





China National Building Material Company Limited

Environmental, Social and Governance (ESG) Report

(Stock Code: 03323)

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01 About the Report

The Report is the fourth Environmental, Social and Governance Report of China National Building Material Company Limited (Stock Code: 03323) and all its subsidiaries. The Report provides the latest information relating to the work conducted by the Group towards achieving sustainable development in 2019. The Report mainly includes environmental and social topics related to the Group's sustainable development that the Group's stakeholders are concerned about, in order to facilitate all stakeholders to better understand the Group's sustainable development concepts and measures, and the related performance.

The Report's content mainly covers the three business segments of the Group, including cement, new materials, and engineering services. The Company also discloses key performance indicators as far as possible with supplementation of explanations in the Report to establish evaluation benchmarks and facilitate comparison.

The Report should be read in conjunction with CNBM's 2019 Annual Report (in particular the "Corporate Governance Report" contained therein) for a comprehensive understanding of the Group's relevant performance. The Report is published in both Traditional Chinese and English versions. Should there be any discrepancy between the two versions, the Traditional Chinese version shall prevail.

Reporting Period

The Report covers the period from 1 January 2019 to 31 December 2019, unless otherwise specified. The information presented in this Report includes the Group's specific policies and performance in environmental, social, and governance aspects. Due to the continuity and comparability of the information disclosed, the timeframe of selected contents is adjusted where necessary.

Reporting Scope

The reporting scope of the Report is determined on the principle of materiality. Unless otherwise specified, the material content of the Report is derived from China National Building Material Company Limited and all its subsidiaries.

Reporting Guideline

The Report was prepared in accordance with the provisions of "comply or explain" in the "Environmental, Social and Governance Reporting Guide" set out in Appendix 27 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, and was based on the reporting principles of materiality, quantitative, balance, and consistency. In addition, the compilation of the Report was based on the Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities and Guidelines to the State-owned Enterprises on Better Fulfilling Social Responsibilities issued by the State-owned Asset Supervision and Administration Commission of the State Council.

Confirmation and Approval

The Report was confirmed by the staff members responsible for ESG of the Company in June 2020. The Board of Directors of the Company has reviewed, confirmed, and approved the Report, so as to ensure the Report's content covers the specific policies and performance in key environmental, social, and governance aspects of the Group.

Feedback on the Report

If you have any comments on the Company's work relating to the environmental, social and governance report, please contact the Company by the following e-mail: cnbmltd@cnbm.com.cn.



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Definitions

In the Report, unless the context otherwise requires, the following terms shall have the meanings set out below:

	<i>"_</i>			from time to time
"2422"		the reduction of account receivables and inventory; the reduction of other receivables, prepayments, interest-bearing liabilities, and monetary capital; the reduction of asset-liability ratio and capital expenditure; and the reduction of the	"management of three delicacies"	improve operating efficiency, en organizational structure
			"North Cement"	North Cement Company Limited
	"ARS"	Argentine peso, the lawful currency of the Argentine Republic	"Ningxia Building Materials"	Ningxia Building Materials Group
	"BNBMG"	Beijing New Building Material (Group) Co., Ltd.	"Parent", "CNBMG"	China National Building Materia
	"BNBM"	Beijing New Building Material Public Limited Company	"PRC"	National Building Materials Group the People's Republic of China
	"Building Materials Academy"	China Building Materials Academy Co., Ltd.	"Qilianshan"	
	"BNBM Jiaxing"	BNBM (Jiaxing) Company Limited		Gansu Qilianshan Cement Group
	"BNBM Taicang"	BNBM Taicang Company Limited	"Report"	the Company's 2019 Environmer
	"BNBMG Zhuozhou"	Beijing New Building Material (Group) Co., Ltd. Zhuozhou Branch	"Reporting Period"	the period from 1 January 2019 t
	"Chuanyu Southwest Cement"	Chuanyu Southwest Cement Company Limited	"RMB"	Renminbi yuan, the lawful curren
	"CTG"	Taishan Fiberglass Inc.	"Sinoma Handan"	Sinoma (Handan) Construction C
	"Cinda"	China Cinda Asset Management Co., Ltd.	"Stock Exchange"	The Stock Exchange of Hong Ko
	"China Composites"	China Composites Group Corporation Limited	"South Cement"	South Cement Company Limited
	"CNBM", "the Company"	China National Building Material Company Limited	"Shanghai South Cement"	Shanghai South Cement Compa
	"China Jushi"	China Jushi Co., Ltd. (previously known as China Fiberglass Company Limited)	"Southwest Cement"	Southwest Cement Company Lin
	"China United Cement"	China United Cement Corporation	"Sinoma Advanced"	Sinoma Advanced Materials Co.,
	"China Triumph"	China Triumph International Engineering Company Limited	"Sinoma"	China National Materials Compa in the PRC
	"CNBM Trading"	China National Building Material Import and Export Co., Ltd.	"Sinoma International"	Sinoma International Engineering
	"China United Cement"	China United Cement Corporation	"Sinoma Jinjing"	Sinoma Jinjing Fiberglass Co., Lt
	"ESG"	Environmental, Social and Governance	"Sinoma Science & Technology"	Sinoma Science & Technology C
	"Group"	the Company and, except where the context otherwise requires, all its subsidiaries	"Sinoma Mining"	Sinoma Mining Construction Co.,
	"Guangxi South Cement"	Guangxi South Cement Company Limited	"Sinoma Cement"	Sinoma Cement Co., Ltd.
	"Guizhou Sandu Southwest Cement"	Guizhou Sandu Southwest Cement Company Limited	"Sinoma Zhuzhou"	"Sinoma Zhuzhou"
	"Guizhou Southwest Cement"	Guizhou Southwest Cement Company Limited	"Tianshan Cement"	Xinjiang Tianshan Cement Co., L
	"Hunan South Cement"	Hunan South Cement Group Company Limited	"Xishui Saide"	Xishui Saide Cement Co., Ltd.
	"Jiangxi South Cement"	Jiangxi South Cement Company Limited	"Zhongfu Xigang"	Weihai Zhongfu Xigang Ship Co.
	"Jiangxi Porcelain"	Sinoma Jiangxi Porcelain Electric Co., Ltd.		
	"Kuqa Tianshan Cement"	Kuqa Tianshan Cement Co. Ltd.	"Zhejiang South Cement"	Zhejiang South Cement Compan
			"Zambia Industrial Park"	CNBM-Zambia Industrial Park

"Listing Rules"

from time to time



02 About CNBM

Company Profile

With CNBMG, BNBMG, CNBM Trading, Cinda and Building Materials Academy as promoters, China National Building Material Company Limited was converted into a joint stock limited company on 28 March 2005. The Company's H shares under the initial public offering were listed on the Stock Exchange on 23 March 2006 (Stock Code: 03323). On 2 May 2018, the Company and Sinoma completed the share exchange.



As of the end of the Reporting Period, the Company has owned seven A-share listed companies¹, with over 155,600 employees. From 2005 to the end of 2019, the Company's total assets, revenue and profit after tax increased from RMB13.5 billion, RMB6.2 billion and RMB690 million, respectively, to RMB446.5 billion, RMB253.4 billion and RMB18.4 billion, creating good economic and social benefits.

Business Highlights

Business

The business segments and the major operating entities of each business segment for the Group as of the end of the Reporting Period are summarized as follows:

Major products and services Majo

seaments China South North C NSP cement Southw Commercial concrete Sinoma Aggregate Cement Tiansha Ningxia Qilians BNBM China Dry wall and ceiling system Sinoma Glass fiber Techno Wind power blade Waterproof material China (New materials Lithium battery separator Sinoma Sinoma Sinoma Design and engineering EPC services: China Cement production lines Engineering services Glass production lines Sinoma

The Group is mainly engaged in cement, new materials and engineering services businesses. As regards the current market positions (in terms of the production capacity or contract amount in 2019), the Group is:



In the future, the Company will be committed to improve a three-way development pattern composed of cement, new materials, and engineering services, forging itself into a world-class advanced industrial group of comprehensive building materials and new materials, and committed to value creation and shareholder returns.

2: As of the end of the Reporting Period, Sinoma Jinjing is mainly engaged in the research and development, production, and sales of fiberglass wet mat and high-pressure fiberglass pipes. On 25 January 2018, the Equity Entrustment and Management Agreement was signed between the former China National Materials Company Limited, Sinoma Science & Technology, and CTG, in which the equities of Sinoma Jinjing held by the former China National Materials Company Limited was entrusted to CTG for management. As Sinoma Jinjing is an entrusted subsidiary of the Company, the environmental data in the Report does not include the subsidiary.

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Direct and indirect equity interests attributable to the Company
100%
84.83%
71.68%
78.99%
100%
45.87%
47.56%
25.04%
37.83%
26.97%
60.24%
100%
99.65%
50.01%
40.03%
91.00%
100%



Sustainable Development Concepts

In 2019, the Group adhered to the value hierarchy of "Environment, Safety, Quality, Technology, and Cost", carried out the Three-Year Action Plan to Win the Blue Sky Defense War, strictly implemented peak averting production and production optimization for environmental protection, promoted policies in the elimination of outdated production capacity and old equipment replacement with better efficiencies, attached equal importance to cutting overcapacity and output, and maintained a healthy operating environment for the industry. With the ongoing upgrading of production techniques and enhancing technological innovation, the Group continuously complies with the environmental protection regulations in the PRC, the countries and regions of its operation sites, including the Environmental Protection Law of the People's Republic of China, the Environmental Protection Tax Law of the People's Republic of China, the Water Pollution Prevention and Control Law of the People's Republic of China, the Protection of Ecological Environment, the Reform Program of the Ecological Environmental Damage Compensation System, the Notice of the State Council on Further Strengthening the Clean Production of Key Enterprises, the Plan for Cutting Overcapacity in Cement Industry (2018–2020), the Standard Condition of Cement Industry (2015), the Standard for Pollution Control on Co-processing of Solid Wastes in Cement Kiln and the Construction Specifications of Cement Limestone Green Mine (DZ/T 0318–2018), among others. The Group closely follows the key development trend in the PRC, the countries and regions sites, and seizes opportunities for development.

The Board of Directors of the Company is the highest decision-making body for ESG management in the Group, determines the ESG management structure and strategy of the Group, ensures that the Group has an appropriate and effective ESG risk management and internal monitoring system, and is responsible for reviewing and approving the ESG reports of the Group. The Group has established an ESG reporting taskforce led by senior management and attended by middle managers. The taskforce is led by the Secretariat of the Board of Directors of the Company and composed of relevant departments, which ensures the effective implementation of ESG work of the Group.

In 2019, the Group continued to enhance its existing Environmental, Safety and Health Management System (ESHMS), including regulations such as the Measures for the Administration of Emergency Environmental Accidents, the Plan for Green Mine Construction of Limestone, the Emergency Plan for Production Safety Accidents, the Measures for Occupational Health Supervision and Management in Workplaces, etc. Taking information disclosure as the starting point, the Group further optimizes the various processes in the ESHMS, including the pre-incident identification and evaluation, the in-process inspection and review, and the post-event evaluation. The Group strengthens its efficiency of daily management and prevented risks at source to ensure its sustainable development.

Company Honors

The Group unswervingly takes the path of sustainable development and is recognized by the governments and institutions of China and overseas in the fields of economy, science and technology, and environmental protection.

CNBM has always attached great importance to breakthroughs in key and core technologies and achieved a number of major scientific and technological achievements, which include 201 on-going scientific research projects above the provincial and ministerial level in 2019. In 2019, the Company won 21 provincial and ministerial-level science and technology awards, including 1 Second Prize of National Science and Technology Progress Award and 1 Gold Award of Chinese Patent. In 2019, there were 1,026 authorized patents and 7,514 valid patents in total.

In 2019, CNBM won the title of "2019 Outstanding Issuer of Corporate Bonds of the Shanghai Stock Exchange", which is the third consecutive year that CNBM has won this honor. There was a total of 1,280 companies issued corporate bonds on the Shanghai Stock Exchange in 2019, and after strict evaluation, only 26 of them won the title of "Outstanding Issuer of Corporate Bonds". CNBM won the title of the "Most Honored Company" by Institutional Investor's All-Asia Executive Team in 2019. In 2019, CNBM issued a total of RMB9.8 billion corporate bonds on the Shanghai Stock Exchange, including the 3-year corporate bonds of RMB4 billion, the 5-year corporate bonds of RMB1.3 billion, the 10-year corporate bonds of RMB3 billion, and the 3+N-year renewable corporate bonds of RMB1.5 billion. The issuing price of each bond was among the leading state-owned enterprises directly under the central government, creating a new low in the market.

In addition, in 2019, enterprises of the Group won honorary titles such as "National Intellectual Property Advantage Enterprise in 2019" and "Model Pilot Enterprise of Integrated Development of Building Materials Manufacturing and the Internet in 2019". In the future, the Group will continuously advance towards the goals of high-quality development to realize the leap from being excellent to outstanding and from surpassing world-class enterprises to becoming a well-thought-of enterprise of the globe.

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Stakeholder Communication

Maintaining effective communication with stakeholders is an important part of the Group's management of its long-term development. The Group identifies the key stakeholders relating to its operation, and communicates with them through meetings, regular visits, and satisfaction surveys, etc., to understand the Group's development process, and even their future expectations and interests on the Group. The Group will take measures to respond and meet the demands of the key stakeholders according to its production and operation situation.

The Group mainly identifies relevant individuals or groups as its key stakeholders through the following three criteria:

- whether they have invested or will invest in the Group;
- whether they have an influence on the business operation of the Group; and
- whether they have interests in or are affected by the business, products, services, and relationships of the Group.

The Group has identified eight key stakeholders:



3: Such as tertiary education institutions, research institutions, professional groups or individuals.

The Group attaches great importance to the valuable opinions from different key stakeholders in various manufacturing projects during developing, designing, constructing, and operating process in the PRC and overseas. During the preliminary design stage of various projects, the Group will conduct public consultation to deeply understand the concerns of the residents of surrounding areas by extensively collecting their opinions on the development of the project. The Group will appoint professional environmental assessment agencies to conduct a comprehensive environmental impact assessment for the project and formulate impact mitigation plans, so as to minimize the potential impact of the project development on the surrounding environment and communities to the greatest extent.

The Group's communication channels and frequency with different key stakeholders are as follows:



unication channels	Frequency
forum • On-site investigation and research • Recreational activity ction and voluntary activity for employees	Regularly/ From time to time
ew	Regularly/ From time to time
	Regularly/ From time to time
oids on • Supplier ducts/ conference • Telephone/email • Interview	Regularly/ From time to time
 Analyst seminar Roadshow Visit Corporate Day 	Annually/Regularly/ From time to time
	Regularly/ From time to time
puncement	Regularly/ From time to time
pervision of work	Regularly/ From time to time

03 Corporate Governance



As a leading enterprise in the comprehensive building materials industry, the Group aspires to consolidate and develop sustainable domestic and foreign building materials markets through its corporate governance. Relying on the sound corporate governance of the Group's management and the joint efforts of all its employees, the Group has achieved good results in economic development, anticorruption and building integrity, and risk control during the Reporting Period.

- Economic Outcomes
- Building Integrity
- Risk Management and Internal Control
- Highlights of 2019





Economic Outcomes

In 2019, facing the complicated domestic and foreign situation of significantly increasing risks and challenges, the PRC pursued supply-side structural reform as its main task. With major progress made in three critical battles, the national economy was generally stable, and the quality of development was steadily improved with main projected targets for development achieved. The PRC recorded a year-on-year increase of 6.1% in the gross domestic product, a year-on-year increase of 5.4% in the fixed asset investment, a year-on-year increase of 9.9% in the real estate development investment, and a year-on-year increase of 3.8% in the infrastructure investment. Building materials production continued to increase, and further implemented the supply-side structural reform. Transformation and upgrading of the building materials industry achieved obvious results with its performance further improved.

In light of the continued complex domestic and overseas market environment in 2019, the Group insisted on deepening the "management of three delicacies", promoting the "lean operation", and continuously improving its profitability; promoting the "refinement of management", and greatly improving management efficiency; and promoting the "simplification of the organization", and strengthening and simplifying the management and work process. The Group continued to deepen innovation, steadily carried out the pilot reform work, actively carried out the "Double Hundred Actions", carried out in-depth reform of internal mechanisms, made new progress in building a platform for scientific and technological innovation, and made new breakthroughs in key technologies. The Group has continued to promote integration and optimization, and the three-way development pattern composed of cement, new materials, and engineering services has been constantly improved. The Group will deepen the integration of party building and management, transform party-building advantages into governance effectiveness, and utilize high-quality party building to guide high-quality development.

Building Integrity

To pursue sustainable corporate development, CNBM regards integrity building as the key cornerstone of corporate governance and resolutely fights against corruption in all forms. The Group strictly complies with the Criminal Law of the People's Republic of China, the Anti-Money Laundering Law of the People's Republic of China and other laws and regulations; the Group has also developed the CNBM Responsibility System for Clean Party, the Measures for Implementing the Conversation Reminder System of CNBM Party and other internal policies and continuously revises the Measures for Implementing the Responsibility System of CNBM Party and the Measures for Implementing the Supervision Responsibility of CNBM Disciplinary Commission. The Group's focus is on establishing a sound system of punishing and preventing corruption, and with the improvement of the system's implementation, to gradually establishing a complete system of anti-corruption to further strengthen the Group's clean Party and anti-corruption work. Since the Party committee of CNBM signed the Responsibility Commitment of Clean Party with the Party organization of each of the Group's business segments, the Group, through methods such as clearly identifying the inspection, assessment, responsibility and supervision mechanisms for the clean Party integrity building and requiring the Company's middle-level cadres and the principle management of entities in each business segment to sign the Commitment on Integrity and Self-Discipline and the Company's subsidiaries at all levels to sign the responsibility commitment, has further strengthened its internal integrity building, and has achieved good results.

In addition, the Group also implements the Rules on Handling Accusations by Disciplinary Inspection and Supervision Organs, earnestly handles all kinds of clues received, to ensure that all matters related to petition letters, visits and offense complaints are replied and managed. The Group also carries out education on honesty and alertness through various channels, so as to establish integrity in the Group, create an atmosphere of integrity, and improve the Group's governance efficiency.

The Group has established a special whistleblowing system and ensured the independence and confidentiality of the complaint reporting process to ensure the channel for employees' complaints and whistleblowing is safe and unblocked. In accordance with the Rules on Handling Accusations by Disciplinary Inspection and Supervision Organs, the Group encourages employees to report any irregularities, uphold integrity in the Group, and create a clean working culture. The employees can submit complaints by the specific reporting line and email and can also report to the Audit Committee through the reporting form. The Company will try its best to keep strictly confidential on the identity of the employee who submitted the report.

Risk Management and Internal Control

In order to comply with relevant domestic laws and regulations as well as the provisions under the Listing Rules, strengthen the corporate risk management and internal control management, and monitor and safeguard the achievement of the Company's business management objectives, the Company has formulated a series of internal control management systems in line with the Company's actual situation, covering financial supervision, operational regulation, compliance supervision, risk management, and other aspects, and has conveyed the systems to its employees.

The construction of risk management and internal control system in CNBM has three parts:

Daily Risk Management⁴

As the first line of defense in daily risk management, each department has management and internal control functions that are responsible for establishing procedures at the forefront to identify, confirm, manage, and report risks. The Company has established a business process-oriented management system covering the management personnel and each of the departments, and has further improved the efficiency and performance of various operations as a result of its efforts on standardizing the design of relevant procedures and key control areas.

Continuous Risk Monitoring and Control

Independent Internal Review Audit Committee regularly listens to the feedbacks from professional auditors and internal auditors, and independently carries out assessment and supervision on the operation management, business development and financial positions, and reviews the effective introduction and implementation of high-level to further enhance the standard of the internal control, financial control and risk management.

4: Including business and strategic risk management.

Professional departments (including legal affairs department), as the second line of defense in risk management, provide support for various departments within the organizational governance structure to ensure that existing risk is managed with cost-effectiveness and is controlled to the acceptable extent. Meanwhile, specialized departments would sort out all the information disclosure requirements the Company confronted, and integrate different information disclosure targets and important level of information to develop corresponding disclosure procedures, constantly introspect and improve the reporting line and function of the management to the Board, and regularly carry out benchmark management practice and gap analysis to further optimize reporting functions and organizational structures. By preparing the comprehensive risk management report, the Company has established a risk management mechanism which involves the identification and assessment of risks, prevention, and rectification as well as post evaluation.

This section illustrates the performance of the Group on economic development and integrity building during the Reporting Period.

Economic performance



5: Income tax expense.

6: The final amount of the dividend per share will be determined based on the number of shares of the Company in issue as at 2 June 2020.

Sales volume of cement and clinker (in Year-overyear change thousand tonnes) 391.248 ↑ 6.0% 368.983

Business performance

2019

2018

Year-over-

year change

↑ 30.5%

Year-over-

year change

↑ 38.4%

Year-over-

year change

† 94.4%



Integrity building





Sales volume of glass fiber yarn (in thousand tonnes)	Year-over- year change
2019 2,478 2018 2,210	↑ 12.1%
Sales volume of wind power blade (MW)	Year-over- year change
2019 10,829 2018 8,040	↑ 34.7%
Revenue from engineering services (RMB million)	Year-over- year change
2019 40,376 2018 34,195	↑ 18.1%





Energy-saving and Environmental Otection



The Group adheres to the value hierarchy of "Environment, Safety, Quality, Technology and Cost", and applies the Three-Year Action Plan to Win the Blue-Sky Defense War. Through strictly implementing peak averting production and production optimization for environmental protection, the Group promotes policies in eliminating of outdated production capacity and replacing old equipment with better efficiencies. The Group attaches equal importance to cutting overcapacity and output to maintain a healthy operating environment for the industry.

- Green Operation
- Green Manufacturing
- Green Products
- Green Ecology
- Highlights of 2019

Green Operation

The Group is committed to maintaining a green operating environment and has resolutely implemented the laws, regulations and policies on environmental protection formulated by the PRC, local government authorities and the Group, respectively. In doing so, the Group's management system and management methods in environmental protection have been continuously improved. The Group has actively advocated for a green office to achieve energy saving and emission reduction, and to improve resource utilization efficiency.

Law and regulation compliance

To prevent and control pollution and to reduce the emission of pollutants, the Group strictly abides by and implements the Environmental Protection Law of the People' Republic of China, the Atmospheric Pollution Prevention and Control Law of the People's Republic of China, the Water Pollution Prevention and Control Law of the People's Republic of China, the Soil Pollution Prevention and Control Law of the People's Republic of China, the Water and Soil Conservation Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, the Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise, the Cleaner Production Promotion Law of the People's Republic of China, the Emission Standard of Air Pollutants for Cement Industry, the Measures for the Administration of Permit for Operation of Dangerous Wastes and other laws and regulations related to exhaust gas emissions, greenhouse gas emissions, water and land discharges and waste disposals which have a significant impact on the Group; through making reference to the laws and regulations mentioned above, and the initial policy of the Parent, the Group has also revised and formulated the Environmental Protection Management System of CNBM, the Measures for the Administration of Emergency Environmental Accidents of CNBM, the Measures for the Administration of Reporting Emergency Environmental Accidents of CNBM, and the Measures for the Administration of Energy Saving and Emission Reduction of CNBM. In addition, the Group's subsidiaries have formulated their own energy saving and emission reduction related system based on their business characteristics and relevant national and local laws and regulations and the Group's internal management measures. Through the formulation and implementation of relevant internal emission management policies, the Group has achieved good results in preventing and controlling atmospheric emissions, water body and land discharges, and solid waste production.





Detailed management

To further strengthen the environmental protection management of production enterprises, CNBM has revised and improved its energy saving, emission reduction and environmental protection management system in accordance with the relevant national laws and regulations and with reference to actual conditions. The Group's Measures for the Administration of Emergency Environmental Accidents and Measures for the Administration of Reporting Emergency Environmental Accidents were prepared by the Group in accordance with the Emergency Response Law of the People's Republic of China, the National Environmental Emergency Response Plan, and the Measures for Information Report of Environmental Emergencies, which has improved the Group's environmental emergency preparatory system, standardized the information report for environmental incidents and improved environmental emergency management. In addition, based on daily work situations, the Group has revised the regular meeting system for energy saving and emission reduction to a monthly reporting system. This has enabled the prompt reporting of the subsidiaries' production status, the identification of potential problems through analysis, and the rectifications based on timely feedback. The subsidiaries of CNBM have also developed strategies, policies and plans for energy saving and emission reduction in accordance with their own situation.

The Group has implemented a standardized management system and has achieved energy saving, consumption reduction and cleaner production through lean management. The Group's manufacturing subsidiaries have established a standardized system for quality, environment, and energy management. Regarding building an energy-saving and emission-reduction talent team, the Group has continuously enriched the knowledge of energy-saving and emission-reduction personnel and improved their professional ability.

Green office

The Group actively promotes a green office environment and has formulated a detailed green office plan for electricity saving, water saving, and reduction on the use of office supplies, while the operating performance of the green office has also been included in the Group's routine monitoring and evaluation system. The Group actively promotes the development of the electronic office and video conference system to reduce the number of on-site meetings and reasonably arranges business trips and gives priority to low-carbon transportation. At the same time, the Group has beautified the PRC by organizing energy-saving technology exhibition, training, and other activities, as well as low-carbon travel, afforestation, enhancement and releasing, and other environmental public welfare activities.



Green Manufacturing

In 2019, the Group has vigorously implemented the "Responsibility for Blue Sky" action program that focuses on energy saving, emissions reduction, ecological protection, circular economy, and other key areas to promote energy saving and the transformation and upgrading works.

Cleaner production

The Group adheres to the concept of "Optimizing the Use of Resources to Serve and Construct" and strives to promote green and sustainable development.

The Group is committed to reducing the discharge of wastewater and the emission of exhaust gas. By carrying out peer benchmarking and initial comprehensive benchmarking among enterprises within the Group, the Group optimizes the key indicators of each production process, and actively leads the industry in energy conservation, production optimization and self-discipline emission reduction. Taking the path of sustainable development is the development direction the Group always adheres to. In 2018, the Group improved the established environmental, safety and health management system, such as the Guidelines for the Co-disposal of Solid Waste in Cement Kilns and the Measures for Occupational Health Supervision and Management in Workplaces of CNBM, etc. By strengthening the efficiency of daily management and taking every precaution at beginning, the sustainable development of the Group is guaranteed.



Case

Southwest Cement and its subsidiaries actively implement clean production work. Chuanyu Southwest Cement launched ultra-low emission work (i.e., local requirements are the emission concentration of nitrogen oxides should be less than or equal to 150 mg/m³, the emission concentration of sulfur dioxide should be less than or equal to 50 mg/m³, the emission concentration of dust should be less than or equal to 10 mg/m³). In 2019, 28 subsidiaries carried out ultra-low emission transformation, and all of them met the emission standards. Guizhou Sandu Southwest Cement and Xishui Saide upgraded their preheater systems and decomposition furnaces. Through expanding the cross-sectional area of cyclone cylinder rising flue at all levels and optimizing the position of the coal-injection duct at kiln tail, the standard coal consumption and comprehensive electricity consumption per tonne of cement production of Guizhou Sandu Southwest Cement decreased to 110 kilograms and 1 kWh, respectively; the electricity consumption and standard coal consumption in the clinker production process of Xishui Saide decreased by 1.5 kWh and 3 kilograms, respectively. Guizhou Southwest Cement transformed the dedusting systems from being equipped with electrostatic precipitators to fabric filters in 3 subsidiaries, which made the emission concentration of particulate matter decreased by 10 mg/m³.

Case

Sinoma Cement carried out ultralow emission technical transformation for 13 sets of dust collectors at the kiln heads and kiln tails of five subsidiaries and 6 sets of cement mill and coal mill dust collectors of two subsidiaries, and the emission concentration was reduced to less than 10 mg/Nm³ after the transformation. Sinoma Cement carried out ultralow emission technical transformation for 13 sets of dust collectors at the kiln heads and kiln tails of five subsidiaries and 6 sets of cement mill and coal mill dust collectors at the kiln heads and kiln tails of five subsidiaries and 6 sets of cement mill and coal mill dust collectors of two subsidiaries, and the emission concentration was reduced to less than 10 mg/Nm³ after the transformation. Sinoma Cement carried out the technical transformation of coal combustion and denitration in three production lines of its subsidiaries, which made the efficiency of ammonia reduction reach 40% to 50% and 10 to 14 tonnes of ammonia water is saved each day. In addition, Sinoma Cement conducted dust control on the packaging and loading systems of its three subsidiaries in Guangdong region and carried out automatic bagging and intelligent packaging technical renovation project on the packaging and loading systems of Sinoma Zhuzhou, which greatly mitigate the occupational hazard impact of the packaging and loading systems on the employees of the subsidiaries.

Comprehensive utilization of waste materials

The Group abides by the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, the Measures for the Administration of Permit for Operation of Dangerous Wastes and other relevant regional laws and regulations. The Group standardizes the management of various types of waste generated in the production and living processes to achieve "Recycling, Reduction, and Harmlessness". The Group is also committed to reducing waste disposals and mitigating environmental impacts. With regards to hazardous waste disposal, relevant subsidiaries have signed the Hazardous Waste Disposal Contract with companies that have relevant hazardous waste disposal qualifications to conduct centralized disposals of hazardous waste generated from the Group's production processes. In order to effectively enhance the comprehensive utilization of waste, CNBM actively responds to the call of the national and local governments: the cement business segment vigorously promotes the comprehensive utilization of resources by using a large amount of industrial waste for cement production; the light building materials business segment comprehensively utilizes industrial waste by extensively recycling and utilizing desulphurized gypsum and phosphogypsum.

The Group actively responds to the calls from the national and local governments, develops co-disposal projects of cement kiln for disposing municipal refuse, sludge, sewage, and hazardous wastes, and contributes to the construction of harmonious relationship between human and the nature. The Group advocates the concept of circular economy and actively utilizes industrial waste and urban construction waste as raw materials in the production processes. In 2019, the Group utilized more than 93.40 million tonnes of solid waste.



The cement enterprises affiliated to CNBM have built 24 co-disposal projects, and there is 1 project under construction, which include 14 co-disposal projects of hazardous waste, 5 domestic garbage disposal projects, and 5 sludge disposal projects. Besides, there are 13 proposed projects. In 2019, a total of 1,667,900 tonnes of hazardous waste, 1,859,800 tonnes of domestic waste and 1,227,400 tonnes of sludge were disposed by the Group.

During the Reporting Period, the Group utilized more than million tonnes of industrial waste. At the same time, each cement business segment vigorously promotes the comprehensive utilization of resources, using a large amount of industrial waste residue for cement production, such as coal fly ash, slag, desulfurized gypsum, and calcium carbide slag, etc., to achieve the comprehensive utilization of industrial waste.

Case

South Cement strengthened its investment in the co-processing industry and increased the coprocessing capacity of cement kilns by 100,000 tonnes per year. South Cement actively carried out the coordinated disposal of contaminated soil and hazardous waste, and the utilization rate of the 10 completed disposal units exceeded 70%. During the Reporting Period, the annual processing capacity of cement solid waste and sludge in South Cement was 800,000 tonnes, and a total of 660,000 tonnes of pollutants were disposed in the whole year, including 480,000 tonnes of solid waste, 160,000 tonnes of sludge and 20,000 tonnes of waste liquid.

Case

The main industrial solid wastes (e.g., gypsum board and waste residue) of BNBM are reusable materials. All the gypsum board production lines of BNBM have been gradually established a corporate internal circular economy production and operation system:



Waste products and pulp blocks from the production lines are initially crushed and reused as raw materials;

Through using unqualified products (e.g., waste gypsum board) to make packaging slat and protecting board, breaking the unqualified products into coagulant as supplementary materials, using recycled industrial water and other circular economic system improvements, the utilization rate of solid waste is 100%, which directly reduces the discharge of various solid waste to the environment;

For the disposal of hazardous waste, contracts are signed with qualified relevant parties for centralized disposal, effectively protecting the environment and achieving win-win economic and social benefits.

Water conservation

By taking water resources conservation and protection as the focus, through empowering leadership, improving system, implementing responsibility and strengthening supervision, the Group has achieved remarkable results in water measurement management, water-saving system construction, sewage treatment, water reuse and other areas.

The cement business segment companies have taken active water-saving measures; they have recycled water by reusing industrial cooling water in the production system, and no wastewater from production is discharged out of the system. At the same time, in order to reduce water consumption in production, each cement business segment company regularly inspects the circulating water pipe network and regularly cleans the sedimentation tanks, so as to better conserve water resources.

In addition, the Group implements water resources management measures such as diversion of clean water and wastewater, diversion of rainwater and wastewater, segregated collection and pre-treatment of production wastewater and domestic sewage. All wastewater is reused after advanced treatment by sewage treatment stations at site areas, and the treated wastewater is mainly used for vehicle washing, water spraying for dust reducing in the storage yard, as well as ground washing, road sprinkling, and gardening, etc. to achieve zero discharge of wastewater.

Case

Ningxia Building Materials adheres to the rational recycling of water resources. In recent years, the greening area in the factories of Ningxia Building Materials was expanding, and the demand for water was also increasing. Therefore, Ningxia Building Materials specified that the source of water for gardening can only be sourced from the water discharged after the cooling cycle. No wastewater is directly produced in the process of cement production in Ningxia Building Materials. The water is mainly used for indirect cooling and humidification by various mills, air compressors, and other high-speed operating equipment. In addition, Ningxia Building Materials collects the wastewater generated in employees' daily life, and uses the water for gardening after settlement treatment, so that no wastewater is discharged.

Case

BNBM has taken active measures to save water and recycle industrial cooling water into the production system. BNBM separates rain and sewage, recycles wastewater from production, and collects domestic sewage into municipal pipe networks for centralized treatment. BNBM Taicang realizes wastewater recycling; BNBM Jiaxing reuses the wastewater from the ground washing in the production system for recycling use; no wastewater from production is discharged. The sedimentation tank of the desulfurization tower is cleaned regularly, and the wastewater from the sedimentation tank of the desulfurization tower is returned to the pulping system for recycling, so as to better conserve water resources. Through wastewater recycling, BNBM Taicang reduced its water consumption by 8% or about 16,000 tonnes as compared with 2018. BNBMG Zhuozhou completed the transformation of the circulating fan cooling water system, which saved 47,000 tonnes of water in the whole year.

Case

In Qilianshan, the cooling water used for all production and wastewater from waste heat power plants is recycled after filtration and treated by reverse osmosis, respectively. The use ratio of recycled water is more than 91.7%, achieving zero wastewater discharge. Domestic sewage treatment stations were built with MBR efficient membrane treatment technology, which has good separation and purification effect. After the completion of treatment, the treated wastewater all reaches the Level 1 - A standard of the Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant (GB18918-2002) and is 100% used for road spraying, greenery irrigation, and dust removal spray.



Upgrading eco technics

The Group continuously upgrades its eco technics and carries out technical improvement with reference to the current local and overseas standards and experience. The Group also encourages each enterprise to strengthen energy conservation and emission reduction and improve resource utilization efficiency through independent innovation.

Case

In order to reduce the labor intensity of employees, Zhongfu Xigang has carried out process improvement in the lay-up of FRP ships and changed the lay-up method of large FRP ships from hand lay-up to vacuum membrane PFRP resin compression technology. Vacuum resin import process is a kind of mold closing, which makes the volatile organic compounds be confined within the vacuum membrane. Only during the processes of vacuum pump exhausting (filterable) and resin mixing, there are trace amounts of volatiles. The concentration of styrene gas is less than 5 ppm and the concentration of volatile organic compounds is much lower than the international standards, which greatly reduce the harm to the health of operators, and is significant to protect the environment and promote economic and socially sustainable development.

Case

Jiangxi Porcelain can save 150 kWh of electricity every month through the transformation of old motors. Through the demolition of the waste kiln furnace, 100,000 m³ of natural gas are saved every year. In addition, the Shandong branch of Jiangxi Porcelain has modified the power of the 1,600 KVA transformers, added capacitors and reactors, increased the power factor from 0.83 to 0.95, which reduced the electricity consumption and unit price.

Circular economy

The Group has taken the initiative to address issues such as climate change and overcapacity to facilitate the green and low-carbon circular development in the industry. The Group continues to vigorously promote pure low-temperature waste heat recovery for power generation of cement rotary kilns. As of December 2019, the system of waste heat recovery for power generation of the subsidiaries in the cement business segment of the Group has generated 9.403 billion kWh of electricity, which led to a consumption reduction of 1.1557 million tonnes of standard coal, an emission reduction of 3.0279 million tonnes of carbon dioxide, and generated nearly RMB3.914 billion of economic benefits.



Case

In 2019, Sinoma Cement generated a total of 659.77 million kWh of electricity by waste heat power, which is equivalent to saving 81,085 tonnes of standard coal, reducing the emission of 657,795 tonnes of carbon dioxide, and generating economic benefits of nearly RMB395.86 million. Sinoma Cement has achieved a reduction of 1.71 kWh of comprehensive electricity consumption per tonne of cement produced and a reduction of 4.52 kg of standard coal consumption per tonne of clinker produced through the transformation of some large fans with high efficiency and the transformation of coal saving and resistance reduction in the production system.

Case

Under the circumstances of clinker output increasing, standard coal consumption decreasing and comprehensive clinker power consumption decreasing, Southwest Cement waste heat power generation realized the maximizing of equipment potential and actively coordinated with kiln system to increase power generation by optimizing operation and improving equipment operation and management level. By the end of November 2019, the total power generation capacity of Southwest Cement was 594.87 million kWh, a decrease of 47.93 million kWh year on year, which was mainly due to the insufficient utilization of kiln capacity and a reduction of 9,713 hours in the execution time of heat power generation. Southwest Cement generated 33.8 kWh of electricity by waste heat power generation per tonne of clinker produced, 1 kWh less than the previous year. The utilization rate of internal waste heat power generation was 6.94%, slightly increased by 0.03% year on year. The amount of electricity generated from the waste heat generation was 546.89 million kWh. Calculated at the price of RMB0.45 per kWh, Southwest Cement has saved RMB246 million in electricity costs, which is equivalent to a reduction of 196.800 tonnes of standard coal and a reduction of 492.000 tonnes of carbon dioxide emissions.

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waste heat recovery for power generation of the subsidiaries in the cement business segment of the Group has generated **9 413** billion kWh of electricity which led to a consumption reduction of **1 1557** million tonnes of standard coal an emission reduction of **3**0279 million tonnes of carbon dioxide

As of December 2019, the system of

and generated nearly RMB



3914 billion of economic benefits





Green Products

In terms of products, the Group always pays attention to the performance of the whole life cycle of products, and is committed to providing high-quality, safe and healthy, green and environment-friendly building materials.

The Group has adjusted the structure of basic building material products and actively advanced the cement business in the direction of "High Performance, Specialized, Cross-industrial, Product-oriented", providing clients with high-quality, green and low-carbon cement products; the Group has developed and used industrial waste resources as raw materials to produce building materials, thus reducing the consumption of natural minerals; products that have reached the end of their life cycle are recycled as much as possible or effectively disposed.

In addition, the Group has also provided advanced and serialized wind power blades, solar thin film battery modules and special cement products to provide guarantees for the healthy development of new energy industries such as wind power, photovoltaic power, and hydroelectricity, etc.



Green Ecology

The Group adheres to sustainable development and strives to explore the pattern of harmonious coexistence of nature, society, and industry. The Group's significant impacts of activities on the environment and natural resources mainly include the removal of vegetation at the mine sites during mining part of the raw materials used in the cement business segment, and the fuel consumption and exhaust emissions during the operation of cement business segment. The Group respects the Convention on Biological Diversity and carries out strict verification on the site selection and layout design of factories; during the construction of projects, steps are taken to protect natural habitats, wetlands, forests, corridors for wildlife and agricultural lands, and to mitigate adverse impacts on the surrounding environment and communities as much as possible. The subsidiaries of the Group engaging in manufacturing industry pay attention to the greening and beautification of the site area and its surrounding environment; the Group has combined industrial production with gardening and landscaping and flora and fauna, and is committed to creating a green factory to achieve the natural integration of the industry and its surrounding environment.

In addition, the Group's mining activity is carried out according to the Green Mine Convention. The mining process is required to be scientific and orderly, in order to strictly control the impacts on mining areas and the surrounding environment and to protect the ecological environment. The Group carries out ecological restoration swiftly after the mining is completed. During the Reporting Period, the Group strengthened the scientific planning and the management of mine construction, and actively promoted green mine construction. The Group owns a total of 32 national-level green mines.

Case

South Cement carries out the green mine construction work comprehensively. South Cement joint Sinoma Mining and China National Geological Exploration Center of Building Materials Industry strengthened the mine technical guidance and achieved remarkable results in the green mining guidance of six mines in Guangde region. South Cement consolidated and developed the achievements in the construction of green mines in Shanghai South Cement and Zhejiang South Cement, accelerated the construction of green mines in Jiangxi South Cement, Hunan South Cement, and Guangxi South Cement, and fully implemented the three-year plan for the construction of green mines. By December 2019, a total of 16 mines of South Cement have been listed in the national green mine list, marking a fundamental change in the outlook of mines.

Case

The mining process of Qilianshan abides by the Green Mine Convention. Qilianshan requires the mining process to be scientific and orderly, the impact generated by the mining activities to be strictly controlled on the mining area and surrounding environment and to protect the ecological environment. After the mining is completed, ecological restoration should be carried out in time. Qilianshan strengthens mine construction management and actively promotes the construction of green mines. Qilianshan has three national-level green mines and two provincial-level green mines.

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Case

Tianshan Cement has promoted the construction of 6 green mines as planned during the Reporting Period. Tianshan Cement has conducted a strict demonstration on the site selection and layout of the factories, and protected natural habitats, wetlands, forests, wildlife corridors and agricultural land in the construction of projects, so as to minimize the adverse impact of the subsidiaries on the surrounding environment and communities. Tianshan Cement pays attention to the local greening work, realizes the green area promised by the project as well as realizes the natural integration of industry and surrounding ecosystem.

This section illustrates the environmental performance⁷ of the Group on emissions and use of resources during the Reporting Period.

Atmospheric emissions





Self-produced solid wastes



Comprehensive utilization of solid wastes



7: The Group continues to improve environmental management. During the Reporting Period, the Group revised some environment-related data in 2018 after re-examination and calculation. The revised data are underlined. The denominator used for related intensity data calculation is the "Revenue (i.e., RMB million)" of the Group in the specific year.

8: In view of the characteristics of the Group's business, the Group's main greenhouse gas emissions are in Scope 1. The data disclosed herein came from fuel combustion and carbonate decomposition in raw materials during the operation of the Group.

9: Including self-produced hazardous and non-hazardous solid wastes.



Self-produced non-hazardous solid waste (Tonnes)	Year-over- year change
2019 535,357 2018 363,071	† 47.5%
Intensity of self-produced non-hazardous solid waste (Tonnes/RMB million)	Year-over- year change
2019 2.11 2018 <u>1.66</u>	↑ 27.4%
Disposal rate of self-produced solid waste (%)	Year-over- year change
2019 94 2018 100	↓ -6.0%

Discharge to water

Amount of chemical oxygen demand (COD) (Tonnes) Year-overyear change 2019 592 2018 505 17.2%

Year-over-

year change

0%

100

100

Proportion of companies meeting

noise level standards (%)

Energy use

2019 2018 2019 2018 2019 2018 Total energy consumption¹⁰(MWh) Year-overyear change 2019 407,046,258 **1**4.9% 388,106,299 2018 2019 2018 Intensity of total energy consumption Year-overyear change (MWh/RMB million) 1,606 2019 ↓ -9.4% 2019 <u>1,772</u> 2018 2018

Rational utilization of waste heat



Environmental protection related complaints

2019 2018 Received complaints related to significant environmental pollution problems Ω



10: Calculations based on the electricity and fuel consumption and the conversion factors provided by the International Energy Agency.

Noise

2019

2018



Water and packaging material use

Water consumption (Tonnes)	Year-over- year change
2019 114,876,11 2018 112,633,475	³ † 2.0%
Intensity of water consumption (Tonnes/RMB million)	Year-over- year change
2019 453 2018 <u>514</u>	↓ -11.9%
Use ratio of recycled water (%)	Year-over- year change
2019 66 2018 <u>72</u>	↓ -8.5%
Number of issues in 2019 2018 sourcing water that is fit for purpose 0	Year-over- year change
Cement packing bags (Pieces)	Year-over- year change
2019 2,016,870,711 2018 2,083,801,489	↓-3.2%

Year-overyear change

> U 0/~



5 Caring for Employees



The Group adheres to the concept of "people-oriented" and regards employees as its most valuable asset. The Group respects the differences of employees and creates a safe and harmonious working environment for each employee. Moreover, by human resources policies, employee welfare, vocational training and related activities, the Group unites employees' cohesiveness and their sense of belonging to pursue and achieve the core values of the Group.

Standardized Employment
People-Oriented
Equality and Diversity
Safety and Health
Co-development
Highlights of 2019

Standardized Employment

CNBM strictly complies with the laws and regulations related to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunities, diversity, anti-discrimination, other benefits and welfare, which have a significant impact on the Group, including but not limited to the Labor Law of the People's Republic of China and the Labor Contract Law of the People's Republic of China. The Group upholds the principles of equal competition and meritbased recruitment and selection in the process of recruitment and employment and formulated and implemented system to standardized personnel management. Furthermore, the Group has standardized its dismissal procedures according to relevant measures in an orderly manner. The Group also requires new employees to provide accurate and actual personal information when onboarding. Applicants that have provided material or information which is later verified to be false will not be hired; the Group will terminate the probation period or labor contracts for employees that have provided falsified material or information. Additionally, the Group strictly reviews the identity information of candidates in the recruitment process to prevent recruiting child labor. Meanwhile, the Group firmly complies with the laws and regulations related to preventing forced and child labor.

People-Oriented

The Group's compensation and benefits for employees include salaries, allowances, and other related benefits. Under laws and regulations relevant to labor and social welfare, the Group is required to pay social insurance premiums such as endowment insurance, work-injury insurance, medical insurance, unemployment insurance, and housing funds, etc. on behalf of employees every month. The compensation policy for employees of the Group is implemented in accordance with responsibilities of each position, and the performance bonus is pegged to the overall economic performance of the Group. The Group pays attention to the employees' physical and mental health. The Group has formulated an internal employees' Leave and Attendance Regulation, which stipulates that employees are entitled to sick leave, personal leave, marriage leave, maternity leave, paid annual leave and statutory holidays. At the same time, the Group regulates employees' working hours, and offers overtime compensation for employees who exceed the statutory working hours. In addition, the Group pays basic pension insurance, basic medical insurance, unemployment insurance, maternity insurance, work-injury insurance and housing funds for all formal employees and encourages employees to achieve a win-win model of work-life balance through a series of welfare measures. Furthermore, the Group organizes various cultural and sports events from time to time to enrich employees' cultural life, enhance employees' bonding and improve team cohesion.



Equality and Diversity

As of 31 December 2019, the Group had a total of 155,606 employees, and the ratio of male to female employees is about 3.27 (2018: 3.28). The Group attaches great importance in maintaining workplace diversity, and is committed to providing a safe, healthy, and harmonious working environment for every employee. The Group will never tolerate any form of discrimination within the Group and will never treat candidates and employees differently based on their gender, age, race, ethnicity, religion, culture, and sexual orientation.

At the same time, in order to lay a solid foundation in human resources for the sustainable development of the Group, the Group enhances the internal cohesion and employees' sense of collective belonging through continuous improvement of human resources policy, employee welfare, vocational training, and leisure activities. Adhering to the principle of paying employees according to their performance and working efforts, the Group sets up and implements a reasonable salary management system based on the employee's work capability, job responsibilities, market salary level, and others.

The Group respects and upholds international covenant on human rights, the Labor Law of the People's Republic of China and other laws and regulations, firmly prohibits the employment of child and forced labor, and opposes any forms of discrimination during recruitment processes and subsequent employment. The Group adheres to the model of localized management, with practical actions to promote the development of the people's livelihood in the areas where the Group's projects located. The Group advocates the management model of "localized employment and localized resources use", facilitates the development of communities nearby the Group's projects, provides job opportunities, and promotes economic development. The Group fulfills its responsibility to create a harmonious development environment for the construction, development, operation, and management of its overseas projects.

Case

The local employment ratio of the Tanzanian branch, which is owned by the Nanjing segment of Sinoma International, is more than 1:20. At its peak, the Dangote refinery in Nigeria had more than 5,000 local employees or 82% local employees of its total workforce. Chengdu Design and Research Institute of Building Materials of Sinoma International, which is based in Egypt, has realized the localization transformation from design, procurement, logistics, construction, through to the establishment of localized management team. The local management personnel on the site of the Egyptian sugar refinery project account for 62%, the local workforce of the civil construction employees accounts for 100%, and the local workforce of the non-standard equipment manufacturing personnel accounts for 70%. The local employment ratio of L'AMALI project in Argentina is 100%. In 2019, a total of 1,296 local employees were employed in the project. The total social insurance payment was ARS285 million (about RMB39.92 million) and taxes paid were ARS105 million (about RMB15.18 million). At the same time, Sinoma International pays attention to the training of local talents and continuously improves the collective capacities of local employees. The overseas subsidiaries and the project departments of Sinoma International have recruited and trained local talents to participate in corporate management and established a complete human resource management and training appraisal system, which are applicable to local laws, regulations, and national conditions. Local workforce accounts for nearly 70% of the middle management team of the Sinoma International's Indonesia subsidiary. The Philippines project of Sinoma Handan implements the "instructor system", in which Chinese personnel "help and guide¹¹" the local employees in the process of technology transfer, production process, and installation.

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As of 31 December 2019, the Group had a total of

155,606 employees,

the ratio of male to female is about

3.27

Safety and Health

The Group is committed to providing a safe, healthy, and harmonious working environment for every employee. Ensuring the safety and health of employees is the primary task in the development of the Group. Through in-depth research and analysis of the production characteristics of the building materials industry, the Group continuously improves the Measures for Occupational Health Supervision and Management in Workplaces of CNBM, and continuously strengthens the occupational health protection and management of employees, so as to effectively prevent, control and eliminate occupational hazards.

The Group strictly abides by laws and regulations related to occupational health and safety that have a significant influence on the Group, including but not limited to the Work Safety Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, the Measures for the Supervision and Administration of "Three Simultaneities" of Facilities for the Prevention and Control of Occupational Diseases of Construction Projects and other national laws and regulations and standardized guidelines for work safety, and has established a relatively comprehensive safe production organizational system. In accordance with related laws and regulations as well as its own characteristics, the Group has formulated the Measures for Occupational Health Supervision and Management in Workplaces of CNBM to strengthen the supervision and management of occupational health, and to effectively prevent, control and eliminate occupational hazards. In addition, based on in-depth studies and analysis of building material production characteristics, the Group has continuously optimized supporting facilities for dust prevention, toxin prevention, noise reduction and emergency alerts: first-aid equipment has also been provided in production areas. In strict accordance with the requirements of labor protection, employees are equipped with quality and reliable personal protective equipment including work clothes, safety helmets, protective shoes, gloves, anti-noise earmuffs, dust masks, etc. The Group also regularly arranges health examinations for employees.

The Group intensifies inspections for potential risks and actively promotes closed-loop control which is composed of "Basic Capacity Building - Assessment and Control of Potential Accidents - Work Performance and Incentive Assessment - Enhance the Ability for Safe Operation" (PDCA¹²), to achieve the PDCA improvement cycles. The Group has explored and established an inspection and management system for hidden risks, with the practice of job responsibility as the core, the listchecking standard as the tool, the closed-loop self-investigation and reporting as the method, and the means of information management as the support. Moreover, the Group promotes the use of information technology in the daily management of safe production and has self-developed a safety management information system which has enabled the online management of safety qualifications, safety basic archives, potential risk investigations, hazardous sources management, safety inspections, safety training and other important procedures and processes of safe production management.



As a national pilot enterprise of standardized safe production, the Group actively promotes the establishment of standardized safe production for cement and other enterprises, improves the safety management system, increases the safety management level, and boosts safety management performance. The heads of the enterprises are the primary persons who are responsible for safety in workplaces and are directly responsible for safe production. All key production enterprises are equipped with full-time safety management personnel. The Group has also established an unimpeded channel for feedback and encourages all the staff to participate in safety management. The Group also attaches great importance to building up its safety management team and strictly follows the Safety Training Management Measures of CNBM. It guarantees the popularization of safety knowledge and implementation of safety procedures, deepens employees' awareness of safety responsibilities, and improves employees' awareness of occupational hazards and self-protection capabilities through various types of trainings and assessments.

Furthermore, the Group also attaches great importance to the safety and occupational health management of suppliers and partners. The safety and occupational health provisions are incorporated into service contracts; daily safety inspections, training and emergency drills are carried out jointly with suppliers and partners.

Case

BNBM has been continuously improving the dust, poison, noise reduction and emergency management facilities, and first-aid equipment in the production sites. In strict accordance with the requirements of labor protection, employees are equipped with reliable quality work uniform, helmets, labor protection shoes, gloves, noise-proof earmuffs, dust masks, and other personal protective equipment. BNBM organizes regular physical examination for employees and provides special physical examination items for employees deployed in special duties with exposures to dust and noise. As the first person responsible for production safety, the person in charge of the enterprise is directly responsible for the work of production safety. Each subsidiary is equipped with full-time safety management personnel to establish the standardization of production safety compliance mechanisms.

BNBM strengthens the potential hazard identification, actively promotes the closed-loop control of "risk identification - plan rectification scheme - plan implementation - inspection and improvement" (PDCA) and realizes the continuous improvement via PDCA. BNBM has explored the establishment of potential hazard detection and management system based on the implementation of the post responsibility as the core, using checklist as a standard tool for inspection , closed-loop self-detection, self-reporting as a means of screening potential hazard, and information management as support. In addition, BNBM actively improves the offline safety management, and vigorously promotes the daily management of production safety information, so that the safety qualification management, basic documentation in safety, potential hazard dentification, hazard management, safety inspection, safety training and other important segments in production safety management have all successfully realized online management.

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Co-development

Through reflecting on advanced personnel training experiences and combining this with the Group's own development characteristics, the Group has established an employee development and training platform with multiple channels, multiple forms, different levels and various focuses. The Group adopts the training methods of "Internal Training as the Principal, External Training as the Supplement", sharing educational resources and building the Group's three-dimensional training system. The Group also supports employees' enrollment in independent training and encourages employees to study proactively by providing support and back-up (in terms of working hours, training investment input and incentive mechanisms, etc.) to encourage further-education, further-training and further-learning. At the same time, the Group regularly evaluates and grades work performance of all formal employees each year, so as to determine the promotion and salary adjustment of employees.





To carry out various forms of emergency drills, thereby improving the feasibility, coherence and reliability of emergency rescue systems and contingency plans. To accumulate practical experience of dealing with emergency and enhance safety awareness and skills of employees.









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Emergency Drill Training

Safety Knowledge Training

Through safety training to improve the level of safety production, technical knowledge of workers and safety management of managers, and to encourage managers to update their technical knowledge in a timely manner.

This section illustrates the social performance of the Group on employment, occupational health and safety, and employee training during the Reporting Period.

Expense on employee benefits¹³



Employee composition



	2019	2018	Year-over- year change		2019	2018	Year-over- year change
Total number of en	nployees			By employment contract			
Male	119,206	121,502	-1.9%		152,398	154,945	-1.6%
Female	36,400	36,998	-1.6%	Temporary/fixed term	3,208	3,555	-9.8%
By age group				By region			
Below 30	34,240	35,178	-2.7%	Mainland China	153,605	156,672	-2.0%
30 to 50	97,283	97,908	-0.6%	Region of Hong Kong, Macau, and Taiwan	6	6	0%
Over 50	24,083	25,414	-5.2%	Overseas	1,995	1,822	9.5%

13: Including directors' remunerations.



Rate of employee turnover



	2019	2018	Year-over- year change		2019	2018	Year-over- year change
By age group				By region			
Below 30	6.8	7.0			4.1	4.1	0%
30 to 50	3.4	3.5	-2.9%	Region of Hong Kong, Macau, and Taiwan	-	8.3	-100%
Over 50	2.5	2.6	-3.8%	Overseas	7.0	6.4	9.4%

Work-life balance of employees









Participating activities organized industrial associations (above pr level) (Sessions)	Year-over- year change	
2019 2018	558 534	↑ 4.5%

Supports and rewards for employees

Comforted special employees employees with difficulties (Pers	Year-over- year change	
2019 2018	7,049 6,846	↑ 3.0%
Offered grants to the children of with difficulties to go to school the children of employees to g (Person-Times)	or rewarded	Year-over- year change
2019 2018	902 883	↑ 2.2%
Helped employees with critical (Person-Times)	diseases	Year-over- year change
2019 2018	463 440	↑ 5.2%

Percentage of employees who received vocational training

	2019	2018	Year-over- year change
By gender			
Male (%)	35.0	34.0	2.9%
Female (%)	32.0	31.0	3.2%
By employee category			
Senior (%)	40.0	36.0	11.1%
Middle-level (%)	35.0	33.0	6.1%
General (%)	32.0	32.0	0%

Total expense on comforting special employees and helping employees with difficulties (RMB million)	Year-over- year change	
2019 7.50 2018 7.42	↑ 1.1%	
Total expense on offering grants to the children of employees with difficulties to go to school or rewarding the children of employees to go to school (RMB million)	Year-over- year change	
2019 1.70 2018 1.63	↑ 4.8%	
Total expense on helping employees with critical diseases (RMB million)	Year-over- year change	
2019 1.48 2018 1.51	↓ -2.3%	

Average hours of training per employee who received vocational training

	2019	2018	Year-over- year change
By gender			
Male (Hours)	42.0	40.0	5.0%
Female (Hours)	35.0	34.0	2.9%
By employee category			
Senior (Hours)	50.0	50.0	0%
Middle-level (Hours)	40.0	42.0	5.0%
General (Hours)	32.0	40.0	25.0%

Occupational health and safety of employees



Employment related litigations, complaints, and safety accidents

Cases involving employing child and forced labor Received complaints on violations of employees'

legitimate rights and interests

Received complaints on discrimination against applicants and employees

Violations relating to occupational health and safety that have a significant impact on the Group

Large production safety accidents¹⁴ occurred

14: Refer to the Regulations on the Reporting, Investigation and Disposition of Work Safety Accidents of the People's Republic of China.









06 Quality Assurance

The sustainable development of the Group over the years is inseparable from the clients' support and trust in the quality of the Group's products and services. Adhering to the principle of refocusing, the Group strives to promote orderly integration and optimization of various business segments, realize resource sharing, complement each business segment's advantages, and take full advantages of the synergy effect, thus providing solid backing for guaranteeing the quality of various products and services. The Group is committed to co-development with its suppliers and business partners and aspires to create better values through mutually beneficial cooperation.

Supply Chain Management

Protection of Property Right

Supply Chain Management

In terms of supply chain management, the Group forms strategic partnership with suppliers of bulk materials, communicates with each other on environmental and safety issues, etc., and timely supervises suppliers' obligations related to social responsibility in accordance with relevant national policies. When selecting new suppliers and business partners, the Group will give priority to the partners with reliable quality, good business operational condition and good reputation, environmentally friendly and with scientific management. After the supplier to be partnered with has been determined, the Group will sign a formal contract with the supplier to avoid risks. In addition, the Group regularly communicates with suppliers to drive improvements with respect to the problems found in the cooperation in a timely manner. In addition, the Group also pays attention to the implementation of local procurement policy. In accordance with the Group's supplier cooperation conditions, the Group will give priority to business cooperation with local suppliers to promote the coordinated development of local society and economy.

The Group has established standardized operating procedures to ensure the objectivity, impartiality and scientificity of the selection and evaluation of suppliers, to strengthen the daily management and quality assessment of the Group's suppliers and to establish a stable and win-win cooperative relationship. The Group also regularly reviews and evaluates such procedures to regulate supplier management. Each subsidiary has also developed a supplier management system that meets their actual situations in accordance with the relevant management policies of the Group, such as the Procurement Management System of South Cement, the Measures for the Supplier Management of South Cement, the Measures for the Supplier Management of BNBM, the Procurement Management System of BNBM, the Measures for the Supplier Management of Jushi Group Company Limited, the Procedures of Jushi Group Procurement Control, the Measures for the Logistics and Supply Management of Qilianshan, the Measures for Risk Prevention and Internal Control of Material Procurement of Qilianshan, and the Measures for the Supplier Management of North Cement, etc.

Case

According to the permission of material purchase, the North Cement headquarters, its management zones, and its subsidiaries implement the management mechanism of hierarchical responsibility, counterpart management and cooperation for the suppliers. During the onsite verification process, North Cement will verify the supplier's business license and relevant qualification certificates, enterprise-scale, capital status, equipment production conditions, supply capacity, enterprise reputation, quality, technical support capacity, and their business performance. According to the survey results of suppliers, North Cement conducts qualification examination on suppliers, selects high-quality and reliable suppliers based on the supplier's enterprise credit, business status and enterprise reputation, and signs contracts after confirming qualified suppliers. In addition, according to the requirements of the Measures for the Supplier Management of North Cement, North Cement has formulated the Implementation Rules for Supplier Management and earnestly implemented the relevant policies.

At the same time, the Group also attaches importance to the performance of suppliers and business partners in ensuring occupational health and safety of their employees. Provisions of occupational health and safety are included in the business cooperation agreement between the Group and the suppliers/ business partners. The Group actively collaborate with its suppliers and business partners to carry out daily safety inspections, safety trainings, emergency drills and other work together.

In the process of purchasing raw materials, the Group strongly implements green procurement and gives priorities to the products that are environmentally friendly and with low carbon emission during their production processes. For the selection of energy sources, clean energy is given primary consideration. The Group vigorously promotes the use of non-fossil energy such as lowgrade energy, municipal waste, biomass energy and others. As for daily office supplies, products with minimal packaging and are conducive to recycling are selected where possible.

Case

labelling products:







Regarding logistics and trade, the Group applies modern internet-of-things technology and its experience on e-commerce operation into the effective integration of services, such as supply of bulk building materials, logistics, insurance and credit, and inspection and quarantine. The Group is committed to providing comprehensive solutions to the whole process of international trade in order to completely achieve one-stop online management, and thereby enabling the Group to become a global oriented service supplier in the building materials supply chain.

Product Quality

The Group has been constantly optimizing the traditional industrial structure, extending the industrial chain, and promoting industry trends towards greenness, intelligence and being high-end oriented. Product quality control are carried out throughout all subsidiaries of the Group. The Group adheres to the concept that the interests of the industry are higher than the interests of the enterprise, and strives to promote structural optimization, transformation and upgrade of the industry, so as to achieve joint growth between the industry and industrial chain enterprises in a harmonious and win-win manner.

The Group is committed to providing green building material products. The Group researches and develops new building materials based upon the four core concepts, namely: energy saving, safety, comfort, and ecology. In the production process of the Group's green building materials products, the production mode of waste utilization is adopted to turn the produced waste into energy again for recycling. In the selection of materials, the Group thoroughly considers the issues of material scrapping, recycling, and reusing. The Group also avoids using methods that may produce harmful substances in the process design, implements clean production and clean processing, and accelerates the development of green building materials.



In terms of product services and complaints, all subsidiaries of the Group have established a pre-sale consultation, in-sale reception, and after-sales service system according to their own situations. The Group standardizes after-sales service and solves quality problems after sales in time. In addition, the Group standardizes the client complaint processing process to allow further improvement in client complaint processing efficiency and adhere to the client-oriented principle.





Protection of Intellectual Property Right

The Group strictly abides by the Patent Law of the People's Republic of China and the Anti-Unfair Competition Law of the People's Republic of China. An intellectual property rights ("IPR") management system with the characteristics of the building materials industry has been established to provide a guarantee for the scientific research to be conducted in an orderly manner. The system has been established to control the protection of IPR, the management of scientific research funds, and the confidentiality of information and to fulfil the requirements of the internal control system establishment and risk management. In 2019, the Group listed intellectual property risks as one of the overall risks of the corporate through sorting and identification and formulated and implemented corresponding risk management strategies and countermeasures to ensure that the intellectual property risks are always controllable, being-controlled and affordable. Moreover, with the development of the Management System of CNBM Science and Technology Work and the CNBM Patent Management Measures, the Group has strengthened the protection of the IPR of the Group by laws and improved the Group's ability to manage IPR in research activities, production and business operations.

Protection of Privacy

The Group attaches importance to protect the privacy of itself and its clients. The Group has implemented a strict confidentiality policy on the personal data of clients, and it requires employees that possess confidential information to sign confidentiality agreements with the Group. For example, in order to further standardize the protection of confidential information in sales, BNBM has formulated the Implementation Measures for the Confidentiality of Sales Information, which regulates the work of relevant personnel involved in sales information and implements the confidential management of client data and sales information. In addition, in order to further standardize the implementation of management measures, Southwest Cement has formulated the Agreement on Commercial Confidentiality to regulate the protection of confidential information concerning client information, marketing plans, pricing policies, non-public financial information, sales strategies, pre-tender and tender document contents in the bidding and daily production and operation data for relevant personnel in sales positions.



This section illustrates the social performance of the Group related to supply chain, product and service during the Reporting Period.





Complaints and litigations related to products and services

Violations of regulations and the voluntary codes relating to the provision and use of the Group's products and services¹⁶ which have a significant impact on the Group

Proportion of products to be recalled for safety and health reasons (%)

Litigations concerning the health and safety of products and services

Complaints received arising from the leak of clients' privacy information



15: The reason for the change is that in 2019, BNBM was sued by Hanhua Yimei (Tianjin) Image Technology Co., Ltd. (hereinafter referred to as "Hanhua Yimei") (the company that operates the website "VCG.com"), claiming that the pictures used by BNBM on BNBM's Weibo account violated its right to spread information on the Internet. The case ended in 2019. As Hanhua Yimei violated relevant provisions of the Cybersecurity Law of the People's Republic of China and the Regulation on Internet Information Service of the People's Republic of China in 2019, Hanhua Yimei did not seek compensation for BNBM. The Group will take this as a lesson and strengthen the management of intellectual property matters involved in daily operations, to more strictly regulate the use of images in network media, so as to avoid similar incidents from happening again.

16: Including but not limited to product and service information and labelling, marketing and property rights.

As a responsible corporate citizen, the Group has been paying close attention to the development of the surrounding communities and the local society at home and abroad, insisting on building good relationships with neighbors and practicing mutual aid, and actively supporting the development of public welfare and charity. The Group attaches importance to various poverty alleviation work. According to the uniform policy for public charity of the Parent, the Group has established a sound emergency response mechanism to provide rapid disaster relief, civil air defense and other public supports.

- Sunshine Charity
- Highlights of 2019

Contribution to the Socie IV

• Targeted Poverty Alleviation

In 2019, the Group donated a total of more than RMB109.71 million, of which the poverty alleviation funds were mainly used for infrastructure construction, geological disaster management, industrial development, medical and health care, education sponsorship, and e-commerce training, etc.



Targeted Poverty Alleviation

Regarding targeted poverty alleviation, the Group actively refines the mindset of poverty alleviation. With the original intention of "to teach someone how to fish is better than to just give him a fish", the Group launches a model of "Internet + Poverty Alleviation", which assists the poverty alleviation in the PRC through multiple aspects, including accurate personnel assignment, targeted object selection for poverty alleviation, precise project arrangement and use of fund, to effectively provide the basic needs for the people who are in difficulties, and make the poverty alleviation achievements can actually benefit the livelihood of the people. During the Reporting Period, the Group has actively carried out and participated in a number of specific works on poverty alleviation.



The Company invested RMB200,000 into the cooperatives of each of the 70 villages which are out of poverty in Zhaoyang District, a total of RMB14 million, as a collective economic capital into the agricultural investment company in the district, to build the apple bases, as a collective economic supplement for the 70 villages in Zhaoyang District in 2019.



In Shitai County, Anhui Province, the Parent held the "Chinese Volunteer Doctors, Anhui Shitai Station" free medical diagnosis activity, organized volunteer doctors to carry out the free diagnosis in Shitai County and at the same time trained new Chinese medicine practitioners and village doctors through the activity. The activity provided free medical services to nearly 550 people in the poverty area, 170 person-times of ward rounds, and 70 people received appropriate technical training for traditional Chinese medicine and village doctors.



The first backbone training course of Yunan embroidery was launched in Suijiang County Vocational High School. The training covered 120 women in 5 towns, with 5 sessions in total.



Sinoma Mining held a special job fair of skilled talents for counterpart support in Xiluodu Vocational School. A total of 30 youths from Yongshan County were successfully employed on the job fair.

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The ceremony of the completion and delivery of the standardized playground project of Kazi Primary School which was donated by the Parent and the education donation in autumn was held in Kazi Primary School in Zhaoyang District. Southwest Cement donated one school bag for each student of Kazi Primary School, a total of 367 school bags were donated.

Sunshine Charity

To encourage employees to actively participate in various voluntary activities, the Group has provided guarantees and supports in various aspects such as human resource organizational structure, working mechanism, time management, financial support, and communication and liaison, etc. Under the voluntary service system with the Communist Youth League as its core, the Group and its subsidiaries have established several voluntary groups which organized a variety of voluntary activities. Through participating in the activities, not only the employees have demonstrated their enthusiasm but also spread their happiness. During the Reporting Period, the Group has carried out and participated in a number of specific works focusing on public welfare and charity.



An employee of a local Chinese enterprise in Zambia was in critical condition in the intensive care unit due to cerebral malaria and was in urgent need of type A blood transfusion. The Zambia Industrial Park of CNBM immediately initiated the initiative of voluntary blood donation among employees and called on everyone to donate their love.



In the winter of 2019, Kuqa Tianshan Cement took 10 tonnes of coal to Baishibulake Village, Yaha Town, Kuqa County, Xinjiang to carry out the activity of "maintaining ethnic unity and helping to alleviate poverty in the winter".





In order to respond to the call of the Parent's voluntary fund-raising activity of "Good Construction Public Welfare", practice the Group's culture, carry forward the spirit of public welfare, promote poverty alleviation, and comprehensively strengthen the volunteer service work, Sinoma Cement party branch organized the party members to carry out the volunteer fundraising activity of "Good Construction Public Welfare".



harvest highland barley

The party branch responsible personnel of the Qilianshan cement Shannan project department knew that there were some people in Changguo Township, Gongga County, Shannan City, Xizang who could not finish the autumn harvest due to the limited workforce in their families. Some of the employees and local police officers were transferred to form a task force to help the people to collect the barley and solve the urgent need.

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The Group's youth employees actively participated in the volunteer service activity of "Colorful Class of Good Construction Public Welfare" volunteer service activities. In August 2019, a total of 40 volunteers went to seven volunteer education centers in five targeted poverty alleviation areas and counties for a five-day volunteer education program.

This section illustrates the social performance of the Group on poverty relief and public charity during the Reporting Period.

Contribution to the society



Targeted poverty alleviation



17: Including targeted poverty alleviation projects.

18: Including monetary value of input fund and resources.

Year-over-Number of established volunteer year change organizations or groups 2019 135 **†** 21.6% 111 2018 Number of volunteers among employees Year-overyear change 2019 6,899 ↓ -0.7% 6,948 2018 Annual number of working hours for Year-overyear change volunteer activities 27,397 2019 **†** 57.1% 17.444 2018 Total investment of all subsidiaries' annual Year-oversupport in volunteer activities (RMB million) year change 1.26 2019 **†** 65.7% 0.76 2018 Participated in or supported activities Year-overyear change relating to the protection of the rights and interests of women, children, or persons with disabilities 2019 369 **†** 17.5% 314 2018

Carrying out volunteer activities



Supporting science and education

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Number of students who received scholarships	Year-over- year change
2019 148 2018 80	↑ 85.0%
Number of entrepreneurial internship bases 2019 34 2018 31	Year-over- year change
Provide internship for undergraduates (Person-Days) 2019 19,838 2018 9,972	Year-over- year change

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