistance and progress”, the Company established the “Learning from Lei Feng” Volunteer Team to organise voluntary services such as daily care, civilised traffic supervision, voluntary tree planting, charity donation, caring home tutoring, voluntary blood donation, environmental protection management, etc. Through such activities, the Company constantly enhanced the pursuit of values, raised working competence, demonstrated professional behaviours, and encouraged the whole society to actively participate in voluntary services.



Case

Voluntary activity for traffic civilisation was organised

As “Lei Feng Day” in March 2018 was approaching, the Group’s Lei Feng Volunteer Team conducted a voluntary activity of traffic civilisation at the traffic light intersection between the East Second Ring Road and Zijin Road in Shanghang County for assisting traffic officers to maintain traffic order, remind and stop traffic violations such as running a red light, jaywalking and chaotic traffic caused by non-motor vehicle or pedestrians, guide pedestrians to abide by traffic laws and regulations, and advocate residents to enhance their awareness of traffic civilisation. The socialist core value of “Lei Feng” spirit was vividly extended to every corner of the city.



Case

The eighth “Caring Home Tutoring” activity was launched

In May 2018, the Group’s Lei Feng Volunteer Team launched the eighth Caring Home Tutoring voluntary activity themed “teaching by kindness and building dreams by virtue”. The volunteers made use of their weekends or spare time to carry out the one-month “one-to-one partner assistance” with 15 impoverished students or left-behind students from Shanghang No. 5 Middle School. Since its establishment in 2011, the activity has been successfully held for seven years. It has become a “brand event” for Youth League members of the Group to execute the core values of the Company. More than 120 impoverished students or left-behind students benefited from the “Caring Home Tutoring” activity.





An internationalised Zijin first-mover of the Belt and Road Initiative

The Company actively responded to the state's strategy of the Belt and Road Initiative, adhered to the pathway of internationalised development and implemented the “going-out” strategy. Since 2006, acquiring overseas resources has always been an important strategy of the Company. As at the end of 2018, the Company's investment projects spanned across 11 overseas countries, namely Australia, South Africa, the DR Congo, Papua New Guinea, Peru, Tajikistan, Kyrgyzstan, Russia, Serbia, Eritrea, Canada, etc. During the year, overseas enterprises of the Company had a total of 14,250 employees, in which 13,628 were foreign employees. The localisation level of staff in overseas enterprises reached as high as 95.6%, solving the employment problem of the places where the projects are located.

The Company continues to expand overseas projects and discharge social responsibility simultaneously, adheres to the integration of Zijin's innovative idea and local culture, emphasises on coordinated development of the local community and society, and strives to become “local enterprises”. The Company strictly complies with the laws and regulations of the countries where its projects are located; adopts the environmental management system and production safety management system which conform to the international standards; complies with business ethics, prohibits corruption; respects the cultures, traditions and customs of those countries; adheres to the localised employment policies so as to provide local employees with competitive remuneration, safe and healthy working environment, effective on-the-job trainings, and more promotion opportunities; actively participates in local community development and charitable activities, provides support to skill trainings for local stakeholders, makes use of the enterprise's advantages to boost the local economy, improves the living condition and promotes sustainable development of those countries. The respect and support from the countries where its projects are located and the communities were therefore gained, and the understanding and trust from partners and local employees were also obtained.

Distribution of the Company's overseas operations



Overview of major overseas operations

Longxing Limited Liability Company

The Company and Heilongjiang Longxing International Resources Development Group Company Limited own 70% and 30% equity interest in Longxing respectively. Longxing mainly operates the Kyzyl-Tash Turk polymetallic mine. Phase 1 open-pit mining commenced production on 25 June 2015. This mining project is the largest mining and processing project in Siberian region of Russia and one of the earliest and best examples of Sino-Russian cooperation in the field of mining. As at the end of 2018, the volume of zinc resources of the mine was 913.9 thousand tonnes. 99.9 thousand tonnes of zinc and 4,152 tonnes of lead were produced in 2018 respectively. At present, Longxing has a total of 906 employees, in which 694 are from Russia. Longxing actively discharges social responsibility and maintains good relationship with the community. It donates RMB250,000 each year for entrusting and training graduates of Tuva colleges in China. In order to promote the development of the local traditional breeding industry, a foundation for deer breeding was established. In 2018, Longxing sponsored RMB1 million for the construction of the Martial Arts School of the Tuva Republic.



Barrick (Niugini) Limited (“BNL”)

In August 2015, Zijin Mining invested USD298 million for 50% interest of BNL in order to acquire 47.5% interest of the Porgera gold mine. The Porgera gold mine project is located at the Porgera Valley of Enga Province, western Papua New Guinea. It is an epithermal gold mine which adopts a combination of open-pit and underground mining. It has a processing capacity of 6 million tonnes/year and gold output of 16 tonnes/year. Gold output attributable to the Company on equity basis in 2018 was 6.77 tonnes. At present, BNL has a total of 3,350 employees. In February 2018, an earthquake with magnitude 7.5 struck the region where the project is located. BNL actively assisted the post-earthquake reconstruction work and donated USD2 million for disaster relief. Along with the investment in Porgera for more than three years, recognition on Zijin from the employees and the community has gradually increased.



La Compagnie Minière de Musonoie Global SAS (“COMMUS”)

In 2014 and 2016, the Company acquired 72% equity interest in COMMUS through two acquisitions, and La Générale des Carrières et des Mines held 28% equity interest in COMMUS. The mining right covers 3,359 square kilometres, comprising the Kolwezi and Noyka mining sections. The retained resources volume was 1.47 million tonnes of copper grading 4.21% in average. Phase 1 mining and processing project commenced production in June 2017 and phase 2 copper and cobalt recovery project was put into pilot production on 26 December 2018! COMMUS spent only nine months, with the priority control of “safety-quality-speed-cost” mindset to overcome all unfavorable factors, broke the record of mine construction of Chinese enterprises in the DR Congo and contributed to the Belt and Road Initiative with Zijin’s new speed of internationalisation. During the year, COMMUS produced a total of 53,000 tonnes of copper metal and had 1,337 employees.

COMMUS insisted on integrating into and contributing to the local community, as well as co-development. It invested approximately USD8 million in municipal water supply system construction, municipal power supply network repair, community bridge and road repair, community water supply and drainage system construction, medical and educational materials donation, etc. These beneficences were widely recognised and praised, and earned high recognition and wide support from the local government. COMMUS was awarded the title “Outstanding Enterprise” by the local government.



Kamoa Holding Limited

In December 2015, the Company acquired 49.5% of KHL’s total shares from Ivanhoe Mines Ltd. (“Ivanhoe”), a Canadian company. The Company jointly developed the Kamoa copper mine project with Ivanhoe. KHL owns 80% interest of Kamoa Copper SA, and the remaining 20% interest is owned by the government of the DR Congo. According to the updated resource report released in the first half of 2018, the total resources volumes of the Kamoa copper mine were: 1.655 billion tonnes of ore and 42.49 million tonnes of copper metal grading 2.57% in average. It has become the largest copper mine project in the African history. It is also the world’s largest copper mine pending development with the highest grade. The project commenced construction in November 2017.



Zijin Bor Copper doo Bor (“Bor Copper”)

In December 2018, the Group obtained a 63% equity interest in the RTB Bor copper mine project in Serbia through increasing the capital of RTB Bor at a consideration of USD350 million. RTB Bor was renamed Zijin Bor Copper doo Bor. The government of Serbia held approximately 37% equity interest (the other minority shareholders held less than one in ten thousand of the total shareholding). It is the largest-ever project in Serbia invested by China, and also an important project cooperation of Fujian Province as the starting point of the Maritime Silk Road in response to the national strategy of “Belt and Road Initiative”. Bor Copper has approximately 5,000 employees, 4 copper mines and 1 smelter plant. The Bor copper mine has copper metal resources volume of 10.24 million tonnes. The mine is located at the famous Eurasian metallogenic belt. It has a large resources reserve volume, good mineralisation prospect and large exploration potential.



Rakita Exploration d.o.o Bor (“Rakita”)

At the end of 2018, the Company held Rakita and operated its Timok copper-gold mine project through acquisition of Nevsun. The Company owns 100% interest of the Upper Zone and 46% interest of the Lower Zone of the Timok copper-gold mine respectively (Freeport owns the remaining 54% interest of the Lower Zone). The Upper Zone of the Timok copper-gold mine is a high-grade massive copper-gold deposit and the Lower Zone is a super-large porphyry type copper deposit. The project is yet to be developed, and the Upper Zone is in the stage of feasibility study. According to the “NI43-101 technical report of Timok project”, the Company owns 7.7969 million tonnes of copper metal and 213.52 tonnes of gold metal in the Timok copper-gold mine calculated on final equity basis. Rakita has a total of 119 employees. In November 2018, Rakita became a member of the Business Responsibility Forum Serbia and was recognised for its outstanding contribution to the local community at the 10th anniversary of the Forum in December 2018.



Bisha Mining Share Company (“Bisha”)

The Company obtained 60% equity interest of Bisha in Eritrea through acquisition of Nevsun. Eritrea National Mining Corporation held 40% of Bisha’s equity interest. The Bisha copper-zinc mine of Bisha is the largest zinc mine project in Eritrea in current production. The current mining and stripping capacity of the Bisha copper-zinc mine is 22 million tonnes/year, and the designated processing capacity is 2.4 million tonnes/year. As at the end of 2018, the retained reserve volume of zinc metal of the Bisha copper-zinc mine was 3.13 million tonnes and that of copper metal was 0.655 million tonne. In 2018, the production volumes of zinc metal and copper metal were 125 thousand tonnes and 17.3 thousand tonnes respectively. As at the end of 2018, Bisha had a total of 1,553 employees, of which 1,449 were local employees.



Joint Venture Zeravshan Limited Liability Company

In 2007, Zeravshan was jointly established by the Company and the government of the Republic of Tajikistan. The Company and the government of Tajikistan hold 70% and 30% shares in Zeravshan respectively (the Ministry of Industry and New Technologies of Tajikistan is the department in charge). It is the largest gold producer in Tajikistan. Zeravshan owns four mining rights, namely Jilau, Olympic, Khirskhona and Taror, in which Jilau and Taror are currently in production, and 2 processing plants and 1 gold smelter plant were built. It produced 4.57 tonnes of gold in 2018. Zeravshan greatly promoted the development of the local economy and society, contributed more than 85% of the local fiscal revenue, and directly created more than 2,000 jobs. The annual income per capita of local employees has increased by seven times since Zijin took over the project, which was far more than the level of local income per capita. The President of Tajikistan unveiled a plaque of a kindergarten funded by Zeravshan in March 2018, and highly praised Zijin’s contribution to the public welfare. Zeravshan was awarded the “Excellent Operation and Management Enterprise of Tajikistan”.



Altynken Limited Liability Company

The Company acquired 60% equity interest of Altynken in September 2011 and the remaining 40% equity interest is owned by Kyrgyzaltyn Open Joint Stock Company. The Taldybulak Levoberezhny gold mine of Altynken is located at 120km east of Bishkek, the capital of the Kyrgyz Republic. It is the third largest gold mine in the Kyrgyz Republic. In 2018, it produced 3.23 tonnes of gold. At present, Altynken has a total of 990 employees, including 929 Kyrgyzstani employees. Since the establishment, Altynken has provided more than 1,500 jobs for local residents, and established a community development fund for the infrastructure, medical care, education, village construction, etc. of the region and its surrounding areas with the local government. The incumbent Prime Minister of the Kyrgyz Republic visited the mining area and praised Altynken as a rare and excellent mining enterprise in the country.



Norton Gold Fields Limited

The Company acquired 89.15% equity interest in Norton through an overseas wholly-owned subsidiary in August 2012; thereafter it completed the acquisition of entire 100% equity interest in Norton in June 2015. The project comprises the Paddington mill, which has an annual processing capacity of 3.7 million tonnes, and an area spanning 1,029 square kilometres around the Paddington mill which is within the scope of mining rights with a promising mineral prospecting potential. The area within the scope of Paddington's mining rights has over 80 resource-rich exploration spots. Norton always strives to support and contribute to the community. Norton funded many local activities and organisations, sponsored local primary schools to offer Chinese classes, promoted cultural exchange between China and Australia, etc. The relationship between the mining area and the community remains stable and harmonious. Various construction projects and production activities are in smooth progress.





Appendix Index for indicators in the report

ESG reporting aspect	Relevant content	ESG reporting aspect	Relevant content
A1: Emissions	Clean production (P.31), wastewater management (P.33), exhaust gas management (P.35), management of general solid waste and hazardous waste (P.36), energy management (P.43)	B3: Development and training	Employees' career development (P.60)
A1.1		B3.1	Employee distribution and structure of the Company for the recent three years (P.64)
A1.2		B3.2	
A1.3		B4: Labour standards	Equality and protection for employment (P.59)
A1.4		B4.1	
A1.5		B4.2	
A1.6			
A2: Use of resources	Sustainable exploitation of resources (P.23), water conservation management (P.31), energy management (P.43), green office (P.44)	B5: Supply chain management	Supply chain management (P.25)
A2.1		B5.1	
A2.2		B5.2	
A2.3		B6: Product responsibility	Product quality and customer satisfactory management (P.25)
A2.4			
A2.5	Use of packaging materials for mineral products of the Company for the recent three years (P.26)	B6.1	
A3: The environment and natural resources	Eco-mine development (P.38), status of environmental impact assessment and "three simultaneous" policy for environmental protection (P.42)	B6.2	
		B6.3	
A3.1		B6.4	
B1: Employment	Equality and protection for employment (P.59), trainings for employees (P.61), salary and benefits (P.62), caring for employees (P.62)	B6.5	Prohibition of commercial bribery and corruption (P.26)
B1.1		B7: Anti-corruption	
B1.2		B7.1	



B2: Health and safety	Production safety management (P.47), occupational health (P.55)	B7.2	Community building and social welfare (P.65)
B2.1		B8: Community investment	
B2.2		B8.1	
B2.3		B8.2	

Sub-heading in the report		Guidelines on Corporate Social Responsibility Reporting - General Mining Industry
Remarks by the chairman		P3.1, P3.2, P5.2
About the report		P1.2, P1.3, P1.4
Company profile		P4.1, P4.2, P4.3
A responsible Zijin - leading sustainable management	Social responsibility beliefs	G1.1
	Management system of social responsibilities	P5.1, G1.4, G2.1-G2.5, G3.1, G3.2, G4.3
	Social responsibility risk management	P2.3, G4.1, G4.2, G5.1-G5.6, G6.4
	Communication with stakeholders	P2.1, P2.2, G1.3
	Major awards received in respect of corporate responsibility during 2018	P5.2
Earn respect with quality products - driving industrial innovation	Corporate governance	M1.1-M1.6, S1.1, S1.5, S1.6
	Scientific and technological innovation	P4.6, M2.10-M2.14
	Sustainable exploitation of resources	M2.1-M2.8, E2.12-2.16
	Supply chain management	P4.4, P4.7, G3.2, M3.1-M3.4, M3.8, M3.12
	Product quality and customer satisfactory management	P4.2, M3.7, M3.9, M3.10
	Prohibition of commercial bribery and corruption	S1.2-S1.4



A green Zijin - focusing on energy conservation and emission reduction	Environmental management system	E1.1, E1.2, E1.5
	Clean production, water conservation management, wastewater management, exhaust gas management	E2.8-E2.11, E2.17-E2.19
	Management of general solid waste and hazardous waste	S3.10, E2.12, E2.12-2.16
	Eco-mine development	S4.3, E3.1-E3.9
	Status of environmental impact assessment and “three simultaneous” policy of environmental protection	S4.1, S4.2, E1.4
	Environmental protection education and training	E1.6, E1.7
	Energy management	E1.10, E1.12, E2.1-E2.5, E2.20, E2.21
	Green office	
A safe Zijin - relentless pursuit of production safety	Production safety management	S3.1, S3.5-S3.7
	Emergency management of safety risks	S3.3, S3.4, S3.10
	Safety management for contractors	S2.23, S3.2
	Management of explosives for civil use and hazardous chemicals	S3.4, S3.8-S3.10
	Safety education and training	S3.11-S3.15
	Occupational health	S2.17, S2.18, S2.19, S2.22
People-oriented approach - caring for the development of employees	Equality and protection for employment	P4.5, S1.7, S1.8, S2.1, S2.3, S2.9, S2.31
	Employees’ career development	S2.25, S2.26
	Trainings for employees	S2.24



	Salary and benefits	S2.8, S2.10-S2.12
	Caring for employees	S2.27
Charity practice - contribution to local communities	Community building and social welfare	S4.5-S4.7, S4.14, S4.12-S4.16
	Precise poverty alleviation	S4.5-S4.8, S4.12, S4.14
	Voluntary services	S4.17
An internationalised Zijin - first-mover of the Belt and Road Initiative	Overview of major overseas operations	S4.8, S4.9, S4.14, P5.2, G5.6
Appendix	Index for indicators in the report	A3
	Opinion and feedback	P1.5, A4



Opinion and feedback

Dear readers,

Thank you for reading this report. To improve the Company's work for social responsibility, enhance our performance of social responsibilities and its quality, we wish to hear your opinion and suggestions. Please spare some time to complete an evaluation of the report for our further improvement. It would be appreciated if you could answer the questions in the list below and send your feedback to us:

1. What is your overall rating on this social responsibility report?
2. What is your opinion on the quality of information disclosed in this report?
3. Which part(s) of the report interest(s) you most?
4. What other information do you think should be included in this report?
5. Do you have any suggestion on our future work for social responsibility and the publication of social responsibility reports?

Please feel free to leave us your contact details

Name/company name/industry:

Telephone number/email address:

Contact us:

Social Responsibility Department, Zijin Mining Group Co., Ltd.*

Address: Room 1410, Zijin Building, 1 Zijin Road, Shanghang County, Longyan City, Fujian Province, the PRC

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Access to the report:

This report is originally prepared in Chinese language. Its electronic version can be downloaded from the website of Shanghai Stock Exchange (www.sse.com.cn) and the Company's website (<http://www.zjky.cn/>).

Please visit our company website or subscribe our WeChat official account for more information of the Company.

Company website: <http://www.zjky.cn/>



WeChat Official Account

Friendly reminder: In order to facilitate the relevant parties to understand our environmental protection work and the results achieved in a more comprehensive and specific way, the 2018 Environmental Report of Zijin Mining Group Co. Ltd.* will be published on the official websites of the Shanghai Stock Exchange, the Hong Kong Stock Exchange and the Company.



Missions

Sustainable mining, supplying responsible mineral products and promoting civilisation advancement and economic development

Goals

Keeping harmonious relationship with the environment and stakeholders to become a respectable extra-large scale international mining group with advanced technology and efficiency

Part II. 2018 Environmental Report



紫金礦業集團股份有限公司

Zijin Mining Group Co., Ltd.

Zijin Mining Group Co., Ltd.*

2018 Environmental Report



February 2019

1 Chairman's statement



Ecological civilisation is the inevitable requirement to realise the harmonious development of human and nature; ecological civilisation development is the fundamental for the long-term sustainable development of China. We are fully aware of the new and increasingly demanding standard for the development of mining industry driven by the new era, and therefore high unity with ecological civilisation development is a must for the development of mining industry in the new era. Efforts in managing the environmental protection and ecology of the Company demonstrate the thorough implementation of Xi Jinping Thought on Ecological Civilisation, which also render a definite path to self-development and internationalisation of the Company in the new period.

We dedicate to pioneering the ecological civilisation development. In 2018, Zijin Mining Group Co., Ltd.* (“Zijin Mining” or the “Company”) earnestly studied Xi Jinping Thought on Ecological Civilisation and enhanced the senses of responsibility, mission and honour in the work of ecological and environmental protection from all aspects. Actively carrying out the “two mountains theory” and the concept of “green development”, the Company worked on ecological and environmental protection both in green mountains and clear water and uninhabited area in the Gobi Desert. The consciousness of ecological and environmental protection was evidently heightened in all levels of the Company. The development of eco-management system was improved step by step and the situation of ecological and environmental protection remained relatively steady. The target of “zero environmental incident” was achieved in the Company. The Company owns 8 national “green mines” (including pilot units), 2 “green factories”, 2 provincial (autonomous region) green mines, 2 national industrial tourism demonstrative sites, 1 national mine park and 1 national science popularisation education base.

Mine development should never be the symbol of environmental destruction. Any reckless

mine exploitation behaviour that imposes significant and irremediable impact on the environment shall not exist. The practice of Zijin Mining proves that harmony and unity can be fully achieved between mine development and the ecology and environment. Further, an even more beautiful environment can be constructed through environmental redevelopment. Whether the mindset is in the right direction and the measures are appropriate and effective are the keys to meet the target. We will continue to follow the provisions in the Ecological Civilisation Development and Green Mine Construction Plan (2013-2020) and Resolution in relation to Enhancing Green Mines and continuously promote the green mine development process, in order to strive for accomplishing the new landscape for green mines of the Company by 2020. Ecological and environmental risks shall be considered in the ordinary management to systematically build the ecological and environmental risk prevention system of overall procedures and multiple layers, for the purpose of effectively preventing ecological and environmental risks. Zijin Mining and its mining subsidiaries will insist on green mine development and make efforts in developing eco-mining, optimising utilisation of resources and perfecting the ecological and environmental protection and management of the mines. The overseas projects shall hold tight on green development and combine the Chinese standards in environmental protection with the locality. On the basis of the bottom line of environmental protection standards not lower than laws and regulations of regions and countries where the projects are located, with the prerequisite of “the higher standard shall prevail” principle, the overseas projects shall raise the quality of environmental and ecological protection in the internationalisation development of the Company.

Ecological civilisation is our invisible asset. Asset quality is closely related to the healthiness of every unit of a corporation. We will echo to the trend of the era and devote to making the Company the benchmark of eco-mining development and an international brand of environmental protection and ecological development!



The national mine park of the Zijinshan gold and copper mine



Ecological orchard at the Zijinshan gold and copper mine



Panorama of Zijin Copper Company Limited



Panorama of Wulatchouqi Zijin Mining Company Limited



Panorama of Xinjiang Habahe Ashele Copper Company Limited



Panorama of Longnan Zijin Company Limited



Interior of Hunchun Zijin Mining Company Limited



Panorama of the Nanwenhe tungsten mine of Wenshan Malipo Zijin



Night view of the pressurised pre-oxidation project of Guizhou Zijin Mining Company Limited



Panorama of Kuitun Tongguan Metallurgical Chemical Company Limited



Panorama of the office building of Wuping Zijin Mining Company Limited



Panorama of Xinjiang Jinbao Mining Company Limited

2 Overview of the Company

2.1 Information of the Company

Zijin Mining is a sizeable mining group focusing on exploration and development of gold, copper, zinc and other metal mineral resources. The Company is listed in the H Share market of Hong Kong and then in the A Share market of Shanghai successively, with all of its shares listed. The metal resources reserve volumes of gold, copper and zinc, which are the Company's major products, and the production volumes of mineral products are among the top three in the PRC mining industry. With total assets and operating income both exceeding RMB100 billion, the Company is one of the large-scale mining companies in the PRC with the best efficiency and the largest volume of metallic mineral resources under control, and one of the most competitive as well. The rankings published by the Forbes Magazine in 2018 show that the Company ranked 947th in the list of "Global 2000: World's Largest Public Companies", 14th among the global non-ferrous metals corporations and 2nd among the global gold corporations, and 82nd in Fortune China 500 for the year 2018.

The Company's major investment projects currently spread across 18 provinces and regions in the PRC and 11 overseas countries. Its major mines in the PRC include the Zijinshan gold and copper mine in Shanghang, Fujian Province, the Hunchun gold and copper mine in Jilin Province, the Ashele copper mine in Xinjiang, the Duobaoshan copper mine in Heilongjiang Province and the Wuqia zinc mine in Xinjiang; it owns interest in 8 major overseas mines in current production including the Porgera gold mine in Papua New Guinea, the Kolwezi copper mine in the DR Congo, the Tuva zinc mine in Russia, etc., and the world-class super-large-scale and high-grade copper mines in construction including the Kamo a copper mine in the DR Congo and the Timok copper mine in Serbia, etc. Among which, the Kamo a copper mine, with copper metal resources reserve volume of 42.49 million tonnes, is the largest copper mine in Africa and also the fourth largest copper mine in the world. Currently, the volume of controlled resources, production volume of mineral products and amount of profits of overseas projects represent over one-third of those of the Group respectively. The Company has become one of the Chinese enterprises with the largest production volume of mineral products and resources reserve volume overseas.

Innovation, especially those in the field of science and technology, is the Company's core competitiveness. The Company has the advantages of possessing abundant practical experience and leading technological comparative advantages in the industry in the aspects of geological prospecting, hydrometallurgy, comprehensive recovery and utilisation of low-grade refractory resources, large-scale engineering development and so on. It always takes safety and environmental protection as the lifeblood in its existence and development, fully promotes the development of green mines and ecological civilisation, and has a leading position in the industry in the aspects of comprehensive resources utilisation level and energy consumption indicators. The Company practises the enterprise value of "creating wealth in harmony, balancing development of the corporation, the employees and the society", and proactively discharges its social responsibilities as well. It was awarded "China Charity

Award” for three times.

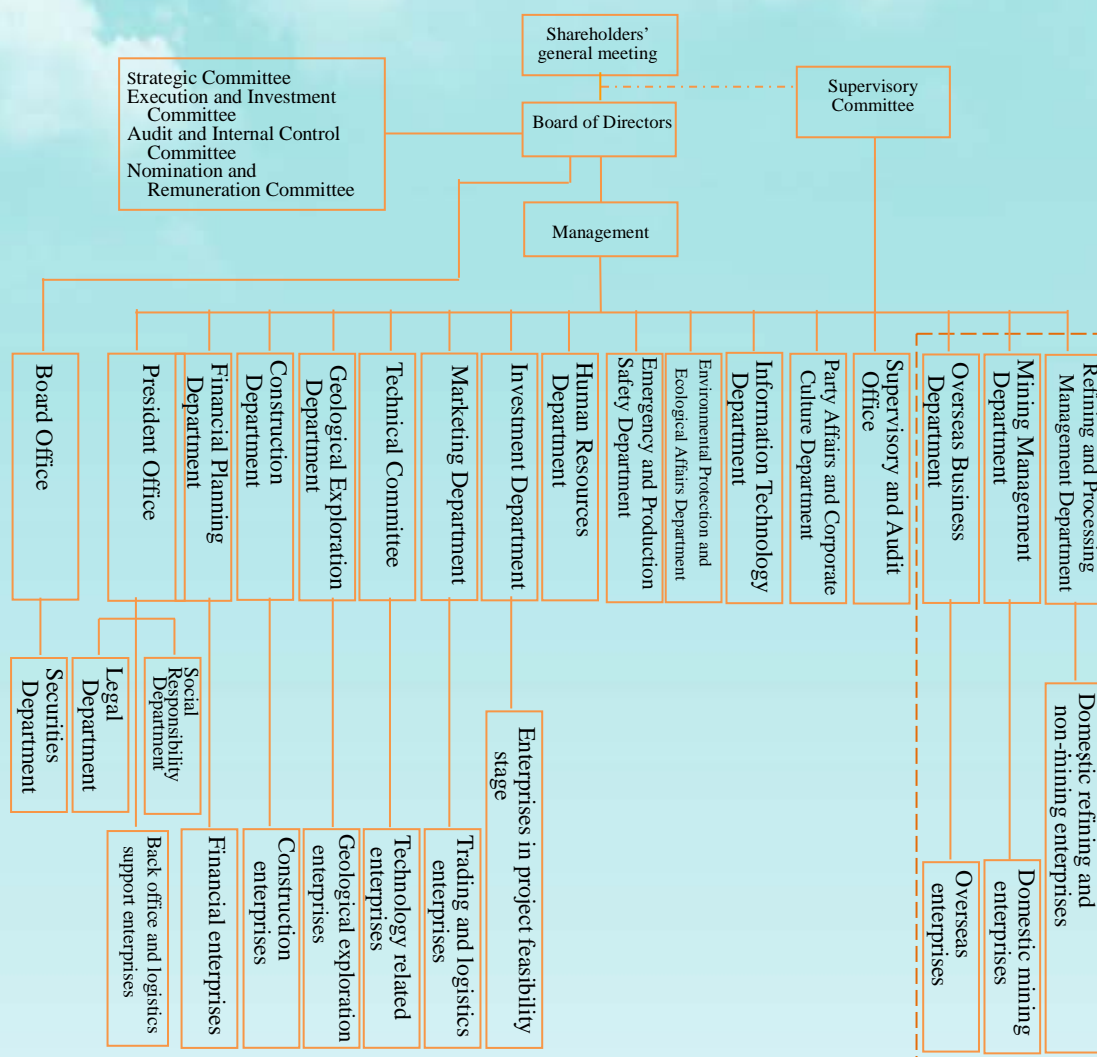
The Company proactively echoes to the national strategy of the “Belt and Road Initiative”, insists on innovation and development, internationalisation, project upsizing and asset securitisation, endeavours to become an extra-large scale international mining group with high technology and efficiency, and assists the economic development of China and the world by providing quality mineral raw materials.

2.2 Enterprise culture

- Corporate tenet: Founding business on mining, making contribution to the country and the people
- Mission: Assisting the economic growth of China and the world by providing quality mineral resources and becoming an important force in the global metal and mining markets
- Vision: To become a globally important gold and metal raw material producer, gain broad recognition from mining counterparts, stakeholders and employees worldwide
- Strategic goals: To build an extra-large scale international mining group with advanced technology and efficiency, constantly create value for the society and investors, and benefit our employees and stakeholders at the same time
- Value: Creating wealth in harmony, balancing development of the corporation, the employees and the society
- Corporate spirit: Founding the business by overcoming hardships with exploratory and innovative spirits
- Operational philosophy: Earning respect with quality products, achieving mutual benefits and win-win situation
- Operational belief: People orientation, striving for excellence
- Rules for employees: Integrity, diligence, cooperation and friendship
- Policy on environmental protection and safety: Life comes first, giving priority to environmental protection

2.3 Organisational structure

The organisational structure of Zijin Mining is as below.



Organisational chart of Zijin Mining Group Co., Ltd.*

2.4 Party development in Zijin Mining

Zijin Mining and its subsidiaries altogether have 16 Party Committees, 12 General Party Committee Branches, 128 Party Committee Branches and 2,586 Party members, in which 4 General Party Committee Branches, 34 Party Committee Branches and 858 Party members are under the Party Committee of the Company.

Under the guidance of the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19th National Congress of the Communist Party, Zijin Mining actively explores a new path of Party development in listed companies which have a mixed shareholding structure with state-owned shares. By means of revising the articles of association and meeting rules of the Company, etc., Party Committee becomes the core leadership in crucial decision-making and reform. The Party's supervisions on cadres and talents are enhanced unprecedentedly and the Party Committee and base-level organisations are fully strengthened, which exert further impact on the decision-making of crucial matters of

the Company and daily production and operation of the entities.

Zijin Mining requires Party Committees to unswervingly shoulder the political responsibilities of ecological civilisation development, set up and strictly implement the accountability of “the Party and management sharing the same responsibility,” and “dual responsibility for one post”. The Party Committee and management of various levels are the first responsible officers for ecological and environmental protection. The Party Committee of the Company attaches high importance to stringent fulfillment of ideas of ecological civilisation development and eco-development, requiring the subsidiaries to work on environmental protection according to national standards, promoting the awareness of environmental protection responsibility and assigning the responsibility to the most base-level. Red line awareness and bottom line mindset are established to construct the ecological and environmental risk prevention system of the Company.

2.5 Zijin’s products

The Company is a multi-business member of the Shanghai Gold Exchange, as well as a member of the Shanghai Futures Exchange. The technical parameters of the quality of gold bullion, silver bullion, copper cathode and zinc bullion produced by the Company all meet and exceed the technical indicators of national standards GB/T4134-2015 (gold bullion), GB/T4135-2016 (silver bullion), GB/T467-2010 (copper cathode) and GB/T470-2008 (zinc bullion). The Company’s “ZIJIN” brand gold bullion, “ZIJIN” brand silver bullion and “ZIJIN” brand copper cathode received the title of “Famous Brand Product of Fujian Province”; “ZIJIN” brand zinc bullion also received the title of “Famous Brand Product of Inner Mongolia”. In particular, “ZIJIN” brand gold bullion and “ZIJIN” brand silver bullion already passed the certification of the London Bullion Market Association (“LBMA”); and the quality of “ZIJIN” brand grade-A copper and “ZIJIN” brand zinc bullion obtained official and global recognition as they were registered as brands for settlement on the London Metal Exchange (“LME”). In 2018, 100% of the products delivered by the Company reached the passing grade.



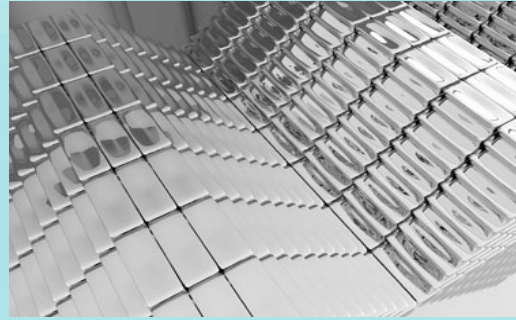
Gold bullion



Copperplate



Zinc bullion



Silver bullion

2.6 Zijin in the spotlight

On 28 February 2018, in response to the invitation of the Office of the Leading Group for Promoting the “Belt and Road Initiative”, the Company participated in the “Belt and Road Portal 2017 Work Review Conference” held in Beijing and was identified as a “Belt and Road Portal Information Coordinator” in China. This will provide online and offline information services for the Group to participate in the development of the “Belt and Road Initiative”, and help the Group better implement “going out” to participate in international mining development.



On 19 April 2018, Chen Jinghe, the chairman of the Company, was invited to attend the Global Gold Market Summit 2018 and gave a speech. He pointed out that in the context of advancing globalisation strategy, as gold is a product with financial characteristics, Chinese gold enterprises should take the initiative to actively participate in international competition, to plan, to move and to act according to the trend, in order to create a new golden era together.

On 6 June 2018, Forbes released the list of “Global 2000: World’s Largest Public Companies”. The Company ranked 947th, and its ranking rose by 253 places compared with last year. Among the 37 global non-ferrous corporations and the 6 global gold corporations on the list, the Company ranked the 14th and 2nd respectively, and the 3rd among non-ferrous corporations and 1st among gold corporations in China respectively. In terms of individual

indicators of non-ferrous corporations on the list, the Company's operating income, profit, total assets and market capitalisation ranked 10th, 23rd, 27th and 16th respectively, and 3rd, 3rd, 5th and 2nd in China respectively.



On 25 July 2018, Chen Jinghe, the chairman of the Company, was invited to attend China Gold Congress 2018. With the theme of macroeconomic situation and gold investment development in the forum, he gave a speech themed “the ‘going-out’ of Chinese gold enterprises is the call of the new era”.



On 24 August 2018, the Company's 25th anniversary ceremony was held at the headquarters in Shanghang County, the founding place of the Company. Chen Jinghe, the chairman of the Company, depicted a blueprint for the new round of development at the ceremony, and emphasised that on the basis of performance in 2017, the Company should strive to achieve a substantial growth in the major economic indicators by 2022 (i.e. the 30th anniversary of the Company) so as to become a globally important mineral producer of gold, copper and zinc, and strive to rank top globally in terms of resources reserve volume and production volume of mineral products.

On 2 September 2018, Chinese Enterprise Confederation and China Enterprise Directors Association issued the list of “Top 500 Enterprises of China”. Zijin Mining ranked 177th owing to its operating income of RMB94.5 billion for the year 2017, rising 15 places compared with the previous year. The Company also ranked 73rd and 62nd in Top 500 Enterprises of China’s Manufacturing Industry and Top 100 Multinational Enterprises respectively.



On 9 September 2018, the first Silk Road International Capacity Cooperation Forum was held in Beijing. Lan Fusheng, the president of the Company, attended the forum. He shared the Company’s “going-out” overseas development experience with domestic enterprises, taking the successful acquisition of the Kolwezi copper mine in the DR Congo as an example.



On 28 September 2018, Vučić, the President of the Republic of Serbia, met with Chen Jinghe, the chairman of the Company, in Niš. They exchanged their views on the Company's investment in and development of the Serbian mining project in a frank and friendly atmosphere. President Vučić expressed his warm welcome to the Company's investment in Serbia and highly recognised the Company's professionalism and development potential.

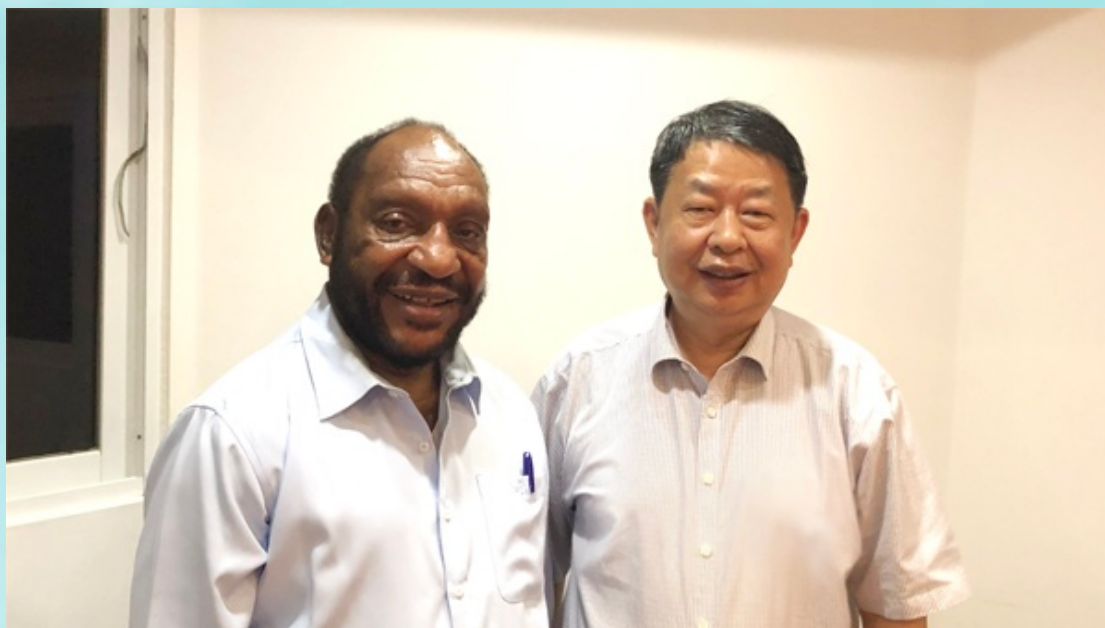


On 18 October 2018, Chen Jinghe, the chairman of the Company, was invited to attend the 20th China Mining Conference and Exhibition and gave a speech about the trend of mining industry in China systematically and profoundly from three dimensions including historical, realistic and prospective perspectives, striking a chord among the delegates at the congress.

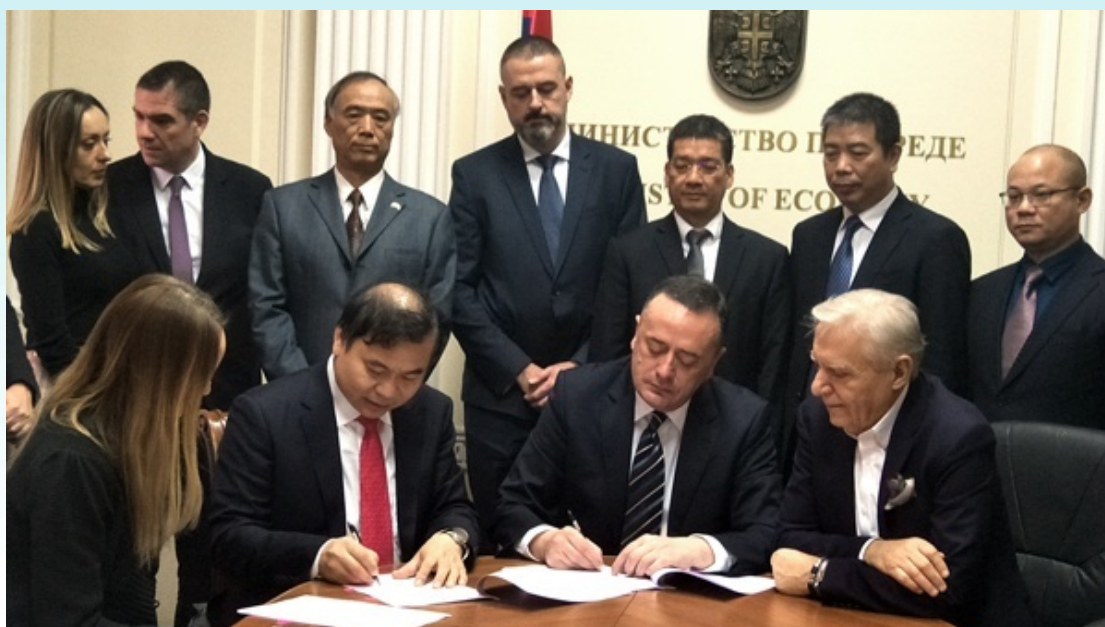


On 20 October 2018, Chen Jinghe, the chairman of the Company, was invited by the organising committee to give a speech at the main forum of the 14th National Conference on

Mineral Deposits. He elaborated on the Company's experience in mine development for more than 20 years in combination with the theme of the conference, "Creating a new landscape of eco-prospecting and exploring a new way of development of mining industry".



On 16-18 November 2018, Chen Jinghe, the chairman of the Company, accepted the invitation and joined the organising committee of the APEC CEO Summit. During the meeting, Chen Jinghe met Peter Ipatas, the governor of Enga Province, where the Porgera project is located.



On 18 December 2018, the acquisition of the RTB Bor copper mine project in Serbia was completed in Belgrade. The Company obtained 63% interest of the project at a consideration of USD350,000,000, which is China's largest ever investment project in Serbia until now.



On 30 December 2018, “Take the lead - Fujian economic honour ceremony and awarding ceremony for the most influential entrepreneurs in Fujian at the 40th anniversary of economic reform and opening-up” was held in Fuzhou. Chen Jinghe, the chairman of the Company, and other 39 entrepreneurs were solemnly commended for their outstanding contribution to promote the reform and opening-up of Fujian for the past 40 years. They were also commended as the most influential entrepreneurs in Fujian and even inside and outside China.

The review team considered that Chen Jinghe, the chairman of the Company, has successively led the reorganisation of Shanghang Mineral Company and the reform of the Company’s shareholding system. It took 25 years to lead the Company to leap from a county-level mining company to a multinational group and become one of the enterprises controlling the most metal mineral resources and the largest producers of metal mineral products. Chen Jinghe is a specialist who enjoys special allowances from the State Council of the PRC, the vice chairman of China Mining Association, the vice president of China Gold Association, the vice president of Fujian Province Federation of Commerce & Industry and a deputy to the 10th, 11th, 12th and 13th National People’s Congress of Fujian Province; he also received the titles of Excellent Youth of the Ministry of Geology and Mining of the PRC, Excellent Entrepreneur in Fujian Province and the “May 1st” Labor Medal of Fujian Province successively. He was selected as a valid candidate of academicians of the Chinese Academy of Engineering in 2007 and awarded Outstanding Economic Person of the Year in Fujian Province for consecutive years. He has distinct characteristics of the era, advancement, representativeness and typicality.

3 Environmental management

3.1 Environmental protection beliefs

Environmental protection belief: green mountains and clear water are our invaluable assets.

Principle on environmental protection and safety: life comes first, giving priority to environmental protection.

Concepts of environmental protection and development: never pursue economic development at the expense of the environment.

Concepts of environmental protection and life: environmental safety is the inviolable bottom line of the enterprise.

Concepts of environmental protection and production: utilise natural resources in a reasonable manner and develop circular economy emphatically.

3.2 Environmental management hierarchy and environmental protection targets

3.2.1 Environmental management hierarchy

The Company's environmental protection management system, highly regulated and specialised, comprises the headquarters of the Group, branch companies (subsidiaries), production lines (factories) and work teams. The Company sets up the Safety, Environmental Protection, Security and Fire Services Committee (the "Safety Committee") at the headquarters, of which the president of the Company is assigned as chief officer and divisional vice presidents are assigned as deputy chief officers. The director of safety and environmental protection is responsible for the daily management of safety and environmental protection affairs of the Company. At the headquarters of the Company, the Environmental Protection and Ecological Affairs Department, which has a number of subordinate offices, namely the Environmental Monitoring Office, Ecology and Water Conservation Office and General Office, was established to handle the ordinary affairs relating to environmental protection and ecological management, and provide guidance for, inspect and supervise the environmental protection management of the branch companies (subsidiaries). Each of the branch companies (subsidiaries) has their own dedicated administrative department to manage the specific affairs relating to environmental protection. Below these branch companies (subsidiaries), there are responsible personnel or administrators to oversee the environmental protection management of production lines (factories).

Monitoring, inspection and assessment systems have been established in each of the branch companies (subsidiaries). They are also required to entrust assessment institutions with CMA qualification to monitor the discharge of major and special pollutants regularly according to monitoring plans. The Group positively promoted the ISO 14001 certification for environmental management systems. By strengthening "6S" management of work sites, maintaining good environmental order and improving work site conditions, employees are able to carry out their work in an eco-friendly manner.

3.2.2 Environmental and ecological protection regulations and policies

In 2018, the Company deepened the reform on environmental protection system and strengthened the work on environmental and ecological protection. It abolished 3 management systems that were not applicable to the current situation, and revised 6 environmental protection policies including the Responsibility System on Environmental Protection, Environmental Protection and Ecology Assessment Administrative Regulations, Administrative Regulations on Environmental Protection and Ecological Inspection, Emergency Plan for Environmental Incidents, Guidance on Greening Work, and the Technical Standards for Management Measures of Greening, Land Restoration and Water Conservation. Therefore, the environmental protection and ecological management systems and mechanisms turned more suitable for the Company's situation and became more precise and practical.

3.2.3 Environmental and ecological protection plan

In 2018, Zijin Mining organised the subsidiaries to formulate environmental and ecological protection plan, which were altogether compiled as 2018-2020 Zijin Mining Specific Plan of Environmental and Ecological Protection. The purpose is to supervise and guide the units to push forward the environmental and ecological protection work according to the plan.

3.2.4 Environmental protection targets and progress

(1) Major controlling targets

The Company shall make sufficient investment in environmental protection according to relevant requirements, improve the basic facilities for environmental protection, ensure compliance with the discharge limits on three major kinds of waste, and encourage certification on environmental management systems and review on clean production; it shall also strictly enforce the "three simultaneous" policy for environmental protection and water conservation, and improve the approval formalities for environmental protection and water conservation; automatic online monitoring system for environmental protection shall be introduced, the discharge of major pollutants should be reduced, and work in respect of the transition to environmental tax from pollutant discharge fee shall be proceeded; zero environmental incident shall be realised; the Zijin Mining Group Co., Ltd.* Ecological Civilisation Development and Green Mine Construction Plan (2013-2020) and Resolution in relation to Comprehensive Enhancement on Green Mines Construction of Zijin Mining Group Co., Ltd.* shall be implemented continuously.

(2) Progress

In 2018, Zijin Mining totally invested RMB663 million into environmental and ecological protection, restored 3.9936 million square metres of vegetation and planted 602.3 thousand plants of various kinds. Each of the branch companies (subsidiaries) conscientiously complied with environmental protection laws and regulations. The discharge of various types of pollutants was in compliance with regulatory standards. Solid waste was safely disposed of and comprehensively utilised, and no environmental emergency incident occurred in 2018. In addition, Zijin Copper, Jilin Zijin Copper and Bayannaoer Zijin completed the application procedures for new pollutant discharge permits; Xinjiang Zijin Zinc Industry was granted the title of green mine at provincial level; Bayannaoer Zijin was selected into the second batch of

national green manufacturing demonstration companies; Zijin Copper was granted the titles of national “Industrial Products Eco-friendly (Green) Design Pilot Enterprise” and “Circular Economy Demonstration Pilot Unit” of Fujian Province, and “Demonstration Enterprise of Meeting Standards and Upgrade in Hazardous Waste Standardised Management” of Longyan City.

3.3 Certification of environmental management system

The Company actively applies for ISO 14001 certification for its environmental management systems. The Company’s 16 branch companies (subsidiaries), namely the Zijinshan gold and copper mine, Wuping Zijin, Ashele Copper, Xinjiang Zijin Zinc Industry, Longnan Zijin, Wulatehouqi Zijin, Qinghai West Copper, Shanxi Zijin, Guizhou Zijin, Wenshan Malipo Zijin, Zijin Copper, Gold Refinery Company, Bayannaoer Zijin, Jilin Zijin Copper, Fujian Zijin Copper and Zijin Mining Group Qinghai Company Limited have obtained certification for their environmental management systems.



3.4 Development of circular economy

Upholding eco-development as the core strategy of the enterprise, the Company develops circular economy with technological advancement and innovation, and applies its scientific deliverables to facilitate comprehensive utilisation of crude ores, tailings, furnace slags and other resources. The Company also promotes comprehensive recovery of various kinds of valuable elements from solid waste materials and establishes effective systems for reusing resources.

The Company’s Zijinshan gold and copper mine always insists on maximising the use of resources. It has received the title of “Outstanding National Mining Enterprise for Reasonable Development and Utilisation of Mineral Resources”, and is among the country’s first demonstration sites for comprehensive utilisation of resources. The mine has comprehensively utilised a large volume of low-grade gold ores and gold-carrying waste rocks, successfully overcome the difficulties in utilising low-grade copper sulphide ores, and

comprehensively utilised copper-carrying waste rocks. Moreover, huge investment has been made in the separation of clean water from used water and recovery and reuse of copper-containing acidic water. In 2018, the Zijinshan gold and copper mine recovered 7.92 million m³ of copper-containing acidic water and 7,255 tonnes of copper metal, which generated RMB363 million of economic benefits and realised considerable ecological benefits and economic benefits.

The Company's smelting subsidiary, Zijin Copper, sets a good example on the development of circular economy. The high-purity copper cathodes produced by Zijin Copper are directly supplied to the enterprises engaging in fine processing of copper materials in Minxi district, and its overall energy consumption is also less than advanced national standard. Other measures of Zijin Copper include directly transporting sulphuric acid, the by-product, to manufacturers of phosphorus and fluorine chemical products in local areas; using steam furnace to convert waste heat from production process into steam to generate electricity; selling furnace slag, gypsum residue and other solid waste to downstream cement and construction material producers; treating anode slime in the end materials comprehensive recovery unit to recover rare and precious metals, such as gold, silver, platinum, palladium, selenium, bismuth, etc.; and reusing industrial wastewater to generate cooling water. With established systems for improving allocation and recycling of resources, Zijin Copper is able to effectively control pollution from the source and make best use of resources.

Kuitun Tongguan Metallurgical Chemical used tailings of Xinjiang Ashele Copper as raw materials, adopted techniques of fluidised roasting and double conversion double absorption process to produce sulphuric acid. At the same time, it recovered the copper in furnace slag by using the diluted acid it produced through leach-solvent extraction-electrowinning technique. The iron concentrate powder was finally purified to quality raw materials and sold to steel smelting industry. In 2018, the Company purified 18,000 tonnes of waste acid and recovered 155.46 tonnes of copper cathode. The comprehensive utilisation level of mineral resources was effectively raised.

3.5 Management of hazardous chemicals

The branch companies (subsidiaries) of Zijin Mining strictly manage the safety of hazardous chemicals in procurement, transportation and production processes, as well as their storage and use, in accordance with the relevant policies for safety management of hazardous chemicals. Major sources of danger of the equipment, facilities or venues which produce, operate, store or use hazardous chemicals are identified. The main types of hazardous chemicals involved in the operation of the Company's branch companies (subsidiaries) are sodium cyanide, sulphuric acid, liquid ammonia, hydrochloric acid and sodium sulphide, without the prohibited substances specified by national laws, regulations and international conventions. All of the hazardous chemicals are stored in special warehouses and storerooms, or other dedicated locations. The designs of such places comply with national and industrial standards, with clear display of safety warnings, and under the management of specialised personnel. Where the amount of hazardous chemicals in storage is likely to become a major source of danger, the receiving, distribution and retention of such chemicals must be under the

supervision by two designated personnel; in respect of highly toxic chemicals, a “five doubles” policy is implemented, according to which the oversight of two supervisors would be required for the inspection, retention, distribution, and double backup of locks and record-keepings of such chemicals.

3.6 Environmental information disclosure

Ever since the Company became publicly listed, it has strictly complied with the Guidelines for Environmental Information Disclosure of Listed Companies (Consultation Paper), Administrative Policy on Disclosure of Environmental Information (Tentative) and Policy on Disclosure of Environmental Information by Enterprises and Public Institutions (Ministerial Order No. 31) issued by the Ministry of Environmental Protection of the PRC and the CSRC, in the formulation of its corporate environmental information disclosure policy. Environmental information of the enterprise is disclosed regularly on the Company’s website to enable a stronger supervision by the public on the enterprise’s environmental practices, and raise the environmental protection awareness of investors and shareholders. The Company issues social responsibility report annually, in which specific sections on environmental protection contain information relating to the Company’s environmental protection beliefs and relevant measures, eco-mining, sustainable development, energy consumption management, etc. It also issues environmental report annually, the content of which covers the Company’s basic information, overview of the Company’s environmental management, compliance with environmental protection laws and regulations, etc. Since financial year 2016, Environmental, Social and Governance Reports have also been published in compliance with the requirement of the Environmental, Social and Governance Reporting Guide published by the Hong Kong Stock Exchange.

3.7 Training on environmental protection

In order to enhance the knowledge of the latest national environmental protection policies of environmental protection management personnel of various levels, the Company arranged three sessions of trainings relating to environmental protection in Shanghang headquarters in June, September and December 2018 respectively and arranged 27 video meeting venues on live. Over 400 environmental protection personnel attended the trainings accumulatively. The contents of the trainings included Chinese and foreign environmental protection history, latest policies such as Law on Prevention and Control of Soil Pollution, Environmental Protection Tax Law, etc., providing useful guidance to enterprises on environmental protection management. The branch companies (subsidiaries) also organised special training sessions on environmental protection based on their own production and operation conditions, in order to improve learning of the latest environmental protection policies in the new situations, and raise the standard of environmental protection operations.



Training on environmental protection management knowledge organised by the headquarters



2018 "Environment and Safety Month" environmental protection symposium and training organised by the Zijinshan gold and copper mine



Shanxi Zijin organised its staff to participate in the environmental protection training held by the Group



Environmental protection seminar organised by Zijin Copper



Environmental protection knowledge training organised by Kuitun Tongguan Metallurgical Chemical

3.8 Biodiversity conservation

The Company is highly committed to the protection of wild animals and plants. Established policies are in place to forbid unregulated, unlawful behaviour relating to picking of wild plants, and hunting, killing, purchasing or eating wild animals, with particular importance attached to the conservation of the natural habitats of wildlife. In 2018, along with the Earth Day, World Environment Day and other activities, the Company launched the campaign themed “I take actions to build a beautiful Zijin” at the headquarters and subsidiaries. Through various types of promotional and educational activities relating to wildlife conservation such as voluntary tree planting, signature campaigns for protection of wild animals and plants, displaying notice boards to arouse concern for endangered species, and circulating proposals on wildlife protection, etc., the knowledge of environmental protection and wildlife conservation was popularised. Furthermore, to pursue “harmony between human and nature”, the Company restricts the construction of any production facilities inside natural reserves, origins of drinking water, national forest parks and other areas with ecological functions. In its production and operation, the Company firmly adheres to the concept of “environmental protection and development go together”. The Company proactively carries out revegetation as well as management, rehabilitation and greening for the ecological environment according to the characteristics of specific mines and locations for the promotion of a green Zijin and eco-mining.

In 2018, the Zijinshan gold and copper mine fully strengthened greening at high and steep slopes of the southeast open-pit mining section and invested RMB43.2915 million throughout the year. Around 60 thousand plants of various types were planted, covering revegetation area of 1,565.47 mu. West Copper, which is located in plateau, overcame the unfavorable natural conditions with the devotion and contribution of all staff and insisted on ecological rehabilitation of mine. It re-vegetated 175.8 mu of areas at the slope, where cole flower blossomed and covered all over the field. Great greening effect was achieved.



Launching ceremony of “I take actions to build a beautiful Zijin” campaign of Zijin Mining



“I take actions to build a beautiful Zijin” campaign by means of collective vowing, signature campaign, prize quiz, etc. organised by Zijin Copper



Xinjiang Zijin Zinc Industry launched the campaign “I take actions to build a beautiful China” and organised a charitable activity of environmental protection at Kangsu River



Voluntary cherry blossom planting activity in the national mine park of the Zijinshan gold and copper mine



Fish breeding and releasing activity held by the Zijinshan gold and copper mine



Serial events including vowing, signature campaign and tree planting launched by Jilin Zijin Copper



Signature campaign held by Wuping Zijin



Tree planting, rubbish clearance and grass seeds sprinkling, etc. held by Russia Longxing



White trash removed through cleaning campaign in the neighbourhood and surrounding communities held by Guizhou Zijin



Staff vowing campaign, banner signature campaign and distribution of booklets relating to environmental protection laws, regulations and knowledge held by Hunchun Zijin



Serial activities of signature campaign and tree planting, etc. organised by Longnan Zijin



Grass planting and greening activity held by Inner Mongolia Jinzhong Mining



Revegetation in plateau at an average altitude of 4,100 metres by Qinghai West Copper



Green mine construction launched by Altynken



Signature campaign launched by Wulatehouqi Zijin



Large-scale soil recovering and greening project of Xinjiang Jinbao

4 Environmental emergency incident

In 2018, the Company was not involved in any environmental emergency incident relating to pollution, environmental pollution related dispute or verified group complaint on environmental issues.

5 Compliance with environmental protection laws and regulations

5.1 Environmental impact assessment and implementation progress of the “three simultaneous” policy

In 2018, the Company continued to strengthen supervision and management over the environmental impact assessments and inspections at the conclusion stage of its new transformation or expansion projects. In accordance with the local regulatory requirements on environmental impact assessment, the Company conducted environmental impact assessments, and strictly implemented the “three simultaneous” policy of environmental protection and water conservation, so as to ensure smooth progress and law compliance of the construction projects. During the reporting period, 20 constructions or projects obtained approvals for environmental impact assessment and 10 projects passed the environmental protection self-acceptance check at the conclusion stage.

Implementation status of environmental impact assessment and “three simultaneous” policy of branch companies (subsidiaries) in 2018

No.	Name of enterprise	Name of construction project	Approval status of environmental impact assessment report (table)			Status of completion of environmental protection acceptance check
			Date of approval	Approval authority	Approval document number	
1	Zijinshan gold and copper mine	Filter press system for neutralised slag comprehensive utilisation project	3 April 2018	Shanghang County Environmental Protection Bureau	Hang Huan Ping [2018] No. 15	Self-acceptance check completed in 2018
		Filter press system for carbon-leaching slag project	3 April 2018	Shanghang County Environmental Protection Bureau	Hang Huan Ping [2018] No. 16	Self-acceptance check completed in 2018
		30,000 cubic metres/day copper-containing acidic water environmental protection treatment system	19 June 2018	Longyan City Environmental Protection Bureau	Long Huan Shen [2018] No. 68	Under construction

2	Zijin Copper Company Limited	Expansion of comprehensive recovery of production-end materials project	5 August 2016	Shanghang County Environmental Protection Bureau	Hang Huan Ping [2016] No. 73	Self-acceptance check completed in 2018
		50kt/a cement retarder production from neutral slag and gypsum slag project	24 January 2017	Shanghang County Environmental Protection Bureau	Shang Huan Ping [2017] No. 5	Self-acceptance check completed in 2018
		Approval for environmental assessment of comprehensive resources utilisation and harmless treatment construction of copper refinery	24 April 2018	Longyan City Environmental Protection Bureau	Long Huan Shen [2018] No. 22	Under construction
3	Wulatehouqi Zijin Mining Company Limited	Ecological environment management and river outlet management project of the Dongshengmiao mining area of Wulatehouqi Zijin Mining Company Limited	13 June 2018	Bayannaoer City Environmental Protection Bureau	Ba Huan Shen Fa [2018] No. 22	Under construction
4	Bayannaoer Zijin Non-ferrous Metals Company Limited	Exhaust gas management technology optimisation and upgrade project of Bayannaoer Zijin Non-ferrous Metals Company Limited	14 July 2017	Bayannaoer City Environmental Protection Bureau	Ba Huan Shen Biao [2017] No. 7	Self-acceptance check completed in 2018
		Industrial wastewater intensive treatment and comprehensive utilisation project of Bayannaoer Zijin Non-ferrous Metals Company Limited	19 January 2018	Bayannaoer City Environmental Protection Bureau	Ba Huan Shen Biao [2018] No. 1	Under construction
		Comprehensive resources utilisation and harmless treatment technical engineering	9 August 2018	Bayannaoer City Environmental Protection Bureau	Ba Huan Shen Fa [2018] No. 29	Under construction

		project for slag from leaching of marmatite in hydrometallurgy of Bayannaoer Zijin Nonferrous Metals Company Limited				
5	Heilongjiang Duobaoshan Copper Mine Company Limited	Change of Phase 2 of the Duobaoshan copper (molybdenum) mine expansion project	19 November 2018	Department of Ecology and Environment of Heilongjiang Province	Hei Huan Shen [2018] No. 38	Under construction
6	Jilin Zijin Copper Company Limited	Production expansion and transformation project of Jilin Zijin Copper Company Limited	25 December 2018	Department of Ecology and Environment of Jilin Province	Ji Huan Shen Zi [2018] No. 76	Under construction
7	Luoning Zijin Gold Refining Company Limited	Harmless treatment of cyanide tailings project of Luoning Zijin Gold Refining Company Limited	11 October 2018	Luoyang City Environmental Protection Bureau	Luo Huan Shen [2018] No. 016	Under construction
8	Luoyang Kunyu Mining Company Limited	300,000 tonnes/year mining project of the Shanggong gold mine area of Luoyang Kunyu Mining Company Limited	31 January 2018	Department of Environmental Protection of Henan Province	Yu Huan Shen [2018] No. 20	Under construction
9	Xinjiang Zijin Zinc Industry Company Limited	Rehabilitation and greening of mining area project of Xinjiang Zijin Zinc Industry Company Limited	27 September 2018	Wuqia County Environmental Protection Bureau	Qia Huan Ping Han [2018] No. 16	Under construction
		Safety and environmental protection tailings conveyor bridge project of Xinjiang Zijin Zinc Industry Company Limited	13 June 2018	Kizilsu Kyrgyz Autonomous Prefecture Environmental Protection Bureau	Ke Huan Ping Han [2018] No. 45	Under construction
		(Newly constructed) fuel station project of Xinjiang Zijin Zinc Industry Company Limited	25 November 2018	Kizilsu Kyrgyz Autonomous Prefecture Environmental Protection Bureau	Ke Huan Ping Han [2018] No. 87	Under construction

10	Guizhou Zijin Mining Company Limited	10 tonnes/year standard gold bullion refining project of the gold refinery of Guizhou Zijin Mining Company Limited	8 January 2018	Department of Environmental Protection of Guizhou Province	Qian Huan Han [2018] No. 17	Self-acceptance check completed in 2018
		Exploration project of two gold mines in Bojitian, Zhenfeng County	13 June 2018	Qianxinan Environmental Protection Bureau	Zhou Huan He [2018] No. 05	Under construction
		A gold mine project (the Changtian gold mine) in Bojitian, Zhenfeng County of Guizhou Zijin Mining Company Limited	20 August 2018	Department of Ecology and Environment of Guizhou Province	Qian Huan Han [2018] No. 98	Under construction
		Shuiyindong gold mine transformation project of Guizhou Zijin Mining Company Limited	19 December 2018	Department of Ecology and Environment of Guizhou Province	Qian Huan Han [2018] No. 158	Under construction
11	Fujian Zijin Processing Chemicals Company Limited	Phase 1 of relocation and expansion project of Fujian Zijin Processing Chemicals Company Limited	23 October 2018	Longyan City Environmental Protection Bureau	Long Huan Shen [2018] No. 238	Under construction
12	Xinjiang Habahe Ashele Copper Company Limited	10,000 t/d ancillary filling project for mining of the Ashele copper mine	3 December 2014	Aletai Region Environmental Protection Bureau	A Di Huan Han [2014] No. 279	Self-acceptance check completed in 2018
		New tailings pool project of the Ashele copper mine	26 March 2013	Department of Environmental Protection of Xinjiang Uygur Autonomous Region	Xin Huan Ping Jia Han [2013] No. 210	Self-acceptance check completed in 2018
13	Longnan Zijin Mining Company Limited	Change of mining method of 450 tonnes/day gold ore project of Gansu Yate Mining Company Limited	23 March 2012	Longnan City Environmental Protection Bureau	Long Huan Fa [2012] No. 41	Self-acceptance check completed in 2018

14	Luoyang Zijin Yinhui Gold Refining Company Limited	100 tonnes/year gold processing and purifying project of Luoyang Zijin Yinhui Gold Refining Company Limited	6 March 2017	Luoning County Environmental Protection Bureau	Ning Huan Jian [2017] No. 7	Self-acceptance check completed in 2018
15	Xinjiang Zijin Non-ferrous Metals Company Limited	Environmental impact assessment of the new 100,000 tonnes/year zinc refining project	13 December 2018	Department of Ecology and Environment of Xinjiang Uygur Autonomous Region	Xin Huan Han [2018] No. 102	Under construction

5.2 Application status for pollutant discharge permits

As at 31 December 2018, Jilin Zijin Copper, Zijin Copper and Bayannaoer Zijin obtained a new version of pollutant discharge permits from local environmental protection administrative departments respectively. Following the requirements of local environmental protection administrative authorities, other branch companies (subsidiaries) of the Company are in the process of preparing the necessary documents for applying new permits and completing the application for pollutant discharge permit as scheduled, in accordance with Administrative Measures for Pollutant Discharge Permits (Tentative) and Catalogue of Classified Management of Pollutant Discharge Permits for Stationary Pollution Sources (2017 Edition) and other laws and regulations.



排污许可证

证书编号: 91222404MA13X3DD9T001P

单位名称: 吉林紫金铜业有限公司
 注册地址: 吉林省延边州琿春市边境经济合作区 18 号小区
 法定代表人: 刘长东
 生产经营场所地址: 吉林省延边州琿春市边境经济合作区 18 号小区
 行业类别: 铜冶炼
 统一社会信用代码: 91222404MA13X3DD9T
 有效期限: 自 2017 年 12 月 20 日至 2020 年 12 月 19 日止



发证机关: (盖章) 琿春市环境保护局
 发证日期: 2017 年 12 月 20 日

中华人民共和国环境保护部监制

琿春市环境保护局印制



排污许可证

证书编号: 91350823685082167H001P


单位名称: 紫金铜业有限公司
 注册地址: 上杭县蛟洋镇蛟洋工业园区
 法定代表人: 廖元杭
 生产经营场所地址: 上杭县蛟洋镇蛟洋工业园区
 行业类别: 铜冶炼
 统一社会信用代码: 91350823685082167H
 有效期限: 自 2017 年 12 月 28 日至 2020 年 12 月 27 日止



发证机关: (盖章) 上杭县环境保护局
 发证日期: 2017 年 12 月 28 日

中华人民共和国环境保护部监制


上杭县环境保护局印制



排污许可证

证书编号: 911508257678664400001P

单位名称: 巴彦淖尔紫金有色金属有限公司
 注册地址: 内蒙古自治区巴彦淖尔市乌拉特后旗工业园区
 法定代表人: 刘亚建
 生产经营场所地址: 内蒙古自治区巴彦淖尔市乌拉特后旗工业园区
 行业类别: 铅锌冶炼, 火力发电
 统一社会信用代码: 911508257678664400
 有效期限: 自 2017 年 06 月 13 日至 2020 年 06 月 13 日止



发证机关: (盖章) 巴彦淖尔市环境保护局
 发证日期: 2017 年 06 月 13 日

中华人民共和国环境保护部监制

内蒙古自治区环境保护厅印制

5.3 Emission of pollutants within regulatory limits

In 2018, according to the supervisory monitoring reports about the sources of pollution and regular supervisory data of the corporations issued by environmental protection monitoring institutions delegated by the branch companies (subsidiaries), the wastewater, exhaust gas and noise at plant boundary produced by the branch companies (subsidiaries) received standardised management, and their emission was stable and within regulatory standards. Major types of water pollutants and air pollutants reduced by different extents in 2018.

Key pollutants discharged by the Company in 2018

Type of pollutant	Pollutant emission factor	Unit	2018
Water pollutant	COD	Tonne	206.85
	Ammonia nitrogen	Tonne	6.82
	Zinc in total	Tonne	0.81
	Copper in total	Tonne	0.11
Air pollutant	Sulphur dioxide	Tonne	1,328.49
	Nitrogen oxides	Tonne	875.81

Note: Figures for 2018 include both the operating entities inside and outside the PRC

5.4 Payment of environmental protection tax

In 2018, the branch companies (subsidiaries) vigorously followed the declaration system of environmental protection tax and paid the environmental protection tax in full amount according to the laws.

5.5 Regulating discharge outlets and automatic monitoring

5.5.1 Regulating discharge outlets

Signboards, indicating the name of pollutant discharging entity, type of the outlets, reference number of the outlets, key pollutants discharged from the outlets, etc., were placed near the exhaust gas and wastewater discharge outlets and major sources of noise of the branch companies (subsidiaries).

5.5.2 Automatic monitoring of discharge outlets

The Company required its branch companies (subsidiaries) to strictly carry out online monitoring and supervision. Professional independent institutions were engaged for operating and maintaining major online monitoring instruments for exhaust gas and wastewater discharge outlets to ensure the stable operation of online monitoring.

5.6 Treatment and disposal of general industrial solid waste and hazardous waste

The major kinds of industrial solid waste generated from mining and processing are waste rocks and tailings. In order to raise the comprehensive utilisation rate of resources, apart from using the waste rocks in underground filling or storing in waste rock dumps, most of the enterprises conducted comprehensive utilisation project on waste rocks to recover valuable metals. The Zijinshan gold and copper mine, for example, conducted a comprehensive utilisation project for gold-carrying waste rocks, through which 46 tonnes of gold metal are expected to be recovered within the life cycle of the mine. Apart from lawful storage of tailings to tailings yards, some of the Company's enterprises, such as the Zijinshan gold and copper mine, Wuping Zijin, Xinjiang Ashele Copper, Shanxi Zijin, Guizhou Zijin, Altynken, etc., are actively exploring the possibility of using tailings for back-filling, building filling stations and back-filling the goaves. The objectives are to relieve the pressure of tailings yards, effectively control and manage the underground goaves, and ensure production safety.

To enhance hazardous waste management, the Company's subsidiaries keep improving their production techniques, as well as reducing, reusing and carrying out harmless treatment on hazardous waste within the entity. For hazardous waste that are not reusable, domestic subsidiaries are required to properly handle the temporary retention in compliance with the Standard for Pollution Control on Hazardous Waste Storage, Multi-copy Receipt-based Administrative Policy on Hazardous Waste Transfer and other relevant regulations, and entrust qualified institutions to transfer and safely dispose of the hazardous waste; overseas subsidiaries have to meet the prescribed standards of the countries in which they operate, and take into account requirements of the PRC to properly manage hazardous waste.

In 2018, the branch companies (subsidiaries) of the Company safely disposed of or comprehensively utilised general industrial solid waste and hazardous waste. Please refer to the below table.

Comprehensive utilisation and disposal of solid waste¹

Nature of solid waste	Type	Unit	2018	
			Disposal volume	Comprehensive utilisation volume
General solid waste	Tailings	million tonnes	51.5323	1.0929
	Waste rock	million tonnes	116.745	22.1081
	Domestic refuse	thousand tonnes	3.5	-
Hazardous waste	HW48 non-ferrous metal smelting waste	thousand tonnes	290.9	18.3
	Used motor oil	thousand tonnes	0.46	0.16

Note: 1. Comprehensive utilisation: including the waste which was recovered and

comprehensively utilised by the Company's enterprises or external parties; Disposal: including the waste which was lawfully disposed of, retained or combusted by the Company's enterprises or external parties.

5.7 Implementation of clean production

The Company extensively promotes the use of high-efficiency, low-energy consumption production methods within the Group, encourages upgrade of production techniques, elimination of outdated capacity, and elimination and reduction of pollutants from the source. The Company also actively carries out clean production according to the requirements of local administrative authorities. At present, all of the Company's domestic mines in production and refining enterprises passed the clean production assessment. During the reporting period, the Zijinshan gold and copper mine of Zijin Mining Group Company Limited* passed the third round of clean production review and acceptance check on 31 January 2018; Qinghai West Copper passed the fourth round of clean production review and inspection on 12 October 2018 and the fourth round of clean production review and acceptance check on 28 December 2018; Luoning Huatai passed the clean production review and acceptance check on 13 November 2018.

5.8 Formulation and implementation of environmental risk and emergency response policies

In December 2018, Zijin Mining revised the Emergency Plan for Environmental Incidents. The branch companies (subsidiaries) have implemented environmental risk assessment and formulated their respective emergency plans for environmental incidents and various types of special emergency plans according to their production techniques, pollution-intensive production stages and environmental risks. The emergency plans were reported and filed to the local environmental administrative authorities. Furthermore, each branch company (subsidiary) has established its own emergency relief division led by the general manager of the enterprise and regularly organises emergency drills on different environmental emergency incidents, so as to enhance the abilities in prevention and handling of environmental emergency incidents as well as employees' actual implementation ability.



Special emergency drill for electrolyte leakage held by Zijin Copper



Emergency drill for nitric acid leakage held by Hunchun Zijin



Emergency drill held by Guizhou Zijin



Emergency drill for sulphur dioxide leakage held by Kuitun Tongguan Metallurgical Chemical



Emergency drill held by Luoning Zijin



Emergency drill held by Wulatehouqi Zijin



Emergency drill held by Longnan Zijin



Emergency drill held by Bayannaoer Zijin

5.9 Promotion for environmental protection



On 10 March 2018, upon the 40th Arbor Day, over 100 youth volunteers visited the Zijinshan gold and copper mine for voluntary tree planting activity themed “Develop green mines and build a beautiful Zijin together”.



On 16 April 2018, upon the 49th World Earth Day, Zijin Mining organised the charitable science popularisation education campaign at school, “Understand mineral resources and geological prospecting”, in Shanghang No. 4 High School. Over 1,000 teachers and students attended the event. Mineral resources exhibition, scientific knowledge interactive quiz, “Three Ones” science popularisation seminar, signature campaign of “Cherish natural resources and our beautiful homeland” and other activities were held.



On 3 May 2018, the Zijinshan gold and copper mine organised the staff to attend a tea picking activity in the Zijinshan Ecological Tea Farm. A total of over 300 catties of green tea and over 80 catties of tea leaves were harvested. The construction project of Zijinshan Ecological Tea Farm is an important measure of Zijinshan in implementing “green mountains and clear water are our invaluable assets”. In the spring of 2011, the Zijinshan gold and copper mine planned to use the mild slope at the altitude of 510-610 metres in Duzikeng as tea farm. Tieguanyin tea was introduced into the tea farm from Anxi. Tea planting covered an area of 10 mu.



On 5 June 2018, over 10 thousand cadres and workers of Zijin Mining participated in the campaign “I take actions to build a beautiful Zijin” through activities such as tree planting, rubbish clean-up, ditch clearing, ecological and environmental protection promotional activities, etc.



On 6 June 2018, led by the Propaganda Department of Habahe County Party Committee, a press group comprising journalists from 5 media including Xinjiang Daily, Aletai Daily, Aletai News, Aletai TV, etc. interviewed Xinjiang Ashele for its green mine construction work.



On 30 June 2018, the Company together with the People's Court and Environmental Protection Bureau of Shanghang County and Ting River Environmental Protection Association successfully organised large-scale cultural activities to promote and raise the knowledge of laws in Wazi Street, Shanghang County, themed "I take actions to build a beautiful Shanghang".

5.10 Awards received for environmental protection

In February 2018, the Ministry of Industry and Information Technology of the PRC issued the second batch of national green manufacturing demonstration, in which Bayannaoer Zijin was included. Bayannaoer Zijin is the only non-ferrous enterprise in Inner Mongolia Autonomous Region included in such list, and is also the first enterprise in Bayannaoer City to receive the honour of national "Green Factory".

工业产品生态设计试点企业（第一批）			
序号	企业名称	行业（产品）	推荐单位
一、电器电子（7）			
1	四川长虹电器股份有限公司	电器电子	四川省经济和信息化委员会
2	厦门宏发电声股份有限公司	磁电器	厦门市经济和信息化局
3	北京京东方显示技术有限公司	显示器	北京市经济和信息化委员会
4	美克电气股份有限公司	小家电	江苏省经济和信息化委员会
5	天能电池集团有限公司	电池	中国电池工业协会
6	联想（北京）有限公司	电子信息	中国电子学会
7	美的集团股份有限公司	家用电器	中国轻工业联合会
二、机械装备（8）			
8	北京中科博联环境工程有限公司	环保装备	北京市经济和信息化委员会
9	中联重科股份有限公司	工程机械	湖南省经济和信息化委员会
10	安徽恒基精密制造产业股份有限公司	精密制造	中国循环经济协会
11	潍柴动力股份有限公司	内燃机	山东省经济和信息化委员会
12	广西柳工机械股份有限公司	工程机械	广西壮族自治区工业和信息化委员会
13	廊坊德基机械科技股份有限公司	工程机械	河北省工业和信息化厅
14	沈阳中科环流工程科技发展有限公司	环流工程	辽宁省经济和信息化委员会
15	陕西鼓风机（集团）有限公司	风机	陕西省工业和信息化厅
三、汽车（1）			
16	陕西正士特汽车传动集团有限公司	汽车零部件	陕西省工业和信息化厅

四、纺织（4）			
17	内蒙古鄂尔多斯资源股份有限公司	羊绒服装	内蒙古自治区经济和信息化委员会
18	互太（番禺）纺织印染有限公司	纺织印染	广东省经济和信息化委员会
19	万得利集团有限公司	丝绸制品	中国纺织工业联合会
20	上海新天时尚科技股份有限公司	服装	上海市经济和信息化委员会
五、钢铁（2）			
21	包头钢铁（集团）有限责任公司	钢铁	内蒙古自治区经济和信息化委员会
22	太原钢铁（集团）有限公司	钢铁	山西省经济和信息化委员会
六、有色（8）			
23	五矿铜业（湖南）有限公司	铜冶炼	中国五矿集团公司
24	紫金铜业有限公司	铜冶炼	福建省经济和信息化委员会
25	浙江海亮股份有限公司	铜加工	浙江省经济和信息化委员会
26	云南铝业股份有限公司	电解铝	云南省工业和信息化委员会
27	河南豫光金铅集团有限公司	铅锌冶炼	河南省工业和信息化厅
28	江西品高科技股份有限公司	铅及制品	江西省工业和信息化委员会
29	广西华锡集团股份有限公司	锡及制品	广西壮族自治区工业和信息化委员会
30	天和利锂业有限责任公司	硅铁	青海省经济和信息化委员会
七、建材（4）			
31	都江堰拉法基水泥有限公司	水泥	四川省经济和信息化委员会
32	唐山兴邦管道工程设备有限公司	管道	中国循环经济协会
33	房县崇武新型建材有限公司	建材	湖北省经济和信息化委员会
34	吉林龙泰水泥有限公司	水泥	吉林省工业和信息化厅

Zijin Copper was granted the titles of national "Industrial Products Eco-friendly (Green) Design Pilot Enterprise" and "Circular Economy Demonstration Pilot Unit" of Fujian Province.



On 3 June 2018, Qinghai West Copper was invited to attend the “China Green Development Forum” and awarded the honour of “2018 Green Development Exemplary Enterprise” by China Environment News.



On 19 October 2018, as the executive council member of China Green Development Alliance, the Company attended the 2018 Green Development Forum and Exchange and Matchmaking

Meeting of Green Technology Innovative Application of Chinese Enterprises, and received the “Green Enterprise Management Award for the year 2018” from the council of China Environment News.



In December 2018, Shanghang County Environmental Protection Bureau organised the representatives from around 20 enterprises to visit Zijin Copper and learn the experience of hazardous waste standardised management. The representatives paid visit to typical hazardous waste storages on site, including white smoke and dust storage, lead and arsenic filter cake storage, etc., and learned the experience of hazardous waste standardised management. They were highly complementary of the system, measures and other aspects of hazardous waste management of Zijin Copper.

6 About the report

6.1 Branch companies and subsidiaries of the Company covered in the 2018 Environmental Report

The information disclosed in this report covers the operational or production-type branch companies (subsidiaries) of the Company, which are engaged in mining, processing and refining businesses.

6.2 Period of 2018 Environmental Report

The period of this report is from 1 January 2018 to 31 December 2018.

6.3 Third-party verification on environmental data

This report was prepared in accordance with the requirements of the Guidelines for Environmental Information Disclosure of Listed Companies and Guideline for Drafting on Corporate Environmental Report (HJ 617-2011). Upon third-party verification by Beijing Larkworld Environmental Technology Incorporated Company, and review by the Safety, Environmental Protection, Security and Fire Services Committee of the Company, the report was submitted to the Board of Directors for approval and public disclosure.

6.4 Warranty and commitment to enhance the accuracy and reliability of the 2018 Environmental Report

Zijin Mining hereby warrants that the information disclosed in this report are truthful, accurate and reliable.

6.5 Publication of the 2018 Environmental Report

The 2018 Environmental Report of Zijin Mining Group Co. Ltd.* will be published on the Company's official website, www.zjky.cn. The report will be available for online reading and download.

6.6 Opinion and feedback channels

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7 Conclusion

The year 2018 marks the 40th anniversary of reform and opening-up of China as well as the 25th anniversary of the foundation of Zijin Mining. Looking back to the course of growth of Zijin Mining, Zijin people worked arduously to pioneer through difficulties and obstacles. It has developed itself from a county-owned mining company to a giant in domestic mining industry in the favourable time of reform and opening-up. It is also at a beginning stage of internationalisation.

In February 2018, Zijin Mining announced that the resources volume of the Kamoakakula copper project in the DR Congo broke the record again, in which the overall copper resources volume increased from 24 million tonnes as at the completion of acquisition to 42.49 million tonnes. Therefore, this mine has become the fourth largest copper mine in the world and the

largest high-grade copper mine pending development.

In December 2018, Zijin Mining acquired 63% equity interest in the RTB Bor copper mine in Serbia, which constituted the largest-ever project in Serbia invested by China. With the coexistence of difficulties and opportunities, the acquisition renders another brave attempt and a brand-new start for Zijin people to develop green mines around the globe.

During the past 25 years, the “Three Steps” strategy of Zijin Mining has accomplished with the first two steps, which signifies a great leap to reach the target of becoming an extra large-scale international mining group with high technology and efficiency. “Long, long had been my road and far, far was the journey; I would go up and down to seek my heart’s desire.” Since Zijin people dedicate to pioneer eco-mining under the guidance and implementation of the Belt and Road Initiative, strong winds and heavy rain cannot stop our steps forward.

In 2019, Zijin Mining will continue to practise the concepts of quality development and eco-development, consistently promote the development of green ecological mines and green factories, in order to create a better green world on the beautiful Earth.