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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)

2017 Environmental, Social and Governance Report

Attached herewith the 2017 Environmental, Social and Governance Report of Zijin Mining Group Co., Ltd.* (the "Company") for the period from 1 January 2017 to 31 December 2017.

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

26 July 2018, Fujian, the PRC

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

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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, Xinjiang Ashele, Ashele Copper, 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
Chongli Zijin	Hebei Chongli Zijin Mining Company Limited, a subsidiary 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
Fujian Zijin Copper	Fujian Zijin Copper Company Limited, 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
Inner Mongolia Jinzhong Mining	Inner Mongolia Jinzhong 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
Kamoa Copper	Kamoa Copper S.A.
Kuitun Tongguan	Kuitun Tongguan Metallurgical Chemical Company Limited, a subsidiary of the Company
Longnan Zijin	Longnan Zijin Mining Company Limited, a subsidiary of the Company
Longxing, Longxing Company, Russia Longxing, Tuva Longxing Company	Russia Longxing Company Limited, a subsidiary of the Company
Luoning Zijin	Luoning Zijin Gold Refinery Co., Ltd., a subsidiary of the Company
Musonoie	La Compagnie Minière de Musonoie Global SAS, a subsidiary of the Company
Norton, Norton Gold Fields	Norton Gold Fields Limited, a wholly-owned subsidiary of the Company
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
Qinghai Zijin	Zijin Mining Group Qinghai Company Limited, a wholly-owned

	subsidiary of the Company
Rio Blanco Copper	Rio Blanco Copper S.A.
RMB	Renminbi, the lawful currency of the PRC
Shanxi Zijin	Shanxi Zijin Mining Company Limited, a wholly-owned subsidiary of the Company
Supervisor	The supervisor(s) of the Company
Wenshan Malipo Zijin	Wenshan Malipo Zijin Tungsten Group Company Limited, a subsidiary of the Company
West Copper, 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
Xinjiang Jinbao	Xinjiang Jinbao Mining Company Limited, a subsidiary of the Company
Yuanyang Huaxi	Yuanyang County Huaxi Gold Company Limited, a subsidiary of the Company
ZGC	JV Zeravshan LLC, a subsidiary of the Company
Zijin Copper	Zijin Copper Company Limited, a wholly-owned subsidiary of the Company
Zijin Gold Refinery Company, Gold Refinery Company	Zijin Mining Group Gold Refinery Co., Ltd., a wholly-owned 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. 2017 Social Responsibility Report



紫金礦業集團股份有限公司

Zijin Mining Group Co., Ltd.



2017年度社會責任報告

Social Responsibility Report



Chairman's statement



In 2017, Zijin Mining kept deepening reform and pursuing achievements, continuously pushed forward innovation and new development, and “obtained progress with stability and raised quality and efficiency” for various tasks. We uphold the tenet of “founding business on mining, making contribution to the country and the people”, continuously engage in charity work and make contribution to the society along with our rapid corporate development, and develop the enterprise into a large-scale, internationalised mining group with care, responsibility, accountability and broad recognition from the society.

In this year, we convened a strategic working conference at the famous historical site of the Gutian Meeting. The scientific conclusion of “innovation is the Company’s core competitiveness” was affirmed, and stronger faith in the Company’s development strategy, capacity and culture was emphasised. The business-segment centered management reform adapted to the requirements of the new round of corporate development, and achieved fruitful results. The leadership of the Party was strengthened, Party members continuously served as the role model, and new breakthroughs in terms of construction of Party’s organisations and ideology and culture were achieved. The Company received numerous honours including the Fifth National Civilised Unit, listed company in Asia with top brand value, and one of the 50 Leading Companies in Corporate Social Responsibility in China, etc.

Being a miner, we insist on fulfilling social responsibilities and continuously provide quality mineral materials for the economic development of our society. In 2017, the Company significantly released its production capacity in mine-produced copper and zinc. Our production volume of mine-produced gold, copper and zinc ranked top three in China. Operating income of RMB94.554 billion was realised, representing an increase of 19.91% compared with the same period last year; net profit attributable to owners of the parent of RMB3.508 billion was realised, representing an increase of 90.66% compared with the same



period last year. The market value of the Company nearly reached RMB100 billion. Numerous indicators kept ranking top in the industry.

We insist on innovation while promoting sustainability and combining mine development with charity to ensure the values of staff, investors and stakeholders will increase in the long-term. The exploration and resources adding of the Kamo-Kakula copper mine in the DR Congo obtained significant breakthroughs, the copper resource volume of which increased to 42.49 million tonnes, making the project the largest high-grade copper mine to be developed in the world. The Company convened the fifth Scientific and Technological Conference. The basic strategy of technology-led development in the new era was defined more clearly, and talents with aspirations and endeavour from different countries will be invited to join the Company. China's first ever hot-pressure pre-oxidation facility, which was independently developed by the Company and has reached internationally advanced standard, officially commenced production in Guizhou Zijin. We actively responded to the Paris Agreement and supported the global initiatives on climate change by strengthening energy management and pushing forward energy conservation, pollution reduction and clean production.

We are committed to eco-development. Production safety and environmental protection, occupational health and ecological civilisation are the bottom line and red line of mining production and operation. They are also the most fundamental and vital social responsibilities of the Company. In 2017, we achieved our targets of "zero environmental incident" and "zero work fatality". We strive to build up a brand name for our ecology conservation efforts, promulgated rules such as "Development Framework of Eco-mining" and "Employee Occupational Health and Work Safety Plan". A conference on the safety of production site, which was convened at the Ashele copper mine, achieved promising results. The concept of eco-friendly and safe development was reinforced among all staff.

We uphold the principle of "creating wealth in harmony, balancing development of the corporation, the employees and the society", promote and lead the development of the industry and the local communities with the strengths of our brand, and benefit more people with our existence. We never forget the development of the place where the Company originated, promote the economy of the headquarters region continuously and provide important support for Shanghang County, which has been ranked among the top ten county economies and the top ten counties with the best economic development in Fujian Province. Furthermore, we encourage subsidiaries to actively participate in the economic and social development of local communities in which where their projects are located.

We insist on being a responsible mining citizen by taking initiatives to implement community development schemes, and participate in poverty alleviation work. In 2017, our contribution to the society totaled RMB12.633 billion and donation expenditure amounted to RMB154 million. We ranked the 14th in the China Charity Rankings. We keep pushing forward the project of Supporting the Elderly and Orphans by providing assistance to 13,700 underprivileged elderly persons annually. The geological civilisation and science



popularisation charity project in the headquarters and the agricultural assistance project in the communities around the Porgera gold mine are classic examples of pilot projects which have helped us successfully integrate into local communities.

2018 marks the 40th anniversary of China's Reform and Opening-up Policy, as well as a critical year for us to meet the milestone in year 2020. Under the guidance of Socialism with Chinese Characteristics for a New Era, we will focus on clinging to reforms, stabilising growth and boosting development. We will encourage the spirit of innovation, accelerate the internationalisation strategy while proactively bracing for more new challenges in the future. We will shoulder the responsibility and make unremitting efforts to realise our dream of becoming an extra-large scale international mining group with advanced technology and efficiency in China's mining industry.

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

About the report

This is the 10th corporate social responsibility report that the Company has published since 2008. The Company's policies, management, actions and performance in the aspects of sustainable development and practice of social responsibility are disclosed.

Reporting period

The reporting period is from 1 January 2017 to 31 December 2017. 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 subsidiaries.

Expression of the Company's name

"Zijin Mining Group Co., Ltd.*" is referred to as "Zijin Mining", "the Group" 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-CSR3.0 - General Mining Industry



Overview of the Company

Zijin Mining Group Co., Ltd.* is a sizeable mining group focusing on the exploration and development of gold, copper, zinc and other metal mineral resources. In 2017, the Company ranked the 1,200th place in Forbes' "Global 2,000 Leading Companies", the 18th place in global non-ferrous metal mining companies, and the 3rd place in global gold corporations. It also ranked the 82nd place in "China's 500 Leading Companies" published by Fortune.

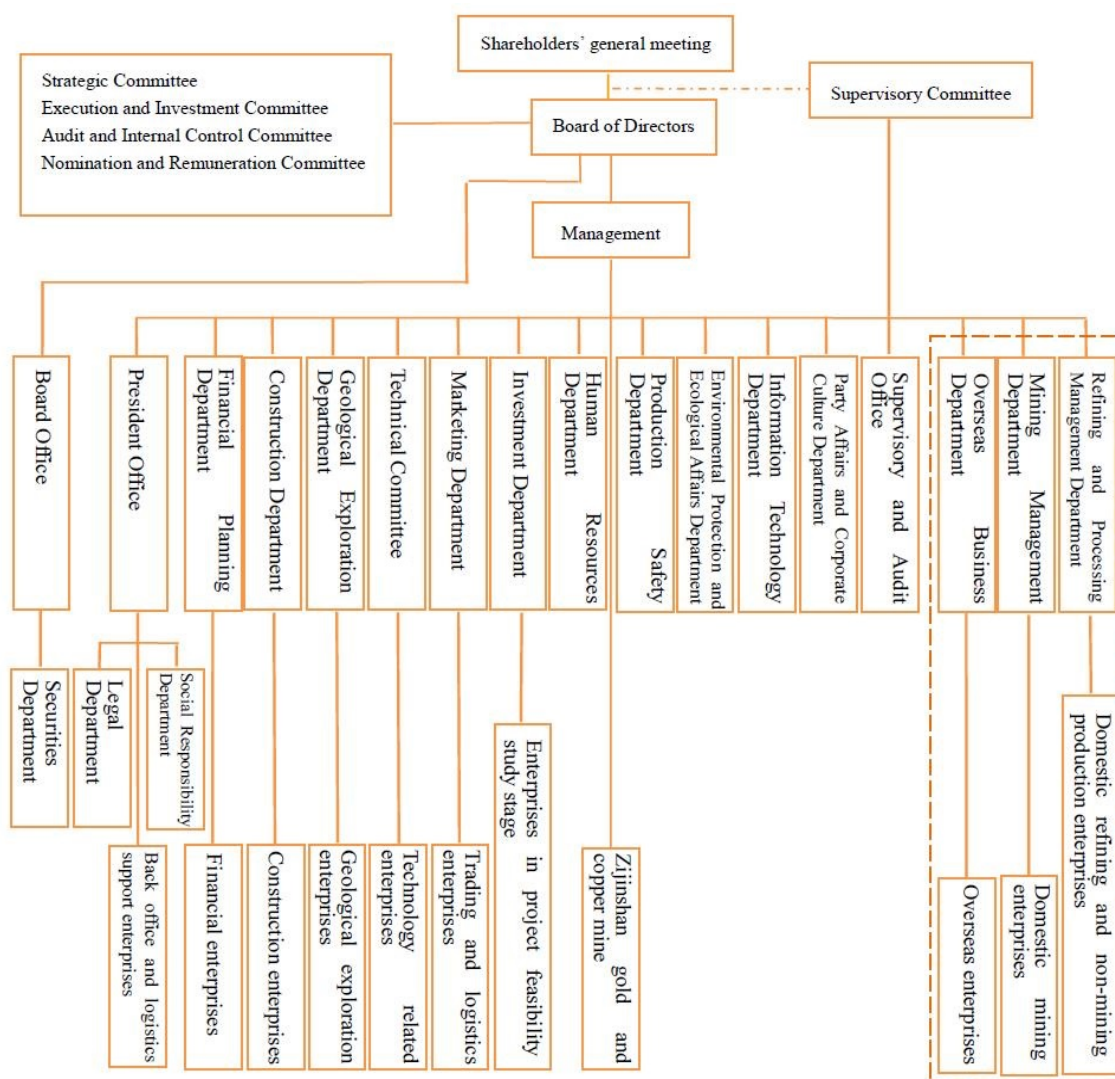
The corporate history of the Company began from the development of the Zijinshan gold mine in 1993. After being registered as a joint-stock company in 2000, the Company's shares were listed on the H share market in November 2003 (stock code: 02899) and on the Shanghai A share market in April 2008 (stock code: 601899). At present, the Company has a product portfolio mainly comprising gold, copper and zinc, with investment projects spanning across 24 provinces (autonomous regions) in China and 9 overseas countries, including Canada, Australia, Papua New Guinea, Russia, Tajikistan, Kyrgyzstan, South Africa, the DR Congo and Peru.

Innovation is the core competitive edge of Zijin Mining. The Company leads the industry in respects of geological exploration, hydrometallurgy, comprehensive recovery and utilisation of low-grade refractory resources, large-scale engineering development and energy consumption indicators, etc. The Company owns a series of high-level scientific research platforms including the exclusive State Key Laboratory in China's gold industry, the national enterprise technology centre, workstations for academicians and experts, as well as a batch of independent intellectual property rights and scientific research achievements which are highly applicable, industrialised, and of high economic value. The Company also cooperates with Fuzhou University to establish Zijin Mining Institute which aims to nurture mining industry talents for China and the world.

Adhering to the principle of "life comes first, give priority to environmental protection" and "green mountains and clear waters are our invaluable assets", Zijin Mining always takes safety and environmental protection as the lifeblood in its development. It keeps enhancing safety and environmental protection level in its endeavor of green mines and ecological civilisation construction. The Zijinshan gold and copper mine is among the first batch of National Mining Park. The Company also owns multiple mines which were selected as National Industrial Tourism Demonstration Site and Green Mines Pilot Units. It adheres to the value of "creating wealth in harmony, balancing development of the corporation, the employees and the society". To actively fulfill its social responsibilities, the Company has donated RMB2.4 billion in total, as well as setting up Zijin Mining Charity Foundation which was awarded "China Charity Award", the top award of its kind, for three times.

The Company's strategic goal is becoming an extra-large scale international mining group with advanced technology and efficiency. The Company achieved the first-stage objective of leading China's gold industry in 2003 and the second-stage objective of leading China's metal

mining industry in 2013. Currently, the Company is pushing forward internationalisation, project upsizing and asset securitisation in a new round of business development. It strives to ascend to the league of top international miners by year 2030 as its third-stage objective. We will assist the economic development of China and the world with quality mineral materials and create higher value for our investors, employees and other stakeholders.



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



Corporate culture

Zijin Mining insists on integrating the core socialist values with the actual situation of the Company. It has achieved fruitful outcomes in terms of material, political, spiritual, social and ecological civilisations. To inherit Zijin Culture, the Company recorded its rapid development process by publishing corporate culture handbooks and Zijin Mining Newspapers, and constructing Zijin Culture Exhibition Hall. In 2017, the Company was awarded with the title of the Fifth National Civilised Unit from the Central Guidance Commission on Building Spiritual Civilisation.



The core ideas of Zijin corporate 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: Create wealth in harmony, balance 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



Integration of responsibilities - leading sustainable development

Social responsibility beliefs

Missions: Sustainable mining, supplying responsible mineral products and promoting advancement of civilisation 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.

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 the 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.



Social responsibility management

Zijin Mining emphasises on the coordinated management of social responsibility work and optimises social responsibility management organisations. The Company established the Social Responsibility Department at its headquarters, under which there are a social responsibility division and community work division, which are staffed with professional personnel to handle social responsibility related affairs. The subsidiaries also designate departments and full-time or concurrent staff to be responsible for social responsibility management and carry out related management function.

In order to enhance social responsibility performance and the cross-department and cross-group coordination capabilities of social responsibility, in 2017, the Company optimised the operational mechanism of Social Responsibility Working Committee, which consists of the Company's Board and the management. The committee is in charge of the major issues concerning sustainable development and social responsibility management at the Company level. In order to enhance management and control capability, the Social Responsibility Working Committee holds regular meetings to evaluate the corporate environmental, social and governance risks, as well as the suitability and effectiveness of the internal control system. Under the committee, there are three working panels which are tasked with the respective function of formulating the Group's social responsibility work strategy, and fundamental regulations and rules; organising each department or unit to implement social responsibility beliefs in actual operation; and approving annual social responsibility plans and reports, which ensures comprehensive and compliant disclosure of social responsibility information.

Responsibility integration and communication with stakeholders

The Company strenuously promotes development in an innovative, coordinated, environmentally friendly, open, and mutual-sharing manner, and sticks to the five corporate development principles of "production safety, environmental protection, eco-development, compliance with laws and regulations, and sustainable development". To strengthen the supervision and management on subsidiaries' fulfillment of social responsibilities, the Company innovatively formulated the Mining Enterprise Social Responsibility Risk Diagnosis and Internal Supervision on Responsibility Fulfillment Handbook. The Company is going to organise social responsibility risk diagnosis and provide onsite services to its subsidiaries. It explores the thorough integration of social responsibility management departments and corporate operational practice.

The Company highly values communication and exchange with stakeholders by actively taking part in industrial exchanges. Its social responsibility beliefs and practices are promoted through various channels. It also listens to the requests of the stakeholders and takes corresponding measures to meet their reasonable expectations and demands.



The Company's mechanism of communicating with stakeholders

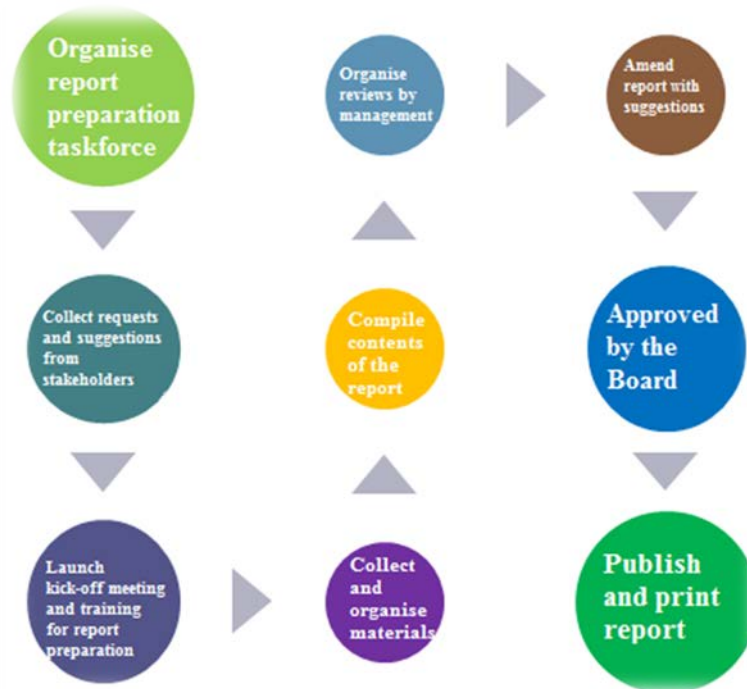
Stakeholder category	Issue of concern	Communication channel/Feedback method	Frequency
Employees	Employment and employees, salaries and benefits, working and living environment	<ul style="list-style-type: none"> - Employee performance appraisal and interview - Investigation and study, collection of opinion and suggestions - Exert the function of trade unions 	Irregular
Shareholders/investors	Operating performance, ESG management belief	<ul style="list-style-type: none"> - Shareholders' general meeting/extraordinary general meeting - Investor meeting - Results press conference - Press release /announcement - Field study, roadshow 	Year-end /interim
Government departments	Eco-production, legal compliance	<ul style="list-style-type: none"> - Special work report - Field study - Meeting 	Monthly /irregular
Suppliers	Product responsibility, supply chain management, operating performance	<ul style="list-style-type: none"> - Market research - Face-to-face communication - Meeting 	Irregular
Community representatives/social organisations	Eco-production, product responsibility	<ul style="list-style-type: none"> - Field study - Communication and meeting 	Irregular
Media	Community investment, product responsibility	<ul style="list-style-type: none"> - Press release /announcement - Meeting and communication 	Irregular



Preparation of social responsibility report

The Company set up a preparation taskforce for social responsibility report which is led by Social Responsibility Department and comprised of members from various departments of the headquarters and subsidiaries. A WeChat group has been set up for the preparation work. The preparation taskforce organises trainings of report preparation and collect stakeholders' requests, as well as coordinating subsidiaries to prepare social responsibility reports.

Preparation procedures



Organised training for preparation
of Social Responsibility Report

Set up WeChat group for report preparation

Identification of key issues

In 2017, the Company distributed 1,552 questionnaires to domestic and overseas staff, partners (including suppliers), investors and other stakeholders. The survey provided the basis for formation of material issues matrix, identification of the focuses of stakeholders, and determination of the key contents of the report.

Sources of the issues	Screening criteria
<ul style="list-style-type: none"> - Suggestions made by the Company's management under the guidance of the enterprise's core values - Analysis and suggestions from internal and external experts - Analysis on multi-media information - Benchmark study against domestic and overseas mining peers - Relevant social responsibility standards 	<ul style="list-style-type: none"> - Contribution to sustainable development - General concern among stakeholders - Key issues stated in social responsibility guidelines - The issues meeting the needs of the Company's strategic development
Materiality matrix of stakeholders	
<p>Materiality matrix of domestic stakeholders</p>	<p>Materiality matrix of overseas stakeholders</p>

Description of the issues

Economic issues	Environmental issues		Social issues		
1. Business performance	5. Water resource management /protection of water resources	11. Soil remediation	17. Employees' salaries and benefits	25. Community environmental maintenance	33. Management of customer complaints
2. Industrial trend	6. Wastewater treatment	12. Impact of production activities on underground water	18. Employees' occupational safety and health	26. Compliance with related social regulations	34. Compliance with product and service related regulations
3. Impact of climate change on operating income	7. Exhaust gas treatment	13. Noise management	19. Employees' vocational development and training	27. Charity	35. Compliance with market rules and regulations
4. Culture and business value	8. Solid waste treatment	14. Environmental and social management system	20. Diversity of employees	28. Impact of daily operation on communities	36. Assessment of suppliers' environmental performance
	9. Construction site management	15. Emission reduction	21. Human rights protection, and prohibition of child labour	29. Anti-corruption and promotion of integrity	37. Safety related trainings for suppliers
	10. Land use	16. Protection of biodiversity	22. Community contribution	30. Maintenance of service quality	38. Assessment of suppliers' social performance
			23. Communication with communities and governments	31. Strict fulfillment of contractual obligations	39. Assessment of suppliers' performance of code of labour practices
			24. Resettlement and employment of inhabitants	32. Protection of customer privacy	40. Assessment of suppliers' performance on human rights practice

Major awards received in respect of corporate responsibility during 2017

No.	Award	Institution
1	The Fifth National Civilised Unit	Central Guidance Commission on Building Spiritual Civilisation
2	Top 100 Listed Companies in China	Warton Economic Research Institute
3	Listed Companies with Top Brand Value	Hong Kong Ta Kung Wen Wei Media Group Limited
4	Leading Enterprise of Eco-development in China's Non-ferrous Metals Industry	China Nonferrous Metals Industry Association
5	SynTaoGF - Caixin ESG 50 Index	Caixin Media
6	82nd among China's 500 Leading Companies in 2017 published by Fortune	Fortune magazine
7	National Top 10 Enterprises for Building Harmonious Community in 2017	China Enterprises Evaluation Association
8	14th on the China Charity Rankings (2017)	China Philanthropy Times
9	48th on the 500 Leading Companies in Corporate Social Responsibility in China (2017)	China Enterprises Evaluation Association
10	National May 1st Labour Prize-Certificate of Merit	All-China Federation of Trade Unions
11	Provincial Quality Benchmark for Industrial Enterprises in 2017	Fujian Provincial Commission of Economy and Information Technology



Earn respect with quality products - drive 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 article of association and other relevant laws and regulations, Zijin Mining has established an optimal corporate governance structure, regulated the processes of the Company's operation and management, and continuously raised the level of corporate governance. In 2017, in order to further enhance the leadership of the Party, and fully strengthen the Party Committee's right to access information, participate in and make decisions on the Group's important affairs, the Company has formulated the meeting policies of the executive Directors, senior management and members of the Party Committee, to enable participation by the members of the Party Committee, executive Directors and senior management of the Company in the consideration and decision-making on important matters which affect the enterprise.

Regulating 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 by periodic reports and announcements of the Company truthfully, accurately, instantly and completely. All these conveyed the Company's corporate culture and strategic direction to investors. In 2017, the Company's information disclosure work 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 four consecutive years.

Management of inside information. The Company strictly followed the Management Policy of Inside Information and Insiders, worked well on the registrations, reporting and filings 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 stock price attributable to leakage of inside information. The legal interests of the Company's shareholders were practically protected.

Management of investor relations. The Company actively implemented investor relations management which is the responsibility of the Securities Department of the Company led by the secretary to the Board. Through regular roadshows and reverse roadshows, attending investment meetings held by securities companies, on-site receptions of investors, teleconferences, interaction via online platforms, etc., comprehensive communication and interactions with investors were carried out. Investors' questions were addressed promptly to enable them to have a clearer understanding of the Company. In 2017, the Company received numerous groups of local and overseas investors, hosted interim and annual results briefings and roadshows in Shanghai and Hong Kong; successfully organised reverse roadshow in



Heilongjiang Duobaoshan Copper, as well as several field trips to the Zijinshan gold and copper mine.

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 substantial shareholder of the Company strictly complies with the undertakings made to the Company to avoid mutual competition within the same industry. In 2017, the substantial shareholder of the Company did not use its special status to occupy and prejudice the interests of the Company and other shareholders.

Return to investors. Always attaching great importance to shareholders' return and protection of shareholders' interests, the Company formulated the "Profit Distribution and Return Plan for the Next Three Years (Year 2015-2017)", which clearly defines principle, format, cash dividend conditions of the Company's profit distribution policy, the procedures for forming profit distribution policy, and procedures for amending profit distribution policy, etc. Up to the end of 2017, total dividend distribution amounted to RMB18.264 billion, which was far more than the amount of proceeds raised from equity financing since the Company was listed.

Table on dividend distribution of Zijin Mining for the last four years

Indicator\Year	2016	2015	2014	2013
Earnings per share (RMB)	0.09	0.08	0.11	0.1
Dividend per share (RMB)	0.06	0.06	0.08	0.08
Dividend payout ratio (%)	75.11	78.06	73.59	81.48
Total amount of dividend distribution (RMB billion)	1.38187	1.29244	1.72583	1.73167

Operating results of Zijin Mining for the last three years

Indicator\Year	2017	2016	2015
Profit before tax (RMB billion)	4.568	2.126	2.086
Operating income (RMB billion)	94.549	78.851	74.304
Total assets (RMB billion)	89.315	89.218	83.914
Debt-to-asset ratio (%)	58	65	62
Total tax expenses (RMB billion)	4.642	3.602	3.861
Gold resources reserve (tonne)	1,320.07	1,347.41	1,261
Copper resources reserve (million tonne)	31.4751	30.0638	23.46
Zinc resources reserve (million tonne)	7.8304	8.0087	8.3968
Total social contribution (RMB billion)	12.633	9.586	9.117
Social contribution per share (RMB)	0.55	0.45	0.42

Technological innovation

Zijin Mining attaches great importance to technological innovation to support and guide the corporate development. Adhering to the ideology of “science and technology create Zijin” for more than twenty years, it has formed three industry-leading core technologies represented by comprehensive recovery and utilisation of low-grade, refractory resources and large-scale engineering development, hydrometallurgy and geological exploration. The Company owns high-level scientific research platforms, such as the State Key Laboratory, national enterprise technology centre, workstations for post-doctors, and employs academicians and experts as technical consultants. At the same time, the Company cooperates with colleges, universities and scientific research institutes to develop a batch of intellectual property rights and scientific research achievements which are highly applicable, industrialised, and of significant economic value. Patents and inventions owned by the Company totaled over 160 items. In 2017, the Company invested RMB301 million in scientific research, and obtained 6 technology awards at provincial and municipal level and 12 patents. It also participated in and completed the preparation and revision of 1 international standard and 33 national/industrial standards. Meanwhile, with the Group’s headquarters and numerous subsidiaries passing the National High and New Technology Enterprise qualification assessment and certification, the emergence of High and New Technology Enterprises becomes a “group phenomenon”.

In 2017, China’s first ever hot-pressure pre-oxidation facility, which was independently developed by the Company, reached internationally advanced level and commenced production. The technology fills the gaps in effective recovery technology and equipment of refractory gold resources of Chinese gold industry. Major technological breakthroughs have been made in the Group’s key enterprises and projects. Musonoie’s processing technique for refractory oxidised copper ore, Tuva Longxing Company’s highly efficient floatation separation key technique, Zijin Copper’s upgraded technique for the treatment of anode slime



and extraction of rare and precious metals, as well as the industrial application of the studies in new back-filling technique initiated by a number of the Company's mining entities, created promising economic values for the Company. In addition, technological innovation cut a figure in the Company's internationalisation process. By applying Chinese standards and Zijin model, the construction period of the Kolwezi copper mine in the DR Congo was 2 years shorter than the average construction period of Western countries, and the investment capital was saved by half. In ZGC, Tajikistan, the world's first ammonia cyanide leaching production line for refractory copper-containing gold ore was completed. Prospection at the southern part of the Kakula mine section of the Kamo a copper mine in the DR Congo was carried out, which increased the copper resources volume from 24 million tonnes at the time of acquisition to 42.49 million tonnes with average grade at 2.56%. The copper mine becomes the fourth largest copper mine and the largest high-grade copper mine yet to be developed in the world.



The Company convened the Fifth Scientific and Technological Conference

In October 2017, the Fifth Scientific and Technological Conference was convened in Shanghang Headquarters, themed “transform with innovation, pursue eco-development, follow the lead of technology, learn from the best global mining companies”. The conference determined the fundamental strategy of technology-led development in the new development era, laid down the Medium- to Long-term Science and Technology Development Outline. The strategies aimed at contributing “Zijin Wisdom” to the transformation and upgrading of mining industry in the new era. During the conference, the Company commended a number of outstanding scientific and technological projects and outstanding employees that emerged in the science and technology work. Among them, top prizes were granted to the key technology development and industrial application for pressurised pre-oxidation of gold-arsenic carbonaceous ores, and prospection project at the Kakula exploration area of the Kamo a copper mine in the DR Congo. Chen Jinghe, the chairman of the Company, and Lan Fusheng, the president of the Company congratulated the awardees and presented medals on the spot to encourage scientists and technicians to continuously reinforce the Company’s core competitiveness of technological innovation.



The Scientific and Technological Conference



Award presentation ceremony



Guizhou Zijin realised major achievement in the industrial project of hot-pressure pre-oxidation treatment of refractory gold ore

Industrialisation of hot-pressure pre-oxidation treatment of refractory gold ore project of Guizhou Zijin (a subsidiary of the Company), which was commenced in 2016, is the first-ever project of its kind in China that realised industrial application. The technology enhanced 30% of comprehensive



recovery rate of gold and thus created new economic value for approximately 50 tonnes of gold-arsenic carbonaceous ores which were unusable previously. At the same time, harmless treatment was applied to the harmful arsenic impurities in the ores. An additional economic value of about RMB10 billion was created. The project was examined by the authoritative experts from China Nonferrous Metals Industry Association and recognised as reaching “internationally advanced level”. In 2017, the project’s annual treatment volume of ore totaled 122,300 tonnes, and the recovery rate was consistently maintained at above 93%.



Musonoie's technological innovations significantly reduced project investment and production costs

In 2017, owing to the scientific researches on characteristics of typical copper-cobalt deposits in Kolwezi and estimation of regional mineralisation, the stability of water-containing fragmented slope of Musonoie's K mine, key processing techniques of Kolwezi refractory copper oxide ore, and Kolwezi magnesium-rich copper oxide concentrate metallurgy, the project investment and production costs reduced significantly. Based on the research on typical characteristics of copper-cobalt deposits

in Kolwezi and according to the mineralisation

estimation which has been verified by measurement model, the total resources volume of the mine increased by 3.8996 million tonnes and the metal volume

increased by 342,800 tonnes respectively. The grade increased from 3.63% to 4.89%. The service period of the mine was extended by 2.5 years. With outstanding economic value, the project was conferred with top prize in the Scientific and Technological Conference.



Zijin Copper's key technology increased sales income by RMB2 billion

Since Zijin Copper began to develop the project of "copper-containing structure in copper slag and key technology for efficient and clean recovery", 12 academic theses have been published and 10 patents have been granted. With the continuous optimising process, the efficient comprehensive recovery of rare and precious metals including gold, silver, platinum, palladium, selenium and tellurium has been

realised. In 2017, the company completed the expansion project of the comprehensive recovery of end materials from the production process of rare and precious metals plant. The anode slime treatment capacity will increase from 3,000 tonnes per year to 5,000 tonnes per year, and the estimated annual sales income will increase by RMB2 billion. The results of this project were reviewed by renowned domestic experts such as academicians from the Chinese Academy of Engineering, and they unanimously agreed that the technological achievement generally reached the "internationally advanced level", and the green synthesis with silver nitrate solution and selective extraction of platinum and palladium attained "internationally leading position."





Zijinshan gold and copper mine implemented the principle of “technology strengthens safety” to enhance fundamental safety level

The Zijinshan gold and copper mine proactively implemented the spirit of Notice in relation to the Special Programme of Replacing and Reducing Workers with Machinery and Automated Operations for Enhancing Safety by Science and Technology issued by the State Administration of Work Safety (Anjianzongkeji [2015] No. 63). In this way, the mine pushed forward the mechanisation, upsizing and application of smart technology for mining machinery. Considering the features of underground construction, the Company procured facilities including underground laser alignment equipment, raise borer, drilling jumbo, scaling jumbo, rock bolting jumbo, underground hydraulic hammer, 20t underground articulated truck and remote-controlled load-haul-dump loader, Brokk robot, etc. Outdated mining equipment and production process were phased out, and thus safety factor of operations was improved. Both the labour intensity and personnel number were reduced for underground tasks. The entity was commended as the pilot demonstration non-coal mining enterprise for “replacement and reduction of headcounts by machinery and automation” in Fujian Province and the state.



Atlas drilling jumbo



Rock bolting jumbo



Sustainable exploitation of resources

The Company cherishes mineral resources and insists on sustainable utilisation of resources. The Company vigorously carries out innovation in mining and processing technology, as well as management, which strengthens the management of five rates including mining loss rate, ore dilution rate, ore recovery rate, equipment operation rate, labour productivity, etc. It adheres to the production management methodology of exploiting both the lean and rich ore, thick and thin deposits, rational ore blending, comprehensive recovery and thorough exploitation. The methodology reduces the mining loss rate and ore dilution rate, and enhances mining recovery rate, equipment operation rate, and labour productivity to various extents. Moreover, the Company encourages the research and application of technologies in relation to comprehensive utilisation of tailings, waste residues and wastewater. By recovering useful resources to the full extent, significant economic and environmental values are obtained.

Altynken adopted various measures to increase the efficiency of resource utilisation

In 2017, Altynken adhered to a two-pronged approach combining institution building and work methods improvement. Through revision of a number of management policies, it gradually standardised the production operations such as excavation, blasting, shoring, and conveying of ore. At the same time, it strengthened management of underground mining loss and dilution rates and prevented collapse. These measures delivered magnificent results. In 2017, the company organised recovery work of the remaining ores in the Soviet-era mining gob area. Through reinforcing disclosure of construction techniques, on-site safety patrol, management and other measures, and introducing resin bolting, advanced pipe support and other shoring processes, safety of ore recovery was ensured. The whole-year ore recovery volume was 65,400 tonnes with 337.6kg of gold metal recovered. The recovery rate reached 94.53%.





Norton Gold Fields Ltd. optimised open-pit drilling and blasting parameters to enhance production efficiency

In 2017, Norton Gold Fields Ltd. significantly improved the open-pit production efficiency by optimising the drilling and blasting parameters and shoveling approach, as well as innovating management and production organisation. The total mining and stripping volume was 16% more than planned in the whole year.



The production cost of open-pit mining was effectively reduced, and the stripping cost per unit was 10% lower than expected, which was a year-on-year decrease of 30%. In other words, the production cost was lowered by AUD6.8 million compared with the plan, which was a year-on-year saving of AUD26 million. The company's scientific and technological research project, "Optimisation of open-pit drilling and blasting process", was a breakthrough that was commended in the Group's Scientific and Technological Conference.

Qinghai West Copper comprehensively monitored mining technical indicators

According to the on-site mining and stripping processes and geological data, the company conducted separate mining and blasting for each orebody. The Company controlled the dilution and losses comprehensively to ensure the quality of processed ores were up to standard. With the abovementioned measures, the original 4% dilution rate and 5% loss rate in the development and utilisation plan were significantly reduced during the mining process.

The historical mining technical data of West Copper

Indicator/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Loss rate %	2.67	3.11	2.82	1.34	2.81	3.22	3.11	2.82	3.06	3.07
Dilution rate %	2.01	2.24	3.61	3.36	3.23	3.08	2.54	2.44	2.47	2.48

Russia Longxing enhanced overall technical indicators of mineral processing

Russia Longxing optimised the mineral processing techniques by using MEM015 ultra-fine grinding machine as regrinding equipment. At the same time, it enhanced management by maintaining stable ore properties through ore blending, and ensuring smooth production flow with stable operation of equipment. Through staff training, fundamental management, stable operations, applying chemicals to improve stability and optimisation, etc., the company improved the mineral processing techniques and management. The zinc recovery rate in 2017 reached 85%, which was 3% higher than that of 2016.



Resources utilisation rate in mining and processing of domestic mines in 2017

Item	Type of mining activity	2017	2016
Mining loss rate	Open-pit mining	2.87%	3.23%
	Underground mining	11.73%	11.8%
Mining dilution rate	Open-pit mining	3.78%	4.12%
	Underground mining	14.31%	14.65%
Ore processing recovery rate	All mines	87.98%	87.49%
Equipment operation rate	All mines	90.83%	89.48%

Supply chain management

The Company actively pushes forward the development of responsible mineral product supply chain and promotes sustainable development of the industry. In the daily operations, the Company continuously improves the procurement system. Tendering system clearly requires suppliers and contractors to undertake their corresponding social responsibilities in environmental protection, production safety, social ethics, and business ethics, and includes the performance of the Tier-1 suppliers into the evaluation system. Regular evaluation and management are conducted. At the same time, the Company has also formulated the code of conduct for the social responsibility of business partners, which will be included in the contract templates and implemented under the plan. In 2017, the Company conducted quantitative assessment on 161 Tier-1 suppliers in the registry, screened out 24 unqualified suppliers, and retained 137 suppliers. In addition, through the recommendation and screening by subsidiaries, the Company expanded the list of Tier-1 suppliers and supply categories. 17 new material categories and 87 new suppliers were added. The total number of suppliers in 2017 was 7,375, representing an increase of 597 year-on-year. Among them, 2,574 were suppliers from Fujian Province, representing an increase of 256 over the same period last year; and 4,612 were from other provinces.

Suppliers of the Company in 2017

Item	Unit	2017	2016	2015
Number of suppliers	Number	7,375	6,778	4,072
Tier-1 suppliers	Number	224	161	148
Number of suppliers by geography				
Suppliers from Fujian Province	Number	2,574	2,318	2,279
Suppliers from other provinces	Number	4,612	4,297	1,655
Overseas suppliers	Number	189	163	138

Product quality and customer relationship management

Zijin Mining always adheres to the management philosophy of “earning respect with quality products, achieving mutual benefits and win-win situation”. It attaches great importance to product quality and customer service. The “Zijin Brand Product Quality Administrative Policy” was formulated to regulate the quality supervision activities. The Group’s Technical Committee is responsible for the inspection on product quality, while each business department is responsible for conducting Zijin brand product quality assessment and evaluation on the enterprises under its management. Each subsidiary puts efforts on product quality supervision according to the inspection results and enhanced product quality administrative system to ensure stability in the quality of Zijin brand products. Furthermore, the Company promulgated the “Administrative Policy on Product Quality Incidents” and the “Detailed Implementation Rules on Sales and Trading”. The Company also established a customer satisfaction survey and complaint mechanism, conducting regular customer



satisfaction surveys, and according to which, carrying out improvement plans and follow-up actions.

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 bullions, silver bullions, copper cathodes and zinc bullions 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 bullions, "ZIJIN" brand silver bullions and "ZIJIN" brand copper cathodes received the title of "Famous Brand Product of Fujian Province". "ZIJIN" brand zinc bullions also received the title of "Famous Brand Product of Inner Mongolia". In particular, "ZIJIN" brand gold bullions and "ZIJIN" brand silver bullions already passed the certification of the London Bullion Market Association ("LBMA"); and the quality of "ZIJIN" brand grade-A copper and "ZIJIN" brand zinc bullions obtained official and global recognition as it was registered as a brand for settlement on the London Metal Exchange. 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 11 consecutive years.

Fujian Zijin Copper's high-precision copperplate received high recognition from the market

With 13 years of meticulous efforts since commencement of production, the company is currently focusing on the production of tin-phosphor bronze, as well as the research and development on high-strength and high-conductivity copper-nickel-silicon alloy. Since the product was introduced to the market, its performance and quality remained excellent and stable, and "ZIJIN" brand high-precision copperplate has been unanimously recognised by the market. The domestic market share of the product has reached 40%. Ningbo Academy of Product Quality Supervision & Inspection was entrusted by the General Administration of Quality Supervision, Inspection and Quarantine of the PRC to conduct sampling inspection on the company's threaded pipes and smooth pipes. These products passed sampling inspection.



Tin-phosphor bronze product



The mineral products and customer relationship management data of the Company in 2017

Item	Unit	2017	2016	2015
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 in 2017

Item	Unit	2017	2016
Wood materials used for product packaging	Tonne	298.2	277.3
Consumption of wood materials for product packaging per RMB10,000 of production value	Tonne/RMB10,000	1.59×10^{-5}	2.12×10^{-5}
Wrappings for mineral concentrate products	Tonne	2,184.7	2,128.4
Consumption of wrappings for mineral concentrate products per RMB10,000 of production value	Tonne /RMB10,000	1.17×10^{-4}	1.63×10^{-4}

Prohibition of commercial bribery and corruption

The Company always complies with relevant laws and regulations of the state and the Company's fundamental rules, emphasising on strengthening the Party's conduct and integrity, and combating corruption and advocating integrity. Through the formulation of "Certain Guidelines on Further Strengthening the Integrity and Self-disciplines of Management Cadres", "Policy for Inspection Work," "Administrative Disciplinary Measures" and other policies, the Company prevents any form of bribery, extortion, fraud, and money laundering incidents. The Company resolutely opposes gaining commercial benefits by paying bribes, and never allows others to bribe its employees, which will undermine fair competition in the business environment. There were no corruption related criminal lawsuits transferred to the judiciary throughout the year. The Company persists in conducting business in good faith according to laws, resolutely opposes fraud and money laundering, and has never participated in the aforementioned illegal activities.

In 2017, the Company further improved its supervisory system and implemented the "five-in-one" interconnected supervision mechanism comprising supervisory committee, disciplinary inspection committee, supervision, audit and internal control. The Company adopted both punishment and prevention, smoothed the reporting channels, and arranged various units to sign the "Integrity Commitment Letter". Inspections have been continuously carried out on subsidiaries to provide a solid support for the stable development of the Company.



Integrity education

In order to fully implement the spirit of the Company's strategic working conference in Gutian, the Company further strengthened the Party's conduct and work on promoting integrity, anti-corruption promotion and education. By promoting the concept of integrity at the workplace, enhancing the awareness of honesty and self-discipline among cadres and other staff, the Company safeguarded sound internal political ecology. On 14 February 2017, the Company issued a notice with the theme of "Clean and Honest Zijin is Advancing" to request all units to host symposiums to discuss on typical cases relating to the Company's supervisory system. In addition, education was carried out to warn the staff by interpreting the disciplines with one case each month. Cadres and other staff in sensitive key positions were arranged to watch educational videos and visit detention centres in order to obtain "zero distance" integrity education. Staff participated in various types of anti-corruption educational activities such as reporting the practice of integrity during their work and signing integrity commitment letters. A clean and honest atmosphere was created within the Group continuously. Warnings were given to cadres and other staff to observe disciplines and laws, and practise integrity at the workplace. The concept of honesty and integrity was disseminated.

Zijin Copper organised staff to watch the anti-corruption educational videos - Nip in the Bud, Always Get Alarmed

In 2017, the company held numerous anti-corruption warning and integrity advocating educational campaigns, organised all party members of the company, managing staff at assistant manager level or above and employees in key sensitive positions to watch several integrity advocating educational videos. Real cases were applied in the videos to explain the laws, educate and warn the audiences, and strengthen the disciplines. Particularly, Wang Min, Su Shulin, Wu Changshun and other dismissed officials who had committed corruption told their own stories in the videos. It showed our Party's determination and efforts in exercising strict governance of the Party in every respect, strengthening disciplines and fighting against corruption unswervingly.



Staff were organised to watch anti-corruption educational videos

Data on cases of commercial bribery and corruption of the Company in 2017

Item	Unit	2017	2016	2015
Total number of corruption cases penalised internally	Case	3	2	1
Total number of corruption cases transferred to the judiciary	Case	0	1	1
Integrity educational training	Time	187	114	109

Green ecology - focus on energy conservation and emission reduction

Environmental management system

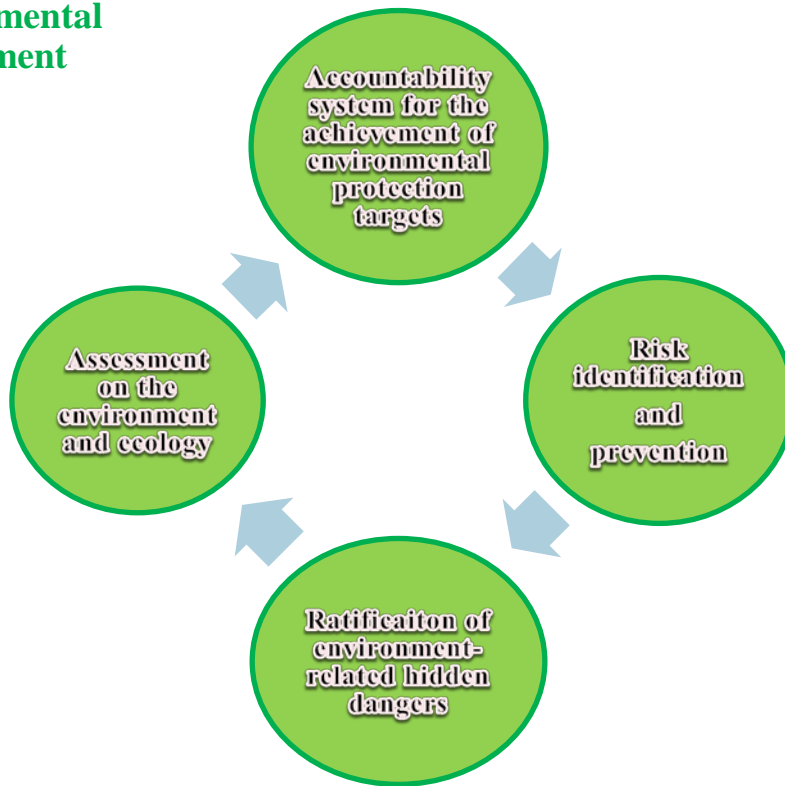
Zijin Mining strictly follows national laws and regulations, technological specifications, technological standards and policies in respect of environmental protection, adheres to the environmental protection idea of “green mountains and clear waters are our invaluable assets”. Great importance was attached to continuously enhance environmental protection progress and establish and perfect environmental protection management organisations. The Company sets up management mechanism at different levels including Environmental Protection and Ecological Affairs Department of the Company, environmental protection management function of subsidiaries, environmental protection supervisors of production plants of each subsidiary, environmental protection personnel for each production section to carry out environmental protection management work by a top-down approach.

In 2017, the Company issued the “2017 Environmental Protection Work Arrangement” to deploy the key tasks and measures for the 2017 environmental protection and ecological work. To meet the requirements that “the Party and management sharing responsibility, dual responsibilities for one role and holding negligent personnel accountable”, “holding the personal-in-charge responsible” and “environmental protection management as the key to the management of production, operation and industry”, the Company formulated Responsibility System on Environmental Protection, and letters of commitment to meet environmental protection targets were signed at each level. Work on meeting environmental protection targets and indicators were allocated among different levels. At the same time, Administrative Regulations on Environmental Protection and Ecological Inspection, Environmental Protection and Ecological Assessment Management System and other related policies were developed and implemented. To strengthen environmental protection awareness and responsibility of all staff, the Group applied PDCA (Plan-Do-Check-Act) cycle management model to ensure the continuous improvement of corporate environmental protection management. No severe environmental emergency and incident occurred in the Group throughout the year and all subsidiaries achieved the target of “zero environmental incident”.



The productions did not generate obvious impact on the surrounding ecological environment either.

Environmental management system





The environmental protection of Russia Longxing was recognised by the government

The company's mining site is located in primeval forest. In order to protect wild animals and plants, the company organises greening and rehabilitation work in the mining sites every year. Currently, it has completed earth covering and greening at the bare areas of the office site and the tailing dump surface. A plan for leveling and greening the vacant area in the mining sites and roadside tree planting will be carried out in 2018. The company strictly follows the principle of "giving priority to environmental protection", incorporates environmental protection measures into construction plan and prohibits arbitrary destruction of primitive ecosystem. In this way, eco-production was realised. Each year, fish is regularly released into the nearby rivers to maintain the biological balance of rivers in the mining area. The company also established visual warning system through measures such as displaying signboards. Meanwhile, in order to strengthen education and publicity among employees, the company conducted key education in accordance with the relevant legal requirements of the Russian Federation. By pragmatically complying with local laws and conservation of primitive ecosystem, the company aims to achieve harmonious coexistence between human and nature.

On 16 November 2017, the Minister and Deputy Minister of the Ministry of Natural Resources and Environmental Protection of Tuva Republic highly praised the company after visiting the open-pit mine and production lines of processing plant in the cold winter of -25 to -26 degree Celsius. They commended that the measures adopted by Longxing Company in protecting ecological environment are scientific and effective; they not only bring local economic development, but also set a good example for other enterprises for strictly completing the environmental protection work.



Wulatehouqi Zijin introduced “four-in-one” management system

In 2017, Wulatehouqi Zijin introduced “four-in-one” management system, including the development of environmental management system, and passed external audit. It enabled the company’s environmental management to gradually become standardised and systematised, ensuring regulated and sustainable development of the company.



Environmental emergency management


The Company continuously improved the development of environmental emergency management system. Not only has the Company set up an environmental emergency management function at the Group level, but each of the subsidiaries has also set up command offices for emergency relief. 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 entity’s production techniques, pollution-intensive production stages and environmental risks, the subsidiaries issued corresponding Emergency Plans for Environmental Incidents which were reported and filed to the local environmental administrative authorities. At the same time, each subsidiary regularly organises different environmental emergency drills. In addition, measures on prevention of, warning of and response to emergencies were implemented. These steps ensured that the whole process was under close control, enhancing prevention and emergency response in real situation.

Zijinshan gold and copper mine's environmental emergency management was practised by every member

In order to improve responsiveness to emergency and operational skills of personnel at each position, the Zijinshan gold and copper mine printed contents of environmental protection management policies such as “Environmental Protection Emergency Plan” on palm-sized cards and distributed them to environmental protection management personnel. Each staff received an environmental protection emergency card corresponding to the nature of their job positions. The abovementioned measures ensured that each employee can properly handle and respond to emergencies.



Emergency drill

 紫金山金铜矿第二选矿厂 运输车间硐坑水处理岗位环保应急操作卡 编码: HB/YJK-JEC-001	
风险提示	1、517硐坑水满池溢流 2、518、520水沟过流能力不足, 硐坑水满水水沟产生硐坑水溢流 3、液碱罐、管道泄漏
	上报程序与应急操作
	1、岗位员工在风险发生时第一时间向班组长再由班组长向车间负责人上报 2、车间负责人根据实际情况决定是否向厂级负责人上报 3、厂级负责人根据实际情况决定是否向矿总调度室上报 4、矿总调度室: 0597-3563333、3563111
应急处置操作	1.1 启动517硐口水泵往520硐口集水池分流。 1.2 安排人员沿公路垒沙袋设置挡墙, 将517硐坑水溢流水引流至470斜槽收集池。 1.3 立即开启470斜槽收集池应急加药系统, 并启动池中船泵回水系统。 1.4 及时通知下游环保车间2#沉淀池外回抽水岗位, 密切注视主排洪硐出水情况, 并及时回抽470斜槽收集池溢流水, 防止溢流水进入下游矿主排洪硐在线监测点。

Environmental protection emergency card
for a specific position



Inner Mongolia Jinzhong Mining organised emergency drills for sodium cyanide poisoning

In 2017, the company cooperated with a regional hospital to organise emergency drills for sodium cyanide poisoning. On-site demonstration, guidance on first-aid measures and first-aid items were conducted by professional demonstrators. It enabled employees to learn in a close distance, and to have a deep understanding of the first-aid methods for poisoned persons, and to improve their ability of emergency rescue.



Environmental order management

In order to enhance the Company's overall environmental protection management level and create a good corporate image, each of the subsidiaries has formulated environmental order management standards and assessment programmes. Inspections and assessments on environmental order were conducted continuously. After rectification, the operating environments of the corporations were significantly improved, and the overall rectification level was also enhanced. Each year, the Company evaluates and selects exemplary mining and smelting companies according to their environmental order management, and publicises and promotes their good practices throughout the Group.



Bayannaoer Zijin rectified environmental order management both in terms of policies and awareness

Bayannaoer Zijin regulated environmental management by policies. It established an environmental order management system, drove changes in the old concepts by publicity programmes, so that the environmental order management will be kept in mind by every employee.



**Bayannaoer Zijin, the demonstration enterprise for circular economic development
in Inner Mongolia Autonomous Region**

Clean production

The Company always regards green, circular and low-carbon development as the basic approach for the Company's eco-transformation. It promotes the use of "efficient, low-energy consumption" production methods within the Group. It also encourages upgrade of production techniques and elimination of outdated capacity, to reduce and control pollutants from the source. Through eco-procurement, clean production, water conservation management, reuse and recycling, the Group aims to create a green industrial chain. In 2017, the Company was appraised as a "Leading Enterprise of Eco-development in China's Non-ferrous Metals Industry". Zijin Copper was chosen as the first batch of green manufacturing demonstration companies in the country.

Water conservation management

The Company strictly abides by laws and regulations including the Water Law of the PRC, Regulation on the Administration of the Licence for Water Drawing and the Levy of Water Resource Fees, and attaches great importance to water conservation management and water drawing according to law. It always adheres to the concept of building a resource-conserving and environmentally-friendly enterprise. The idea is to strengthen the organisation and leadership and establish awareness of water saving among all staff. The Company has also formulated the "Environmental Protection and Ecology Assessment Management System" that manages the assessment of the subsidiaries' indicators regarding raising the water recovery rate and reduction in water consumption. It actively explores the way to become a water-saving enterprise that draws water according to laws, saves water, and conducts



quantitative assessment. The average water recovery rate of the Group's subsidiaries was more than 85% in 2017.

Use of land and water resources of the Group's mining and refining subsidiaries in 2017

Items	Unit	2017	2016	2015
Water resource consumption (newly drawn water)	Tonne	40,455,240.7	30,914,631.8	30,103,250.0
Water resource recovery rate	%	87.44%	87.86%	85.82%
Water consumption per RMB10,000 of production value	Tonne/RMB10,000	2.163	2.365	2.420
Additional mining areas	Square metre	1,716,846	2,179,089	3,020,033.2

Wastewater management

In order to strengthen control from the source and treatment at the final stage, reduce wastewater production and eliminate unlawful wastewater emission, the subsidiaries separate clean water from used water, categorise wastewater for collection, conduct treatment based on water quality and carry out water recycling. In addition, the Company proactively explores the introduction of a third-party management model of environmental pollution, and reinforces extensive treatment at the final stage. Most of the wastewater after treatment is recycled for industrial use, and the rest is discharged according to the standards of the country where the operations are located. All outlets are installed with on-line monitoring systems as required, and are linked with the system of environmental protection authorities to achieve transparent monitoring. In 2017, 100% of the discharged water after treatment of the subsidiaries met the required standards. There was no significant environmental impact on the water systems.

Discharge of major water pollutants from the Group's mining and refining subsidiaries in 2017

Type of pollutant	Pollutant emission factor	Unit	2017	2016
Water pollutant	COD	Tonne	809.9	858
		Tonne/RMB10,000 of production value	4.33×10^{-5}	6.74×10^{-5}
	Ammonia nitrogen	Tonne	35.83	37
		Tonne/RMB10,000 of production value	1.92×10^{-6}	2.91×10^{-6}

Type of pollutant	Pollutant emission factor	Unit	2017	2016
	Zinc in total	Tonne	1.24	1.3
		Tonne/RMB10,000 of production value	6.63×10^{-8}	1.02×10^{-7}
	Copper in total	Tonne	1.13	1.2
		Tonne/RMB10,000 of production value	6.04×10^{-8}	9.43×10^{-8}

Note: Figures for 2016 only include the operating entities in the PRC; figures for 2017 include the operating entities both within and outside the PRC.

The comprehensive utilisation project of copper-containing acidic wastewater in Zijinshan has yielded fruitful results

In 2017, Zijinshan carried out clean production according to the principle of “separating clean water from used water and separating different kinds of used water”. The diversion of copper-containing acidic water in mining area was conducted in a reasonable way, which included 5.3019 million cubic metres of water from the mine (containing sodium sulfide), with copper metal volume of 5,064.5 tonnes and recovery of gold of 17.03kg. It generated RMB250 million of economic value. At the same time, 9.7 kg of arsenic, 7.2kg of lead and 2.5kg of cadmium in total were removed at the source in the year. COD of 20.34 tonnes, BOD of 13.54 tonnes, SS of 13.9 tonnes, and ammonia nitrogen of 1.61 tonnes were eliminated from the source in the year. The production of total arsenic and neutralised sludge reduced by 157.093 tonnes and 623.25 tonnes from the source respectively. Re-vegetation rate at the tailing dump of the gold mine increased by 5.02%. Reduction in heavy metal discharge obtained significant results.



Wastewater treatment system of the
Zijinshan gold and copper mine



Luoning Zijin optimised wastewater recycling treatment techniques to realise both environmental and economic values

The wastewater recycling process during the early years of the construction of Luoning Zijin's production plant was not ideal. There was a problem of continuous accumulation of impurities including heavy metals, calcium, magnesium, and various sodium salts in recycled water. The company invested RMB28.6225 million to develop techniques such as the multi-stage neutralisation and removal of heavy metals, removal of calcium and magnesium by liquid carbon dioxide, cyanide destruction with gas emitted from refinery, etc. A complete set of gold refining wastewater treatment process was thereby established. The water quality after treatment was significantly improved. The indicators of acid water hardness and residual cyanide in cyanide-containing water all met the standards for reuse, and the recycling of gold refining industrial wastewater was realised. Annually, 160 tonnes of liquid sodium cyanide can be recovered comprehensively and 48 tonnes of sodium salt can be reused. 740,000 cubic metres of newly drawn water was saved. All these measures achieve significant economic and social benefits.



Wastewater treatment system of Luoning Zijin

Exhaust gas management

On top of meeting emission standards for exhaust gas, the Company vigorously promoted the treatment and reduction of exhaust gas emission. In addition, it encouraged each subsidiary to take the initiative to carry out clean production and keep optimising techniques, processes and facilities, such as adopting advanced dust removal and exhaust gas purifying equipment which contributed to the reduction of energy and raw material consumption. In 2017, the Company implemented 12 techniques including desulfurisation and denitrification of exhaust gas, prevention and control of fine dust and technical transformation of boilers, etc., achieving reduction of sulfur dioxide and nitrogen oxides emission by 27.2% and 24.9% respectively.



Altynten strictly followed the local laws and regulations on discharge of three kinds of waste

The company strictly followed the Air Pollution Prevention and Control Law of Kyrgyzstan to apply for exhaust gas emission permit, strengthened the management of exhaust gas emission, with focus on repair and maintenance of environmental protection facilities to reduce exhaust gas emission. Strictly controlling the techniques and processes that cause pollution by close monitoring, the company ensured compliance with emission standards and gradual emission reduction. Through the installation of dust removers with dust bag, acid mist purification tower, alkaline liquid absorption tank and construction of wastewater treatment stations as well as other measures, the plant applied treatment on the fine dust generated by the ore-crushing production line, fumes and dust generated by refinery, and domestic wastewater. It made sure the emission of exhaust gas and wastewater as well as the waste disposed met the relevant standards.



**Outstanding Enterprise Certificate
granted by the local government**

Shanxi Zijin kept pushing forward emission reduction

The company transformed the original desulfurisation and dust-removal facilities of the boilers to bag filter + dual alkali approach for desulfurisation and dust removal. After the transformation, the dust from boiler and SO₂ emission concentration not only met the corresponding requirements stipulated in the Emission Standard of Air Pollutants for Boiler (GB13271-2014), but the emission volume of dust, SO₂ and fine dust also reduced by 0.24t/a, 1.06t/a and 0.6t/a respectively year-on-year. In addition, the dedusting facilities at the crushing section of the processing plant was reconstructed, and the domestic advanced dedusting technique, RDL pulse dust collector with pleated filter cartridge, was adopted. The dust concentration in the operation post was effectively reduced after the transformation, and the working environment was improved.



Dust removal system at crushing section after reconstruction



Luoning Zijin strived for excellence in emission reduction

On top of meeting the discharge standards of tail gas, the company invested RMB1.7 million on constructing a tail gas denitrification and reduction environmental protection treatment system. The investment included adding a lye absorption tower to the exhaust gas hydrogen peroxide absorption tower. Accordingly, the concentrations of sulfur dioxide and nitrogen oxides in the exhaust gas were further reduced by 2.18t and 3.38t respectively. Besides, at the final section, an additional high gas velocity conductive fibre-reinforced plastic electrostatic demister was installed to reduce white steam, eliminating visual pollution.



Tail gas treatment system

Air pollutant emission of the Group's mining and refining subsidiaries in 2017 (unit: tonne)

Type of pollutant	Pollutant emission factor	Unit	2017	2016
Air pollutant	Sulfur dioxide	Tonne	1,929	2,098
		Tonne/ RMB10,000 of production value	1.03×10^{-4}	1.65×10^{-4}
	Nitrogen oxides	Tonne	983	1,082
		Tonne/ RMB10,000 of production value	5.26×10^{-5}	8.51×10^{-5}

Note: Figures for 2016 only include the operating entities in the PRC; figures for 2017 include the operating entities both within and outside the PRC.

Management of general solid waste and hazardous waste

The major kinds of industrial solid waste generated from mining and processing are waste rocks and tailings. Some waste rocks were used in underground filling or utilised comprehensively, and others were discarded according to laws. In accordance with the Company's Management Programme on Ecological and Environmental Protection and Restoration of Mines as well as the Green Mine Development Plan, greening and rehabilitation were carried out step by step to mitigate the impact on the surrounding environment. To recover and reuse the resources in tailings, the Company actively explored



the comprehensive utilisation technology of tailings. Currently, a number of entities including the Zijinshan gold and copper mine, Wuping Zijin, Xinjiang Ashele, Chongli Zijin, Shanxi Zijin, Guizhou Zijin and Altynken established backfill areas to fill tailings to the goaves.

In order to strengthen the management of hazardous waste, all subsidiaries keep improving the production techniques and carry out internal reduction, reuse and harmless treatment of hazardous waste. For non-reusable hazardous waste, domestic subsidiaries followed the state's Standard for Pollution Control on Hazardous Waste Storage, and Multi-copy Receipt-based Administrative Policy on Hazardous Waste Movement to manage temporary retention. Qualified institutions were engaged in transfer and safe disposal of hazardous waste as well. On top of satisfying the local standards, overseas subsidiaries manage the hazardous waste according to the regulations of China. In 2017, the subsidiaries of the Company safely disposed of or comprehensively utilised general industrial solid waste and hazardous waste. There was no significant negative impact on the environment.

Zijin Copper turned waste into treasure

Zijin Copper followed the principle of turning waste into reusable resources and obtaining “treasure” from waste. It re-processed waste smelting slag, recovering nearly 13,000 tonnes of copper from furnace slag annually. The slag, after re-processing, was used as additive for cement building materials to realise the turning 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 smelting. The system achieved the recovery of rare and precious metals such as gold, silver, selenium, tellurium, platinum, palladium, rhodium, etc., to the greatest extent.



A panorama of Zijin Copper

Comprehensive utilisation and disposal of solid waste of the Company in 2017¹

Nature of solid waste	Type of waste	Unit	Volume disposed in 2017	Volume comprehensively utilized in 2017	Volume generated ³ in 2016 ²
General solid waste	Tailings	Million tonne	53.1990	1.1636	37.7758
		Tonne/RMB10,000 of production volume	2.85	0.062	2.97
	Waste rock	Million tonne	169.2299	15.4687	117.9777
		Tonne/RMB10,000 of production volume	9.05	0.83	9.27
	Domestic refuse	Tonne	4,980		5,110
		Tonne/RMB10,000 of production volume	2.66×10 ⁻⁴		4.02×10 ⁻⁴
Hazardous waste	HW48 non-ferrous metal smelting waste	Million tonne	0.2321	0.0268	0.2856
		Tonne/RMB10,000 of production volume	0.012	0.0014	0.022
	Used motor oil	Tonne	370	240	350
		Tonne/RMB10,000 of production volume	1.98×10 ⁻⁵	1.28×10 ⁻⁵	2.75×10 ⁻⁵

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, retained or combusted by the Company's enterprises or external parties;

2. Production volume: only production volume was disclosed because the figures for 2016 on comprehensive utilisation volume and disposal volume were not collected;

3. The scope of statistics included domestic mines, refining and processing entities.

Eco-mine development

Zijin Mining always insists on "harmonious co-development of human and nature", and the eco-concept of "environmental protection and development going together" in its green mine construction. To reinforce the ecological rehabilitation and management of bare areas of mines, and carry out land restoration and ecological rehabilitation of mines in a more scientific, reasonable, and operable way, the Company strictly abides by national laws and regulations and technical standards of greening, water and soil conservation, land restoration, and restoration and management of the environment and ecology of mines. The Technical Standards for Management Measures of Greening, Land Restoration and Water Conservation Measures was formulated to guide each subsidiary to carry out management of the ecology and environment, rehabilitation and greening based on the local conditions and specific mines' situations. This ensures a sustainable use of ecological resources of the mines. In 2017, RMB127 million was used for water conservation and ecological rehabilitation, 516.15 hectares of land were re-vegetated, and 646,000 trees were planted by the subsidiaries.



At the same time, on the basis of Outline for the Development of Ecological Civilisation and the Construction of Green Mines (2013-2020), the Company further publicly issued the Resolution in relation to Enhancing the Development of Green Mines. All new mines will strive to meet the standards of green mines by 2020. Other mines in production will gradually reach the standards of green mine through transformation and upgrade. As a result, a new scenario of the Group's green mines will be formed. As at the end of 2017, the Company has 2 green mines and 6 green mine pilot units at national level, and 1 green mine at provincial level and 1 green mine pilot unit of the autonomous region in total. With excellent practice in the field of green development, the Company was granted the title of "Leading Enterprise of Eco-development in China's Non-ferrous Metals Industry".

Zijinshan gold and copper mine created tourism- and sightseeing-oriented green mine

Being a "Green Mine Pilot Unit", "National Industrial Tourism Demonstration Site" and one of the first National Mining Parks, the Zijinshan gold and copper mine enjoyed the benefits of national green mine construction, actively explored a new model for environmental management of mine, and radiated new vitality in the wave of transition and leaping development. In recent years, the Zijinshan gold and copper mine has been committed to both the development of mining and eco-tourism. In accordance with the development belief of "appreciating flowers, tasting fruits and enjoying scenes in the whole year", the Zijinshan gold and copper mine further accelerated the ecological development by expanding the planting areas of flowers, fruits, tea trees and ecological farming. Suitable ornamental arbors were planted. All these enable the pleasant interaction between mine production, tourism and ecology.



National Mining Park of the Zijinshan gold and copper mine



The Group's management participating in tree planting event at the Zijinshan gold and copper mine

Rescue of black swans in Norton Gold Fields

On 17 December 2017, miners at Janet Ivy, one of the company's open pits, found that three black swans were trapped at the bottom of the open-pit production area where they accidentally entered during a rainstorm. The company's environmental protection department immediately organised its staff to form a rescue team for the black swans after being acknowledged. The rescue plan was set down on the spot and implemented. During the process, the open-pit production team adjusted the mining and stripping operation area to facilitate the rescue. It took a whole morning for the rescue team to bring the swans out of the bottom of the pit finally. The rescue team then conducted physical examination on the swans and found no injury. The swans were released to the wetland in Rowles Lagoon, a famous black swan and wild bird habitat in Kalgoorlie. The rescue demonstrates the thorough practice of Zijin Mining's belief in green mines and ecological harmony, which effectively contributes to the local ecological balance.



The rescue team released the black swans

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

In 2017, Zijin Mining continued to strengthen supervision over the environmental impact assessments and inspections at the conclusion stage of its new renovation or expansion projects. The subsidiaries were required to strictly comply with the “Environmental Impact Assessment Law of the People’s Republic of China” to carry out environmental impact assessment tasks of their construction projects. In the project design, construction and operation processes, the “three simultaneous” policy was implemented to ensure smooth development of engineering projects.

Implementation progress of environmental impact assessment and “three simultaneous” policy among the Group’s subsidiaries in 2017

No.	Name of entity	Name of construction project	Approval of environmental impact assessment report (chart)			Environmental protection inspection at project conclusion		
			Date of approval	Authority granting the approval	No. of approval document	Date of approval	Authority granting the approval	No. of approval document
1	Zijinshan gold and copper mine	25,000t/d copper flotation processing plant project	10 June 2015	Longyan Environmental Protection Bureau	Longhuanping [2015] No. 025	20 April 2017	Longyan Environmental Protection Bureau	Longhuanshen [2017] No. 44
2	Gold Refinery Company	Phase four technological upgrade project	3 April 2015	Shanghang County Environmental Protection Bureau	Hanghuanping [2015] No. 16	22 January 2017	Longyan Environmental Protection Bureau	Longhuanwei [2017] No. 01
3	Xinjiang Jinbao	Fuyun Mengku iron mine orebodies no.10-22 development and construction project (the project aims to expand open-pit mining capacity from 1 million tonnes/year to 4 million tonnes/year)	3 February 2015	Xinjiang Uyghur Autonomous Region Environmental Protection Bureau	Xinhuanhan [2015] No. 102	17 July 2017	Xinjiang Uyghur Autonomous Region Environmental Protection Bureau	Xinhuanhan [2017] No. 1076
4	Guizhou Zijin	450t/d development and utilisation of low grade, refractory gold resources project	4 April 2008	Guizhou Province Environmental Protection Bureau	Qianhuanhan [2008] No. 207	Completed environmental protection inspection at project conclusion and the relevant filings, filing no.: 520000-2017-055		
		Shuiyindong gold mine’s 450t/d technological upgrade for pre-oxidation project	8 October 2015	Guizhou Province Environmental Protection Bureau	Qianhuanshen [2015] No. 105	Completed environmental protection inspection at project conclusion and the relevant filings, filing no.: 520000-2017-056		



No.	Name of entity	Name of construction project	Approval of environmental impact assessment report (chart)			Environmental protection inspection at project conclusion		
			Date of approval	Authority granting the approval	No. of approval document	Date of approval	Authority granting the approval	No. of approval document
5	Zijin Copper	Application of gypsum slag and neutralised slag for manufacture of 50kt/a cement retarder project	24 January 2017	Shanghang County Environmental Protection Bureau	Shanghuanping [2017] No. 5			Under construction
6	Duobaoshan Copper	Phase two expansion project for the Duobaoshan copper (molybdenum) mine	21 July 2017	Heilongjiang Province Environmental Protection Bureau	Heihuanshen [2017] No. 33			Under construction
7	Heilongjiang Zijin Copper	Copper refining project	12 May 2017	Heilongjiang Province Environmental Protection Bureau	Heihuanshen [2017] No. 24			Under construction
8	Yuanyang Huaxi	450t/d mining and processing expansion project (revised)	28 February 2017	Yunnan Province Environmental Protection Bureau	Yunhuanshen [2017] No. 11			Under construction

Environmental education and training

From 5 June 2017 to 4 July 2017, the Company launched the seventh “Environmental Safety Month” in the theme of “green mountains and clear waters are our invaluable assets”. A series of publicity and educational activities were organised by the Company’s headquarters and subsidiaries, including quiz games, “caring the mother river” campaign, tree planting, releasing of fish, riddle games, emergency drills and so on. Some subsidiaries also invited residents from the neighbourhood near their operations to inspect their environmental work on site, in order to promote harmony between the enterprises and the communities.



Training classes on environmental protection management organised by the Company

From 21 to 22 June 2017, the Company organised a two-day training on environmental protection management at its Shanghang headquarters, with 27 subsidiaries from Xiamen and areas outside Fujian Province joining the training through live television connection. More than 400 management personnel participated in the event cumulatively.



Environmental protection and publicity activities at the Zijinshan gold and copper mine

In order to promote harmonious co-development of human and nature, practical steps were taken to conserve Ting River, the mother river. For instance, 150,000 to 200,000 fish were released into the Ting River in every July at the Zijinshan gold and copper mine since 2011. More than 1.26 million fish has been released into the Ting River cumulatively, to promote the sustainable use and development of fish resources.



To enhance protection for wild animals and encourage the public to protect wildlife, relevant publicity activities were also organised at the Zijinshan gold and copper mine.

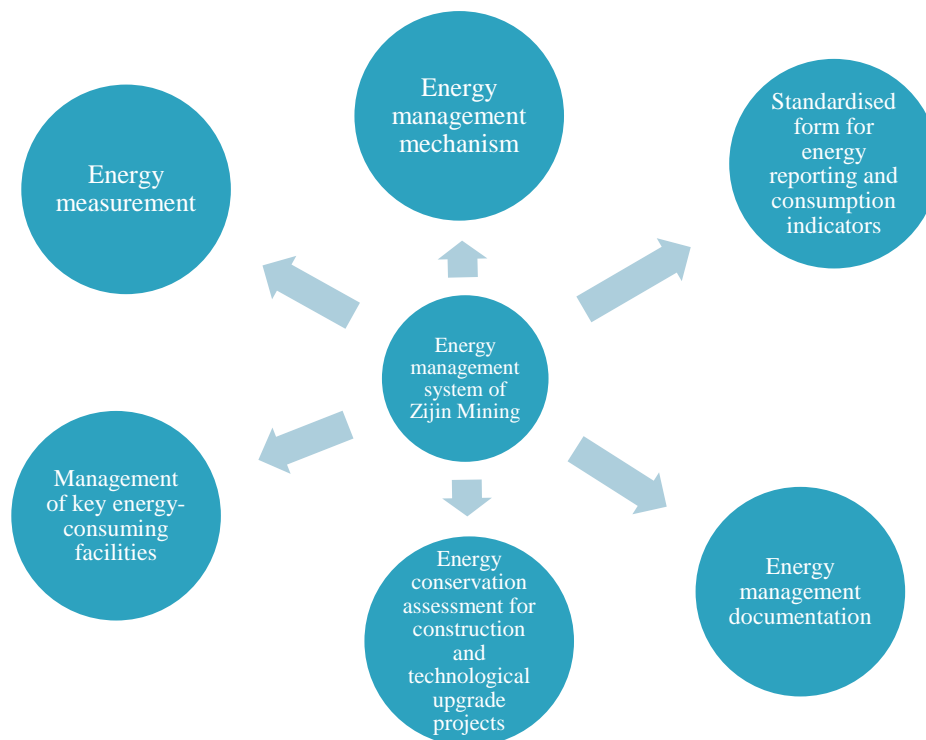




Energy management

The Company thoroughly implemented the relevant laws and regulations of the state, prioritised the development of energy management policies, and pragmatically carried out its eco-development belief through energy conservation and emission reduction. In particular, the Company's Technical Committee was responsible for formulating energy conservation plans and guidelines for supervision and inspection of energy management work; and individual administrative departments were tasked with assessing the energy conservation, emission reduction and implementation of economic accountability by the subsidiaries under their supervision. In addition, the Energy Management Policy of Zijin Mining Group Co., Ltd.* was formulated to regulate subsidiaries' management of energy consumption; based on their actual situation, each subsidiary was also required to establish their own energy management policies which conform to the GB/T23331 standard, establish specialised departments for energy management or energy conservation, designate specific roles to manage relevant affairs, implement energy conservation and emission reduction initiatives, and submit monthly reports on the energy consumption of production on time. These measures were favourable for driving improvement within the organisation structure of the Group, and eventually optimising the overall energy management of the Group.

Using the classical quality management method which comprises “eco-friendliness, low carbon emission, energy conservation, and efficient use of resources”, the Zijinshan gold and copper mine was awarded the title of Model Industrial Enterprise of Fujian Province in 2017. It was the only mining enterprise among the 10 awardees receiving the honourable title.





Duobaoshan Copper revamped furnace emission and heat supply systems

In order to achieve energy conservation, lower energy consumption and emission reduction, Duobaoshan Copper invested approximately RMB21.6 million on a new facility for desulfurisation, denitrification and removal of furnace dust, three 11 MW steam-water heat exchangers and the corresponding heat supply pipes, all of which began operation since early 2017. After revamping the furnace emission system, the energy consumption in heating, water consumption and waste discharged per unit area significantly reduced. In particular, a range of indicators on gas and dust emission clearly outperformed not only the originally designated standards, but also the national emission standards. Concentration of waste discharge also reduced by more than 80% comparing to the level before revamp.



Statistics on energy consumption for the Company's industrial added value and production value in 2017, unit: tce/RMB10,000

Items	2017	2016	2015
Energy consumption per RMB10,000 of industrial added value of the Company (aggregated energy consumption, including the energy consumed by mining, processing and refining contractors)	0.509	0.229	0.444
Energy consumption per RMB10,000 of production value of the Company (aggregated consumption from gold and copper mines, excluding contractors)	0.193	0.167	0.03
Energy consumption per RMB10,000 of production value of the Company (aggregated consumption from gold and copper mines, including contractors)	0.312	0.327	0.059
Weighted average energy consumption per RMB10,000 of production value of the Group (including 26 entities of the Group which have refining and other mining operations)	0.081	0.098	0.1027
Energy consumption per RMB10,000 of national GDP		0.586	0.662
Energy consumption per RMB10,000 of Fujian Province GDP		0.497	0.531



Items	2017	2016	2015
Energy consumption per RMB10,000 of Longyan Municipal GDP		0.634	0.680
Energy consumption per RMB10,000 of industrial added value of Fujian Province		0.614	0.722
Energy consumption per RMB10,000 of industrial added value of Longyan Municipal		0.844	0.959

Green office

Closely adhered to the theme of “Green Office, Low Carbon Emission Lifestyle”, the Company issued the Notice on Further Enhancing Environmental Order Management of Office Areas and other policies, with the purpose of promoting green offices and civilised work culture through the adoption of environmental order inspection and other measures in the office areas. Other steps such as displaying banners and slogans, and carrying out special 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 office must be switched off after office hour. Employees are required to switch off their computers, electric fans, air-conditioners and other electrical appliances if they will be away from their workstations for more than 30 minutes.
- Occasional special checks on energy conservation were carried out. Any employee who did not conform to energy conservation rules was 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 process. In 2017, more than 2 million work processes were carried out on e-platforms, reducing the use of A4 paper by 3 million sheets, which was equivalent to emission reduction of 6,000 tonnes of carbon dioxide.
- Conventional conferencing was replaced by video conferencing with televisions or tablets. In 2017, the Company convened 2,120 remote conferences, which was equivalent to emission reduction of 7,900 tonnes of carbon dioxide.

Switching off lights during Earth Hour to promote energy conservation

On 31 March 2017, the Company's Social Responsibility Department, together with the Youth League Committee, organised a "Green Future Count on Us, Let's Walk Along with Civilisation" campaign to echo the Earth Hour event. Scientific educational activities and promotional programme were carried out at the office areas and residential areas of the headquarters, with an aim of raising awareness of the staff and general public on global climate change, and encouraging a low-carbon, eco-friendly and healthy lifestyle.



Energy consumption and greenhouse gas emission data of the Company's mining and refining subsidiaries (including overseas operations) in 2017

Indicator	Unit	2017	2016	2015
Data on energy consumption:				
Electricity purchased externally	Megawatt hour	2,446,628.36	2,183,565.78	1,964,679.62
Steam purchased externally	Tonne	33,171.99	18,190.33	30,079.24
Natural gas	Cubic metre	4,727,073.97	7,311,221.93	2,364,213.62
Diesel	Litre	94,669,621.82	81,167,083.24	75,348,462.53
Gasoline	Litre	1,216,587.05	1,269,492.65	1,119,867.81
Lumps of coal	Tonne	9,597.00	2,183.00	478.00
Heavy oil	Tonne	4,423.87	5,588.41	8,311.90
Kerosene	Litre	756,897.60	936,263.08	796,541.98
Raw coal	Tonne	14,191.64	9,047.25	11,370.08



Indicator	Unit	2017	2016	2015
Pulverised coal	Tonne	457.00	1,200.00	1,100.00
Lubricant	Tonne	6.20	-	-
Anthracite	Tonne	21,876.00	23,825.20	21,828.94
Liquefied petroleum gas	Tonne	1,387.19	2,048.80	2,220.46
Other types of coal	Tonne	9,211.95	26,105.49	23,783.78
Coke	Tonne	12,674.00	15,525.00	3,663.00
Scope 1 - direct greenhouse gas emission:				
Emission of carbon dioxide from fossil fuels	Tonne	449,766.18	418,431.44	350,158.72
Scope 2 – indirect greenhouse gas emission:				
Emission of carbon dioxide from electricity and steam purchased	Tonne	1,674,687.51	1,491,012.39	1,348,322.644
Total emission of greenhouse gases by the enterprise	Tonne	2,114,502.09	1,903,986.73	1,689,457.59
Greenhouse gas emission per RMB10,000 of production value	Tonne/ RMB10,000	0.1130	0.1456	0.1358

Strict compliance with production safety – the solid foundation of the Company

Management of production safety

The Company aims to achieve “zero work fatality and zero occupational disease”, and remains highly committed to enhancing production safety. Production safety is managed following the production safety principle of “safety first, emphasis on precautions and comprehensive management”, a “safe development” concept, and a firm adherence to the principle of “the safety of life is an inviolable red line, the safety law is a bottom line which calls for strict compliance”. In 2017, to further raise the level of production safety of subsidiaries, and benchmark against the practice of top-tier mining companies, the Company convened an unprecedented top-level production safety conference at Xinjiang Ashele Copper, which is the leading enterprise in production safety among the Company’s subsidiaries. The Opinion on Moving Forward Reforms and Development of Production Safety, which was issued by the Central Committee of the Party and the State Council, was thoroughly studied at the conference. Moreover, Group-wide reform on production safety system was driven to



move the Company towards the targets of “zero work fatality, zero environmental incident and zero occupational disease”.

Production safety conference held at Xinjiang Ashele



At the same time, the Company also extensively implemented the production safety accountability system characterised with “the Party and management sharing responsibility, dual responsibilities for one role”. Each level of the Company was required to sign safety responsibility statement annually. Moreover, company policies were further optimised, for instance, blacklists on production safety were incorporated into the contents of the Specific Implementation Rules on Project Construction and Management, Specific Implementation Rules on Supply of Materials and so on; contents of the accountability-based appraisal scheme for the annual targets of various business departments and subsidiaries was particularised; and more emphasis was placed on the assessment of production safety and occupational health. Other measures included identifying the key production safety factors in respect of personnel, materials, workplace, general management and emergency management, moving forward production safety inspection, establishing a dual-prevention mechanism including stratified safety risk control system and identification, prevention and rectification of hidden dangers, as well as launching a special campaign for enhancing production safety by leveraging on scientific and technological means through the approach of “replacement and reduction of headcounts by machinery and automation”, fully implementing the policy of assigning chief responsible persons for development projects, carrying out score-based system for safety among the general staff, ensuring employees are qualified to their work by providing full spectrum of training and educational campaign, and benchmarking against the exemplary practices, etc. “Safety first” as an important concept was educated to the employees through the adoption of the aforesaid effective measures.



Xinjiang Ashele Copper, the leading enterprise on production safety

In the last two years, Ashele Copper placed strong emphasis on improving production safety. By adopting a people-oriented management approach, modifying organisational structure on safety management, enhancing management on construction companies, fostering a caring culture, strengthening the management of work teams, implementing score-based appraisal method to ensure accountability for safety, and adopting the frontline work policy, “seven-step” method for pre-shift meeting and Bai Guozhou’s six “threes” management method, Ashele Copper set a record of zero death and injury among the Group’s domestic mining enterprises.

More than 280 management personnel from other business operations of the Group visited Ashele Copper in 2017. An enthusiasm to learn from Ashele Copper was also set off among the other subsidiaries of the Company.



Ashele’s kick-off ceremony for production safety campaign



Norton maintained a strong record of zero casualty for years

Upholding “zero casualty” as its corporate value, Norton strictly complied with the policies of providing trainings to its employees before and upon their job duties are commenced. Staff at different levels of the company were educated about safety, so as to ensure that they are equipped with sufficient safety awareness and operational skills for their respective roles. In 2017, except one loss-of-worktime incident (ankle sprain by one of the employees), no casualty or death of employees were reported. From March 2016 to September 2017, Norton had no loss-of-worktime incident at all for a succession of 19 months, outperforming the industry average of the gold industry in Australia.

Norton’s emergency relief team for mines was crowned the champion in relief service

Norton’s emergency relief team for mines, which has successfully solved multiple safety crisis for the company and its neighbouring mines, is a core team of the company’s emergency relief service. With excellent performance, the team has been a repeated winner in the biannual



Mining Emergency Response Competition in Goldfields Region, Western Australia. In 2015 and 2016 respectively, Norton was the champion in the emergency relief contest (land surface).



Musonoie and Kamoia copper mine achieved outstanding performance of production safety in Africa

Musonoie remains highly committed to the principles of respecting lives and nature, compliance with laws and regulations, and it continues to perfect the accountability policies of “dual responsibilities for one role, two-way enforcement and management, and holding negligent personnel accountable” and “safety being the key to good production and operational management”. The score-based system for production safety was extensively implemented, the development and management of the safety of workforces were also reinforced. In 2017, 23 comprehensive safety inspections and 65 special inspections were carried out, from which a total of 1,061 hidden dangers were identified and rectified. Moreover, a level-three safety training and a foundation programme for safety for ensuring employees are qualified to their work were participated by 548 and 990 employees respectively. Except 5 cases of minor injuries, no other production safety related incident with severity above minor injuries was reported. Moreover, neither environmental pollution incidents nor outbreak of occupational diseases were recorded.



At Kamoia Copper, safety was regarded as the prerequisite for commencement of work. The company continued to maintain a good record of zero casualty or death for a 12-month period, with cumulatively a total of 8,388,682 hours of safe operation.



Porgera gold mine continued to set record for safe production

A zero tolerance policy for safety incidence is adopted at the Porgera gold mine. Safety is managed through the application of RIMS and SIS systems.

In order to maintain the level of production safety, innovative management was introduced at the Porgera gold mine in 2017. For instance, a contest for promoting the care for safety was launched at the mine area. In the morning meeting every day, mining teams would nominate deserving fellow



miners to contest for “CTC Caring Employee for Safety”. During the management’s morning meetings, the responsible team heads would also submit the list of nominees for publication on a daily newspaper for miners. On every Sunday, management would select the best candidate to be the “CTC Caring Employee for Safety”, who would be entitled to a 200-Papua New Guinean Kina (approximately equivalent to RMB400) cash award. A monthly champion would also be selected and presented a 1,000-Papua New Guinean Kina cash award. The daily newspaper for miners has become one of the most important sources for monitoring, communication and coordination in ensuring good production and management of the Porgera project. Incentivised by the publicity opportunity on newspaper, employees were highly motivated to ensure safe practices are in place.

Safeguarding measures for production safety

Initiated reforms from the chief responsible persons of various operations. In 2017, by using questionnaires, face-to-face interviews, and KPI-based assessment for safety performance in replacement of the conventional on-site safety inspection, the Company effectively identified the level of awareness for safety, plans and work performance of the chief responsible persons of the Company’s various subsidiaries. Targeting solutions were proposed in response to the major problems identified from the chief responsible persons, such as their engagement for safety and understanding on the importance of safety.

Implemented score-based system for production safety among employees. In 2017, the Company extensively implemented the Administrative Policy for Employee Production Safety Score-based System. According to the policy, each subsidiary was required to clearly define the functions and obligations of the business units and personnel at different levels, and accordingly formulate the score scheme for assessment by business level. This measure was



to realise broad participation by employees in production safety management, and foster a positive culture of shared responsibility and management of safety by all members.

Regulated production safety by standards. The Company's subsidiaries conformed to national and local specifications and requirements to move forward the development of production safety standards and establish enterprises governed by production safety standards for its open-pit mines, underground mines, tailings pools, processing and refining plants, etc. By establishing safety standards and conducting assessments and inspections, every enterprise of the Company was motivated to consciously keep up with their safety standard. They also strictly conformed to the requirements of safety standards to conduct annual self-assessment and review, and accordingly corrected their weak areas and made improvement in a timely and continuing manner. Up to 2017, the Company initiated 75 projects for certification on safety standards, in which, 71 projects obtained certification of level-three or above, 5 projects obtained level-one certification, 43 projects obtained level-two certification, and 27 projects obtained level-three certification.

Established a dual-prevention system comprising stratified management and control of production safety risk, and identification, prevention and rectification of hidden dangers. In 2017, in accordance with the Opinion on the Working Guidelines for Establishment of Dual-prevention System for Control and Prevention of Material and Very Severe Incidents issued by the Office of the Work Safety Committee of the State Council, the Company formulated the Policy for Stratified Management and Control of Production Safety Risks and Implementation Guideline for Stratified Management and Control of Production Safety Risks of Enterprises. Moreover, the Company emphatically implemented the six key measures for controlling and preventing major risks as stipulated in the Notice on Issuance of Work Proposal for Control and Prevention of Material and Very Severe Incidents at Non-coal Mines (Supervisory Division One, State Administration of Work Safety [2016] No. 60). A holistic, scientific management system for production safety guided by the principle of "preventing hidden dangers by management and control of safety risks, and eliminating accidents by identification, prevention and rectification of hidden dangers in advance" was developed, extensively promoted and applied to the mining and refining entities of the Group.



Benchmarked against Zijinshan gold and copper mine to extensively develop the stratified management and control system

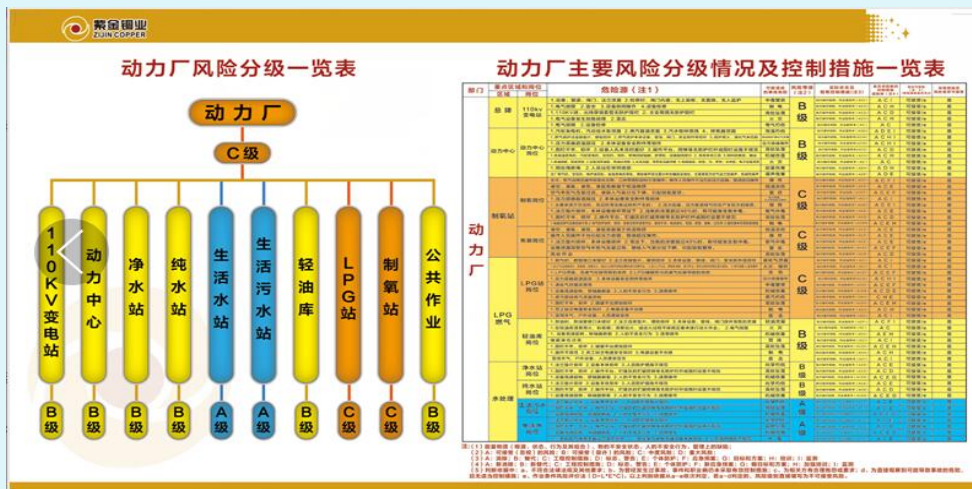
In 2017, the Company shared the experience of the Zijinshan gold and copper mine in developing its dual-prevention system with other mining and refining entities of the Group, encouraged implementation, and fully developed the scientific management system for production safety guided by the principle of “preventing hidden dangers by management and control of safety risks, and eliminating accidents by identification, prevention and rectification of hidden dangers in advance”. Zijin Copper, together with other enterprises, were among the first to have completed the formulation of their stratified risk management and control systems.

紫金山金铜矿风险分级示意图



- 说明：1. 重大危险源管控区：炸药仓库，已完成分级评估并备案。
2. 风险分级：A级—蓝色，B级—黄色，C级—橙色，D级—红色。
3. ———— 撤离路线，——— 矿区主干道，▲ 主要场所及设施。

A risk level graph on the different mining zones of the Zijinshan gold and copper mine



A risk level graph of Zijin Copper’s power plant and the corresponding controlling measures



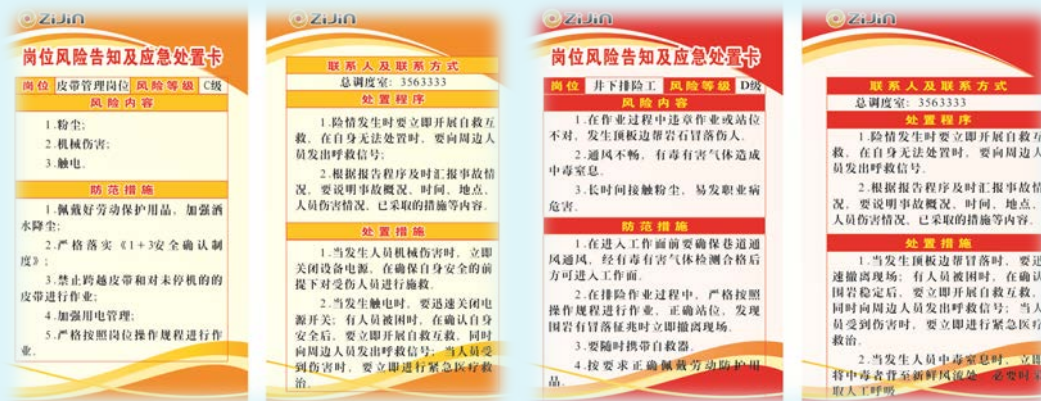
Emergency management

The Company formulated a series of specific emergency plans, including the Comprehensive Emergency Plan for Production Safety Incidents, Emergency Plan for Mine Incidents, Emergency Plan for Tailing Dumps, Emergency Plan for Special Equipment Incidents, Emergency Plan for Hazardous Chemical Incidents, Special Emergency Plan for Tailing Pools, and Emergency Plan for Prevention of Flooding, etc. These plans clearly specify the organisations in charge of emergency response and process to be followed in emergency situations, according to which emergency drills were carried out. Moreover, to enhance the responsiveness to and control of very severe incidents, and minimise losses from incidents, the Company also formulated the Policy for Suspension of Production and Evacuation of Personnel in Response to Very Severe Incidents, which specifically defines the obligations of the relevant departments, as well as circumstances and detailed requirements for suspension of production and evacuation of personnel. It also provides clear requirements on resuming production, assessment of emergency relief and drilling.

In addition, for the purpose of enhancing protection for occupational health at workplaces which are exposed to toxic and harmful substances, all of the Company's subsidiaries are required to install alarm systems, equip their production sites with materials for emergency relief, rinsing facilities and emergency ventilation facilities, and assign specified destination for discharge of hazardous substances for workplaces prone to occupational incidents due to the presence of toxic and harmful substances. As at the end of 2017, all of the Company's subsidiaries had formulated comprehensive plans for emergency relief in occupational incidents or special emergency plans. Moreover, emergency drills were conducted for production safety, occupational and hygiene incidents at least once or more every year. Continued efforts were also made in improving emergency response plans and enhancing emergency relief, plans issued including emergency and relief plan for occupational incidents, emergency plan for sodium cyanide leakage and poisoning, emergency plan for noxious fume poisoning, and emergency plan for ammonia gas leakage, which were beneficial for enhancing employees' ability of responding to emergency.

Palm-sized cards for emergency response were provided to employees of the Zijinshan gold and copper mine based on the risks associated with their roles

At the Zijinshan gold and copper mine, palm-sized cards for emergency response which distinguished the level of risks associated with various positions by different colours were provided to employees. These cards detailed the risks, their preventive measures, handling process and steps. Employees were required to be familiarised with the contents on the card and to bring them along at work. Such measures were helpful for enhancing employees' knowledge of emergency response and their actual implementation ability.



Safety management for contractors

In 2017, the Company actively moved forward the incorporation of external contractors into the Group's safety management system. Instead of purely assuming the role of supervision, the subsidiaries were required to include construction contractors as part of the Company's safety management, and establish incentive and appraisal schemes for such external construction contractors. For instance, contractors were required to implement management measures such as the "seven-step" method for pre-shift meeting, dual-responsibility for one role, Bai Guozhou's production team management method, and grid management for employees' production safety, etc., in order to further enhance supervision and appraisal on the safety of contractors, the standardisation of contractors' job positions and production safety standards. These measures aimed at moving construction teams towards more regulated management, and solving the problem of a deviation in actual and intended management targets arising in safety management.



Zijin Copper improved the professional competence of contractors by applying undifferentiated strict management standards

In 2017, in response to the longstanding problems of a large number of contractor teams, frequent demand for emergent repair and maintenance, and high turnover among workers, Zijin Copper formulated the Implementation Plan for Enhancing the Professional Competence and Safety Skills of the Employees of Engineering Contractors, which adopted a reward-driven, caring and particularisation of day-to-day appraisal approach, to realise a shift from a primitive, oppressive and over-reliant style of management, towards an emphasis on the development of safety habit and higher consciousness of safety. The measures effectively raised the professional competence of external contractors.



Seminar for external contractors on building a caring culture

Management of explosives for civil use and hazardous chemicals

In compliance with the requirements of the relevant national laws and regulations, the Company formulated the Management Policy for Explosives for Civil Use, developed a record of storage and use, established stratified management of the warehouses for storing explosives of 18 domestic mines by risk level, and ensured regular monitoring. Safety management policies for explosives for civil use and rules for work process were issued by the relevant subsidiaries. The operators were required to obtain permits before work. Moreover, the requirements of the Public Security Bureau for approval for making purchases and record of use and storage were strictly followed to ensure regulated operation, safe transportation, storage and use, and prevention of loss of explosives.

The Safety Management Policy for Hazardous Chemicals was implemented in 2017, which stipulates strict requirements and controlling measures for the purchase, transportation, storage, use and sales of hazardous chemicals applied or produced in chemical testing, ore processing, refining and other production processes. Other measures included conducting special safety inspection on hazardous chemicals, developing hazardous chemical catalogue for individual enterprises, and using digital means for real-time monitoring of hazardous chemicals.



Zijin Copper actively implemented safety management policy for hazardous chemicals

By using graphic illustration for emergency response to hazardous chemical incidents, Zijin Copper presented its emergency plan in a clear, graphical and direct way, highlighting distribution of the sources of danger, and clearly setting out handling methods for different kinds of hazardous chemical incidents in table format. Staff in danger zones, relief resources in their proximity and evacuation routes were clearly shown.



Altynken complied with local management policies for explosives and hazardous chemicals for civil uses

Altynken strictly implemented the management policy for hazardous chemicals in Kyrgyzstan. The hazardous chemicals used by the company mainly include sodium cyanide and explosive items. According to the requirements of national authority, the transportation and storage of sodium cyanide should be mandatorily entrusted to the Ministry of Internal Affairs of the Kyrgyz Republic. Moreover, based on the unified management rules on explosives and the management policy of hazardous chemicals issued by the Kyrgyz government, tailings products shall be handled by employees who were recruited locally, and under the oversight and be militarily guarded in transportation by the Ministry of Internal Affairs. Access to the products shall be made available anytime for official inspection. As at the end of 2017, no loss or leakage of hazardous chemicals of the company was found.



Local employees of Altynken participating in training



Safety education and training

In accordance with the state's requirement on safety training, the Company provided an average of 72 hours and 20 hours of safety training for each new employee and current employee respectively. In order to implement the annual plan for safety education and training, the Company organised large-scale safety education and training programmes once every quarter, for a wide range of participants, namely employees from the subsidiaries, and key personnel responsible for safety and production management from the construction contractors. Each training session received more than 1,000 participants. Rewards, commendations and condemnations were provided or issued to ensure the quality of the trainings.

An innovative, exam-based foundation programme for safety was carried out

In 2017, by using a wide range of digital tools, the Company set up an online exam platform, and administered online safety management examinations through the use of mobile applications. The digital trainings provided by the subsidiaries comprehensively enhanced the knowledge and skills of different level of management personnel and employees on production safety.



Safety examination at the Zijinshan gold and copper mine



Management of occupational health

The Company attached great importance to occupational health and safety management. It not only strictly conformed to the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, Administrative Policy for Occupational Diseases and other relevant laws and regulations, but also upheld the corporate value of "balancing development of the corporation, the employees and the society", and pragmatically implemented the concept of "occupational health being the key for production management". It actively carried out management and training for occupational health, strengthened the source control for occupational diseases, and prevented and controlled the outbreak of occupational diseases. In 2017, the Company strictly carried out body check for employees engaged in three specific types of work. 100% of the employees who were exposed to harmful factors at work were provided body check; 100% of workers' occupational health history was documented; and occupational risk factors such as fine dust, poisons and noise met the required standards at the rate higher than 98%.





Wulatehouqi Zijin applied ENTSIM three-dimensional ventilation simulation system for prevention of harmful fine dust

In 2017, in response to its major occupational risk factor – fine dust control, Wulatehouqi Zijin purchased a ventilation management software for mines for comprehensive monitoring and control on the ventilation systems of mining shafts. Continued improvements were made to the ventilation system of mining shafts, atomising nozzles were installed on vibratory ore-drawing machines and jaw crushers, and enclosed operation rooms were introduced for protection of occupational health. In addition, a fine dust control team, equipped with detecting equipment for fine dust and noise, was set up. Each employee was also provided with body check before and during their employment and upon their resignation. Wide-coverage employee health records were also in place. In the year there was no increase in the number of employees suffering from occupational diseases.



Video seminars on the use of VENTSIM three-dimensional ventilation simulation system and occupational health

Zijin Copper organised trainings on occupational health

At Zijin Copper, a seminar introducing the prevention, control and common first-aid skills for occupational diseases arising from exposure to fine dust, noise, acid mist and other harmful factors at work was organised. Key issues discussed at the seminar included the prevention, control, the relevant measures and common first-aid skills for major harmful factors at work, which was helpful for raising employee's awareness on the hygiene at workplace, and improving their reaction to contingencies.



Occupational health training organised by Zijin Copper

Altynken partnered with local government to manage occupational health and safety

In strict compliance with the rules and procedures for prevention and control of occupational diseases in Kyrgyzstan, Altynken organised occupational body check for all of its 944 employees in 2017 and established occupational health records. Moreover, the company cooperated with the health and disease control authorities in Kyrgyzstan to carry out inspection and assessment for occupational harms for various posts across all of the workplaces of the company, and provide training and allowance for workers engaged in dangerous work. Daily monitoring on fine dust, air quality, harmful gas and ventilation was carried out at the underground mines. A database was also set up for official supervision and control.



An occupational health training organised by Altynken

Performance of safety management of the Company in 2017



Item (excluding contractors)	Unit	2017
Work-related fatalities	Person	0
Work-related injuries	Person	40
Lost worktime	Hour	3,860
Injury frequency rate	Person/one million working hours	0.65
Note: Injury frequency rate = number of injuries/total working hours * 1,000,000		



People-orientation approach – caring the development of employees

Equality and protection for employment

Zijin Mining strictly complies with the laws and policies of the location where its operations are based, as well as the regulations of the local government. National laws and regulations, such as the Labour Law and Labour Contract Law of the PRC were strictly followed to protect the basic rights and interests of employees according to law. A Basic Policy for Human Resource 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. All of the Group's enterprises entered into labour contracts with their employees in compliance with statutory requirements, and ensured no employee was discriminated on ethnicity, gender or other factors. In 2017, 100% of the employees entered into labour contracts with the Group; 100% of the employees were covered by social insurance, their participation in trade union also reached 100%. The number of employees averaged 26,407 per month (including foreign employees of overseas subsidiaries).

In October 2017, the Company kicked off the university recruitment programme for “Elite Students” who will graduate in 2018. Special recruitment sessions were also held in overseas areas for the first time, from which a total of 135 outstanding fresh graduate students were recruited from the University of British Columbia, University of Queensland, University of Denver, University of Western Australia, University of Adelaide, Peking University, Tsinghua University and so on.

Overseas recruitment sessions attracted overwhelming popularity

The Company's first overseas recruitment sessions, which were organised in the USA, Canada, Australia and other mainstream countries with highly developed mining industry, attracted large crowds of fresh graduates from various countries and regions. The global recruitment talks were overwhelmingly popular, attended by unexpected size of audience.



Lan Fusheng, the president, delivering keynote speeches at a recruitment talk



Implemented the Policy for Workers' Representative Meetings, and further enhanced democratic oversight and management

The Company implemented the Policy for Workers' Representative Meetings to ensure protection for the basic rights of workers to participate in decision-making, management and supervision processes in a democratic manner. The trade union of the Group will convene workers' representative meetings and workers forums at least twice a year to consider important resolutions which are directly relevant to the well-being of the general staff, protect the right to access information, participate and vote of employees. The incentives and confidence of employees to participate in corporate management, reform and development are enhanced.



Trainings for employees

Guided by a global development 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 (the head office – business segments – subsidiaries) training mechanism. These measures aim at motivating employees to pursue higher education and further development. In 2017, the Company's headquarters launched a series of thematic human resources lectures, established featured columns such as "Food for Thought from the Management", "A Question for the Experts", "Global Perspectives" and so on. Ten learning programmes were organised in 2017, which were participated by more than 3,800 people online from over 130 subsidiaries.



Human resources lectures

Employees' career development

The Company adopts a people-oriented approach as its employee development strategy. It has formulated the Administrative Policy for Candidates of Senior Management, Administrative Policy for Outstanding Young Talents, Long-term Development Programme for University Recruits, Administrative Policy for the Salary of Fresh Graduate Students and other relevant policies, with the objective of establishing career development paths for talents in three major streams, namely administrative management, business management and technical profession. Employees are free to choose the best course for their career development from among the aforesaid three streams, so that they could exert their full potentials and achieve success in their career development.



Structure of positions and ranks in respect of the three major streams of career development in the Company

Technical profession stream							
Rank	Administrative management stream	Business management stream	Senior grade	Deputy and senior grade / senior specialist	Middle grade / specialist	Assistant grade / assistant specialist	General grade / operator
1	Assistant to the President, director, etc.	Level 1 specialist	Level 1	——	——	——	——
2	Departmental general manager	Level 2 specialist	Level 2	——	——	——	——
3	Departmental deputy general manager	Level 3 specialist	Level 3	Level 3	——	——	——
4	Departmental assistant manager, division chief	Chief of division	——	Level 4	——	——	——
5	Deputy division chief	Deputy chief of division	——	Level 5	Level 5	——	——
6	——	Chief of section	——	——	Level 6	——	——
7	——	Deputy chief of section	——	——	Level 7	Level 7	——
8	——	Senior staff member	——	——	——	Level 8	Level 8
9	——	Junior staff member	——	——	——	Level 9	Level 9



Internal recruitment contest for outstanding young talents

In 2017, the Company for the first time organised an internal contest for young talents comprising bottom-up nomination and voting by senior management personnel. 41 young talents were chosen, for whom the first phase of talent training classes were provided on introduction to the Group's three major business segments, team building and communication skills, strategic planning for organisation and corporate culture, planning, target and time management, etc. Certificates on completion of the training were granted to the participants. The contest proved to be an effective initiative for harnessing the talents of young employees, providing opportunities for hearing their feedbacks, and encouraging a positive learning atmosphere.





Development of “Elite Students”

In 2017, in light of the Group’s strategy to expedite global development, continued efforts were placed on recruiting high-caliber fresh graduate students to meet the Group’s need for talents in the course of pursuing internationalisation. Special recruitment sessions were held in well-known domestic colleges and overseas regions with well-developed mining industry, such as the United States, Canada and Australia, etc. A total of 135 outstanding fresh graduate students, including 17 who specialise in global affairs related studies, were recruited from the University of British Columbia, University of Queensland, University of Denver, University of Western Australia, University of Adelaide, Peking University, Tsinghua University and so on. Moreover, the Company also launched an “Elite 200” development programme to enhance the global exposure of these “Elite Students”. The “Elite Students” programme, having developed a branded reputation, is a successful example of the unique Zijin-style recruitment.



Salary and benefits

The Company is highly committed to perfecting the employee benefit and internal protection policies, raising employees’ happiness, and meeting their aspiration for a better life. In addition to social insurance and housing provident fund which are provided in compliance with the law, employees also enjoy supplementary medical insurance, paid leaves, festival allowances and other benefits provided by the Company. In 2017, having regard to the Company’s needs for a new round of development, a four-dimensional “4P” salary and benefit model comprising individual quality, job position, work location and performance assessment was developed with reference to the models of Mercer, the world’s leading human resources consulting firm. The model aims to match the core human resources incentive scheme of the Company with its globally dispersed businesses, needs for assigning personnel to overseas operations, and frequent rotation and shifting of staff, so as to realise a balance between the employees’ income growth and the enterprise’s efficiency enhancement. Benefitted from good market environment and outstanding operating results of the Company in 2017, frontline workers enjoyed a substantial pay rise – an average 12.7% increase in salary for non-senior management personnel across all the business entities of the Company.



The growth is much higher than the 4% increase in the salary of subsidiary enterprises' senior management.

Wage of employees in the Company's overseas operations a few times higher than local minimum wage standards

In Tajikistan, employees at the Company's subsidiary, ZGC received an average monthly salary of 3,217 Tajikistani somoni ("TJS"), which is 8 times of the local minimum wage of TJS400/month for average workers. In addition, each employee is given a bag of flour every month as part of their benefit. The package offered by ZGC is highly attractive in local recruitment market for the generous benefits provided.

In Tuva, Russia, the average local salary and minimum wage are 29,828 Russian ruble ("RUB")/month and RUB7,800/month respectively. Employees of Longxing received an average of RUB42,703.8/month, which is 5 times of the local minimum wage. There is a sense of pride among Longxing's employees for being able to join the company.



Caring for employees

Having established the guiding thought of "building happy families is the way for building a successful enterprise", the Company incorporates its trade union's affairs into the Group's operation, cares for the well-being of employees by adopting the trade union mechanism to protect their rights, and concerns about the aspiration of employees and contractors for better spiritual and cultural life. At the same time, the Company encourages the trade unions of its subsidiaries to have greater care for their employees, and launches "Workers' Home" series of activities, with an aim of developing an effective system for formalising the operation of trade unions at different levels. The goal is to move the enterprise towards healthy, harmonious and stable development, and enable trade union to serve a connecting role between the Party and the general public, as well as the enterprise and its employees.



Employees caring activities

A variety of cultural and sports activities were organised jointly by branches of the Party groups, Communist Youth League, federations of youth, workers and women at the Company's various business entities on a regular basis. These activities aimed to help employees cope with their difficulties, and foster a stronger sense of belonging to the Company and enthusiasm for work among the employees.





Caring the development of young employees

In 2017, the Company conducted extensive data collection and built a database on employees aged below 30 with bachelor degree or above. Relevant subsidiaries were required to hold regular discussions with the young university graduates for understanding their work and life, with an attempt to offer immediate solutions to their reasonable requests, and provide fertile soil for them to thrive.



An interconnected three-level system comprising the Group, business administrative departments and subsidiary enterprises was established in that regard.

Zijin Zinc Industry organised a Chinese New Year Gala Night for Ethnic Unity

At Zijin Zinc Industry's 2018 Chinese New Year Gala Night for Ethnic Unity, a 35-member choir formed in 2017 from Zijin Zinc Industry's employees gave a robust performance on stage with songs dedicated exclusively to Zijin members.

Zijin Zinc Industry not only concerns the income and growth of employees, but also their spiritual affluence. With employees of various ethnicity, the company strives to meet their different needs for cultural and sports activities by reorganising and establishing a total of 8 cultural and sports organisations, and support their operations with the provision of funding.



Employee distribution and structure of the Company in 2017

Item	Unit	2017	2016
Total number of employees	Person	26,407	24,784
By type of employment:			
Employed by the Group	Person	2,632	2,593
Contract labour employed by the Group	Person	213	340
Employed by the Group's subsidiaries	Person	23,339	21,851
By region:			
In the PRC	Person	17,768	17,048
Outside the PRC	Person	8,639	7,736
By gender:			
Male (in the PRC)	Person	14,644	14,061
Female (in the PRC)	Person	3,428	3,334
By age:			
Below 30	Person	4,734	4,888
30-39	Person	8,262	7,289
40-49	Person	6,453	6,416
50-59	Person	3,219	2,777
60 or above	Person	249	214
Turnover rate	%	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 because access to personal data is restricted by the privacy law of the relevant jurisdictions, or employee records are incomplete.

Figures on trainings received by head office employees in 2017

Item	Unit	2017	2016
Total hours of trainings received	Hour	29,973	19,843.2
Percentage of employees who have received trainings by type of employment:			
Middle to senior level	%	20.30%	24.0%
Bottom level	%	79.70%	76%
Gender structure:			
Male	%	70.10%	72.20%
Female	%	29.90%	27.80%
Average hours of trainings received based on gender:			
Male	Hour	104.8	101.8
Female	Hour	107	68.3



Charity practice - contribution to local communities

Community development

Being a mining company, we regard the community as our most important stakeholder. We are especially committed to achieving a balanced development between our mining operations and the communities. The Company always upholds the belief of “integrating into the community, contributing positively and seeking co-development”, and it strives to drive progress in local economy and society along with the development of mines. To create job opportunities for local residents, materials are sourced locally, and employees are hired from the domestic market. The Company pays attention to environmental protection work and strives to minimise impacts from its mining operations on the environment. In order to build better, eco-friendly neighbourhoods and homes for the people, environmental improvement initiatives were implemented. In 2017, in recognition of the Company’s outstanding performance in community work, the China Enterprises Evaluation Association selected the Company as one of the national top 10 Model Enterprises for Building Harmonious Community, with the Company being the only mining company receiving the award.

In 2017, the Company set up a community management database to facilitate the collection of information on the neighbourhood near the Company’s mining and refining operations, the interrelationship between and the positive development factors of the enterprise and the community, community development progress, communication channels and so on. In addition, a system for identifying and monitoring the impacts of the Company’s subsidiaries on the local communities was established, enabling the subsidiaries to better implement their community development programmes and fulfill their social responsibilities.



Rio Blanco Copper launched a livestock project in Yanta community

Rio Blanco Copper followed the principles of “respect, communication, trust, environmental protection, and growing along with the community” to actively implement its community work, and strengthened direct dialogues with



community leaders, the management committee and local residents. A series of programmes were launched successfully, including a nutrition project for women and children, introduction to the operation of heavy equipment for young people, and a livestock health programme. Positive progress was made in gaining community support, construction of roads and use of land in the year.

Zijinshan gold and copper mine actively contributed to local economic and social development

Committed to driving growth for local enterprises, the Zijinshan gold and copper mine introduces advanced production technology and shares management experience with these enterprises, and it also encourages them to open up for more external development. In 2017, about 20 local engineering contractors were engaged to take part in the construction work for the production of the gold and copper



The tea garden of the Zijinshan gold and copper mine

mine. By contracting out construction projects, a labour surplus of over 2,000 people and constraints on income increment were effectively addressed, with local economic and social conditions indicating active progress. To build harmonious ties between the enterprise and local villages, as well as improving the living conditions of villagers, the Zijinshan gold and copper mine distributed over RMB10 million to its neighbouring Shizhen Village, Jingmei Village and Tongkang Village, in the form of land compensation fee, fixed-income investment returns and so on, which substantially improved the villagers' living standards. Moreover, the Zijinshan gold and copper mine also actively collaborated with the local government to carry out resettlement work for Jingmei Village. Most of the preparatory work, such as interior measurement and registration for phase two renovation, were completed. Signing of agreements and vacating of houses were proceeded with good progress.



Assistance provided by Porgera gold mine to diversify local economy for residents

The Porgera gold mine has a well-developed system in place for implementation of social responsibilities. Plans for community development and local procurement were also formulated. In three major work areas, namely livelihood and welfare, economic projects and development opportunities for women, assistance was provided through ongoing collaboration with local government. The company also established specific standards and policies for local procurement. In 2017, the Porgera Joint Venture spent a total of US\$164 million on local procurement.



Picture 1: With the company's assistance, the women commerce association in Porgera successfully secured an important vegetable supply contract and lease agreement for heavy equipment from a state-owned catering service provider in Papua New Guinea.

Picture 2: The company introduced agricultural practices and provided relevant trainings for local villagers.

Musonoie assisted in the building of basic infrastructure for local community

Musonoie has established a series of policies to help local villagers expand their agricultural and stock farming industries. It also raises the proportion of local procurement for farm products, and provides technical consultation service and advice to villagers on agricultural and stock farming development. In 2017, the company made donations to local municipal service for water supply and well dewatering, and provided clean and safe drinking water for the residents in the urban area free-of-charge, in order to ensure they could be freed from disruption in the supply of daily necessities. Moreover, the company actively assisted the provincial government and the national electricity company in repairing the 120KV power transmission system, helping to resume power supply to three-fourths of the population in the urban area.



Workers in the process of repairing the power transmission system



Community support scheme launched by ZGC

While experiencing rapid development and expansion in business, ZGC also proactively implements its corporate social responsibilities. It has taken part in a wide range of social service, from provision of education and healthcare services



to local people, to assisting the building of public facilities. The contribution of ZGC has earned high recognition from both the state authority and local people. In 2017, ZGC donated TJS143,841 to elderly homes and orphanages in Penjikent, where the company's operation is based. Another TJS8,580,814 was contributed for the development of local kindergartens, schools, public services, and sports service, etc., which was received positively by the local authority and the relevant organisations. On 1 January 2017, a foundation stone-laying ceremony was officially convened for the ZGC-sponsored kindergarten and urban school development projects in Sarazm. The governor of Sughd Province, Abdurahmon Qodiri, and the mayor of Penjikent, Islom Ziyozoda, also attended the ceremony to perform the official ritual for the new campus.

To improve the living conditions of the local population, ZGC plans to donate RMB22 million between 2018 and 2020 to the Penjikent government for building a school and a highway.



Targeted poverty alleviation

In 2017, the Company actively responded to the state's strategy of targeted poverty alleviation, and gave full play to the location advantages of mining subsidiaries in remote mountain areas by deploying personnel, materials and capital to assist the poor villages around mining sites, by way of infrastructure construction, industrial development, environmental protection, supporting the poor and underprivileged, and sponsoring education and teaching. The poverty alleviation measures effectively improved the infrastructure and living condition in the poor villages around the mining sites, enhanced the living standards of impoverished population, and contributed positively to the battle of poverty alleviation in rural areas.

Heilongjiang Duobaoshan Copper "lightened" the life of the poor rural households in Nenjiang County

In December 2017, Duobaoshan Copper provided RMB5 million to fund the foundation work for the building of a photovoltaic power station in Nenjiang County, as part of its efforts to assist poverty alleviation in the region. The power station will be a village-level project, with the objective of providing power supply and increasing collective income of the village. Upon conclusion, the project is expected to realise an annual profit of approximately RMB700,000 for the impoverished village households.





Shanxi Zijin supported start-ups in local community to achieve poverty alleviation by industrial development

In 2017, Shanxi Zijin donated RMB238,000 for supporting the development of small and micro start-ups in Yixingzhai, the location where its operation is based. One example is the establishment of Fanshi County Xingshengyuan Sewing and Processing Company Limited, which employs the women from the poor households near the company's operation to provide processing service of school bags for the manufacturers in Hebei Province. The sewing and processing company provided job opportunities for more than 40 labours in the nearby villages, strengthened the ties between the enterprise, local governmental bodies and the local community, and contributed positively to the building of harmonious relationship between the enterprise and the local community.



Charity

Upholding the corporate tenet of “founding business on mining, making contribution to the country and the people”, the Company is always mindful of its social responsibilities as a corporate citizen. It actively assumes responsibility for implementing charity work and contributing to the community, as well as leveraging its strength and exclusive advantages to cultivate businesses that are beneficial for the society. In 2017, the Group made public donations of RMB154 million. It ranked the 14th place in the fourteenth China Charity Rankings (Year 2017).

Founding a professional charity platform

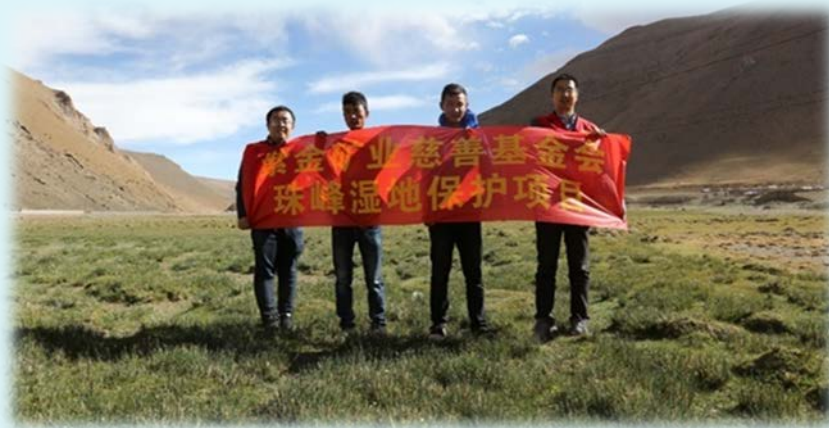
For the purpose of professionalising charity work, and developing a dedicated charity platform for China's mining industry, in August 2012, the Company invested RMB200 million for establishing the Zijin Mining Charity Foundation (the “Foundation”), which is the first nationwide private foundation of China's gold industry. The Foundation frequently



cooperates with other professional social organisations to launch a wide range of charity activities throughout the country, from social services including poverty alleviation, assistance to underprivileged groups and disaster relief, to sponsorship for learning and teaching, environmental protection and so on, engaging a wide spectrum of the public to participate in charity work. In 2017, Zijin Mining Charity Foundation ranked the 18th place among private foundations in the fourteenth China Charity Rankings (Year 2017). It also received the title of “Caring Enterprise in Promoting Humanitarian Assistance and Support for the Underprivileged Groups” from the People’s Government of Fujian Province, and passed the annual inspection of the Ministry of Civil Affairs of the PRC. A total of RMB22.427 million was contributed by the Foundation in 2017.

Zijin Mining Charity Foundation launched a natural reserve conservation project for the Himalayan Wetland in Tibet

In 2017, echoing the initiatives of the Ministry of Civil Affairs of the PRC on “care for the highland and love for Tibet – annual national social campaign for providing assistance to



Tibet”, Zijin Mining Charity Foundation implemented a sponsorship programme for conserving the Himalayan wetland natural reserve, a wetland protection fencing project, a compensation scheme for prohibiting grazing on the wetland, a solar energy project for the residents living near the wetland, and educational and charity activities for wetland community, etc.



Continued implementation of the charity projects which received China Charity Award

The project of “Supporting the Elderly and Orphans in Shanghang County” was selected as the Most Influential Charity Programme of the Sixth China Charity Award, and received the 50 Best Corporate Charity Programmes (four star-level) award from the Chinese Academy of Social Sciences. The project continued to be implemented through partnerships between the enterprise, local civil affairs and social security authorities, and non-profit organisations. In the year, a total of RMB12.1435 million was contributed, with over 13,000 people directly benefited from the project. The beneficiaries include approximately 13,000 elderly persons aged 80 or above, and 130 school-aged orphans.

During the China Charity Day in 2017, Zijin Mining Charity Foundation organised a volunteer team to revisit the elderly living in poor mountain areas. Chen Tanghua, once a soldier of the Red Army, is now 101 years old and lives near the historical location known for the Gutian Meeting in Shanghang County. He recalled, “I have overcome all the pains and sufferings in war times, but since I’ve grown old, diseases have not left me, and keep revisiting me from time to time. I just want to express my deep gratitude for the government and Zijin Mining. The monthly old-age allowance I receive from them has eased much of my financial burden.”



Revisiting the hundred year-old former Red Army soldier on the China Charity Day



Launching innovative educational assistance programme

In 2017, Zijin Mining Charity Foundation innovated its educational assistance. In the “A Dream Comes True: Four-year University Entrant Sponsorship Programme”, instead of sponsoring the beneficiaries on a one-off basis, the party organisation of the Foundation selected 12 outstanding new university entrants with poor family background, whom will be provided continual financial support for a 4-year period. In addition, a host of other activities were implemented by the Foundation, namely the Education Resources Improvement Project for Minxi Old Revolution Area, Supporting Programme for Impoverished University and High-school Students from Shanghang County, Youth Education Sponsorship Programme, and Education Sponsorship Charity Programme in Fanshi County, Shanxi Province, etc. The total charity expenditure on these programmes exceeded RMB3.8 million in 2017. Through the efforts of the Foundation, education facilities of impoverished areas were improved; students and their families also benefited from alleviation of financial burden of schooling.



Volunteer activities

The Group's Youth League Committee assumes a leading role for organising volunteer activities in collaboration with the Groups' various business entities. In 2017, the Group's Youth League Committee encouraged employees to participate in a variety of volunteer activities, including the Educational Campaign for Geological Civilisation, Tree Planting for Beautiful Homes, releasing fish at Ting River, charitable tutorial service for students, donation of clothes, visiting of orphans and lonely elderly, etc. These activities not only allowed more interactions and exchanges between the enterprise and the community, but were also beneficial for the growth of young employees, raising their sense of responsibility for the society and providing impetus for them to contribute to the economic and social development of local communities. In 2017, volunteers were organised by the Group to participate in volunteering activities for over 4,600 times, providing about 12,000 hours of social service.



Charity programmes with mining features were launched at the Group's headquarters

On 16 April 2017, to support the 48th Earth Day, the Group's Social Responsibility Department and volunteers from the Youth League Committee jointly organised non-profit educational programmes for schools for the third consecutive year. The theme for 2017 was "understanding mineral resources and geological prospecting". The activity aimed to promote young people's understanding of geological prospecting, resources exploitation and environmental protection, as well as their importance. More than 900 teachers and students participated in the activity.



Volunteers from the Group's headquarters organised clothes donation event

The central organisation and the branches of the Group's Youth League Committee cooperated with Zijin Mining Charity Foundation to launch a non-profit clothes donation event, in the theme of "cherish the used clothes and conserve precious resources". More than 2,000 items collected from the campaign were delivered to the needy groups, sending them warmth and care amid the cold winter.



Volunteers from Duobaoshan Copper organised the "Caring for the Mother River and Nenjiang's Origin" campaign

During the Environmental Safety Month in 2017, about 40 young employees of Duobaoshan Copper participated in the "Caring for the Mother River and Nenjiang's Origin" campaign. With employees personally taking actions to clear the garbage along the riverside of Nenjiang, their awareness on environmental protection and the importance of protecting river origins was raised. This activity was beneficial for promoting sustainable development of the society and the enterprise.



Global Zijin - first-mover of the Belt and Road Initiative

Determinant to pursue its internationalisation strategy, Zijin Mining has cultivated deeply in overseas mining market for years. Recently the Company has observed continued improvement in its overseas operation and management, and begun to reap the fruits from internationalisation development. In 2017, output of mine-produced gold and mine-produced zinc from overseas operations exceeded 50% and one-third of the Group's total production respectively; profits derived from overseas projects represented over 30% of the Group's profits.

The Company always upholds “peaceful cooperation, open-mindedness and inclusiveness, mutually beneficial and win-win relationship, and co-development” as its guiding principles. Moreover, it complies with local laws and regulations, respects local culture, recruits local employees for its operations, protect the environment, and engages in charity work to serve the community of where its operations are based. The efforts committed by the Company have contributed substantially to the industrial, economic and social development of the countries in which the Company has presence. As of 2017, the Company's investment projects spanned across 9 geographical areas, namely Australia, South Africa, the DR Congo, Papua New Guinea, Peru, Tajikistan, Kyrgyzstan, and Russia, etc. As at the end of 2017, overseas enterprises of the Company had a total of 8,635 employees, in which 8,136 were foreign employees. The localisation level of staff at overseas enterprises reached as much as 94%.

Global distribution of the Company's operations



Overview of overseas operations

Barrick (Niugini) Limited ("BNL")

In August 2015, the Company invested US\$298 million (comprising US\$100 million and US\$198 million for partial acquisition of equity interest and shareholder's loan respectively) for 50% of each of BNL's equity interest



and shareholder's loan. The other shareholder owning 50% of BNL is Barrick Gold Corporation. BNL owns 95% interests in Porgera Joint Venture. The project is located at the Porgera Valley of Enga Province, in the west of Papua New Guinea. The Porgera gold mine, being an epithermal gold mine, 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. At the end of 2017, the project had a total of 3,125 employees. On equity basis, gold output attributable to the Company in 2017 was 7.83 tonnes. In the two years since the Company's investment, the Company has gained friendly acceptance for its corporate beliefs and Chinese culture among local population. The community has also developed stable, harmonious ties with the Company.

Norton Gold Fields Limited

The Company acquired 89.15% of Norton's equity interest 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 3.4 million tonnes, and an area spanning 1,105 square kilometres around the Paddington mill which is within the scope of mining rights and has a promising mineral prospect. The area within the scope of Paddington's mining rights has over 80 resource-rich mining spots. As at the end of 2017, the measured, indicated and inferred gold resources of Norton were 267 million tonnes, with an average grade of 1.28g/t and 342 tonnes of gold metals. Norton has 315 employees as at the end of 2017.



Altynken Limited Liability Company

The Company acquired 60% of Altynken in September 2011 (the remaining 40% is owned by Kyrgyzaltyn Open Joint Stock Company). The Taldy Bulak-Zuoan gold mine of Altynken is the third largest gold mine in Kyrgyzstan. Located 120 kilometres to the east of Bishkek,



the capital of Kyrgyzstan, the mine is well-connected by highways and assessable by transportation. The mine is at the east of Boordu-Taldy Bulak mining zone, at the Aktyuz-Boordu deposits in the Tianshan Gold Belt. Mining area spans 4-5 kilometres in length and 2 kilometres in width. Currently the mine owns gold metal resources of approximately 58 tonnes, and had 1,002 employees as at the end of 2017.

JV Zeravshan LLC (“ZGC”)

The Company acquired the project in 2007 from Avocet, a company in the UK, and re-registered it as JV Zeravshan LLC. Since then the Company and the government of Tajikistan hold 75% and 25% shares in ZGC respectively. ZGC owns four mining rights in Jilau, Taror,



Hiskhona and Olimpik, having 131 tonnes of resources reserve at present. Ever since the Company acquired part of its shares in 2007, ZGC has assumed a more active role in the implementation of corporate social responsibilities, and the development of local education, healthcare services and public facilities. More than 2,000 job opportunities were provided to the local population. Moreover, ZGC remains the largest gold producer and one of the top three tax-payers in Tajikistan over the years, earning high official recognition and popular support from the local people. It also received the honorable title of “Outstanding Business Enterprise for Assisting in the Preventive Consular Protection” from the Chinese Embassy in Tajikistan for two consecutive years. At the end of 2017, ZGC had 2,142 employees.



La Compagnie Minière de Musonoie Global SAS ("Musonoie")



In 2014 and 2016 respectively, the Company acquired 72% of equity interest in Musonoie (the remaining 28% of equity interest is held by La Générale des Carrières et des Mines in the DR Congo). The mining right covers 3.37 square kilometres, comprising the Kolwezi and Noyka deposits. According to the feasibility study report prepared by China ENFI Engineering Corporation, the resources of the project include ore volume of 39.14 million tonnes with copper grading 3.93% in average and copper metal volume of 1.53 million tonnes, making the project a high-grade mineral resource. As at the end of 2017, the project had 823 employees.

Russia Longxing Company Limited ("Longxing")



Longxing was incorporated in 2005, and is 70% owned by the Company (the remaining 30% of equity interest is owned by Heilongjiang Longxing International Resources Development Group Company Limited).

Longxing owns the Kyzyl-Tash Turk lead-zinc-copper polymetallic mine, which adopts open-pit mining before transiting to underground mining. The mine is designated to process 1 million tonnes of ores a year, with zinc concentrates, copper concentrates and lead concentrates being the main output. The project already commenced production in the second half of 2015. Upon reaching the designated production capacity, the project is expected to produce 80,000 tonnes of zinc, 5,000 tonnes of copper and 10,000 tonnes of lead annually, making it the largest mining and processing enterprise in Tuva and Siberia, as well as one of the earliest and most successful mineral investment under a Sino-Russia partnership. Awards which Longxing has received include the "Best Insured Enterprise in the Russian Federation" and "Outstanding Contribution for Tuva's Economic and Social Development". As at the end of 2017, the mine had 15.31 million tonnes of ore, with 134,300 tonnes of copper metal, 157,800 tonnes of lead metal and 1.1889 million tonnes of zinc metal. The mine had 848 employees at the end of 2017.



Kamoa Holding Limited ("KHL")

In December 2015, the Company acquired 49.5% of KHL's shares from Ivanhoe Mines Ltd., a Canadian company (Ivanhoe Mines Ltd. and Crystal River Global Limited own 49.5% and 1 % of the rest of the shares respectively), and KHL owns



80% interests of the Kamoa copper mine in the DR Congo. The project is still at the pre-development and preparatory stage. In the evening of 27 February 2018, the Company announced that the resources volume of the Kamoa-Kakula Discovery once again set a new record, as the volume of copper resources was nearly doubled from 24 million tonnes at the time the project was acquired, to 42.49 million tonnes, grading at 2.56% in average. The mine has risen to become the fourth largest copper mine in the world. It is also the world's largest high-grade copper mine pending development. At the end of 2017, the mine had 300 employees.

Rio Blanco Copper SA ("Rio Blanco Copper")

Rio Blanco Copper is a wholly-owned subsidiary indirectly held by Xiamen Zijin Tongguan Investment Development Co., Ltd. ("Zijin Tongguan") in Peru. Zijin Tongguan is a jointly invested company by the Company,

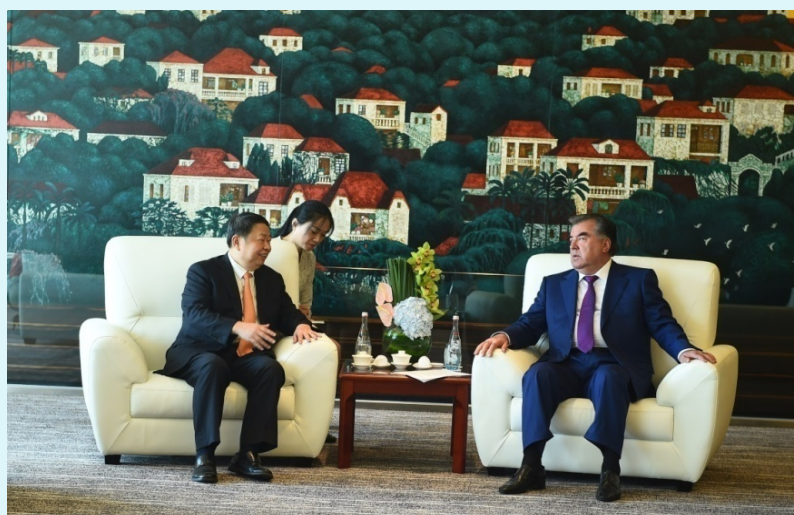


Tongling Nonferrous Metals Group Holdings Co., Ltd. and Xiamen C&D Corporation Limited, which hold 45%, 35% and 20% shares in Zijin Tongguan respectively. The main asset of Rio Blanco Copper is a mega-scale porphyry copper and molybdenum deposit in Rio Blanco, which is one of the top ten undeveloped copper mines in the world. The resources volume of the mine include 1.257 billion tonnes of ore grading at 0.57% copper in average; 500 million tonnes of resources reserve grading at 0.63% copper in average; and molybdenum grading at 215ppm in average. According to the design of the mine, open-pit mining will be adopted, and the expected life of the mine is 20 years or above.

Zijin in the world

Chen Jinghe, the chairman, shared on CCTV about ushering in the new “golden decade” of BRICS cooperation

On 18 September 2017, the International Investment Forum 2017 was convened in Xiamen, in the theme of Ushering in the New “Golden Decade” of BRICS Cooperation. Chen Jinghe, chairman of the Company, was invited in Xiamen as a guest to CCTV’s television discussion programme, “Dialogue”, at which he shared and expounded the innovation beliefs of the Company, reaffirmed innovation as the enterprise’s core competitiveness, and expanded the Company’s vision of accelerating overseas investment, being a first-mover among Chinese mining companies in the Belt and Road Initiative, as well as its commitment to contribute to the new “golden decade” of BRICS cooperation.



On 4 September 2017, Rahmon, the President of Tajikistan, met with Chen Jinghe, the chairman of the Company, during which they had a light-hearted conversation on the Company’s investment in Tajikistan.



On 19 September 2017, Chen Jinghe, the chairman of the Company, visited Kara-Ool, Chairman of Tuva Republic of the Russian Federation. The efforts of Longxing on environmental conservation during the course of its mining development were highly commended by Kara-Ool.



On 30 November 2017, owing to its excellent return to investors, profitability, efficiency of operation, sustainability, corporate governance and internationalisation, the Company was presented the “Best Brand Value Award for Listed Companies” in “the Seventh Session of Chinese Listed Companies (Hong Kong) Financial Forum and Golden Bauhinia Awards”. Lan Fusheng, president of the Company, was invited to participate in the forum and the award presentation ceremony.



Outlook



A group photo of the participants of the Group's 2017 strategic working conference, namely Chen Jinghe, the chairman, Lan Fusheng, the president, as well as other Directors, Supervisors, senior management, departmental heads of the headquarters and heads of key enterprises, was taken at the Chairman Garden of the historical location of Gutian Meeting in Shanghang County.

With global economy continuing to recover, and China moving from a growth-driven towards a quality-driven economy, the country is at a critical stage to pursue transformation of development, better economic structure and change of growth momentum. Against such background, mining industry will also usher in a new period of eco-development, internationalisation and informatisation. More intense competitions are anticipated, but opportunities will also come hand in hand with challenges.

Acknowledging that new responsibilities will come along with the “New Era”, we will follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, strengthen our foothold in mining industry to serve the overall economic and social goals of the country, and adhere to the guiding principle of “clinging to reforms, stabilising growth and boosting development” for moving forward structural reform in the Company’s management and the establishment of a unified, highly efficient management system. We will also strive to build greener mines, offer more eco-friendly refining products, and enhance extensively the safety, environmental production and occupational health standards of the Company. Moreover, management quality and efficiency will be enhanced by the use of information technology, and more initiatives will be introduced to raise the intelligent development, automation and mechanisation level of the Company. We will also focus on

improving the working and living conditions of miners, to enable employees of the Company and its contractors to have a decent and happy life. Looking forward, the Company will continue to pursue its internationalisation strategy with unswerving determination, participate in the global Belt and Road Initiative, and showcase the best of the Company on the stage of global mining industry, making the voice of China heard across the world.

Appendix

Index for indicators in the report

ESG reporting aspect	Relevant content	ESG reporting aspect	Relevant content
A1: Emissions	Clean production (P.43), wastewater management (P.44), exhaust gas management (P.46), management of general solid waste and hazardous waste (P.48), energy management (P.56)	B3: Development and training	Employees' career development (P.78)
A1.1		B3.1	Figures on trainings received by head office employees in 2017 (P.85)
A1.2		B3.2	
A1.3		B4: Labour standards	Equality and protection for employment (P.76)
A1.4		B4.1	
A1.5		B4.2	
A1.6			
A2: Use of resources	Sustainable exploitation of resources (P.30), water conservation management (P.43), energy management (P.56), green office (P.58)	B5: Supply chain management	Supply chain management (P.33)
A2.1		B5.1	
A2.2		B5.2	
A2.3		B6: Product responsibility	Product quality and customer relationship management (P.33)
A2.4			
A2.5	Use of packaging materials for mineral products of the Company in 2017 (P.35)	B6.1	
A3: The environment and natural resources	Eco-mine development (P.50), environmental impact assessment and implementation of the "three simultaneous" policy (P.53)	B6.2	
		B6.3	
A3.1		B6.4	
B1: Employment	Equality and protection for employment (P.76), trainings for employees (P.77), salary and benefits (P.81), caring for employees (P.82)	B6.5	
B1.1		B7: Anti-corruption	Prohibition of commercial bribery and corruption (P.35)



ESG reporting aspect	Relevant content	ESG reporting aspect	Relevant content
B1.2		B7.1	
B2: Health and safety	Management of production safety (P.60), management of occupational health (P.73)	B7.2	Community development (P.86), targeted poverty alleviation (P.90), charity (P.91)
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B2.3		B8.2	

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About the report		P1.2 , P1.3, P1.4
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	Social responsibility management	P5.1, G1.4, G2.1-G2.5, G3.1, G3.2, G4.3
	Responsibility integration and communication with stakeholders	P2.3, G4.1, G4.2, G5.1-G5.6, G6.4
	Preparation of social responsibility report	P2.1, P2.2, G1.3
	Major awards received in respect of corporate responsibility during 2017	P5.2
Earn respect with quality products - drive industrial innovation	Corporate governance	M1.1-M1.6, S1.1, S1.5, S1.6
	Technological innovation	P4.6, M2.10-M2.14
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Sub-heading in the report		Guidelines on Corporate Social Responsibility Reporting - General Mining Industry
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	Prohibition of commercial bribery and corruption	S1.2-S1.4
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	Clean production	E2.8-E2.11, E2.17-E2.19
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Global Zijin - first-mover of the Belt and Road Initiative	Overview of overseas operations	S4.8, S4.9, S4.14
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Rating of the report



中国企业社会责任报告
评级专家委员会
Chinese Expert Committee on CSR Report Rating

Rating Report of "Social Responsibility Report 2017 of Zijin Mining Group Co., Ltd"

Upon the request of Zijin Mining Group Co., Ltd ("Zijin" or the "Group", the Chinese Expert Committee on CSR Report Rating invited experts to form rating team to rate the "2017 Social Responsibility Report of Zijin Mining Group Co., Ltd" (hereinafter referred to as "the report").

I . Rating Criteria

The "Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 3.0): General Mining Industry" & the "Rating Standards for Corporate Social Responsibility Report of Chinese Enterprises (2018)."

II . Rating Process

1. The process assessment team conducts interviews with key members of the report preparation team, and carries out on-site review on relevant materials used in the report;
2. The rating team conducts review on the preparation process and the contents disclosed by the report, then drafts the rating report;
3. The rating team submits the rating report to the vice president of the rating expert committee and the leader of the rating team to jointly sign.

III. Rating Results

Process (★★★★★)

The company established a Social Responsibility Working Committee. The Social Responsibility Department takes the lead in the report preparation team. The group's chairman, president and other senior leaders guided the preparation of the report. The board of directors is responsible for the final review of the report; The enterprise has a relatively clear definition of the reporting function and value and has established a relatively complete reporting system; Substantive topics is identified according to the general guidelines and standards, relevant national policies, questionnaires, interviews with relevant parties, etc. The report is released through the official website of the enterprise and the exchange platform and is presented in electronic and printed both in Chinese and English with a leading process performance.

Materiality (★★★★★)

The "Report" systematically discloses general mining issues in the implementation of macro policies, occupation health safety management, production safety guarantee, environmental management system, environmental technology, equipment R&D, saving land resources, reducing "three wastes" emission, residual mine recovery, mining area conservation, tailing mine disposal, ecological protection of mining which is in full and detailed description with excellent substantive performance.

Integrity (★★★★★)

The report systematically discloses 92.3 percent of core indicators of the general mining industry from the perspectives of "Integration of responsibilities - leading sustainable development", "Standing in the world with golden products - driving industry innovation", "Green ecology - focusing on energy conservation and emission reduction",



"Steady as a reverse jar - strict requirement of production safety", "People - oriented - caring for staff development", "Practicing public welfare - giving back to local people's livelihood" and "International Zijin - forerunner of 'the belt and road initiative'", with outstanding integrity performance.

Balance (★★★★☆)

The report disclosed the negative data indicators including "total number of cases transferred to judicial organs for handling due to corruption", "occupational disease incidence", "million - hour work-related accident rate", "number of worker injured", "number of potential safety problems", and "employee turnover rate", which showed a leading balance performance.

Comparability (★★★★★)

The report discloses 55 key indicators including "operating income", "total profit", "qualified rate of mineral products", "water consumption", "land use in new mines" and "number of training sessions on clean government" for three consecutive years or more. It also compared data such as "output of mineral products", "profit level" and "ranking of non-ferrous metal enterprises in the world" horizontally showing excellent comparability.

Readability (★★★★☆)

The report runs through the full text with enterprise values of "harmonious creation of wealth, coordinated development of enterprises, employees and society", and focuses on seven aspects of "industry innovation, green ecology, safe production, public welfare charity" to highlight the characteristics and value pursuit of enterprises in fulfilling their responsibilities; The frame structure system is precise, the language style is simple and natural and the expression elements are rich and diverse, which to a certain extent enhances the report's readability. Each chapter uses rich cases to explain the corporate responsibility fulfillment practice, which improves the readability of the report and has good readability performance.

Innovation (★★★★☆)

The report actively responds to hot current issues such as "the belt and road initiative", green and low carbon, accurate poverty alleviation, etc. It focuses on the characteristics of corporate responsibility and demonstrates corporate responsibility to implement macro policies; Extensive questionnaires and on-site interviews have strengthened the participation depth of stakeholders inside and outside the enterprise and effectively improved the accuracy of the identification of substantive topics in the report; The establishment of a social responsibility reporting data collection information platform has significantly enhanced the efficiency of reporting data collection, improved the corporate social responsibility management system, and has leading innovative performance.

Overall Rating (★★★★☆)

According to the assessment of the rating team, the "Social Responsibility Report 2017 of Zijin Mining Group Co., Ltd" is awarded a rating of four-and-a-half-star. It is an outstanding CRS report.

IV. Improvement Suggestions

The content of the report and the design of presentation should be optimized to improve report readability.



中国企业社会责任报告
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Chinese Expert Committee on CSR Report Rating

Rating team

Team leader: Guo Yi, professor, Institute of Economics, Beijing Technology and
Business University

Member: Zhang Wei, reporter of CCTV News Center

Wang Zhimin, Process evaluator

魏紫川

Vice President of Chinese Expert Committee
on CSR Report Rating



郭毅

Leader of the Rating Team

Issued on: May 14, 2018

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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

Telephone number: 0597-3998038 Postal code: 364200

Email address: zjky@zjky.cn or international@zijinmining.com

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 follow our WeChat Official Account for more information of the Company

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

WeChat Official Account:



- Mission:** Sustainable mining, supplying responsible mineral products and promoting advancement of civilisation 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. 2017 Environmental Report



紫金礦業集團股份有限公司

Zijin Mining Group Co., Ltd.

Zijin Mining Group Co., Ltd.*

2017 Environmental Report



1 Chairman's statement



Human and nature form a unity of life. Unless the law of nature is observed and obeyed, any development activity and use of resources by mankind could endanger the nature. At the 19th National Congress of the Communist Party convened in October 2017, emphasis was attached to achieving harmony between human and nature in the pursuit and development of the Socialism with Chinese Characteristics as a basic strategy in a New Era. Pollution control and prevention has been elevated to one of the state's three major battles for achieving the building of a moderately prosperous society by 2020, and building a beautiful China has also been emphasised as a crucial goal for comprehensively developing China into a modernised socialist strong power.

In response to the Party's appeal, Zijin Mining Group Co., Ltd.* ("Zijin Mining" or the "Company") upholds the five major principles comprising "production safety, environmental protection, eco-development, compliance with laws and regulations, and sustainable development" as the crucial rules for corporate development. A combination of mining and eco-development is regarded as the basic requirement for the Group's development in the New Era; and with firm belief in green development and the building of an eco-friendly mining enterprise, the Company strives to set the standard of green development for the mining industry, and establish reputation and corporate brand name from successful eco-development. On 30 June 2017, the Board of Directors of the Company considered and approved the "Resolution in relation to Enhancing the Development of Green Mines". It was emphasised that, following an extensive review of the operating mines, the Company should strive to achieve the general goal of moving towards comprehensive green mining operation by 2020. At present, 2 and 6 mining entities of the Group have received the honourable titles of "National Green Mine" and "National Green Mine Pilot Unit" respectively. In addition, 1 mining entity has received the title of "Provincial Green Mine", and 1 mining entity has received the title of "Green Mine Pilot Unit of the Autonomous Region".

The year of 2017 was a transition period for the implementation of the Environmental Tax Law. Moreover, the Action Plan for Prevention and Control of Soil Pollution, which imposes limits on pollutant discharge in areas with intensive mining activities, also came into force. It was a critical year for enterprises to move towards greener and more sustainable development. Seizing the opportunity of regulatory changes, Zijin Mining extensively implemented emission reduction, pollution treatment and technological revamp within the Group. As a result, a total of 12 subsidiaries completed the technological revamp for desulfurisation and denitrification of fumes, fine dust treatment and furnace upgrade, and 5 subsidiaries upgraded their wastewater treatment systems. These measures effectively contributed to the reduction of pollutants discharged in wastewater and exhaust gas. In addition, to professionalise the final treatment of pollutants, and control pollution scientifically and in a regulated manner, the Company actively explored the possibilities and introduced third-party control and management for environmental pollution, providing new impetus for developing better environmental protection technology.

To prepare for the New Era of mining industry, Zijin Mining will continue to innovate its technology to drive greener development along the industry chain, enhance conservation and reuse of resources, improve pollution control and management, and strengthen ecological conservation and restoration. The goal of the Company is to be a leader in green development and sustainability, explore win-win solutions for corporate development and environmental protection, and achieve new breakthroughs in the age of New Norm.



Zijinshan gold and copper mine



Xinjiang Ashele Copper Company Limited



Shanxi Zijin Mining Company Limited



Bayannaoer Zijin Non-ferrous Metals Company Limited



JV Zeravshan LLC



Russia Longxing Co., Ltd.

2 Overview of the Company

2.1 Information of the Company

Zijin Mining is a sizeable mining group focusing on the exploration and development of gold, copper, zinc and other metal mineral resources. In 2017, the Company ranked the 1,200th place in Forbes' "Global 2,000 Leading Companies", the 18th place in global non-ferrous metal mining companies, and the 3rd place in global gold corporations. It also ranked the 82nd place in "China's 500 Leading Companies" published by Fortune.

The corporate history of the Company began from the development of the Zijinshan gold mine in 1993. After being registered as a joint-stock company in 2000, the Company's shares were listed on the H share market in November 2003 (stock code: 02899) and on the Shanghai A share market in April 2008 (stock code: 601899). At present, the Company has a product portfolio mainly comprising gold, copper and zinc, with investment projects spanning across 24 provinces (autonomous regions) in China and 9 overseas countries, including Canada, Australia, Papua New Guinea, Russia, Tajikistan, Kyrgyzstan, South Africa, the DR Congo and Peru.

Technology has created Zijin Mining. After more than 20 years of experience in the industry, the Company has developed a variety of core leading technologies in the industry, the most representative ones being the comprehensive recovery and utilisation of low-grade refractory resources and its large-scale development, hydrometallurgy, and geological survey. Moreover, the Company owns a series of high-level research and development platforms including the State Key Laboratory, national enterprise technology centre, and workstations for post-doctors' scientific research, etc. Academician experts were engaged as the Company's technical consultants, and there were frequent collaboration between the Company and universities or research institutes. As a result, a batch of self-developed intellectual property rights and technology which are highly adaptive to the Company's operations, economically efficient and applicable for industrialised uses were developed. The Company also owns more than 160 patents and inventions. To nurture young talents for the mining industry of the country and the world, the Company also cofounded Zijin Mining Institute with Fuzhou University.

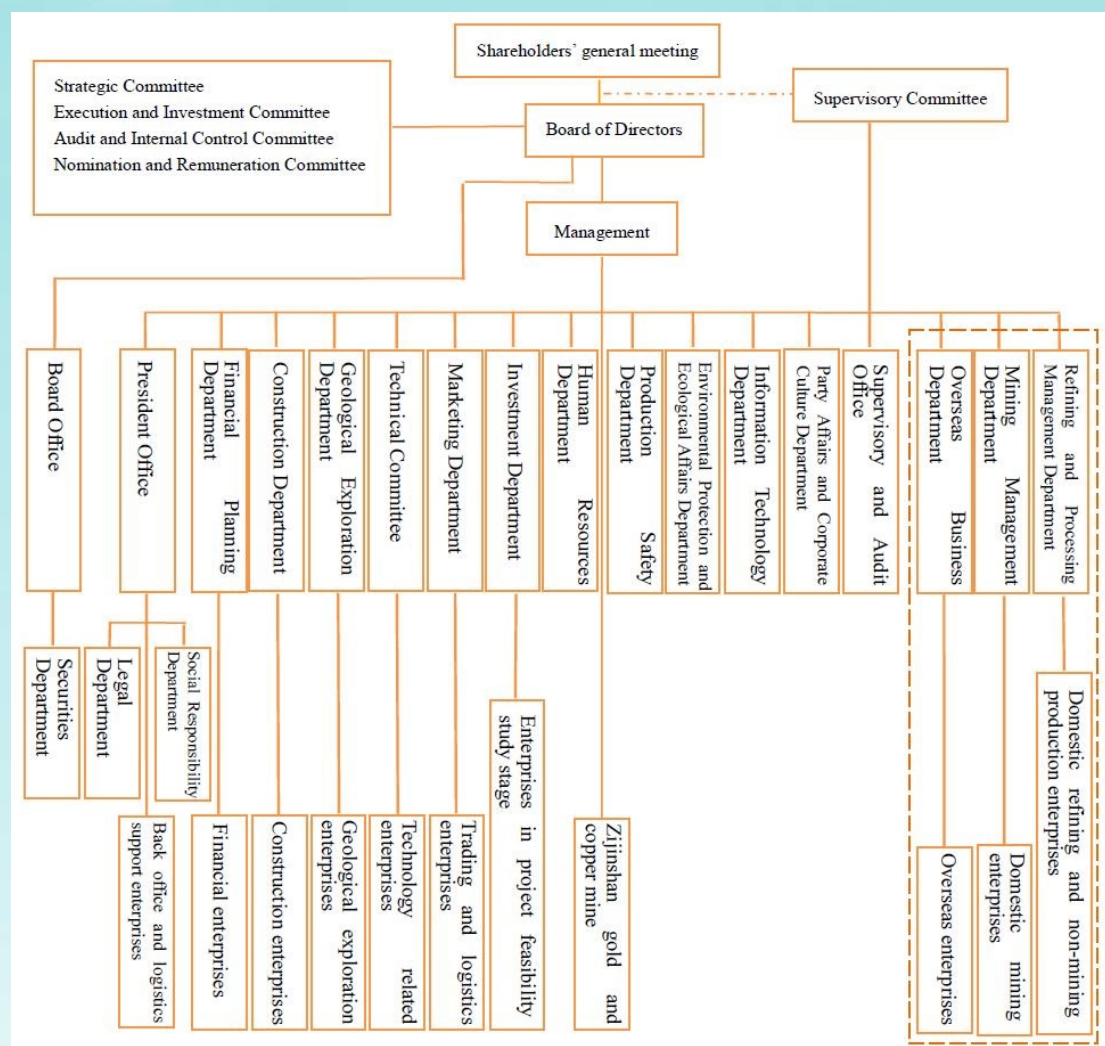
The Company unswervingly pursues the environmental beliefs of "life comes first, giving priority to environmental protection" and "green mountains and clear waters are our invaluable assets". It also complies with the most fundamental and crucial social responsibilities of a mining company, which is "never pursue economic development at the expense of the environment and human lives". Standing firm on these principles, the Company carefully protects and manages the ecological environment, strives to enhance its reputation as an eco-friendly mining company and turns it into one of the Company's core competitiveness, with an ultimate goal of achieving balanced development of the corporation, the employees and the society.

2.2 Corporate 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, balance 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

In order to further enhance the leadership of the Party, and fully strengthen the Party Committee's right to access information, participate in and make decisions on the Group's important affairs, the Company has formulated the meeting policies of the executive Directors, senior management and members of the Party Committee, to enable participation by the members of the Party Committee, executive Directors and senior management of the Company in the consideration and decision-making on important matters which affect the enterprise.

In respect of environmental protection, the Company also established the accountability policies of "the Party and management sharing responsibility" and "dual responsibilities for one role", and enforced them strictly. The Party Committee of the Company highly

emphasises on and strictly implements the establishment of ecological civilisation and eco-development beliefs, prioritises environmental protection as one of the key issues in enhancing Party development, and requires the enterprise to strictly comply with national standards in environmental protection. Moreover, it also stresses reinforcing the sense of responsibilities for environmental protection and implementation of accountability from top to bottom levels of the Company, introducing red-line and bottom line awareness for environmental protection, and enhancing management on environmental protection.

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 the gold bullions, silver bullions, copper cathodes and zinc bullions 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 bullions, "ZIJIN" brand silver bullions and "ZIJIN" brand copper cathodes received the title of "Famous Brand Product of Fujian Province"; "ZIJIN" brand zinc bullions also received the title of "Famous Brand Product of Inner Mongolia". In particular, "ZIJIN" brand gold bullions and "ZIJIN" brand silver bullions already passed the certification of the London Bullion Market Association ("LBMA"). "ZIJIN" brand grade-A copper and "ZIJIN" brand zinc bullions also officially became registered brands for settlement on the London Metal Exchange (LME), which is an official and global recognition on product quality. In 2017, 100% of the products delivered by the Company reached the passing grade.



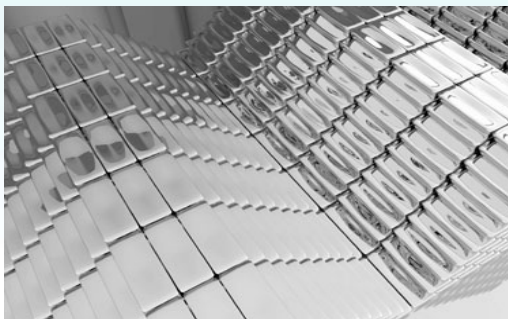
Gold bullions



Anode plates



Zinc bullions



Silver bullions

2.6 Zijin in the world



On 4 September 2017, Rahmon, the President of Tajikistan, met with Chen Jinghe, the chairman of the Company, during which they had a light-hearted conversation on the Company's investment in Tajikistan.



On 19 September 2017, Chen Jinghe, the chairman of the Company, visited Kara-Ool, Chairman of Tuva Republic of the Russian Federation. The efforts of Longxing on environmental conservation during the course of its mining development was highly commended by Kara-Ool.



In May 2017, Zijin Mining and Beijing Larkworld Environmental Technology Incorporated Company reached a cooperation agreement on securitisation of the relevant assets of the Ejingli environmental protection unit of the Zijinshan gold and copper mine's copper hydrometallurgical plant. It was the first attempt of the Company to securitise its environmental protection assets.



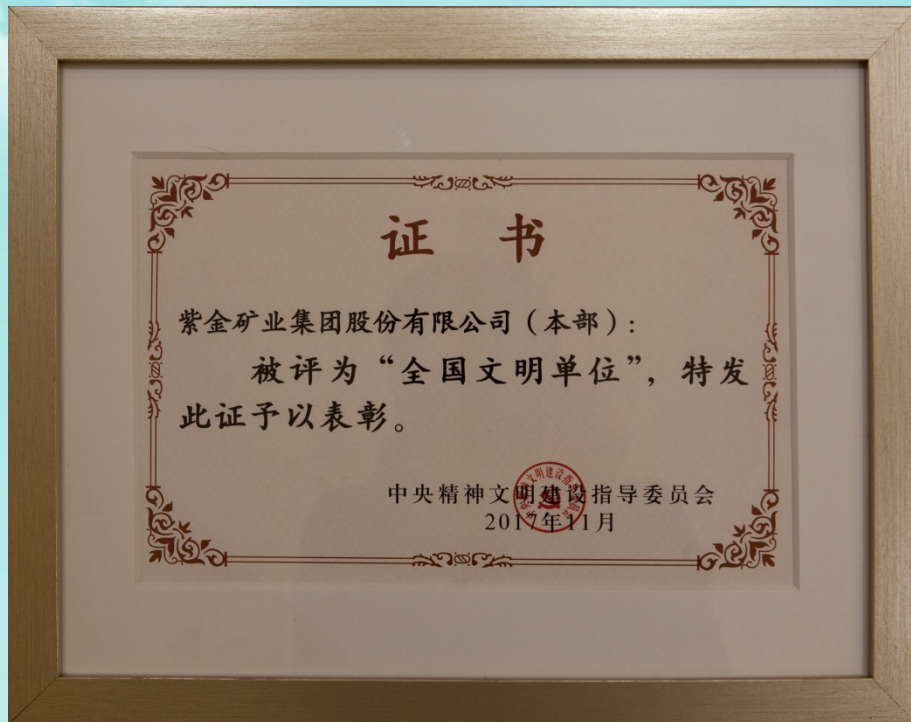
On 13 June 2017, a production commencement ceremony was held for Musonoie's Kolwezi copper mine project in the DR Congo. Following the successful commencement of production of the Kyzyl-Tash Turk zinc-lead polymetallic mine in Tuva, Russia, and the Zuoan gold mine in Kyrgyzstan, the Kolwezi project is yet another overseas investment of the Company which comes to fruition. This project added momentum to the Company's internationalisation development.



From 14 to 15 October 2017, the fifth Scientific and Technological Conference of Zijin Mining was convened in Shanghang, Fujian Province, in the theme of “transform with innovation, pursue eco-development, follow the lead of technology, learn from the best global mining companies”.



On 9 November 2017, Kamo a Copper’s Kakula copper mine began the first phase of construction. Kamo a project’s copper resources volume increased from 24 million tonnes at the time it was acquired to 42.49 million tonnes. The mine has risen to become the fourth largest copper mine in the world, as well as the world’s largest high-grade copper mine pending development.



On 17 November 2017, the Company received the title of “Fifth National Civilised Unit” from the Central Guidance Commission on Building Spiritual Civilisation.



On 30 November 2017, on the founding ceremony of Chinese Alliance of Mineral Resources and Material Application Innovation, Chen Jinghe, chairman of the Company, remarked in his speech that the businesses along the industry chain should have a common understanding on eco-development, take joint actions, and work together to create a mining industry of the New Era.



On 30 November 2017, owing to its excellent return to investors, profitability, efficiency of operation, sustainability, corporate governance and internationalisation, the Company was presented the “Best Brand Value Award for Listed Companies” in “the Seventh Session of Chinese Listed Companies (Hong Kong) Financial Forum and Golden Bauhinia Awards”.



On 5 December 2017, the Company was selected as one of the companies in the SynTao GF - Caixin ESG 50 Index, being the only metal mining company in China to have received the honour.



On 14 and 15 December 2017, the Company received the title of Leading Enterprise of Eco-development in China's Non-ferrous Metals Industry for its outstanding performance in eco-development.

3 Environmental management

3.1 Environmental protection beliefs

Environmental protection belief: green mountains and clear waters 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, subsidiaries (branch companies), production lines (factories) and work teams. 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 subsidiaries (branch companies). Each of the subsidiaries (branch companies) has their own dedicated administrative department to manage the specific affairs relating to environmental protection. Below these subsidiaries (branch companies), 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 subsidiaries (branch companies). 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.

3.2.2 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 system and assessment 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 “Outline for the Development of Ecological Civilisation and the Construction of Green Mines (2013-2020)” and “Resolution in relation to Enhancing the Development of Green Mines” shall also continue to be implemented.

(2) Progress

In 2017, each of the subsidiaries (branch companies) conscientiously complied with the environmental protection laws and regulations. The discharge of various types of pollutants was in compliance with regulatory standards, 100% of the solid waste was safely disposed and comprehensively utilised, and no environmental emergency occurred in 2017. In addition, Zijin Copper and Jilin Zijin Copper completed the application procedures for new pollutant discharge permits. A number of Green Mine Pilot Units, including the Zijinshan gold and copper mine, Wuping Zijin, Ashele Copper, Guizhou Zijin, Xinjiang Jinbao, and Wulatehouqi Zijin, etc., passed the official inspection on green mines. Moreover, Qinghai West Copper was awarded the title of Provincial Green Mine, and Zijin Copper was also selected to be among the first batch of the State's Model Green Enterprises in 2017.

3.3 Certification of environmental management system

The Company actively applies for ISO14001 certification for its environmental management systems. By strengthening “6S” management of work sites, maintaining good environmental order and improving conditions of work sites, employees are able to carry out their work in an eco-friendly manner. The Company's 16 entities, 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 Qinghai Zijin 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 raw 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 rock, successfully overcome the difficulty in utilising low-grade copper sulfide ores, and comprehensively utilised copper-carrying waste rock. Moreover, huge investment has been made on the separation of clean water from used water and recovery and reuse of copper-containing acidic water, to derive greater benefits for eco-development.

The Company's smelting subsidiary, Zijin Copper, sets a good example on the building 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, its overall energy consumption is also less than advanced national standard limit. Other measures of Zijin Copper include directly transporting the sulfur by-products to manufacturers of phosphorus and fluorine chemical products in local areas; using steam furnace to convert surplus heat from production process into electricity; selling furnace slag, calcium sulfate 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, and bismuth, etc.; and reusing industrial wastewater in the cooling of production facilities. With established systems for improving allocation and recycling of resources, Zijin Copper is able to effectively control pollution from source and make best use of resources.

ZGC, another overseas subsidiary of the Company, also highly emphasises the conservation and efficient use of resources. To further tap into the mine's potential and turn waste materials into treasure, the company fully utilises the gold-carrying waste rock and low-grade waste rock left over by the project's previous owner through heap leaching, and directly applying lime to the gold-carrying waste rock before piling, so as to ensure the pH value of the chemical solvent can reach the prescribed technical parameters as soon as possible. As a result, leaching process is accelerated, and leaching rate is improved. The recovery rate is further enhanced with the help of an active coke separation system, which can raise coke absorption rate from 80-90% to 90-98%. In 2017, 160kg of gold was recovered from the treatment of 1.25 million tonnes of gold-carry waste rock.

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, retain 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, sulfuric acid, liquid ammonia, hydrochloric acid and sodium sulfide, without the prohibited substances specified by national laws, regulations and international conventions. All of the hazardous chemicals are retained in special warehouses and storerooms, or other dedicated locations. The designs of such places must comply with national and industrial standards, with clear display of safety warnings, and under the management of specialised personnel. Where the size 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 will be 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 will release social responsibility report annually, in which specific sections on environmental protection would contain information relating to the Company's environment protection beliefs, relevant measures, eco-mining, sustainable development, energy consumption management, etc. It will also release 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 being 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

A series of new environmental protection policies was promulgated by the state in 2017. To help the personnel responsible for environmental protection management at the Company's various subsidiaries to understand and familiarise with such policies, the Company organised a two-day training on environmental protection management from 21 to 22 June 2017 at the Company's head office in Shanghang, with 27 subsidiaries from Xiamen and areas outside Fujian Province joining the training through video conference. Cumulatively more than 400 people participated in the event. The training mainly covered emergency response management and risk prevention and control for environmental incidents, and new regulations including the latest version of National Catalogue of Hazardous Waste, the Policy for Pollutant Discharge Permit, and 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, and raise the standard of environmental protection operations.



Training for environmental protection management organised at the Company's head office



Training for online environmental protection management organised by the Zijinshan gold and copper mine



Briefing session on the legal interpretation of environmental protection regulations organised by Zijin Copper



Regular meeting organised by ZGC for learning safety and environmental protection regulations



Altynken organised employees to learn environmental protection laws and regulations

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 behavior relating to the picking of wild plants, and hunting, killing, purchasing or eating of wild animals, with particular importance attached to the conservation of the natural habitats of wildlife. On the Earth Day, World Environment Day and other special occasions every year, various activities, such as signature campaigns for protection of wild animals, designing notice boards to arouse concern for endangered species, and circulating proposals on wildlife protection, etc., will be organised within the Group to promote and educate about the importance of conserving wildlife, and to enhance employees' understanding on wildlife. 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 is always in search for better re-vegetation techniques, and also manages, re-vegetates, and carries out greening for ecological environment according to the characteristics of specific mines and locations. In 2017, the branch companies (subsidiaries) re-vegetated 516.15 hectares of areas, planted 646,000 trees, and invested RMB127 million for water and ecological conservation.



Educational wildlife conservation activities were organised by the Zijinshan gold and copper mine



Norton's employees rescued and released three black swans which accidentally entered the open-pit mining area



Duobaoshan Copper organised the "Caring for the Mother River and Nenjiang's Origin" campaign



"Our Orchard", a planting activity, organised by Zijin Copper



Autumn tree planting activity organised by Xinjiang Ashele Copper



Autumn tree planting and afforestation activity organised by Xinjiang Jinbao



Before re-vegetation



After re-vegetation

Zijinshan gold and copper mine successfully applied new re-vegetation technique on the steep slope of tailing dump



Re-vegetation of tailing yard by Shanxi Zijin



Re-vegetation of mullock yard by Norton

4 Major environmental issues in 2017

In 2017, the Company was not involved in any accidental environmental pollution, environmental pollution related disputes, verified group complaints on environmental issues, or other environmental protection related violations.

5 Compliance with environmental protection laws and regulations

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

In 2017, the Company continued to strengthen supervision and management over the environmental impact assessments and inspections at the conclusion stage of its new renovation or expansion projects. In accordance with the local regulatory requirements on environmental impact assessment, the Company conducted environmental impact assessments for its operations, and simultaneously designed and built the necessary facilities for environmental protection and water conservation, so as to ensure smooth progress and operation of the construction projects. During the reporting period, a number of projects obtained approval for environmental impact assessment, including Zijin Copper’s application of gypsum slag and neutralised slag for manufacture of 50kt/a cement retarder project, Heilongjiang Duobaoshan Copper’s phase two expansion project for copper (molybdenum) mine, Heilongjiang Zijin Copper’s copper refining project, Yuanyang Huaxi’s 450t/d mining and processing capacity expansion project (revised). A number of other projects passed environmental inspection successfully at their conclusion, namely Zijinshan gold and copper mine’s 25,000t/d copper floatation processing plant project, Gold Refinery Company’s phase four technological upgrade project, Xinjiang Jinbao’s Fuyun Mengku iron mine orebodies no. 10-22 development and construction project (the project aims to expand open-pit mining capacity from 1 million tonnes/year to 4 million tonnes/year), Guizhou Zijin’s 450t/d development and utilisation of low-grade, refractory gold resources project, and Shuiyindong gold mine’s 450t/d technological upgrade for pre-oxidation project. In addition, Heilongjiang Duobaoshan Copper’s phase two expansion project for copper (molybdenum) mine obtained approval for its water and soil conservation plan. Projects including Hunchun Zijin Shuguang gold and copper mine’s waste rock comprehensive utilisation project, Inner Mongolia Jinzhong Bayanhaer Aobao gold mine’s 2.5 million tonnes/year mining and processing for crude gold ore project, Wulatehouqi Zijin’s Sanguikou 3.3 million t/a mining and processing for the southern section of lead and zinc mine project, and Xinjiang Ashele copper mine’s 400m underground deep border development project, 1,200t/d comprehensive utilisation of resources from processing of zinc tailings project, as well as its new tailings yard project, passed water and soil conservation inspection successfully at their conclusion.

**Implementation progress of environmental impact assessment and “three simultaneous”
policy of different branch companies (subsidiaries) in 2017**

No.	Name of entity	Name of construction project	Approval of environmental impact assessment report (chart)			Environmental protection inspection at project conclusion		
			Date of approval	Authority granting the approval	No. of approval document	Date of approval	Authority granting the approval	No. of approval document
1	Zijinshan gold and copper mine	25,000t/d copper floatation processing plant project	10 June 2015	Longyan Environmental Protection Bureau	Longhuanping [2015] No. 025	20 April 2017	Longyan Environmental Protection Bureau	Longhuanshen [2017] No. 44
2	Xinjiang Jinbao Mining Company Limited	Fuyun Mengku iron mine orebodies no.10-22 development and construction project (the project aims to expand open-pit mining capacity from 1 million tonnes/year to 4 million tonnes/year)	3 February 2015	Xinjiang Uyghur Autonomous Region Environmental Protection Bureau	Xinhuanhan [2015] No. 102	17 July 2017	Xinjiang Uyghur Autonomous Region Environmental Protection Bureau	Xinhuanhan [2017] No. 1076
3	Guizhou Zijin Mining Company Limited	450t/d development and utilisation of low-grade, refractory gold resources project	4 April 2008	Guizhou Province Environmental Protection Bureau	Qianhuanhan [2008] No. 207	Completed environmental protection inspection at project conclusion and the relevant filings, filing no.: 520000-2017-055		
		Shuiyindong gold mine's 450t/d technological upgrade for pre-oxidation project	8 October 2015	Guizhou Province Environmental Protection Bureau	Qianhuanhan [2015] No. 105	Completed environmental protection inspection at project conclusion and the relevant filings, filing no.: 520000-2017-056		
4	Zijin Mining Group Gold Refinery Company Limited	Phase four technological upgrade project	3 April 2015	Shanghang County Environmental Protection Bureau	Hanghuanping [2015] No. 16	22 January 2017	Longyan Environmental Protection Bureau	Longhuanwei [2017] No. 01
5	Heilongjiang Duobaoshan Copper Company Limited	Phase two expansion project for the Duobaoshan copper (molybdenum) mine	21 July 2017	Heilongjiang Province Environmental Protection Bureau	Heihuanhan [2017] No. 33	Under construction		

No.	Name of entity	Name of construction project	Approval of environmental impact assessment report (chart)			Environmental protection inspection at project conclusion		
			Date of approval	Authority granting the approval	No. of approval document	Date of approval	Authority granting the approval	No. of approval document
6	Yuanyang County Huaxi Gold Company Limited	450t/d mining and processing capacity expansion project (revised)	28 February 2017	Yunnan Province Environmental Protection Bureau	Yunhuanshen [2017] No. 11			Under construction
7	Heilongjiang Zijin Copper Company Limited	Copper refining project	12 May 2017	Heilongjiang Province Environmental Protection Bureau	Heihuanshen [2017] No. 24			Under construction
8	Zijin Copper Company Limited	Application of gypsum slag and neutralised slag for manufacture of 50kt/a cement retarder project	24 January 2017	Shanghang County Environmental Protection Bureau	Shanghuanping [2017] No. 5			Under construction

5.2 Application for pollutant discharge permits

As at 31 December 2017, Jilin Zijin Copper and Zijin Copper already obtained a new version of pollutant discharge permits from local environmental protection administrative department. Other branch companies (subsidiaries) of the Company are in the process of preparing the necessary documents for applying new permits in accordance with the requirements of the local environmental protection administrative departments.





5.3 Emission of pollutants within regulatory limits

In 2017, according to the supervisory monitoring reports about the sources of pollution and regular supervisory data of the corporations issued by environment 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 2017.

Key pollutants discharged by the Company in 2017

Type of pollutant	Pollutant emission factor	Unit	2017	2016
Water pollutant	COD	Tonne	809.9	858
		Tonne/RMB10,000 of production value	4.33×10^{-5}	6.74×10^{-5}
	Ammonia nitrogen	Tonne	35.83	37
		Tonne/RMB10,000 production value	1.92×10^{-6}	2.91×10^{-6}
	Zinc in total	Tonne	1.24	1.3
		Tonne/RMB10,000 of production value	6.63×10^{-8}	1.02×10^{-7}
	Copper in total	Tonne	1.13	1.2
		Tonne/RMB10,000 of production value	6.04×10^{-8}	9.43×10^{-8}
Air pollutant	Sulfur dioxide	Tonne	1,929	2,098
		Tonne/RMB10,000 of production value	1.03×10^{-4}	1.65×10^{-4}
	Nitrogen oxides	Tonne	983	1,082
		Tonne/RMB10,000 of production value	5.26×10^{-5}	8.51×10^{-5}

Note: Figures for 2016 only include the operating entities in the PRC; figures for 2017 include the operating entities both within and outside the PRC.

5.4 Payment of sewage charges

In 2017, the branch companies (subsidiaries) strictly complied with the reporting and registration policies for discharge of sewage, and paid the sewage charges in accordance with the stipulations of the law and the relevant requirements of the sewage discharge payment notices, sewage discharge approval notices, sewage discharge approval and review decision notices, etc. issued by the local environmental protection administrative departments.

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 gas and wastewater discharge outlets, major sources of noise and storage of hazardous waste 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 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 rock and tailings. In order to raise the comprehensive utilisation rate of resources, most of the enterprises, apart from using the waste rock in underground filling or disposing it to waste rock yards, would recover valuable metals from the waste rock to achieve comprehensive utilisation of resources. The Zijinshan gold and copper mine, for example, conducted a comprehensive utilisation project for gold-carrying waste rock, through which 46 tonnes of gold metal is expected to be recovered within the life cycle of the mine. Apart from lawful disposal of tailings to tailings pools, some of the Company's enterprises, such as the Zijinshan gold and copper mine, Wuping Zijin, Xinjiang Ashele, Chongli Zijin, Shanxi Zijin, Guizhou Zijin and Altynken, etc., are actively exploring the possibility of using tailings in back-filling, which comprises building of filling stations and back-filling goaves. The objectives are to relieve the pressure of tailings pools, effectively control and manage the underground goaves, and ensure production safety.

To enhance management of hazardous waste, 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 Movement 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 national requirements to properly manage hazardous waste.

In 2017, 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 of waste	Unit	2017		2016 ²
			Disposal volume	Comprehensive utilisation volume	Production volume ³
General solid waste	Tailings	'000 tonne	53,199	1,163.6	37,775.8
		Tonne/RMB10,000 of production value	2.85	0.062	2.97
	Waste rock	'000 tonne	169,229.9	15,468.7	117,977.7
		Tonne/RMB10,000 of production value	9.05	0.83	9.27
	Domestic refuse	'000 tonne	4.98		5.11
		Tonne/RMB10,000 of production value	2.66×10^{-4}		4.02×10^{-4}
Hazardous waste	HW48 non-ferrous metal smelting waste	'000 tonne	232.1	26.8	285.6
		Tonne/RMB10,000 of production value	0.012	0.0014	0.022
	Used motor oil	'000 tonne	0.37	0.24	0.35
		Tonne/RMB10,000 of production value	1.98×10^{-5}	1.28×10^{-5}	2.75×10^{-5}

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, retained or combusted by the Company's enterprises or external parties;
2. Figures for 2016 only include the operating entities in the PRC; figures for 2017 include the operating entities both within and outside the PRC;
3. Production volume: only production volume was disclosed because the figures for 2016 on comprehensive utilisation volume and disposal volume were not collected.

5.7 Implementation of clean production

The Company extensively promotes the use of efficient, low-energy consumption production methods within the Group. It encourages upgrade of production techniques and elimination of outdated capacity, to reduce and control pollutants from the source. The Company also

actively carries out clean production according to the requirements of local administrative authorities. At the present, all of the Company's domestic mining and refining enterprises passed the official clean production assessment. For example, Guizhou Zijin passed the fourth round of clean production review and inspection on 5 September 2017; Luoning Zijin passed the second round of clean production review and inspection on 14 December 2017, and received a special reward from Luoyang Environmental Bureau.

5.8 Formulation and implementation of environmental risk and emergency response policies

In accordance with the relevant requirements stipulated by the policies for emergency plan in response to environmental incidents of the countries in which they operate, the branch companies (subsidiaries) have 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 companies (subsidiaries) have established their own emergency relief divisions, which are led by the general managers of these enterprises. The emergency relief divisions regularly organise emergency drills on different environmental incidents, so as to enhance the prevention of environmental incidents, improve emergency response as well as employees' actual implementation ability.



Emergency and relief drill at the Dadongbei tailings yard of the Zijinshan gold and copper mine



Special emergency drill against sodium cyanide leakage at Zijin Copper



Emergency drill against sulfur leakage at Jilin Zijin Copper



Emergency drill against leakage from tailings pipes at Wulatehouqi Zijin



Emergency drill against sulfur dioxide leakage at Qitun Tongguan



Emergency drill against tailings pool incidents at Altynken

5.9 Promotion for environmental protection



On 24 March 2017, the Company organised the “Green Future Count on Us, Let’s Walk along with Civilisation” campaign to echo the Earth Hour event, where employees and the general public were encouraged to actively take part in the Earth Hour event, improving awareness and leading a low-carbon lifestyle.



On 16 April 2017, to support the 48th Earth Day, the Company organised non-profit educational programmes for schools, in the theme of “understanding mineral resources and geological prospecting”. The activity aimed to raise young people’s understanding of geological prospecting, resources exploitation and environmental protection, as well as their importance.



On 24 June 2017, the Company’s Youth League Committee organised a publicity campaign for environmental protection in the theme of “take action to lead a green life and build a beautiful and civilised Shanghang County” at the Riverside Plaza of Shanghang County.



On 28 June 2017, the Company organised the “Zijin Cup” environmental protection quiz contest together with local court, Environmental Protection Bureau and Administration of Work Safety Bureau, for promoting understanding, learning, discussion and practice on environmental protection.



On 3 July 2017, the Company organised the campaign for releasing fish along the Ting River, with the theme of “Conserve Our Drinking Water, Protect Tingjiang the Mother River”. A total of 150,000 fish was released.



Qinghai West Copper, in a joint effort with the local governmental departments, organised a Releasing of Fish Campaign at Gequ River section of the Yellow River in 2017. About 300,000 fish were released from the riverside of Gequ River at Dawu, Maqin County.



At Wuping Zijin, 32 village representatives residing near the company's mining operation were invited to inspect its environmental protection work. The company's work progress in environmental protection and ecological civilisation development were introduced to enhance the understanding of the community on the company's production techniques, environmental protection facilities and so on.



Zijin Copper visited the village residents near the industrial zone at which its operation is based to promote environmental protection and strengthen residents' understanding on the company's environmental protection work.



Russia Longxing organised its employees to collect rubbish around the mining area, so as to enhance employee's awareness on environmental protection, and raise their sense of responsibility for conserving the environment.

5.10 Awards received for environmental protection

(1) The Zijinshan gold and copper mine was awarded with “National May 1st Labour Prize-Certificate of Merit”, in recognition of its outstanding contribution and commitment to green development, resource conservation, energy conservation and emission reduction.



(2) The Zijinshan gold and copper mine was rated as the Model Industrial Enterprise of Fujian Province in 2017 by virtue of its typical quality management model of “environmental

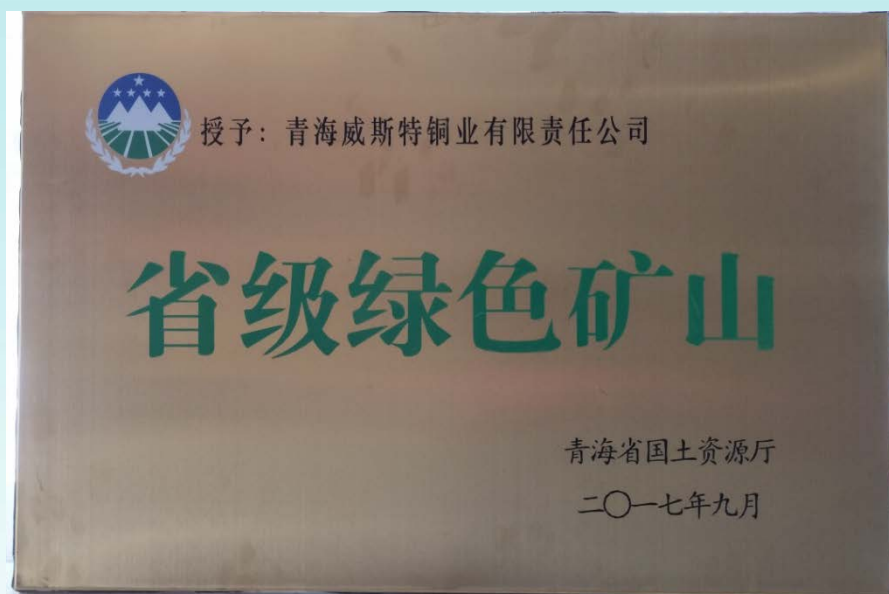
protection, low-carbon emission, energy conservation, and highly efficient utilisation of resources”. It was the only mining enterprise among the 10 awardees receiving such honour.

(3) Zijin Copper obtained approval from the Science and Technology Department of Fujian Province to establish a key laboratory for the “eco-production of copper and comprehensive utilisation of copper associated resources.” The completion of the key laboratory will further improve the technological level of Zijin Copper in respect of eco-refining of copper and comprehensive utilisation of resources.

(4) Zijin Copper was selected as one of the first batch of Green Manufacturing Demonstration Enterprises in 2017 as commendation for its achievements in green manufacturing, green transformation and upgrading, and ecological low-carbon industry.

(5) Qinghai West Copper received the 2017 “Green Business Management Award” presented by China Environment News, representing the recognition of professional state media on the company’s achievements in the pursuit for better ecological environment of mines.

(6) Qinghai West Copper was rated as a provincial-level green mine in 2017 by the Land and Resources Department of Qinghai Province.



(7) The two key technologies of Zijin Mining Group Gold Refinery Company Limited received the Science and Technology Awards of Fujian Province and Shanghang County respectively. The “Key Eco-friendly Technologies and Equipment for Extraction of High-Purity Gold” project won the third-class prize of the Fujian Provincial Science and Technology Award; the “Key Technology for Clean Production of Gold and Wastewater Recycling” project was awarded with the second-class prize of the 13th Science and Technology Award of the People’s Government of Shanghang County. The two technologies will further enhance the level of environmentally-friendly gold refining technology and circular economy of the Company.

(8) Guizhou Zijin Mining Co., Ltd. obtained the qualification of “High and New Technology

Enterprise of the State”. In terms of the development and application of key technologies, including processing and refining of refractory gold ore, enhancing comprehensive utilisation of resources, and construction of green mines, Guizhou Zijin Mining Co., Ltd. has obtained 2 patents, completed 17 scientific and technological research and development tasks and successfully applied 18 research and development results to actual uses.

(9) The 2017 Xinjiang Mining Industry Development and Green Mine Construction Symposium was held in Xinjiang Ashele Copper Co., Ltd. successfully, aiming at accelerating the establishment of green mines in the whole autonomous region, and promoting the exchange of experience and technological cooperation of mining companies in the development of green mines.

(10) When visiting Longxing Company, the Minister of the Ministry of Natural Resources and Environment of the Tuva Republic made highly positive remarks on Longxing Company’s environmental protection initiatives and their effectiveness.



(11) Altynken was awarded the honourable title of Outstanding Advanced Enterprise from the government of Kemin District, Chuy Region, Kyrgyzstan.



6 About the report

6.1 Branch companies and subsidiaries of the Company covered in the 2017 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 2017 Environmental Report

The period of this report is from 1 January 2017 to 31 December 2017.

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 Preparation of Corporate Environmental Report (HJ617-2011). Upon third-party verification by Beijing Larkworld Environmental Technology Incorporated Company, and review by the Safety, Environmental Security and Fire Affairs 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 2017 Environmental Report

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

6.5 Publication of the 2017 Environmental Report

The 2017 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

Name: Environmental Protection and Ecological Affairs Department of Zijin Mining Group Co., Ltd.*

Address: 1 Zijin Road, Shanghang County, Fujian Province, the PRC

Postal code: 364200

Fax no. of the Company: 0597-3848528

Telephone no. of the Company: 0597-3833105

Website of the Company: www.zjky.cn

7 Conclusion

2018 will be an important year. It marks a new beginning for the country to implement the spirit of the 19th National Congress of the Communist Party, the 40th anniversary since the implementation of Reform and Opening-up Policy in China, and a crucial year for continuing the success of the Thirteenth Five-year Plan; As for Zijin Mining, it will be the 15th and 10th anniversary of the Company for listing on the Hong Kong H share market and Shanghai A share market respectively, as well as a critical year for advancing the Company's internationalisation strategy to a new level. Mindful of the state's initiative on ecological civilisation, the Company will remain cautious to comply with the "red-line" requirement for environmental protection and safety, implement the enterprise's fundamental obligations, take a responsible approach towards environmental development by having regard to the well-beings of future generations, continue to improve environmental protection standards, and develop a global corporate reputation which recognises especially the Company's efforts in moving forward eco-development.

The time to sail comes when the winds and waves are fierce. In 2018, Zijin Mining will live out the idea of "green mountains and clear waters are our invaluable assets" with pragmatic actions; and strive hard, innovate and unhesitatingly pursue its course. Standing firmly in mining industry, the Company will set its mind on higher targets, make proactive progress and stride fearlessly forward with strong faith, to make continued contribution to the building of a beautiful China, and meet the growing needs of the general public for a pleasant environment and ecology. By carrying on with eco-development efforts, and echoing green initiatives for the Belt and Road development, the Company is prepared to become an important participant, the first-mover and contributor for global ecological civilisation.