



中國罕王控股有限公司

CHINA HANKING HOLDINGS LIMITED

罕王
HANKING

(Incorporated in the Cayman Islands with limited liability)

Stock Code: 03788



2018

ENVIRONMENTAL, SOCIAL & GOVERNANCE REPORT





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1. About this report

This report is prepared in accordance with Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “**Hong Kong Stock Exchange**”) (the “**Listing Rules**”) – “Environmental, Social and Governance Reporting Guide”. All information herein reflects the performance of China Hanking Holdings Limited (the “**Company**”, together with its subsidiaries, the “**Group**”) in respect of environmental management and corporate social responsibility from 1 January 2018 to 31 December 2018, which is available for public use to enhance transparency and increase the confidence and understanding of the stakeholders toward the Group. This report covers the iron ore business in the PRC (“**Iron Ore Business**”), the green building materials business of producing foamed ceramics (“**Green Building Materials Business**”), nickel business in Indonesia (“**Nickel Business**”) (Data of Nickel Business is up to 31 August 2018) and gold mine investment business in Australia (“**Gold Mine Business**”) owned by the Group. The information contained in this report is compiled based on the measures taken, policies adopted and the relevant information provided by the management of the Group and key members.



The Company was incorporated in the Cayman Islands on 2 August 2010, and was listed on the Hong Kong Stock Exchange on 30 September 2011, stock code: 03788. The Group is engaged in the exploration, mining, processing, smelting and selling of mineral resources. Upholding the core value of “people-oriented and business integrity”, the Group actively performs the enterprises’ social responsibilities.

This report is prepared in both English and Chinese versions and is available on the websites of the Company and the Hong Kong Stock Exchange (the HKEXnews). Should there be any discrepancy between the English and the Chinese versions, the Chinese version shall prevail. If you have any doubts or suggestions regarding this report, please contact us at any time, which will enable us to continuously improve our ESG practices. Our contact details are as follows:



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2. Responsibility of the Board

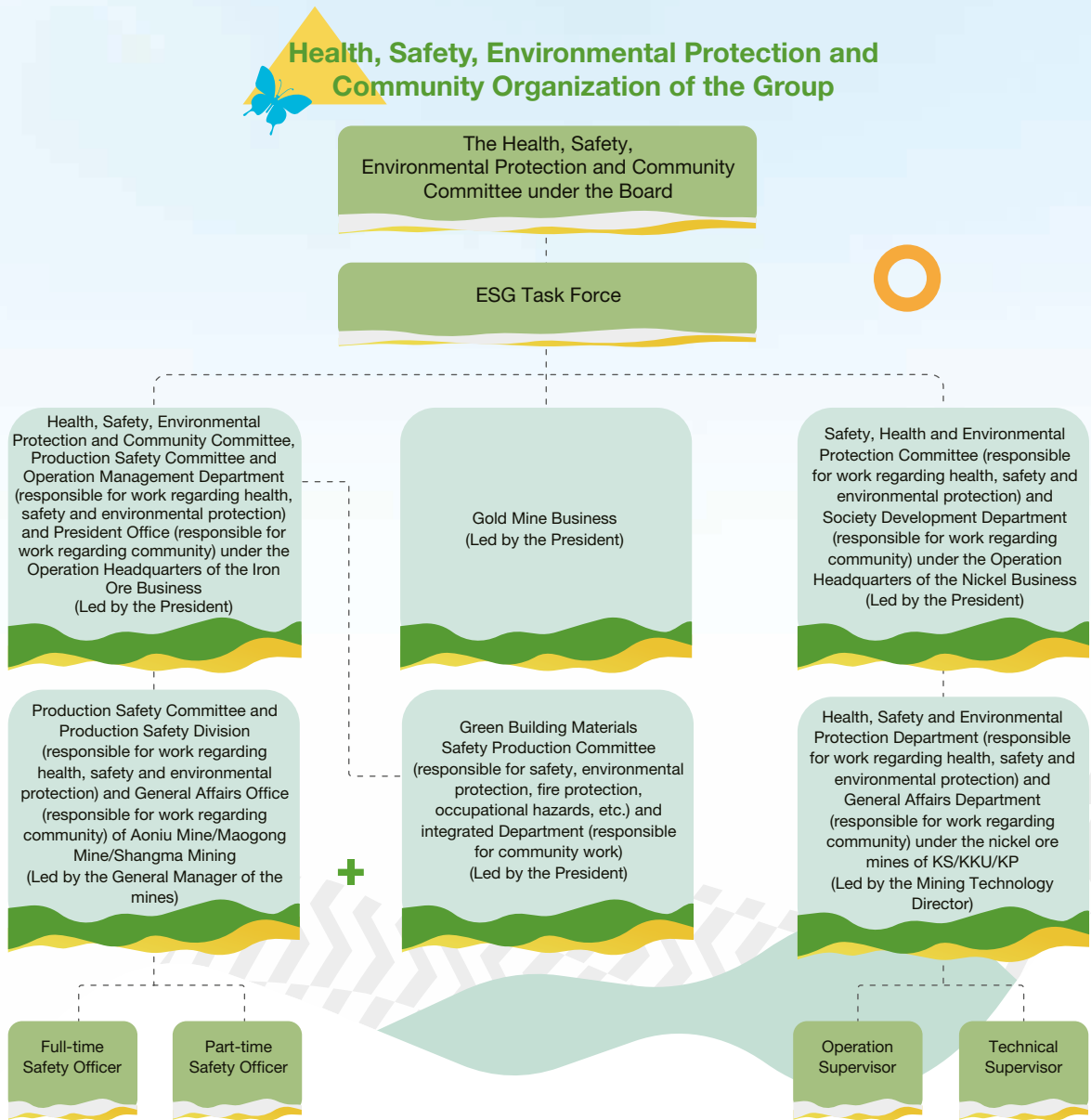
The board of directors of the Company (the “**Board**”) has set up the multi-level health, safety, environmental protection and community organization from the Board to the production workshops at each mine. The Health, Safety, Environmental Protection and Community Committee under the Board is responsible for leading the works regarding health, safety, environmental protection and community across the Group, including establishing dedicated management organizations under the operation headquarters of iron ore and nickel businesses to manage issues regarding health, safety, environmental protection and community within each business segment, and establishing relevant enforcement organizations and appointing full-time staff for each mine and their respective production workshops to enforce and supervise the implementation of relevant policies, while the Company guides and supervises mines. In 2018, the health, safety, environmental protection and community committee organizations of each business segment were further improved, forming an organization featured with definite responsibilities and effective supervision.

Based on the review of the Health, Safety, Environmental Protection and Community Committee, the Board confirms that the Group has complied with the “comply or explain” and the proposed disclosure provisions set out in the Environmental, Social and Governance Reporting Guide. The environmental, social and governance measures taken by the Group are appropriate and effective during the reporting period.





2. Responsibility of the Board



3. Materiality Assessment

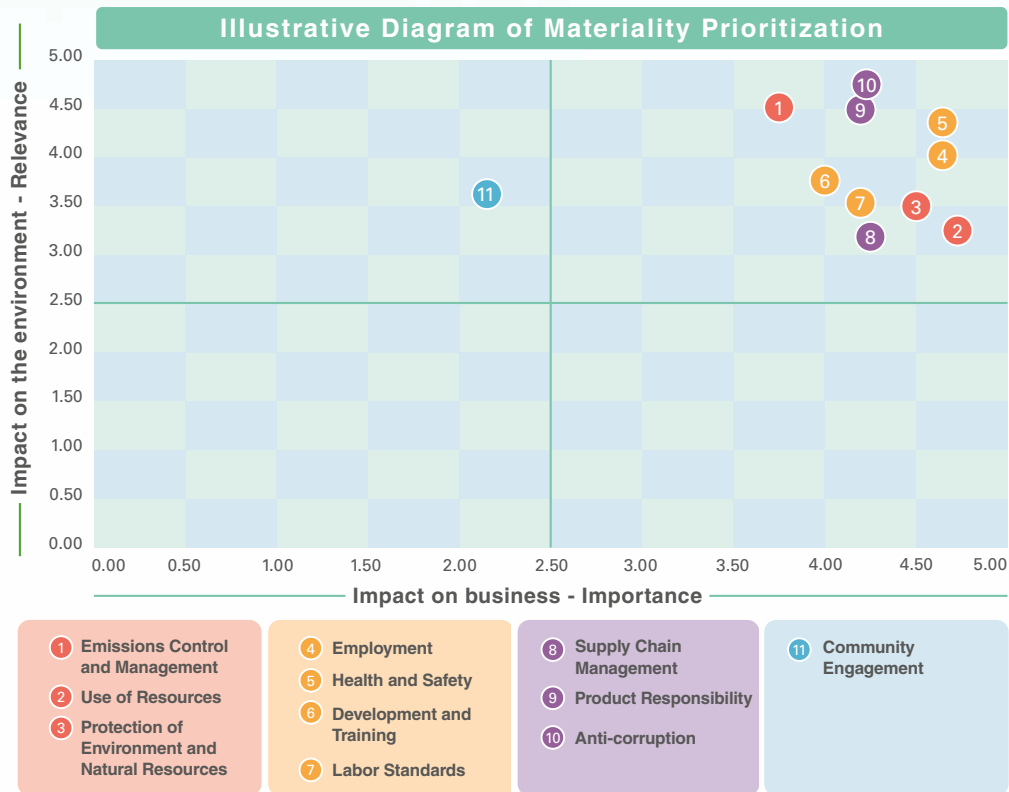
The determination and assessment of materiality topics are conducted by three processes, identification, prioritization and verification.

Identification

We have considered the topics stated in the materiality list in G4 Sustainability Reporting Guidelines issued by Global Reporting Initiative (GRI), the indicator related topics required to be disclosed by the Environmental, Social and Governance Reporting Guide in Appendix 27 to the Main Board Listing Rules of the Hong Kong Stock Exchange, and the materiality topics highlighted in the course of stakeholder engagement. The Company has identified the following material topics and determined the scope and boundary of the impacts of such topics.

Prioritization

With respect to the selected materiality topics, we list out the sequence of importance according to the degree of impacts on our business and environment.



Verification

In determining the materiality aspects, the Company has organised the relevant managers within the Group to carry out verification so as to reach consensus with the Group. In addition, the Company has formulated administrative measures regarding the indicators involved in the materiality aspects to determine the means of collection and procedures of indicator information disclosure.



4. Stakeholders' Engagement

The Company is committed to creating a win-win community for all parties. We identify stakeholders as individuals or organizations that interact with the Group and are influenced by, and have an influence on or have a vested interest in the Group. The stakeholders of the Group include not only internal stakeholders such as the employees and board of directors, but also external stakeholders such as our shareholders and investors, customers, suppliers, peers, communities and governments.

The Group aims to maintain open and effective communication with stakeholders to achieve the maximum of social integrated benefits (including the maximum of enterprise earnings). Going forward, the Group will maintain and promote the communication with the stakeholders and collect their opinions extensively through various forms, optimizing the substantive analysis. Meanwhile, the Group will also adopt a more quantitative, balanced and consistent reporting principles to present the content and information of the report.

Communication with Key Stakeholders of the Company in 2018		
Stakeholders	Key interests	Ways of engagement and communication
The Board	<ul style="list-style-type: none"> Strategy and development Business continuity planning Corporate operational affairs Financial position Ethics and integrity 	<ul style="list-style-type: none"> Board meetings General meetings Management meetings Press release Annual reports, interim reports, circulars, and announcements E-mail and telephone
Employees	<ul style="list-style-type: none"> Employment Development and training Health and safety Labor standards 	<ul style="list-style-type: none"> Labor union activities Employees' activities Training and learning activities Staff meetings Face-to-face communication
Shareholders and investors	<ul style="list-style-type: none"> Planning and development Business continuity planning Corporate operational affairs Financial position Ethics and integrity 	<ul style="list-style-type: none"> General meetings Investor meetings Press release Annual reports, interim reports, circulars, and announcements On-site visits
Customers	<ul style="list-style-type: none"> Planning and development Business continuity planning Service commitment Market information Product responsibility Legal compliance Ethics and integrity 	<ul style="list-style-type: none"> Regular visits and follow-ups Company's website and promotional materials

Communication with Key Stakeholders of the Company in 2018

Stakeholders	Key interests	Ways of engagement and communication
Suppliers	<ul style="list-style-type: none"> Business continuity planning Legal compliance Supply chain management Corporate governance and internal control Anti-corruption Health and safety 	<ul style="list-style-type: none"> Open tendering On-site visits Fairs
Peers	<ul style="list-style-type: none"> Market information Continuity business and strategic planning Corporate operation Financial position 	<ul style="list-style-type: none"> Seminars Exchange visits Industry organization conferences
Communities	<ul style="list-style-type: none"> Community investments Charity and donation Labor demand 	<ul style="list-style-type: none"> Visit by villagers Enterprise visit Charitable assistance Volunteer service Community building activities
Governments	<ul style="list-style-type: none"> Corporate governance and internal control Market information Legal compliance Ethics and integrity Company development Sustainable development and strategic planning Financial position 	<ul style="list-style-type: none"> On-site inspections and checks Research and discussion through work conferences Work reports preparation and submission for approval



5. Environmental Protection

We care

Climate change may have a significant impact on the ecosystems, communities and local economies on which the Company relies, and may also have a direct impact on the Company's business activities. Therefore, it is an important and long-term endeavor to address the risks of climate change by improving the energy efficiency and reducing the carbon footprint in mining

activities to the best of our ability, which is necessary in terms of corporate profitability and social responsibility. Maintaining the trust and respect of stakeholders and building the Company's brand on the basis of increasing profit is essential to the environment and community development that the Company cares about.



We commit

According to the Company's established goal and without disruption to our production, we will use cleaner and renewable energy as much as possible and apply energy-efficient technologies in new buildings and equipment, taking efficiency upgrading in energy-intensive sectors as part of our future plans and educating our employees on how to minimize energy use and consumption in their daily work (A2.3).



5.1 Emissions Control and Management

The Group regards reducing and standardizing discharge of waste as one of the important tasks for an enterprise to fulfill its environmental protection responsibility, and makes efforts to reduce the generation and emission of waste by utilizing technologies and recycling. The Group has obtained the required work safety license and its emission of industrial “three wastes” has reached the required standards, which are detailed below:

Types of Emissions and Respective Emissions Data(A1.1/A1.3/A1.4/A1.5)

Iron Ore Business

A physical magnetic separation process was adopted by the Iron Ore Business to produce iron ore concentrates, so no toxic substances were emitted during production. The mining operation mainly generates separated soil and stone, while the processing operation mainly generates tailing sand, part of which is used as raw materials for production of foamed ceramics in our Green Building Materials Business. Zero emission of wastewater is achieved by recycling wastewater. Noises and dusts will be emitted during the mining and hauling operation at mine sites, as well as the crushing and machine operation at the processing plant. Off-gas will be emitted by running fuel-powered equipment.

Green Building Materials Business

The Green Building Materials Business primarily emits waste gas, wastewater and solid wastes (“**Solid Wastes**”). The solid wastes include scraps and powders arising from the cutting process, and such wastes can be fully recycled after being mixed with other formula materials. Wastewater can also be fully recycled to realize zero emission.

Nickel Business mainly generates separated soil and stone.

Gold Mine Business has not been put into production in 2018, so there is no emission from its production.



5. Environmental Protection

	Type	Emissions	Category of pollutants	Total volume (metric tons)	Initiatives taken to reduce the emissions
Iron Ore Business	Mining	Separated soil and stone	Non-hazardous waste	1,471,269.08	<p>The volume of separated soil and stone has declined as open-pit mining is fully transformed to underground mining.</p> <p>All of the separated soil and stone are used for reclamation, backfilling and road building. Big stones are used to build drains and barricades.</p>
	Processing	Tailing sand	Non-hazardous waste	3,012,664.21	Tailing sand is piled in the tailing ponds and used to produce foamed ceramics in the Green Building Materials Business.
		Waste water	Non-hazardous waste	0	Zero emission is achieved by recycling waste water.
Green Building Materials	Production Workshop	Waste water	Non-hazardous waste	0	Zero emission is achieved by recycling waste water.
		Scraps, powders and disqualified products generated from the cutting processes; and solid wastes in the sedimentation basin	Non-hazardous waste	0	The wastes are fully recycled after being mixed with formula materials.
Nickel Business	Mining	Separated soil and stone	Non-hazardous waste	558,300	Separated soil and stone are piled at the waste dump and used for reclamation, backfilling and road building, thereby minimizing the environmental impact

Analysis of greenhouse gas (GHG) emissions arising from energy consumption (A1.2)

The direct GHG emissions of the Group are mainly caused by fossil fuel consumed for production and office, including diesel, gasoline, coal, natural gas and blast-furnace gas. Indirect GHG emissions are caused by power consumed during the production process of enterprises. Other indirect GHG emissions are mainly from the emission sources of business air travel by our employees.

GHG emissions (A1.2)

Category	Iron Ore Business	Green Building Materials	Gold Mine Business	Nickel Business	HQ in China
Scope 1	4,344.96	67.11	54.96	1,019.46	83.71
Scope 2	125,098.11	959.12	27.54	98.53	73.89
Scope 3	27.78	13.80	13.37	15.04	29.56
Carbon dioxide equivalent (metric tons)	129,470.86	1,040.02	95.87	1,133.03	187.17
Iron Ore Business Annual output of iron ore concentrates (metric tons)	1,795,959.73	Iron Ore Business GHG emissions per ton of iron ore concentrates (metric tons CO₂e)		0.0721	
Nickel Ore Business Annual output of nickel ore (metric tons)	537,036	Nickel Business GHG emissions per ton of nickel ore (metric tons CO₂e)		0.0021	

Scope 1: Refers to the direct GHG emissions. The emissions of the Group are derived from the GHG generated by consumption of stationary source and mobile source, and minus the GHG removal from new tree planting each year (Global warming potential (GWP) is derived from the Fifth Assessment Report (AR5) by Intergovernmental Panel on Climate Change (IPCC)).

Scope 2: Refers to the indirect GHG emissions where the GHG emissions are derived from the purchased electricity. The GHG emission factors of the Iron Ore Business, Nickel Business and the Headquarters are derived from the GHG Protocol Tool for Energy Consumption in China (Version 2.1). The measurement of GHG emission of the Gold Mine Business is based on the GHG Protocol.

Scope 3: Refers to other indirect GHG emissions. The Group chooses to disclose the emissions caused by business air travel by our employees, which is calculated in accordance with ICAO Carbon Emissions Calculator.

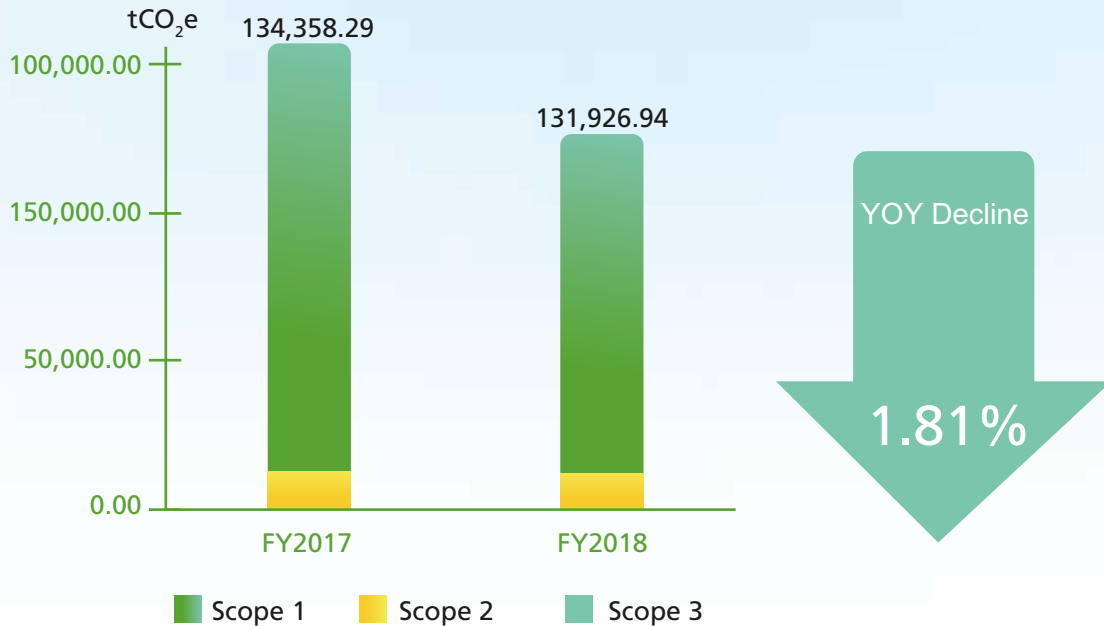
The Green Building Materials business produced 7,900 cubic meters of foamed ceramics plates and 13,900 meters of lines in 2018. There is no need to calculate the unit energy consumption as the product types are different.

In order to reduce GHG emissions, the Group has implemented policies to reduce business travels, encouraging our employees to substitute overseas business travel with conference call (if possible) and use public transportation. Such measures will reduce GHG emissions caused by private cars and aircrafts on a business trip.



5. Environmental Protection

YOY change in GHG emission:



Emissions Management Methods (A1.6)

In order to effectively implement unified management of storage, utilisation and disposal of mine solid wastes and make rational and effective use of solid wastes, the Iron Ore Business issued the Administrative Measures for Mine Solid Wastes (《礦山固體廢棄物管理辦法》) on 6 May 2016.

Management of tailing ponds: The tailing ponds in the Iron Ore Business are designed, constructed and managed in strict accordance with the Administrative Rules for Safety Supervision in Tailing Ponds (《尾礦庫安全監督管理規定》) and Safety Technological Regulations for Tailing Ponds (《尾礦庫安全技術規程》) of the PRC, and all related safety and environmental standards have been fulfilled.

Management and comprehensive utilization of separated soil and stone: In the stripping operation, topsoil and waste rocks are stripped and piled at the waste dump separately. The Company manages and monitors, on a daily basis, the piles of waste rocks and soil at the waste dump, in order to prevent flying dusts as well as water and soil erosion. Soil and stone separated may be used for reclamation, backfilling and construction of roads. Stripped waste rocks may be filled into the bottom of mine pits, and large rocks may be used for repairment and construction of drains and barricades, while stripped topsoil may be used for reclamation, which is helpful for the growth of vegetation and environmental restoration.

Currently, the open-pit has been fully transformed to underground mining in the Iron Ore Business, which leads to a gradual decline in volume of separated soil and stone.

Management and comprehensive utilization of tailing sand: Normally, tailing sand is discharged to the tailing pond along with tailing pulps and settles down at the pond over time. The Company manages and monitors, on a daily basis, its tailing ponds, including the volume and height of tailing sand therein, to ensure that the height of tailing dam remains at a safe level.

Measures by the Iron Ore Business to comprehensively utilize tailing sand: using advanced processing techniques to throw out tailing sand, which will be used as construction sand. Some primary dry residue from Maogong Mine is used as pre-concentration dry slag for road repairment; Moreover, the Iron Ore Business has conducted technical improvement to minimize the amount of ore to be processed, which resulted in the decrease of tailing volume.

To fully utilize resources, the Group established the Green Building Materials Business on 13 December 2017. In the business, the Group produces foamed ceramics with the tailing sands generated by its Iron Ore Business. Foamed ceramics are light and A1 fireproof materials that are soundproof and waterproof. It has high strength and is easy to be installed and processed. Being widely used in subways, hospitals, libraries, commercial properties and residential properties, the foamed ceramics can fully replace the existing wall and thermal insulation materials used in domestic market. Therefore, we see great growth potential in our Green Building Materials Business. The project was put into production in 2018, with the first production line being completed in July 2018 and starting production in August. The Green Building Materials Business started selling products in September. The project is designed to consume 42,000 metric tons of tailing sand per year. In 2018, it consumed 6,500 metric tons of tailing sand, which means decreasing equivalent emission of tailing sand of Iron Ore Business. In addition, the Green Building Materials Business has used the blast furnace gas emitted by Fushun Hanking D.R.I Co., Ltd. ("**Direct Reduced Iron**"). The project is designed to consume 47.52 million standard cubic meters of blast furnace gas. In 2018, it consumed 3.5 million standard cubic meters of blast furnace gas. The launch of our Green Building Materials project can reduce the land used by the tailing ponds, lower the production costs of the iron ore concentrate of existing iron ore business and maximize the value of our products. The project realizes circular economy that boosts our productivity and helps protect environment, and also represents part of the Group's efforts to expand into other sectors and respond to industry changes.



5. Environmental Protection

Dust prevention and removal measures: At the mining sites and on the roads to these sites in the Iron Ore Business, sprinkling trucks and pipelines are used to remove dust by spraying water. In the grinding workshops at our processing plant, a wet grinding process has been adopted to prevent dust. Bag filters have been installed across the crushing workshops, screening workshops, waste rock storehouse, main building and other areas of the processing plant, and high-level emission has been adopted to eliminate dust resulting from production, with the dust removal efficiency reaching 99%.

The Green Building Materials Business takes technical measures for dust management such as dust control, collection, and reduction. To prevent uncontrolled discharge of dust, it covers up all raw materials, finished products and solid wastes in their shipment so as to avoid any littering. The storage yards are fenced and covered, and water spraying is used to control dust. The pollutants in off-gas, combustion emission from blast furnace gas, and dry dust are all processed through cyclone dust removal, bag-type dust remover, sprinkler and 22M exhaust funnel before being discharged to ensure that the emission concentration meets the limit required by the Emission Standard of Pollutants for Ceramics Industry.

Noise reduction measures: The Iron Ore Business optimizes blasting design, applies structural insulating materials, conducts technical process transformation, uses underground tailing pump stations and low noise equipment, makes interior disposition for high noise sources, installs shock pads on crushers, screening machines and ball grinders, and takes other effective measures to mitigate damages caused by noise, reducing noise source from 91 db to approximately 80 db which has met the requirements of “Emission Standard for Industrial Enterprises Noise at Boundary” (GB12348-2008).

The Green Building Materials Business takes technical measures for noise reduction such as noise absorption, insulation, and control. It has used low-noise equipment, and used various noise reduction measures in the major noise-generating procedures such as powder production, compaction, polishing and deburring. These measures include reducing the vibration of equipment, isolating noise of production facilities, strengthening the vegetation in plants, and others. The noise control in our plants fulfills the requirements set out in “Emission Standard for Industrial Enterprises Noise at Boundary” (GB12348-2008).

Recycling of wastewater with zero emission: Wastewater generated from the production of the Iron Ore Business mainly comprises water carried by tailing pulps emitted from the processing plant. Tailing pulps are discharged into the tailing pond. After sedimentation and clarification, clean water will flow into the circulation pump station, then pumped back to the processing plant for reuse in processing. Thus, production wastewater from the processing plant is recycled and reused as a closed cycle, without any external emission. At the same time, domestic wastewater is turned into organic fertilizer after treatment in septic tanks, which is used as fertilizer for crops. Some mines adopt recycling water of high level water tanks that comes from the tailing pond or underground pouring water as production-use water of processing plant. Aoniu Mine and Shangma Mine adopt high level water tanks to pump pouring water from underground for underground mining operation, drilling and watering roadways in the mining areas to reduce dust.

The Green Building Materials Business has separated the rainwater from sewage, and all the sewage from the production activities are fully recycled.

Reduction of off-gas emissions: The Company selects and uses diesel-powered equipment compliant with national emission standards in a reasonable fashion, and switches off equipment not running for a long time in a timely manner, so as to reduce its off-gas emissions.

Treatment of domestic waste: Domestic waste emitted from the living quarters will be regularly taken away for bio-piling and used as fertilizer for crops after being treated in impermeable septic tanks if it is perishable, or removed to the refuse depot for disposition if it is non-perishable. The Company promotes waste sorting and forbids employees to throw away or burn domestic waste at will.

5.2 Use of Resources

For mining companies, mineral resources are their foundation to survive and thrive. The Group values and encourages thrifty and efficient use of resources, while preventing waste of resources by enhancing its effort in recycling.

Mineral resources

In 2018, the stripped amount of our Iron Ore Business reached 1,256 thousand metric tons. As at 31 December 2018, the iron ore resources amounted to 99,978 thousand metric tons.

The PGO under the Gold Mine Business has 2 million ounces of gold resources that meet standards defined in JORC Code, with an average grade of 1.1 grams per metric ton. Gold resources has reached 230,000 ounces, with an average grade of 3.9 grams per metric ton.

At the time of acquisition, the Nickel Business had the measured and indicated nickel metal resources of approximately 3.75 million metric tons and inferred nickel metal resources of 1.04 million metric tons. There was no change in the nickel resources of our Nickel Business in 2018.

Use of other key resources

Besides mineral resources, other key resources used by the Group include gasoline, diesel, coal, natural gas, blast furnace gas, electricity and water.



5. Environmental Protection

Energy and Water Consumption (A2.1/A2.2):

	Total annual consumption by Iron Ore Business	Green Building Materials	Total annual consumption by Nickel Business	Total annual consumption by Gold Mine Business	Total annual consumption by the Headquarters
Gasoline (liters)	128,081	-	200	-	31,472
Diesel (liters)	1,714,062	14,700	390,000	21,024	-
Coal (metric tons)	1,263	-	-	-	-
Power consumption (kWh)	110,050,932	843,751	86,675	24,228	65,006
Natural gas (ten thousand standard cubic meters)	-	210	-	-	-
Blast furnace gas (ten thousand standard cubic meters)	-	350	-	-	-
Surface water	1,813,010	-	14,600 (40 metric tons/day)	-	-
Water (metric tons)					
Underground water	-	5,000	-	-	-
Municipal water supply	-	-	-	-	- (borne by the lessor)

In 2018, the annual output of iron ore concentrates in the Iron Ore Business was 1,795,059.73 metric tons while the annual output of the Nickel Business was 537,036 metric tons. The Green Building Materials business produces 7,900 cubic meters of foamed ceramics plates and 13,900 meters of lines per year.

The unit energy consumption and water consumption are as follows:

	Iron Ore Business	Nickel Business
Gasoline (liters)	0.07	0.0004
Diesel (liters)	0.95	0.73
Coal (metric tons)	0.0007	–
Power consumption (kWh)	61.31	0.16
Water (metric tons)	1.01	0.03

Note: There is no need to calculate the unit energy consumption in the Green Building Materials Business.

Water (A2.4)

Water is a kind of critical and limited resource that is vital to all life. However, human activities have had a negative impact on the supply of fresh water in many areas. The Group will prioritize our efforts in keeping water source clean, saving water, and using water in an efficient manner.

Some mines of Iron Ore Business adopt recycling water of high level water tanks or sediment water of open pit as production-use water of processing plant. Aoniu Mine and Maogong Mine adopt ring water tank, which minimized the energy consumption by pumping up the water gushed from underground mining wells for recycling use, and it is highly efficient



in energy and water saving. It also strives to prevent leakage and waste of water through intensive inspection and maintenance of water pipelines and storage facilities, putting up water-saving signage and fostering the habit of saving water. In order to reduce water consumption, most toilets are half flushing.

By optimizing the production processes, the Green Building Materials Business has reduced the water consumption, recycled wastewater and realized zero-emission.

The Nickel Business has promoted water conservation by putting up water-saving signage, which has helped employees develop the habit of getting water according to their needs, saving water and switching off water valves timely. Regular inspections on water pipelines are carried out to prevent leakage.



5. Environmental Protection

Electricity

The Group uses energy-saving facilities and reduces its power consumption for per metric ton of iron ore concentrates by installing new lines of energy-saving transformers and motors, reasonably selecting large equipment, reducing the number of equipment, improving the output per equipment and increasing production capacity. Furthermore, the Group strives to reduce power consumption by developing power-saving projects, adopting power-saving technologies, and weeding out obsolete equipment.

By installing field compensation device at the low voltage side of the distribution room of each plant and intensive high voltage compensation device at the high voltage side of the power substation, Aoniu Mine increased the power factors in order to achieve the final goal of power conservation through increased utilisation rate of electricity power. The high-powered pumping equipment was modified to apply variable frequency starting, in order to make full utilisation of the equipment, reduce power consumption and achieve power conservation. An energy consumption management and control system has been installed in order to evaluate various energy conservation measures, which has achieved favourable results.

The Company requires its employees to turn off electric equipment unused for a long time in a timely manner, and raises the awareness of its employees to save electricity by posting promotional signage, so as to prevent unnecessary wastage. In 2018, the Company continuously promoted physical exercise and power saving, with all employees responding actively, and it will go on with the initiative of “Go out during lunch breaks, and switch off for one hour”.

The Green Building Materials Business saves energy by using off-peak electricity and improving productivity.

Diesel

The diesel consumed in the Iron Ore Business is mainly consumed by the production equipment of the Company, not including the diesel oil consumed by the contractors. The diesel consumed in the Nickel Business was used for diesel oil-fired units at each base for power generation. Meanwhile, all vehicles were powered by diesel. The Company reduces its diesel consumption by preferring diesel-saving equipment, using diesel-powered equipment reasonably, turning off equipment not running for a long time in a timely manner, and preventing spill when refueling. In the meantime, the Company has enhanced the management of diesel purchase, transport, storage and use, in order to prevent any waste, abuse and loss.

Iron Ore Business obsoleted relevant equipment and vehicles with high energy consumption and low production capacity by optimizing the equipment and facilities of the processing plant and mining plant, transformed from open-pit mining to underground mining at an increasing number of mines, and adopted the strategy that diesel used for the underground mining project will be supplied by the underground mining construction unit, which in turn reduced the diesel consumption of the Company.

The Green Building Materials Business makes sound planning on product shipment to avoid unnecessary shipments and thereby reduce diesel consumption.

Gasoline

The Group's consumption of gasoline is mainly used for corporate vehicles. In order to reduce the consumption, we strictly control the use of vehicles by reducing the utilization rate. Vehicles shall power off in a timely manner during the use process.

Coal

The Group only uses coal resources for the Iron Ore Business. Maogong Mine replaced its coal fired boiler with electric boiler in 2018, which significantly reduce the consumption of coal, and adopted measures to enhance the heat preservation of rooms, striving to reduce coal consumption.

Natural Gas

The Green Building Materials Business lowers the natural gas consumption by optimizing the firing process and equipment parameters.

Blast Furnace Gas

The Green Building Materials Business lowers the blast furnace gas consumption by optimizing the raw materials processing technology and equipment parameters.

5.3 Protection of Environment and Natural Resources (A3.1)

The Group is committed to maintaining a balance between efficient mining and ecological environment protection so as to achieve sustainable development. Its daily operations are reviewed carefully to minimize the adverse impact on the environment and natural resources, and the relevant education are promoted to gradually enhance the environmental awareness of the Group's employees.



Upholding the tenet of "Green Mines", the Group takes the environmental protection and restoration measures, strives to build modernized ecological mines, and aims to achieve the targets of energy conservation and emission reduction as well as cleaner production and mitigate impacts of production activities on environment by ways of recycling and technology upgrade. Report on environmental impact assessment is prepared for each operating project which will not commence until such report is reviewed and passed by professional experts, so as to minimize the impact of the operating project on the environment.

5. Environmental Protection

The Group complies with all environmental protection laws and regulations of each place where the Group operates, takes necessary environmental protection measures, fulfills the responsibility of restoration of mine environment, and prepares and implements the plans for protecting, restoring and treating the mine environment. The restoration of the geological environment at the mine sites goes well. No major geological disasters have occurred in recent years.

To carry out mining activities, the Group needs to occupy part of the land. After the mining is completed, the Company will restore the land and vegetation through land reclamation and revegetation measures. The Group's mining activities also consume a lot of mineral resources. Therefore, the Company tries to reduce the consumption of mineral resources by improving the rates of resource utilization, extraction and recovery. Meanwhile, the Company keeps discovering new mineral resources through exploration activities, resulting in an increase of our mineral reserves.

Improvement of the extraction rate and recovery rate(A1.5/A2.3)

Mining and processing mineral resources are the core business of the Group. The Group strives to improve the recovery rate and the extraction rate of useful metal contained in the ores to reduce mineral resource consumption.

The Iron Ore Business minimizes the mining loss rate and dilution rate and maximizes the processing recovery rate by optimizing its mining methods and processing techniques, strengthening the management of on-site operations, and establishing strict technical standards for mining and processing in light of the actual conditions of each mine.

The extraction rate and recovery rate of the Iron Ore Business are as follows:

Mine	Extraction rate	Recovery rate
Aoni Mine	Underground mining:86.60% Open-pit mining:96.87%	Magnetic iron recovery rate of raw ore:98.02%
Maogong Mine	Underground mining:86.03%	Magnetic iron recovery rate of raw ore:98.07%

Technological innovation and technological improvement

1 *Phase four technological improvement project in Maogong Mine ("Technological Improvement Project")*

Maogong Mine commenced the phase four technological improvement project in March 2018, which increases production capacity by installing ball mills.

2 *Aoni Mine introduces new equipment for underground mining*

Along with the depletion of resources in the third mining district of Aoni Mine, Aoni Mine introduced remotely-controlled scrapers in April 2018 to recycle jams and facilitate recent production. Scrapers can work in a timely and energy-efficient manner, and are easy to install and use. Scraper users can monitor the engine speed, water temperature, water level, lubricating oil temperature and oil tank level of scrapers. Moreover, scrapers can centralize the lubricating oil system warnings, hydraulic lifting system warnings, brake fluid system warnings and other functions, which can both ensure human safety and enhance mining productivity in mining areas.

3 **Technological improvement project in Green Building Materials Business**

- (1) Installing the 40 metric ton feeding machine that can load materials independently

In November 2018, the Green Building Materials Business purchased a 40m³ feeding machine and put the machine into use. The improvement reduced the dust generation in raw materials workshop areas, and helped preserve heat in winter. In addition, the feeding time was shortened to about 1 hour (only one third of the previous feeding time), which better prepared us for production in winter.

- (2) Recycling of fine dust from spray tower

In October 2018, the Green Building Materials Business purchased a set of high-speed dispersion machine, which can collect and pulpify fine dusts generated by raw materials workshop. The pulpified dusts can then be injected into pulp chest for spray granulation. The machine significantly reduced the dust generation in raw materials workshop areas, and increased the utilization rate of raw materials by about 10%, which indirectly reduce raw materials production costs by 5-10%.

- (3) Automation of feeding system

The automation of our feeding system has reduced the workload and required number of operators, and enabled the system to be activated by pressing only one button. The belts were attached with pull switch, off-track detector, slip detector and other inspection equipment, which significantly enhanced safety of inspectors. The automation project can reduce the required number of operators by three. If one operator is paid RMB100 per day, the automation project can save about RMB300 per day.

- (4) Optimization of electricity distribution

A low-voltage busbar distribution cabinet and a second level distribution cabinet were added to the substation so as to centralize the power supply for branches. One transformer was removed, and each subsidiary equipment supplies power independently, which minimized the harmonic wave. The reactive compensation was distributed automatically. Such improvement saved RMB22,000 of basic electricity tariff per month, and the reactive compensation was better than before. Because the equipment's use was not accurate, monthly saving may reach RMB1,000.



5. Environmental Protection

(5) A searchlight-based observation method of kiln collapse

The kiln is over 360 meters long, and its middle section is dark and difficult to observe. There is no way to install lighting facilities there. A searchlight-based observation method was invented to observe kiln collapse. 4-6 searchlights were installed at the exit of the kiln. When the kiln car enters the kiln, an observed light indicates that kiln cars operate normally. The searchlights did a lot of help. Two kiln collapses happened, and fewer than three kiln cars were impacted in every collapse. Such invention reduced kiln loss by nearly RMB20,000 in each incident.



(6) Extension of belt conveyer in cutting workshop to outdoor areas



The wastes of cutting workshop were previously transferred outside by forklifts, which cost lots of time and fuel. In addition, doors need to be opened for forklifts to transfer wastes outside, which impacted production in winter. Liu Mingfu, director of the cutting workshop, suggested to stop transporting wastes by forklifts and extend the conveyer out of the workshop instead. The conveyer has been completed and put into use and generated considerable benefits.

It has saved time and fuel in wastes transportation.

(7) Spreader improvement in firing workshop

After the level-1 belt of spreader in the 2nd firing workshop was used for over 1 month, because substances fell onto the belt, the driving shaft was unable to drive the belt sometimes. A repairer found a way to solve the problem based on his years of observation and working experience by putting a carrier roller under the driving shaft. After that, the driving shaft has functioned well for over 1 month without any occurrence of the above issue. Such improvement reduced the number of repairs and cut the costs for replacing quick-wear parts such as bearings.

5. Environmental Protection

Revegetation and reclamation

In 2018, the Iron Ore Business continued to implement the concept of “Clean water and green mountains are invaluable assets”. Each mine planted trees and other vegetations. As at the end of 2018, the Group reclaimed 541 mu of forest land, among which Aoniu Mine reclaimed and revegetated 230 mu of land and planted 200,000 trees, and Maogong Mine reclaimed and revegetated 311 mu of land and planted 311,000 trees.



The Maogong Mine transformed its tailings pond for the open-pit mine in 2018, which significantly reduced the forest land occupied by tailings.

In 2018, vegetation restoration work was carried out at waste dumps of Maogong Mine and Aoniu Mine to gradually restore the ecological environment in the mining area. The restoration is of great importance to conservation of local ecological system. Aoniu Mine, which is one of the first batches of private-sector national-level green mines, has long dedicated itself to protecting the environment. By mining in a scientific and orderly manner, the mine minimizes its impact on the environment of the mining area and the nearby regions. On 1 April 2018, Aoniu Mine’s open-pit mining area officially started Spring land reclamation in waste dumps. 0.3-meter-thick of soil was spread over the waste dumps to create sound conditions for vegetation recovery in the future.



Fushun Hanking Forest Farm Limited, a subsidiary of the Group, is responsible for the revegetation and reclamation of the Iron Ore Business as well as the integrated development and utilization of idle forest and land. It has established nurseries and farms at the mine, nurturing seedlings for reclamation.

Maogong Mine plants fruit trees and raises chickens and ducks on a farm in the factory area. Every autumn, employees can enjoy the green and healthy food from our own farm. These measures not only green the factory areas, but also provide food to employees.

The geological environment treatment project resolved the environmental and geological problems of the mines, improving and restored the ecological mining areas as well as recovered the use value of the land, improving the living environment of the diggings. Remedy was made to the damaged mine body through backfill and slope protection to ensure slope stability and eliminate potential geological hazard. Site preparation and reclamation were conducted to restore the basic function of the land. Revegetation was carried out to restore the ecological function of the mines, so as to improve the ecological condition of the mines.



5. Environmental Protection

Environment monitoring, management, investigation, assessment and report

The Group regularly monitors the water quality, air quality and noises in mines, and strengthens the monitoring, investigation, assessment and reporting on the ecosystem of the production operation zones, in order to prevent any environmental accident.

The Iron Ore Business carried out supervisory activities to water quality, air quality and noise controlling on a regular basis. Corresponding measures have been taken to ensure that each indicator complies with the requirements of laws and regulations.

In 2018, the second mining area of Maogong Mine passed the environmental assessment and domestic water quality monitoring.

In addition, a stability analysis was conducted on the waste dump of Maogong Mine and Xiaomiaogou Tailings Pond of Aoni Mine in the year, and the analysis results showed they were stable and safe.

In 2018, the Green Building Materials Business obtained the approval on the Report of Environmental Impact on Construction Projects (《建設專案環境影響報告表》).



Emergency plans for unexpected environmental accidents

The Company has formulated emergency plans for unexpected environmental accidents. In case any environmental accident happens, immediate actions can be taken in accordance with the plans, and the Company can immediately report the nature of the accident, investigate and analyze the cause of the accident, propose and implement remedial measures, and assess its effectiveness and impacts on the environment, with an aim to prevent any environmental accident and the expansion of negative impact.

Recycling of materials

The Group encourages the recycling of waste and used materials, with an aim to reduce waste of resources and turn waste into wealth. Dedicated mechanical maintenance department at each mine can revamp abandoned and worn-out equipment for reuse.

Maogong Mine changed the obsolete garage into a carwash, which is equipped with car wash pumps, water storage tank and automatic foam machine. The carwash brings great convenience to employees and drivers.

In its production, the Green Building Materials Business uses tailing sand generated by the Iron Ore Business, and the blast furnace gas generated by Fushun Hanking Direct Reduced Iron to achieve emission reduction and circular economy (A1.5/A1.6).



6. Employment and Labour Practices

6.1 Employment

Adhering to the philosophy of “human oriented”, the Group is committed to providing a favorable working environment for employees to protect their health and safety. The Company encourages the employees to exert their creativity and potential and to align personal development with enterprise growth, so as to promote mutual development between individual employee and the enterprise.

Equal opportunity

The Group endeavours to provide equal opportunities for employees in all aspects with a view to create a fair and nondiscriminatory working environment. Female employees are equally entitled to any opportunities as male employees, and shall not lose their jobs or deserve a pay cut due to maternity. Nobody should be discriminated in term of recruitment and career development due to their religion and race. Furthermore, the Company has adopted a policy, whereby employees shall abstain from any matter relating to their family relatives, with an aim to create a fair competition environment and to avoid negative impacts of nepotism so as to maintain impartiality of management.

Diversity

With the diversified development of our business, the Group recruited employees with diversified backgrounds. The table below presents the distribution of our employees by nationality or region:

Distribution of our employees by nationality or region in 2018 (B1.1/B1.2)				
Nationality or region of employees	Number of employees	Percentage of total workforce	Loss of employees	Turnover rate
Mainland China	848	96.36%	42	4.24%
Hong Kong, China	1	0.12%	1	0.10%
Australia	6	0.68%	1	0.10%
Indonesia	25	2.84%	2	0.20%
Total	880	100%	46	4.64%

Note: turnover rate = loss of employees (i.e. the number of regular employees voluntarily resigned) ÷ annual average workforce of the Company (991 employees)

Among which, the annual average workforce of Iron Ore Business, Green Building Materials Business, Gold Mine Business and Nickel Business amounted to 818, 67, 6 and 66 employees respectively, while the annual average workforce of headquarters reached 34 employees.

Recruitment and Promotion

The Company hires excellent, suitable talents in a fair, open and transparent manner without any discrimination based on race or religion. Internal and external candidates shall go through the same hiring processes, and hiring employees must abstain from the hiring of their family relatives. Candidates are not allowed to apply for important positions in departments when officers-in-charge or key managers in such departments are direct relatives or relatives by affinity of such candidates.

To standardize the Company's hiring process and provide enough manpower for the Company's business development and operation, the Company amended the Administrative Rules for Hiring, and issued the amended Administrative Rules for Hiring on 4 December 2018.

As at 31 December 2018, the Group had a total of 880 employees, and all of the positions are assumed by "occupational and professional" persons.

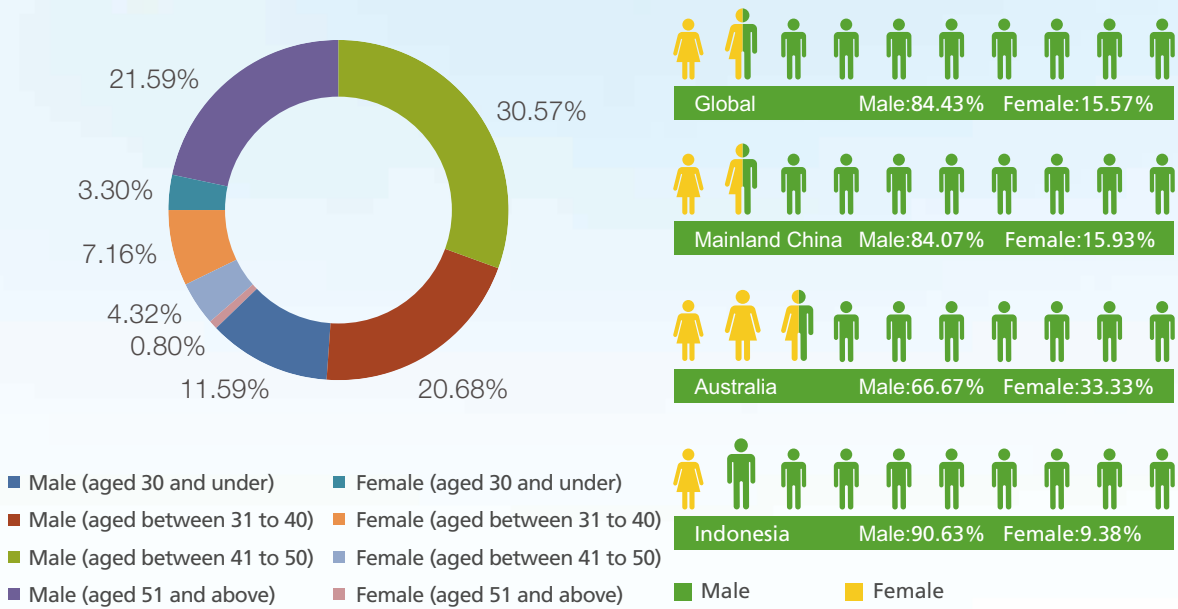
Distribution of our employees by position in 2018 (by employment category)				
Employment category	Number of employees at the end of the year	Percentage of total workforce at the end of the year	Loss of employees	Turnover rate
Functional management	265	30.11%	12	1.21%
Mining production	65	7.39%	3	0.30%
Processing production	322	36.59%	5	0.51%
Smelting production	18	2.05%	2	0.20%
Others	210	23.86%	24	2.42%
Total	880	100.00%	46	4.64%

Note: turnover rate = loss of employees (i.e. the number of regular employees voluntarily resigned) ÷ annual average workforce of the Company (991 employees)



6. Employment and Labour Practices

The Group's employee structure by gender and age (B1.1)



The Group's employee structure and turnover rate by gender and age (B1.1/1.2)				
Gender and age	Number of employees at the end of the year	Percentage of total workforce at the end of the year	Loss of employees	Turnover rate
Male				
30 and under	102	11.59%	9	0.91%
31-40	182	20.68%	7	0.71%
41-50	269	30.57%	17	1.72%
51 and above	190	21.59%	5	0.50%
Sub-total	743	84.43%	38	3.84%
Female				
30 and under	29	3.30%	3	0.30%
31-40	63	7.16%	4	0.40%
41-50	38	4.32%	0	0
51 and above	7	0.80%	1	0.10%
Sub-total	137	15.57%	8	0.81%
Total	880	100%	46	4.64%

Note: turnover rate = loss of employees (i.e. the number of regular employees voluntarily resigned) ÷ annual average workforce of the Company (991 employees)

The Group provides equal promotion opportunities for the employees. The Company has set up paths of promotion for all positions. Combined with the requirements of each position and capabilities of each employee, the Company offers a platform for the ambitious, competent and hardworking employees to demonstrate their talents and make their dreams come true.

The Company realizes the importance of talents to the development of an enterprise, and exerts every effort to retain core talents. The Iron Ore Business arranged meetings between the president and the cadre employees on a regular basis, to discuss their career development and planning as well as problems at work, with an aim to prevent loss of the cadre employees.

In 2018, the turnover rate of our employees was 4.64%.



6. Employment and Labour Practices

Remuneration and benefits

The remunerations of employees in the Iron Ore Business comprise expected post-based salary (basic salary and performance-linked salary) and reward (variable bonus and reward/punishment amounts); the remunerations of senior managers in the Green Building Materials Business are paid under an annual salary system. The remunerations of middle and top-level employees comprise basic salary, performance-linked salary and bonus, as well as long service subsidies. The ordinary managers are paid under a monthly salary system and workers at workshops are paid under a piece rates system.



The remunerations of middle and top level employees in the Nickel Business comprise basic salary, monthly performance-linked salary and annual bonus, while general staff receive fixed salary; the remunerations of senior managers in the Gold Mine Business comprise basic salary and annual bonus, while general staff receive fixed salary.

The Company adjusts such remunerations in accordance with the operational results, the value of employee positions, individual capability and performance, the level of social development and other factors. The Company pays social insurances as well as provides food, accommodation (non-local employees), and transportation and communication

subsidies for the employees. In 2018, the total remuneration and benefit paid to the employees of the Group amounted to approximately RMB119,442,000.

Benefits are a major part of our remuneration system. On 4 December 2018, the Company issued Administrative Rules for Employee Benefits for employees of the Headquarters of the Company, which stipulated types and standards for employee benefits regarding the 5 mandatory insurance schemes and housing funds for employees, lunch subsidies, holiday benefits, wedding benefits, condolence for pass-away, health benefits, consolation for the injured and ill, employee birthday, and summer sunstroke prevention. The Company conducts health checks for every employee once a year.

In order to enrich the employees' leisure life and enhance their physical and mental health, the Group organizes physical examinations and tours every year and held various cultural, sports and social activities for the employees. The Company also has staff recreation rooms with books, entertainment and fitness facilities, etc.

On 6 March 2018, the employee cultural center (complex) in Maogong Mine was opened officially. The center covers 1,600 square meters and has a floor area of 2,400 square meters. It has basketball courts, badminton courts, Ping-Pong tables, billiard room, fitness room, reading room, training room and bathroom, helping employees meet their cultural and spiritual needs. Going forward, the center will become a place for nurturing corporate culture. Employees will be able to have sports, cultural recreational activities, games and trainings in the center.



Working hours and holidays

The Group recognizes that a proper balance between work and rest helps employees to realize their full potential. The Company strictly complies with the provisions regarding working hours and holidays under the law of the places where each business operates. The administrative departments at the headquarters of the Company adopt a five-day week working pattern with eight working hours a day. The production departments at each mine work in shifts with consideration of the actual production conditions. The Company provides personal leave, sick leave, marriage leave, compassionate leave, maternity leave, breastfeeding leave, work injury leave, home leave and paid annual leave (statutory holidays and public holidays are not included in annual leave) for the convenience of the employees to balance their work and life.

To maintain a good order and discipline in the workplace, and ensure mental and physical health of employees, the Headquarters amended the Administrative Rules on Attendance and Leaves, and issued the amended version on 4 December 2018.



6. Employment and Labour Practices

6.2 Health and safety(B2.1/B2.2/B2.3)

Employee safety and health is one of the premises of sustainable development for an enterprise. The Group is committed to reducing the potential safety and health risks in the workplace of employees, adheres to the direction of “Safety First, Prevention Foremost” to provide employees with a compliant workplace equipped with a full range of production safety facilities and develops relevant systems and operating procedures. Through continuous fund investment, technology upgrading and implementation of supervision and appraisals, the Group spared no efforts to enhance safety awareness, so as to ensure health and safety production.

In 2018, the Group continued to enhance management and control over safety and health risks, and achieved the annual targets of zero death, zero serious injury accident and zero incidence of occupational disease of our employees, zero fire and zero environmental pollution. The rectification rate of accident risks and the implementation rate of safety instructions have all reached 100%. The rates of three-level safety education training by new employees and all employees, as well as the rate of attendance with special operation certificate have all reached 100%. The minor injury rate per thousand persons is 1.6‰ in the Iron Ore Business, and 0 in Green Building Materials Business and Nickel Business.

Breakdown of accidents incurred by the Group			
Production safety indicator	Accident	Description	Lost days
Pollution accident	0		
Fire accident	0		
Minor injury	1	On 24 March 2018, a vehicle of Maogong Mine of the Iron Ore Business slipped into a pit due to wrong operation of operators. One person suffered minor injury. Related responsible person was punished.	100
Serious injury	0		
Death	0		

Note: The accident data set out in the above table were calculated in accordance with the classification standard of casualty accidents as specified by the State Council.

Dedicated organization and personnel

The health and safety working organizations at all levels of the Group from the Board to the production workshops at each mine have been set up and are responsible for the implementation and monitoring of health and safety work, constituting a multi-level health and safety management system and organizational structure as well as a comprehensive fleet of competent personnel. Please refer to the organizational chart on page 6 of this report for details.

Safety systems and procedures (B2.3)

The Group has developed and strictly implemented several health and production safety management systems, position responsibility systems and operating procedures, so as to institutionalize health and safety management, standardize operating procedures and clarify responsibilities.

In 2018, the Iron Ore Business amended the 2.0 version of the Safe Production and Management System (《安全生產管理系列制度》) based on safe production-related laws and the actual situation of the Company, with the goal of further enhancing the safe production management in the business. On 1 March 2018, the Iron Ore Business promulgated the 3.0 version of the Safe Production and Management System(《安全生產管理系列制度》). Maogong Mine and Aoni Mine also amend their safety management systems based on related national standards.

The Group implements occupational health system and earnestly abides by the Occupational Disease Prevention and Treatment Measures. While developing production, the Group also strives to enhance occupational hazard evaluation, and monitors the occupational health condition at workplace, so as to provide scientific basis for the proper prevention and treatment of occupational diseases. The Group arranges physical examination for employees at positions with potential occupational hazards on a regular basis, and strengthens occupational diseases examination for those who are exposed to dust, toxic and hazardous materials. Some mines have engaged on-site doctors, while mines without on-site doctors maintain constant touch with local hospitals to ensure timely treatment for injured or sick employees. The Group implements the “three simultaneous” system for occupational health in a construction project (i.e. the occupational diseases prevention facilities in a construction project must be designed, constructed and put into use simultaneously with the main project).

In 2018, the Headquarters of the Iron Ore Business conducted occupational health check for 12 employees. Aoni Mine conducted occupational health check for 171 employees who were exposed to dust, and Maogong Mine conducted occupational health check for 73 employees.

Awareness

In order to enhance the employees' health and safety awareness, the Group organizes trainings every year, holds regular safety work meetings, reminds employees of safety before work every day, promotes safety activities month and safety lectures, organizes safety knowledge contests and operation skill competition of major jobs, and sets up safe and healthy work bulletin, safety warning signs, banners and slogans, etc. The employees are trained to be aware of “four do not hurt”: do not hurt others, do not hurt themselves, do not be hurt by others and protect others from being hurt.



6. Employment and Labour Practices

Our rates of “three-level” safety education training for newly-recruited employees and all employees, attendance with special operation certificate, implementation of safety instructions and rectification of accident risks as well as other rates have reached 100%.

In 2018, 808 employees have received safety education in Iron Ore Business (internal training), and 64 safety managers and 46 employees for special operation were trained with corresponding courses. Among which, in Aoni Mine, 463 internal safety training sessions were held and there were 26 safety managers and 18 specialized operators attending the review sessions. In Maogong Mine, 270 employees received safety education (internal training) and there were 28 safety managers attending the primary training and review sessions, and 28 specialized operators attending the primary training and review sessions. In Shangma Mine, 37 employees have received safety education (internal training) and there were 2 managers attending the review sessions. Such trainings intensified the professional safety education and imbedded safety awareness into the mind of employees.

In 2018, the Group organized emergency response drill in accordance with the relevant regulations. The Iron Ore Business held four emergency response drills.

In 2018, the Iron Ore Business strictly complied with safety and security-related laws and regulations. It upheld the environmental protection concept of “safe, harmonious and green mining”. To better fulfill the responsibilities in safe production and ensure smooth production and operation, the Iron Ore Business held the 2018 safe production work meeting on 10 January. On the meeting, Maogong Mine, Aoni Mine and Shangma Mine signed the safe production commitment for 2018.

Technical measures

All of the Company's protection facilities and occupational health protection facilities meet national requirements. The Company provides labor protection appliances like safety helmet, protective goggles, earplugs, mouth masks, uniform for special purpose, respirators, dustproof masks, acid-proof gloves and back splint, etc. to the employees, and appointed safety officer to supervise and check the using and wearing of such labor protection appliances. The Company also equips fire-fighting equipment in flammable sites, and constructs security fences along the roads for ore transportation to prevent accidents.

The “Six Major Systems” for underground operation of the Group's mines have functioned well. The “Six Major Systems” can monitor and supervise the underground mining environment, locate and communicate with underground personnel, and, in combination with other refuge and self-help systems, can assist underground personnel in safety, refuge and self-rescue issues, so as to protect their health and safety.

The Maogong Mine's online surface movement monitoring system was completed and put into use in August 2018. The system can send out alarm in the event of surface displacement.

Implementation of the construction of national production safety standardized enterprise

In 2018, production systems of Maogong Mine and Aoni Mine of the Iron Ore Business all passed the assessment for production safety standardization (class C) for metal or non-metal mines, and all complied with the requirements of production safety standardization (class C) for metal or non-metal mines.

Production safety month themed activities

As the 17th national “production safety month” came in June 2018, and in an active response to the national call to promote production safety, the Iron Ore Business established the leading group for the “production safety month” campaign and launched a series of activities under the theme of “fully implementing corporate work safety responsibility”, with an aim to drive enterprises to fulfill its work safety responsibility and prevent safety accidents.

On 26 June 2018, Maogong Mine held the “Safety and Health Cup” safety knowledge competition on the second floor of the mining department. The competition was sponsored by the Bureau of Work Safety, Marketing Bureau and Trade Union of Fushun County. The competition comprised four parts, and questions asked in the competition were selected from the Laws on Safe Production of Mines (《礦山安全生產法》), Accountability System of Mines (《礦山崗位責任制》) and Safe Operation Procedures of Mines (《礦山安全操作規程》). These questions were closely related to daily work of Maogong Mine.



6. Employment and Labour Practices

Supervision and assessment

The Group develops and implements a number of supervision, inspection and assessment systems, conducts regular and unscheduled inspections and assessments, including quarterly, monthly, weekly, daily, occasional and mutual safety inspections, so as to timely detect and effectively rectify all kinds of safety risks. The Company keeps controlling major hazards such as explosives magazines, oil storage and tailing ponds, monitors safety information of all locations of mines (including mining yards, processing plants, workshops, sedimentation tanks, waste dumps, topsoil, etc.), and performs safety oversight over contractors. 79 safety inspections have been conducted regarding Iron Ore Business throughout the year. 16 safety inspections have been conducted regarding Green Building Materials Business throughout the year. The Nickel Business has carried out inspections on production safety day, and held regular meetings every week.

The Group continues to carry out strict safety production responsibility assessment. The Group has implemented the “one-vote veto safety system”. The effectiveness of safety production is linked to individual economic benefits, promotion and appraisals, and the Group strictly implements the provisions of reward and punishment. In 2018, the mining company signed the Letter of Commitment on Safety Production Objective Assessment (《安全生產目標考核責任狀》) with general manager of each mine, while each mine signed such Letter of Commitment with workshops as well as teams and groups, with an aim to implement and assign safety and environmental protection tasks at all levels.

The Iron Ore Business imposed a fine of RMB25,500 on the officer-in-charge for “three violations” behaviors (namely violation of instructions, violation of operation regulations and violation of labour discipline).

The Green Building Materials Business had granted RMB5,000 in reward and imposed the same amount in penalties regarding safe production.

The Nickel Business did not make payment for the safety assessment reward, and did not deliver any penalty on safety ground throughout the year.

Fund insurance

The Group ensures the fund investment in health and safety and sets aside safety measure fees exclusively for health and safety protection purpose every year.

In 2018, the Iron Ore Business and Green Building Materials Business invested RMB16,893,000 as safety measure expense, which was used for the improvement of the Company’s production safety conditions, the addition, updating and maintenance of safety equipment and environmental protection facilities, the purchase of labor protection appliances, special equipment inspection (50 throughout) as well as safety promotion and education. Through the aforesaid investments in safety and environmental protection, safety condition and environmental protection at each mine have been further improved.

The Nickel Business invested IDR20,400 as safety measure expense, which was used for set-up of safety signs, tank fences and warning signs.

6.3 Development and training

The Company understands that the improvement of the overall quality and professional skills of all employees not only means the enhancement of skills of employees, but also the enhancement of the Group's overall competitiveness. The Group pays much attention to the employees' development and training, and has developed and implemented the training management system, training system and process in respect of its employees, with an aim to promote the improvement of both employees and the Company.

The Company prohibits any sexual discrimination, and male and female employees enjoy the same opportunities for education and training.

Trainings for directors and management

The Company places great emphasis on trainings for directors and management, and requires its directors to learn Guidelines on Disclosure of Inside Information issued by the SFC and training materials provided by the Stock Exchange. The company secretary shall attend not less than 15 hours of professional training courses every year. In addition, a variety of training programs and seminars have been organized by the Company.

To facilitate the Company's internationalization strategy and fulfill compliance requirements regarding director training, the Company held trainings on "Corporate Governance, Continuing Obligations, Codes on Takeovers and Mergers" at the conference room on Floor 22 of Hanking Tower between 10 am and 12 noon on 24 May 2018. All directors and some senior managers attended the trainings. Mr. Leo P Y Chiu, a partner with Chiu & Partners, was invited to elaborate on related rules and cases in the training. Through case study, the training has deepened directors and managers' understanding of the rules, and provided good references and criterion for the Company's implementation of its internationalization strategy.

Trainings for employees

In 2018, the trainings in the Headquarters were primarily on management and occupational skills. Details are as follows:

By employee category (B3.1)			
Employee category	Number of employees trained	Average training hours	Percentage of employees trained
Senior management	9	2.94	12.00%
Middle management	6	1.00	8.00%
General staff	60	2.58	80.00%
Total	75	2.50	



6. Employment and Labour Practices

By training content (B3.2)						
Name/type of trainings	Training contents	Internal/external trainings	Training hours	Number of trainings	Number of participants	Whether or not subject to assessment and assessment results
Induction training	Group introduction and business etiquette	Internal	2	1	1	No
Occupational skills	Personal income tax reform	Internal	1.5	1	24	No
Occupational skills	Forex management laws	Internal	1	1	15	No
Occupational skills	Annual financial audit and results report	External	17	1	4	No
Comprehensive quality	Photography skills	Internal	2	1	15	No
Comprehensive quality	Information security	Internal	1	1	16	No
Total			24.5	6	75	

The trainings in the Iron Ore Business focus on employees at grassroots positions, and aim to enhance work efficiency and production skills of these employees. Details are as follows:

By employee category (B3.1)			
Employee category	Number of employees trained	Average training hours	Percentage of employee trained
Senior management	4	6.00	0.28%
Middle management	21	7.00	1.50%
General staff	1,379	40.00	98.22%
Total	1,404	39.41	

By training content (B3.2)						
Name/type of trainings	Training contents	Internal/ external trainings	Training hours	Number of trainings	Number of participants	Whether or not subject to assessment and assessment results
Corporate culture	How to be a good employee?	Internal	2	2	182	No
Professional skills	Training on mining, ore processing and electrical work	Internal	16	32	337	No
Induction training	Induction training, three-level safety training	Internal	7	7	24	Yes
Occupational safety education	Safety training	Internal	9	20	494	Yes
Occupational skills	Electrical work, electro-welding, furnace management, tailings, lifting work, air compression, etc.	External	8	3	56	Yes
General management	Safety management qualification	External	8	3	28	Yes
Total			50	67	1,121	

Details of the trainings in the Green Building Materials Business are as follows:

By employee category(B3.1)			
Employee category	Number of employees trained	Average training hours	Percentage of employee trained
Senior management	2	2.00	1.22%
Middle management	2	2.00	1.22%
General staff	160	2.80	97.56%
Total	164	2.78	



6. Employment and Labour Practices

By training content (B3.2)						
Name/type of trainings	Training contents	Internal/ external trainings	Training hours	Number of trainings	Number of participants	Whether or not subject to assessment and assessment results
Occupational safety education	Safety education	Internal	447	3	149	Yes
General management	OA financial procedures	Internal	15	1	15	No
Total		Internal	462	4	164	No

Technological cooperation between mines and universities

On 24 April 2018, the Iron Ore Business invited a lecturer of Northeastern University to give technical guidance on the east area of the middle section to Maogong Mine. Considering the connection between the overall planning and the production, the Company's technicians and the lecturer from Northeastern University amended the production plans. The drilling process, ore removal process and the transportation passage at the northern section are all separated, which ensures the progress of construction and supply capability of mines.

6.4 Labor standards

The Group follows the relevant provisions in the Labour Law and the Labour Contract Law and complies with the relevant rules of the International Labour Standards ("ILS") to safeguard the labour interest.

The Group respects the right of workers to choose their profession freely, regulates labor management, prohibits forced labor and prohibits the recruitment and use of child labor, so as to protect the health and safety of our employees and enhance the management of occupational health. During the reporting period, the Group has never recruited or used child or forced labor **(B4.1)**. A labour union is established by various levels of corporate bodies of the Group as required and employees may join a union of their own free will.

A human resources department is established by the Group's headquarters and various levels of corporate bodies to regularly review and deal with violations of labour standards. During the reporting period, no violation of labour standards was identified **(B4.2)**.

7. Operating Practices

We consider that the relationship between corporate development and social development is mutually supportive and mutually beneficial. Therefore, we safeguard the interest of stakeholders and co-develop with them.

7.1 Supply chain management

The Group has developed and implemented the Material Procurement Management System to unify the purchase, storage and deployment of the materials required by each mine. On the basis of the material requirement plans developed by the production department and the categories of the materials, the Group generally purchases materials through three methods, namely bidding, price enquiry/comparison and sentinel procurement. Contracts shall be signed for all purchases and the Company strictly supervises and controls the performance of the contracts and the payment of the funds. The Company keeps a list of suppliers and makes regular assessment and update. The Company constantly analyses the inventory of the materials, purchased categories and material consumption. The Company also evaluates the environmental and social risks of the supply chain on a regular basis, so as to ensure the safety of the supply chain.

In 2018, the suppliers of the Group are mainly from China. Of which, 24 suppliers are selected through bidding, 112 suppliers are selected through price enquiry/comparison and 31 suppliers (regional agents) are selected through sentinel procurement. The selection of suppliers of the Group shall be subject to the approval process and supervision procedure, and shall be supervised by the legal department and audit department of the Group, so as to ensure a fair selection procedure **(B5.1/B5.2)**.

7.2 Product responsibility

The Group attaches importance to its product quality and reputation as well as implements product quality management in strict accordance with the relevant PRC laws and regulations and industry standards. The Group has developed and implemented measures on management of product quality and sales, and enhanced product quality inspections and sales management, so as to ensure that superior products are offered for customers.

Before leaving the production plants at the mines and upon delivery to the customers, the products sold to customers by the Group shall be subject to measurement and quality inspection. The data provided by the Company on the quantity and quality of the products shall be compared with those provided by the customer. If there is a considerable disparity between the results of both parties, the Company and the customer shall solve the dispute through negotiation. If no settlement is reached, the dispute shall be referred to a third-party authoritative organization for review and arbitration **(B6.4)**.

In order to strengthen quality control, and stabilize and improve product quality, the Iron Ore Business embarked on amending the Acceptance Management System (《验收管理制度》) since 2015, which was subsequently issued on 9 December 2015. In 2018, the grade of iron ore concentrate in the Iron Ore Business reached about 69%, with low content of sulphur and phosphorus, which significantly lowered production costs of customers.



7. Operating Practices

7.3 Anti-corruption

The Group is on no account engaged in bribery, blackmail, fraud and money-laundering. The Group has a zero-tolerance policy regarding abuse of power of duties and position for personal gain which damages the interest of the Company, customers, suppliers and other third parties.

The Group has developed and implemented the auditing and offence reporting system, and also has engaged independent auditors to conduct external audits on the Company, with an aim to prevent and control the fraud or wrongdoings within the Company through internal and external audit.

The Company undertakes to comply with the laws and regulations on business operation. The employees have the right to report alleged violations of state laws, regulations and policies, internal control problems of the Company, and other fraud or violation of Company's disciplines to the Company. Informants may provide detailed information to the audit committee of the Company through telephones, letters, e-mails, and interviews, etc. Informants can bring reports beyond the service scope of the audit committee of the Company to relevant departments and make necessary reflection. In case of major problems or emergencies, informants should report to the senior management or the board of directors of the Company. The Company keeps the information of informant employees strictly confidential to ensure that they won't be retaliated or discriminated illegally for the reporting **(B4.2/B7.2)**.

During the reporting period, no litigation relating to anti-corruption was identified by the Group **(B7.1)**.

8. Community Engagement

Adhering to the tenet of “harmonious mines”, the Group attaches importance to the establishment of a harmonious relationship with the local communities. It cares for and listens to the requests of the community parties and uses its best endeavors to support the community education affairs, infrastructure development and community environmental improvement. The Group prioritizes the employment of local workers and selection of local suppliers.

Reinforcing communication with the communities

Upholding the principle of “establishing harmonious relationship between villages and enterprises”, the Group reinforced communication with the local communities, so as to promote harmonious coexistence with the villages. In light of the actual situation, the Company has established a series of systems to understand demands from the local communities and to maintain the relationship between villages and enterprises, so as to ensure smooth communication with the local communities. With the support of the local government and villages, the Company established the joint mediation mechanism to promote equal dialogue among the three parties, so as to fairly coordinate and maintain a harmonious and stable relationship between villages and enterprises.

Reception of the local communities and villagers by the Iron Ore Business in 2018					
No.	Date	Communities or villagers	Demands	Responses by the Company	Description
1	March 2018	Villagers	Water supply problem in Lishu Group, Aoni Village	Agree	Building two wells for Lishu Group
2	April 2018	Villagers	The dust rising from the dirt road impacted villagers' lives	Agree	Spraying water on roads regularly to reduce dust
3	August 2018	Villagers	Roads were bumpy and the stone strip on the road sides were broken	Agree	Repairing stone strips on the road sides and filling pits on roads

Community environment

As we are part of the community, efforts to construct the community are to improve our living environment. The Group actively supported the community environmental construction, raised their awareness towards environmental protection and tried to make contributions to the community.

In 2018, Aoni Mine invested RMB30,000 and assigned 4 employees to carry out the daily sprinkling operation on Aoni village's road to reduce dust for a period of five months. Aoni Mine also invested RMB10,000 and assigned 5 employees to solidify a bridge at Aoni Village and build a road for a period of 3 days. Aoni Mine invested RMB50,000 and assigned 1 employee to solidify river slopes at Aoni Village for a period of 7 days.

In 2018, the Nickel Business actively participated in social welfare activities such as interaction between village and enterprise. Specifically, it invested IDR45,000 to help build a mosque in Tobimeta Village, IDR76,000 to help build roads and support local cultural festivals in Tambakua Village, IDR25,000 to help build public facilities in Sarimukti Village and IDR12,000 to support local cultural activities in Langgikima Town.



8. Community Engagement

Community care

The Group cares about the local people who are in need of help, and provided them with necessary support. On the eve of every Spring Festival, the Iron Ore Business staff visit the low-income worker families and bring them rice, flour, oil and other necessities. The Iron Ore Business also occasionally organizes some young employees of the Company to clean the houses for the villagers with mobility disabilities and provide assistance within their capacity. Aoniu Mine also assigned 10 volunteers to participate in the Fushun Volunteer Team to serve in volunteer activities organized by county, town, village and enterprises.

In 2018, Aoniu Mine spent RMB12,000 to provide the poor families with consolation supplies and donate funds to assist impoverished students, and RMB2,100 to provide consolation to poor families on festivals.

Labor demand

The candidates from the community where the Group runs business enjoy the priority to be recruited, which not only relieves the local employment pressure, increases villagers' income, but also promotes good relationship between villages and enterprises.

The table below presents the employment of local villagers by each mine operated by the Iron Ore Business in 2018:

Mines	Total number of employees	Number of local employees	Percentage of local employees to total workforce
Aoniu Mine	310	249	80.32%
Maogong Subsidiary	286	250	87.41%
Shangma Subsidiary	39	39	100%
Total	635	538	84.72%

All employees of the Green Building Materials Business and Gold Mine Business are local people.

The operating camps of the Nickel Business also employ many local Indonesian staff. In 2018, the distribution of employees at the operating camps of the Nickel Business by nationality is as follows:

Total workforce	Number of Chinese employees	Number of local employees	Percentage of local employees to total workforce
64	39	25	39.06%

Education

In 2018, the Group donated RMB300,000 to the “Spring Bud Assistance • Hanking Helping You Achieve Dreams” (“春蕾助學•罕王圓夢”) education support program. 72 university freshmen from Fushun County, Wanghua District, Dongzhou District and Qingyuan County of Fushun City, Liaoning Province, and 100 senior high school students from Fushun County, who all came from poor families, were helped in the program.

Maogong Mine will grant RMB500 reward to an employee if his/her child is admitted to a university.



Culture and sports

The Group attached great importance to participating in the community cultural and sports activities and carried out various forms of cultural and sports exchange activities with the local communities, including basketball matches, mountain-climbing competitions and football games. These activities not only enriched the employees' spare time life, enhanced their physical fitness, but also promoted the harmonious relationship between the villages and our enterprises.

Between 26 October and 30 October of 2018, the Iron Ore Business' basketball team took part in the Workers Basketball Competition in Fushun County, and won the runner-up in the public entity and enterprise category.



9. Indicators Index

This indicators index illustrates the Company's compliance with indicators of "comply or explain" and "recommended disclosures" set out in Environmental, Social and Governance Report issued by the Stock Exchange during the reporting period.

Aspects	Key Performance Indicators	Disclosures	Pages	Explanation
A. Environmental				
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	●	10	
A1.1	Types of emissions and emission of waste.	●	11-12	
A1.2	Total emissions volume (in metric tons) and, where appropriate, intensity of greenhouse gases (e.g. per unit of production volume, per facility).	●	13-14	
A1.3	Total hazardous waste produced (in metric tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	●	11	
A1.4	Total non-hazardous waste produced (in metric tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	●	11-12	
A1.5	Description of measures to mitigate emissions and results achieved.	●	11-12 22, 29	
A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	●	13-19, 31 14-17, 29	
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	●	17	
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	●	18	
A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	●	18	
A2.3	Description of energy use initiatives and results achieved.	●	10, 22	
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	●	19	
A2.5	Total packaging material used for finished products (in metric tons) and, where appropriate, with reference to per unit produced.	○		N/A (the Company's products do not require packaging)
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	●	21-22	
A3.1	Description of the significant impacts of business activities on the environment and natural resources and the actions taken to manage such impacts.	●	21-22	

Aspects	Key Performance Indicators	Disclosures	Pages	Explanation
B. Social				
Employment and Labour Practices				
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, holidays, equal opportunity, diversity, antidiscrimination, and other benefits and welfare.	●	30-34	
B1.1	Total workforce by gender, employment type, age group and geographical region.	●	30-33	
B1.2	Employee turnover rate by gender, age group and geographical region.	●	30-31, 33	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	●	36	
B2.1	Number and rate of work-related fatalities.	●	36	
B2.2	Lost days due to work injury.	●	36	
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	●	37-40	
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	●	41-44	
B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	●	41-44	
B3.2	The average training hours completed per employee by gender and employee category.	●	41-44	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	●	44	
B4.1	Description of measures to review employment practices to avoid child and forced labour.	●	44	
B4.2	Description of steps taken to eliminate such practices when discovered.	●	44, 46	
Operating Practices				
General Disclosure	Policies on managing environmental and social risks of the supply chain.	●	45	
B5.1	Number of suppliers by geographical region.	●	45	
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	●	45	



9. Indicators Index

Aspects	Key Performance Indicators	Disclosures	Pages	Explanation
Product Responsibility				
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters in respect of products and services provided and methods of redress.	●	45	
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	○		Recommended Disclosure
B6.2	Number of products and service related complaints received and how they are dealt with.	○		Recommended Disclosure
B6.3	Description of practices relating to observing and protecting intellectual property rights.	○		Recommended Disclosure
B6.4	Description of quality assurance process and recall procedures.	●	45	
B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	○		Recommended Disclosure
Anti-Bribery and Corruption				
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	●	46	
B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	●	46	
B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	●	46	
Community				
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	●	47	
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	●	47-49	
B8.2	Resources allocated (e.g. money or time) to the focus area.	●	47-49	