



CNBM

China National Building Material Group Co.,Ltd.

SUSTAINABILITY
REPORT
2019

绿水青山就是金山银山

A Production Line of Huaikean South Cement Company Limited

Report Norms

This is the eleventh sustainability report released by China National Building Material Group Co., Ltd. (hereinafter referred to as "CNBM"), truly reflecting CNBM's sustainability and social responsibility performance.

Entities Covered by the Report

All wholly-owned or controlled (including absolutely and relatively controlled) member enterprises of CNBM. For brevity, the terms "CNBM", the "Group" and "we" are used in the Report to refer to China National Building Material Group Co., Ltd. (unless otherwise specified in the text).

Period Covered by the Report

January 1 to December 31, 2019, some contents beyond.

Reporting Cycle

This Report is an annual report.

Basis for Preparation

Guiding Opinions on the Implementation of Social Responsibility by State-owned Enterprises issued by the State-owned Assets Supervision and Administration Commission of the State Council

Corporate Social Responsibility Reports in China for Nonmetal Mineral Products (CASS-CSR 4.0) issued by the Chinese Academy of Social Sciences

Guidelines for the Preparation of Corporate Social Responsibility Reports (GB/T36001-2015) issued by the Standardization Administration of China

Guidelines for Sustainable Development Reports (GRI 4.0, GRI-standards) by the Global Reporting Initiative (GRI)

Social Responsibility Guide (ISO26000) (2010) issued by the International Organization for Standardization (ISO)

UN Sustainable Development Goals (SDGs) 2030

Data Sources

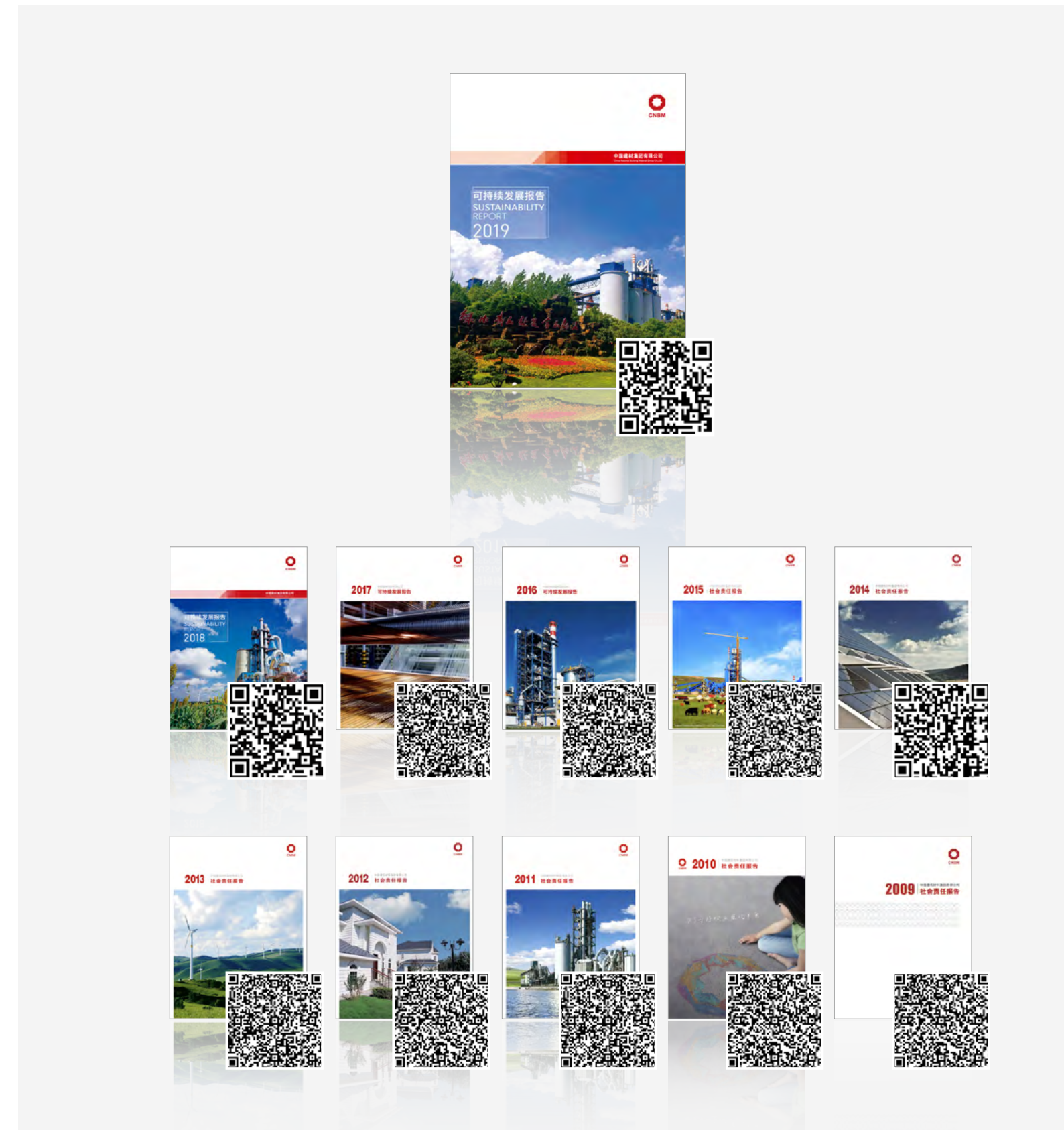
All the information and data used herein comes from the Headquarters and member enterprises of CNBM. Notes have been made in the Report to indicate information from external references. Unless otherwise stated, all monetary amounts are expressed in RMB.

QA

We strive to ensure the authenticity, integrity and balance of the contents in the Report, and make breakthroughs in innovation and readability. Moreover, there are no false records, misleading statements or major omissions in this Report.

Report Availability

This Report has printed and electronic versions and is mainly released to stakeholders and the public in the form of a PDF electronic document. You can request the printed version via the contact information on the cover or log onto www.cnbm.com.cn to download the electronic version.



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Chairman's Address

Innovation is the primary driving force for development!



General Secretary Xi Jinping said, "Innovation is productivity. Enterprises rely on it to be strong, and countries rely on it to prosper."

CNBM is a long-standing enterprise dating back to the foundation of the China Building Materials Academy, now a subsidiary of CNBM, in 1950. In the past 70 years, CNBM has grown together with the People's Republic of China. Having adjusted its development pathways for three times, CNBM has made tremendous leaps of development. By developing new building materials and consolidating its business of basic building materials, CNBM has become the world's largest cement producer and one of the Fortune Global 500 companies through large-scale mergers and restructuring. After the restructuring of China National Building Materials Group Corporation and China National Materials Group Corporation in 2016, CNBM has forged a "tripod" business pattern, i.e. basic building materials, new materials, and R&D and engineering services. Now it has successfully become the world's top producer of building materials. In its history, CNBM has kept making innovations in fields from strategic management to routine operations, from corporate governance to state-owned enterprise reforms, and from organizational development to cultural building with innovation efforts anytime and anywhere.

Innovation-driven development

Innovation is a gene in our business. As part of our core values of "innovation, performance, harmony and responsibility", innovation is a born endowment of CNBM and has been incorporated into the Group's soul of high-quality development and serves as an inexhaustible powerhouse to deliver world-class performance. Being innovation-driven is our top strategy. To make the best use of role of innovation as "the primary driving force for development", CNBM has been carrying out all-round innovation in technology, business models, management and institutions comprehensively encompassing its goal of being one of China's top and world-class enterprises to continuously enhance the Group's vitality, competitiveness, power of control, influence and risk resistance ability, and to realize harmony with employees, competitors and the environment for inclusive and sustainable development. As a flagship of technological innovation in the industry, CNBM received various awards and designations in 2019, including the National Scientific and Technological Progress Prize, the China Patent Gold Award, the Specialized Champion of Manufacturing Industry, the National Quality Award and the China Luban Award for Construction Projects. In the year, CNBM had one new academician of the Chinese Academy of Engineering in its team and possessed more than 12,000 valid patents on a cumulative basis. Many of its technologies and products played an important role in the missions of Chang'e 4, the Beidou satellites, the Daxing Airport, the National Day military parade, and other national key projects and major events. The Group kept making innovations in basic building materials, implemented the "Cement+" strategy in an all-around way, maintained world-class performance in indicators for environmental protection with grassland-like and garden-like plants, attained world-leading level of intelligent manufacturing, and contributed to ecological improvement through synergy in the cement production. The year also witnessed the

springing up of our business of new materials with mass production of the 8.5th generation TFT-LCD glass substrates, image light-guided recognition materials, silicon nitride ceramic balls and other new materials. We have achieved breakthroughs constantly in engineering and technical services and international production capacity cooperation under the "Belt and Road" Initiative. The Group's "tripod" business pattern has been further strengthened. CNBM keeps pace with the times in management innovation by promoting "intensified organization, fine management and lean operation" and stresses quality and efficiency to reduce costs and gain better benefits to reward our shareholders with outstanding performance and maintain and increase the value of state-owned assets.

Development empowered by reform

Opportunities appear for those who are brave in innovation and never cease their endeavor. CNBM has been at the forefront of market-oriented reforms. Deng Xiaoping, the former chief "architect" of China's reform and opening up, instructed that "we should build new building materials factories as soon as possible" during his visit to CNBM. Comrade Xi Jinping, then Secretary of the Shanghai Municipal Party Committee, sent us a special letter of congratulations, encouraging us to carry out regional cooperation and joint development. From the five reforms of establishment of state-owned investment companies, development of mixed ownership economy, shareholding by directors, mergers and reorganization of enterprises under the Central Government, and shareholding by employees to the practice of "state-owned market-oriented enterprises", the joint development of "state-owned enterprises and private enterprises", establishment of "efficient and flexible" market-based mechanisms, talent incentive mechanisms... and vigorous promotion of the entrepreneurship spirit represented by "innovation, persistence and accountability", CNBM has not only boosted the development of China's building

materials industry, but also profoundly affected the landscape of the industry around the world. While constantly focusing on financing and investment, the Group is shifting its business from asset management to capital management, from building materials to comprehensive materials, and from the local market to the global stage. With the hard working, wisdom and skills of all CNBM people, the Group created new records of business performance with operating revenue and profits having continuously grown at double-digit rates from 2015 to 2019. In 2019, the Group achieved RMB 398.1 billion of revenues, RMB 23.52 billion of profits and RMB 85.39 billion in social contributions. Every CNBM employee is contributing to building the Group into a long-standing "tower" by doing his or her part of the work.

Development facilitated by internationalization

We have developed innovative practices of "going global" and new models for global procurement, marketing, service provision and resource utilization by relying on our industrial advantages and consolidating and sharing of advantageous resources. In the process from "going out" to "entering overseas markets", we adhere to the concept of "being true, honest, altruistic and trustworthy" and follow the principle of "making contributions to local development, working with local enterprises and getting along well with local residents". By implementing the "Six-One" plan, we are actively building an innovation ecosystem characterized by "overseas industries + technology + services" and have established diverse forms of high-level cooperation with universities, research institutes and governmental departments of countries along the "Belt and Road" Initiative" in a wide range of fields. Now CNBM has 172 overseas entities with EPC projects being executed all over the world. We have undertaken 459 projects as general contractor in 79 countries and territories and hold a 65% share of the global market of cement and glass engineering projects. We have built 20 of

the world's 41 super-large cement production lines with capacity above 10,000 t/a each. CNBM has been committed to contributing to a community of shared future for mankind.

Development guided by Party building

Only by turning our original aspiration and mission into an enterprising, pioneering and innovative mentality as well as voluntary striving actions, can we overcome the tremendous difficulties encountered in our projects, such as those at the "Loushan Pass" and "Lazikou", materialize our dreams and keep writing glorious stories in the new journey from being big to being great. In the year, we thoroughly studied and implemented the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, further established the "Four Consciousnesses", strengthened the "Four Confidences", resolutely achieved the "Two Maintenances" and deliver the education with the theme of "remaining true to our original aspiration and keeping our mission firmly in mind" further into our mindset with real and profound results to realize high quality development directed by high-quality Party building and play our role as a "stabilizer" and "ballast" of the national economy for being a state-owned enterprise under the Central Government. The Group allocated RMB 104.35 million of dedicated funds and goods for poverty alleviation throughout the year, and designated 55 cadres to take temporary positions for poverty alleviation in remote local communities. With support from the Group, Jingyuan County of Ningxia and Suijiang County of Yunnan have been moved out of the list of poverty-stricken counties, and the other three counties/districts are expected to get rid of poverty successfully by 2020. We will keep helping hundreds of thousands of impoverished people towards a better and happier life.

CNBM is also a young group of companies. It is innovation that makes CNBM rejuvenated, stand out from competition in the market and shine on the international stage. General Secretary Xi noted

that enterprises are the key players of innovation and the main force driving innovation and creation. Despite our top ranking in the world building materials industry, CNBM will continue to explore a new and broader world by following its "philosophy of actions" and eventually develop into a world-class industrial investment group specializing in the material industry with global competitiveness and contribute to the efforts of building a well-off society in an all-round way and realizing the great Chinese Dream of the Chinese people.

To this end, let's seize the day and live it to the full, and embrace the coming future!

Chairman and Party Committee Secretary

Zhou Yuxian



About Us

Company Profile

China National Building Material Group Co., Ltd. (CNBM) was founded through the merger of the China National Building Materials Group Corporation and China National Materials Group Corporation with consent of the State-owned Assets Supervision and Administration Commission of the State Council and approval of the State Council.

Headquartered in Beijing, CNBM boasts of being the largest industrial group for building materials and a new material developer and integrated service provider leading throughout the world. It has been listed on the Fortune Global 500 list for nine consecutive years and was ranked 203rd in 2019. As at the end of 2019, the total assets of the Group amounted to RMB 596.2 billion and its total number of employees was about 205,000. In 2019, CNBM achieved revenues of RMB 398.1 billion. CNBM controls 14 listed companies, including 2 overseas listed companies. The Group is the largest supplier of cement, ready-mixed concrete, plasterboard, fiberglass, wind turbine blades, cement and glass engineering projects, and engineering and technical services. It is also one of the leading producers of ultra-thin electronic glass, high-performance carbon fibers, lithium battery diaphragms, ultra-high voltage electrical porcelain and so on.

As a scientific and technological enterprise, CNBM possesses the top strength in building materials and new inorganic nonmetallic materials. CNBM takes possession of 26 national scientific research and design institutes, 38,000 scientific R&D and technical engineering employees, 33 national industrial quality inspection centers, 11 national key laboratories and technical centers and 19 standardization technical committees with more than 12,000 patents and 5 first prizes of the National Awards for Scientific and Technological Progress.

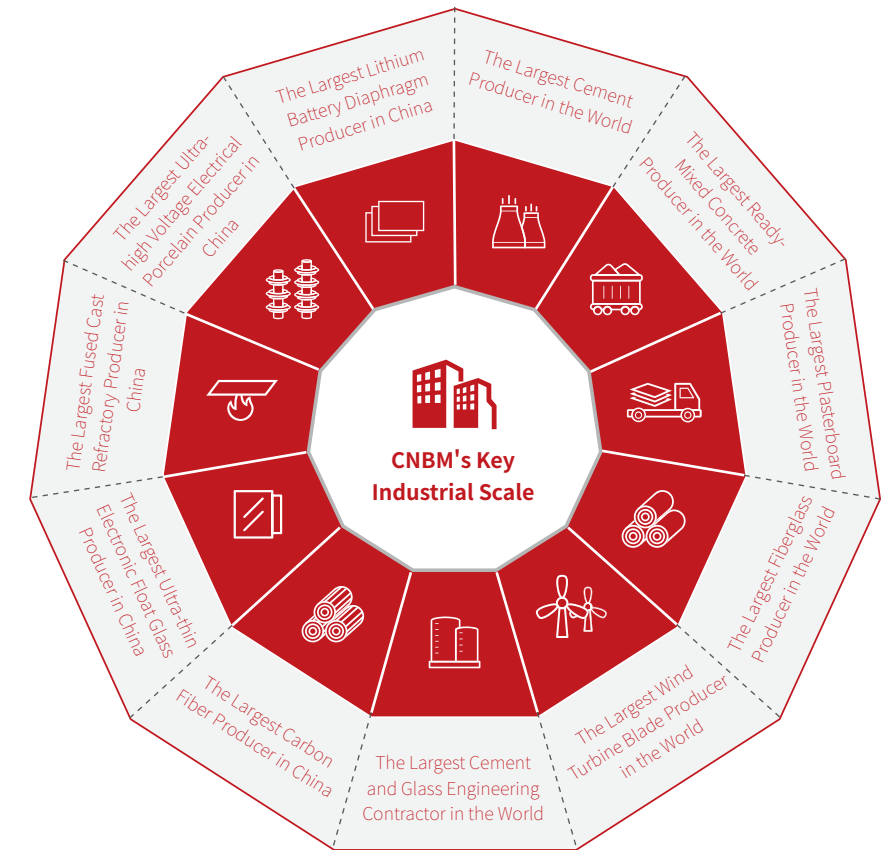
As an internationalized company, CNBM has been at the forefront of "going global" and the "Belt and Road" Initiative of the Chinese building material industry. It holds a 65% share in the international market of cement and glass engineering projects, and has investment in the United States, Germany, India, Mongolia and African countries, moving towards the center of the world's stage of building materials.

CNBM has been designated as a pilot state-owned capital investment company. Currently, it is speeding up the "three major changes" from asset management to capital management, from building materials to comprehensive materials, and from the local market to the global stage. We work to continuously enhance the Group's competitiveness, capability of innovation, power of control, influence and risk resistance ability, and develop into a world-class industrial investment group specializing in the material industry with global competitiveness.

Corporate Culture

In order to fulfill its political, social and economic responsibilities satisfactorily, CNBM adheres to the core values of "Innovation, Performance, Harmony and Responsibility" and the standard of conduct to "be reverent, grateful, humble and appropriate". At CNBM, under the people-oriented principle, we actively build a cultural environment with lenience, tolerance, flexibility, loyalty, affinity and cohesion and create an atmosphere that integrates Party building culture, corporate culture, integrity culture and safety and environment culture. In addition, as "realizing the happiness and value of the employees" is taken as a major ultimate goal, we make great efforts to cultivate "four-meticulous" and "five-have" cadres, and strive to bring about "enterprise-employee co-growth".

CNBM's Key Industrial Scale

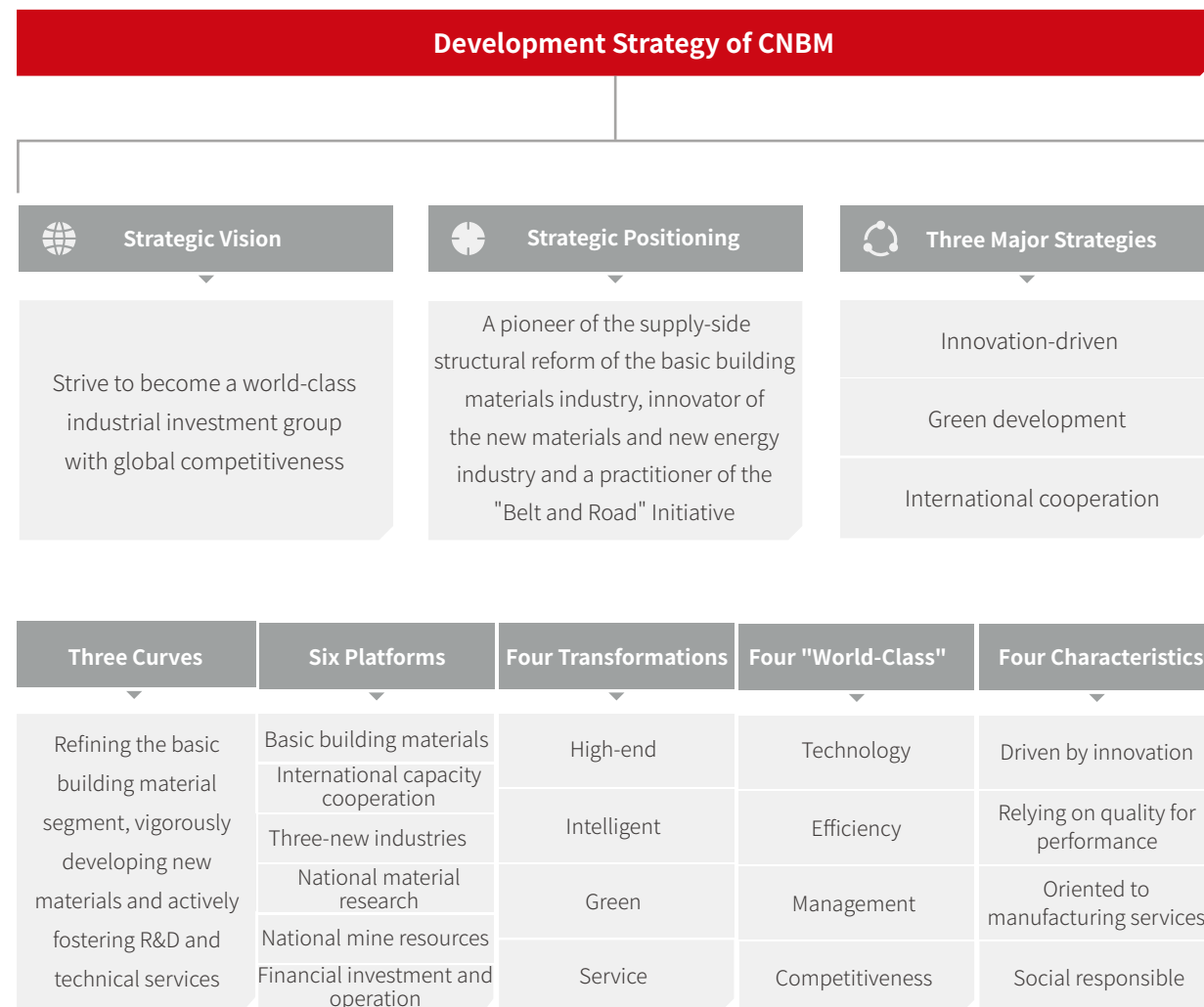


CNBM Core Values



Development Strategy

CNBM is strategically positioned to be a pioneer of the supply-side structural reform of the basic building materials industry, innovator of the new materials and new energy industry and a practitioner of the "Belt and Road" Initiative. We actively apply the new concept of development, attach great importance to the quality of development, and implement the three major strategies of "innovation-driven, green development and international cooperation". Encompassing the pathway of development called the "three curves", i.e. refining the basic building material segment, vigorously developing new materials, and actively fostering R&D and technical services, we work to create the six business platforms of "basic building materials, international capacity cooperation, three-new industries, national material research, national mine resources, financial investment and operation", make the Group "driven by innovation, relying on quality for performance, oriented to manufacturing services, and social responsible", drive the transformation to be "high-end, intelligent, green and service-based", build CNBM into a world-class industrial investment group specializing in the material industry with global competitiveness and achieve the leap from being big to being great.

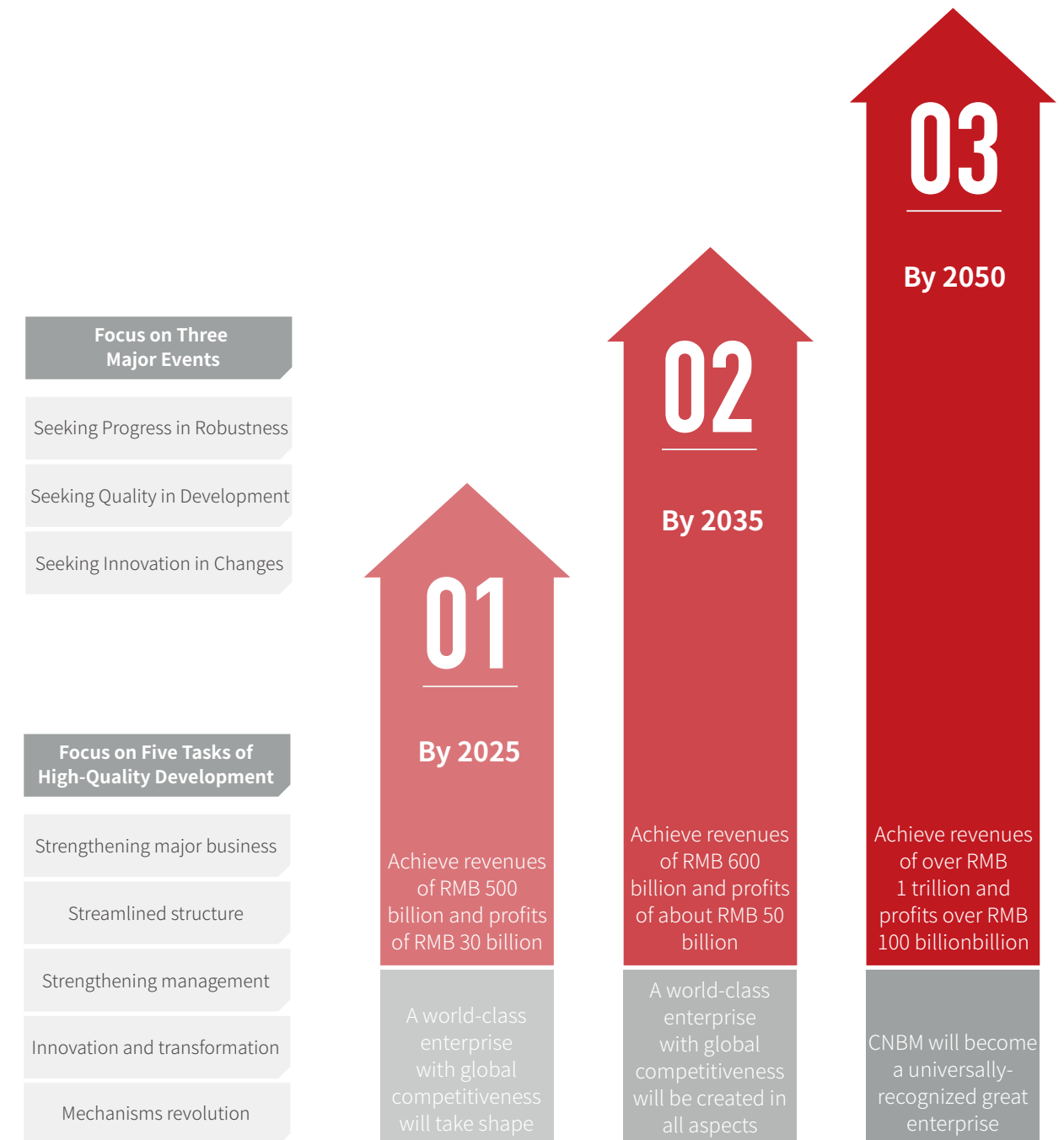


Goals and Tasks

By 2025, with revenues of RMB 500 billion and profits of RMB 30 billion, a world-class enterprise with global competitiveness will take shape.

By 2035, our revenues will reach RMB 600 billion and our profits will reach about RMB 50 billion. Innovation, profitability, control and governance capabilities and market competitiveness will all reach the world-class level, and we will have become a world-class enterprise with global competitiveness in an all-round way.

By 2050, with revenues of over RMB 1 trillion and profits of over RMB 100 billion, CNBM will become a universally-recognized great enterprise.



Management Team

CNBM is a demonstration unit for the merger and reorganization of central enterprises, the development of mixed ownership economy, the development of state-owned capital investment companies and the deepening and implementation of the duties and power of the board of directors conducted by the State-owned Assets Supervision and Administration Commission of the State Council. Its member enterprises are pilot enterprises for employee stock ownership in mixed ownership enterprises. The Board of Directors has 4 special committees in accordance with the Company Law, the requirements for standard operation of the board of directors and the needs of the work and the expertise of the external directors, of which the Remuneration and Appraisal Committee and Audit and Risk Management Committee consist solely of external directors.

Management Team of CNBM

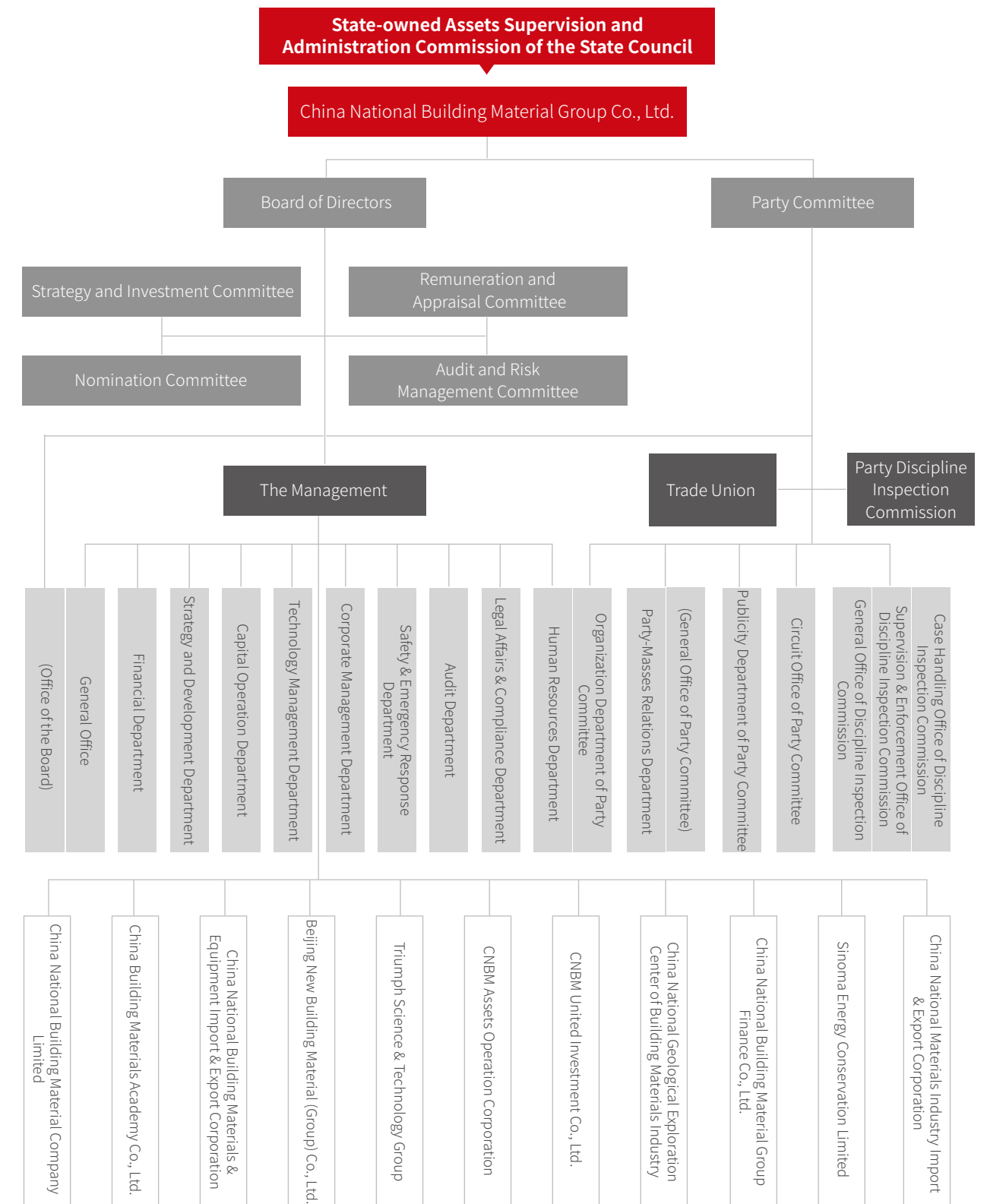
Zhou Yuxian	Cao Jianglin	Li Xinhua
Party Committee Secretary and Chairman	Party Committee Standing Member, Director and General Manager	Party Committee Standing Member and Vice-Chairman

Zhao Xiaogang	Chen Jinen	Zhao Jibin	Zhang Yanling	Liu Xinquan	Sun Lishi
External Director	External Director	External Director	External Director	External Director	Deputy Party Committee Secretary, Employee Director and Trade Union Chairman

Zhan Yanjing	Yang Jie	Chang Zhangli	Wang Yumeng
Party Committee Standing Member and Chief Accountant	Party Committee Standing Member and Discipline Inspection Commission Secretary	Party Committee Standing Member and Deputy General Manager	Party Committee Standing Member and Deputy General Manager

Guang Zhaoyu	Lu Xinhua	Wei Rushan	Gao Zehuai
Board Secretary and General Manager Assistant	General Counsel	General Manager Assistant	Deputy Chief Economist

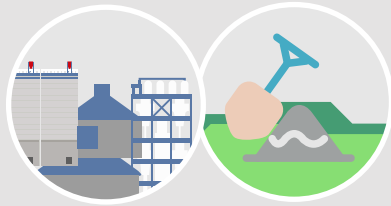
CNBM Governance Structure



Main Lines of Business

1 Basic Building Materials Platform

Cement



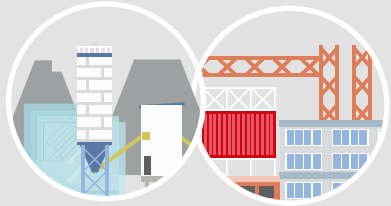
CNBM has an annual production capacity of 520 million tons of cement and 460 million m³ of ready-mixed concrete, both of which rank first in the world.

Leading Enterprises

China United Cement Corporation, South Cement Company Limited, North Cement Company Limited, Southwest Cement Company Limited, CNBM Investment Company Limited, CNBM Cement Company Limited, Xinjiang Tianshan Cement Co., Ltd., Ningxia Building Materials Group Co., Ltd., Gansu Qilianshan Cement Group Co., Ltd.

2 International Capacity Cooperation Platform

Engineering and Production Services



We have captured 65% shares of the global market in cement and glass engineering and cogeneration engineering; moreover, we are expanding our market shares in such fields as new glass, new energy, new materials, new buildings and so on.

Leading Enterprises

Sinoma International Engineering Co., Ltd., China National Building Materials International Engineering Co., Ltd., Sinoma Energy Conservation Limited, CNBM Design & Research Institute Co., Ltd., Hefei Cement Research & Design Institute Co., Ltd., Qinhuangdao Glass Industry Research & Design Institute Company Limited

"Three-New" Industrial Platform

New Materials

Lightweight Building Materials



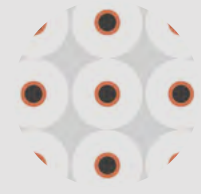
The annual production capacity of plasterboard is about 2.7 billion m², ranking first in the world. We have high-end brands in the international market and proprietary intellectual property rights, as well as three business sectors: wall and suspended ceiling systems, housing parts and architectural energy conservation systems, and exterior building envelope systems. We provide an application solutions package for public buildings and family housing with our complete product system.

Leading Enterprises

Beijing New Building Material Public Limited Company, Taishan Gypsum Co., Ltd.

New Materials

Fiberglass



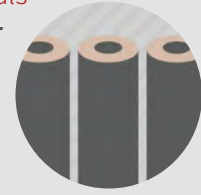
CNBM's annual production capacity of fiberglass is 2.74 million tons, ranking first in the world. We have the world's largest alkali-free tank furnace production line with an annual capacity of 120,000 tons and the proprietary intellectual property rights of such packaged technologies as alkali-free tank furnaces, medium alkali tank furnaces and the fiberglass waste silk recycling process.

Leading Enterprises

China Jushi Co., Ltd., Taishan Fiberglass Inc., Sinoma Jinjing Fiberglass Co., Ltd.

New Materials

Carbon Fiber



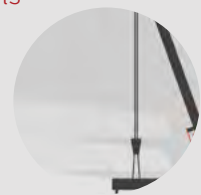
With a total capacity of 3,600 tons, we have a 1,000-ton carbon fiber production line, which features the largest scale and most advanced technology in China. We have reached an annual production capacity of 13,000 tons of PAN silk and 6,000 tons of carbon fiber. We have developed the first production line in China to produce high-quality dry-jet wet spinning T700 PAN silk & carbon fiber and T800 carbon fiber good in performance (we have systematically mastered the technologies for producing 100-ton level T1000, M30, M35 and M40 carbon fiber). We can produce 150 - 1660 mm² carbon fiber composite core conductors for 35-1,100 KV transmission lines.

Leading Enterprises

Zhongfu Shenying Carbon Fiber Co., Ltd., Zhongfu Carbon Fiber Core Cable Technology Co., Ltd.

New Materials

Wind Turbine Blades



We can produce 16GW of blades for MW-level wind turbines every year, ranking first in the world, including 10 series and over 60 types of products with the categories ranging from 1.25 MW to 6.7 MW, and the blade length varying from 31 meters to 80 meters. We possess blade production bases in Yanqing of Beijing, Funing, Pingxiang, Handan, Xilinhot, Baicheng, Lianyungang, Shenyang, Jiuquan, Baotou, Hami and Guizhou, a research and development center in Germany and a national blade testing center.

Leading Enterprises

Sinoma Wind Power Blade Co., Ltd. and Zhongfu Lianzhong Composites Group Co., Ltd.

New Materials

New Glass Materials



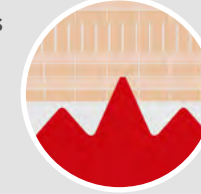
CNBM's annual production capacity of regular and float glass reaches 24.38 million weight cases, ranking first in China. It is one of the leading domestic suppliers of ultra-thin electronic glass with a capacity of 38 million square meters and ITO conductive film glass with a capacity of 35 million pieces. It is also China's third supplier of solar glass with a capacity of 100 million square meters.

Leading Enterprise

Triumph Science & Technology Group

New Materials

Refractories



The annual production capacity is 649,000 tons. Our products include refractories fused cast refractories, environment-friendly alkaline refractories, energy-saving and environmental friendly alumina-silica refractories, a wide range of unshaped refractories and various wear-resistant materials. To meet different customers' needs, we can provide all-round services such as refractory design, selection, configuration, supply, installation and construction, technical renovation and maintenance.

Leading Enterprise

Ruitai Materials Technology Co., Ltd.

New Energy

PV Business



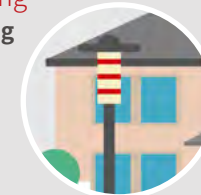
We have established a whole industrial chain of BIPV (Building Integrated PV) with a focus on thin-film solar products and technologies. We also have a production capacity of 5GW thin film solar cell modules, ranking first in China. We are committed to the integrated application of new energy materials and distributed energy, as well as carrying out the R&D and promotion of new-energy housing. We have set up a 300 MW CIGS thin-film solar cell production base and a 100 MW CdTe power generation glass production base. Moreover, we have also developed several PV power stations in China and other countries and regions.

Leading Enterprises

Triumph Science & Technology Group, China National Building Materials International Engineering Co., Ltd.

New Housing

New Housing

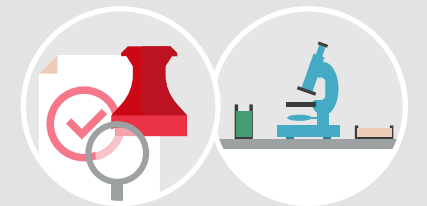


We have several product systems including steel, PC, etc. As one of the first national demonstration bases of housing industrialization and one of the first assembled building industrial bases, we have many demonstration bases of new housing production in Beijing, Sichuan, Jiangsu, Hainan, Heilongjiang, etc. We are an advocate and promoter of the new environment-friendly and energy-conservation housing industry of China.

Leading Enterprises

BNBM House Co., Ltd., Sihuan Huagou Technology Co., Ltd., China Building Materials Academy Co., Ltd., and China National Building Materials International Engineering Co., Ltd.

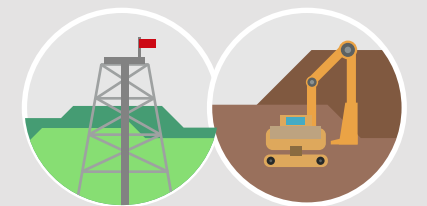
4 National Material Scientific Research Platform



Leading Enterprises

26 national scientific research and design institutes including China Building Materials Academy Co., Ltd., Tianjin Cement Industry Design & Research Institute Co., Ltd., etc.

5 National Mining Resources Platform



Leading Enterprises

China National Geological Exploration Center of Building Materials Industry, China Non-metallic Minerals Industry Co., Ltd., South Graphite Co., Ltd.

6 Financial Investment and Operation Platform



Leading Enterprises

Sinoma Group Finance Co., Ltd., CNBM United Investment Co., Ltd.



SUSTAINABLE DEVELOPMENT GOALS

SDGs Respond

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS

Market Performance

We actively promote high-quality development, always reward shareholders and investors with excellent business results, serve customers with high-quality products, prioritize the industry's interests over those of enterprises, keep deepening the supply-side structural reform, strive to promote the structural adjustment, transformation and upgrading of the building materials industry, and work with industry partners and industrial chain members to build CNBM a platform creating value for all stakeholders.

Revenues of RMB	398.1 billion
Total profit of RMB	23.5 billion
Payment of taxes of RMB	31.4 billion

© A High-performance Carbon Fiber Production Line Indigenously Developed and Designed by CNBM

Proud Results

Harvest comes from irrigation with sweat. We must hard work and stay determined to pursue our goals. With the hard working, wisdom and skills of all CNBM people, the Group created new records of business performance in 2019 with revenues and profits keeping double-digit growth to be RMB 398.1 billion and RMB 23.5 billion respectively. The Group was ranked first among all building material companies in the Fortune Global 500 list for the first time with new progress and breakthrough in high-quality development.



© A Panorama of Guizhou Zunyi Saide Cement Co., Ltd.

Data Review 2019

6

sessions of "Lecture on Rule of Law" training and counsel work training

The legal review rates are

100

for rules and regulations, business decision-making and business contracts

The performance rate of economic contracts is

98.5%

Normative Governance

We maintain a standard corporate governance system. As the strategic, resource and cultural center, the CNBM headquarters exercises the rights and performs the duties of the capital contributors. Its business platforms focus on their core expertise and main businesses to build up profit centers. As operating entities, the enterprises at the primary level implement strict cost control while assuring quality. More than 500 member enterprises have set up standardized boards of directors and established sound corporate governance structures. We keep legal compliance and good faith in operation, strengthen risk prevention and control, and impose strict audit and supervision, comprehensive risk management and construction of central enterprises under the rule of law. All tier-2 enterprises must prepare comprehensive risk management reports. 166,000 person sessions of law publicity and education activities has been held.

In the year, the Group's operating performance was dramatically improved, and the construction of large profit platforms produce fruitful results. Nine tier-2 companies were more profitable compared to the previous year, and seven tier-2 platforms with profit up to RMB 100 million were formed. The year also saw eye-catching rise in both shipping volume and value of cement, ready-mixed concrete, wind turbine blades and other major products.

Integration and Optimization

In 2019, we conducted adjustment and optimization effectively and orderly with constantly improved the "tripod" business pattern, i.e. basic building materials, new materials and engineering and technical services. The "three-step" strategy of restructuring and integration has realized seamless interfacing at the group level and the level of Hong Kong listed companies (China National Building Material Company Limited and China National Materials Company Limited). The merger highlighted the "1 + 1 > 2" effect and has become a model for the restructuring of central enterprises. Depending on their business sectors, the member companies are being further integrated and optimized by level and phase. CTC Group has completed the integration of the testing business of 8 subsidiaries and consolidated its leadership in the business sector. Related projects and intra-group cooperation have progressed smoothly in fields of geological exploration, mine engineering services, energy conservation and environmental protection, financial services, new-type housing, intelligent industry and so on. Three regional leading enterprises in waterproof materials are reorganized to have ten major bases of waterproof materials covering the whole country.

Re-Upgrading of Cement Business

As the largest cement producer in the world, we have found a brand-new pathway of development through transformation and upgrading defined by keywords, such as "green", "intelligent" and "high-end", and driven the rapid change and progress of the industry. We are working to advocate the development of "high-grade, specialized, ready-mixed and product-form" cement, comprehensively promote the "Cement+" mode, drive the rapid growth of the ready-mixed concrete, aggregate and other materials, optimize the distribution of production lines, deepen the industrial chain integration and industrial restructuring, and introduce intelligent and information technology. We have built "integrated large-scale cement industry chain operation platforms" combining "cement, ready-mixed concrete, aggregate and collaborative disposal", and we have 7 pilot cement enterprises in implementing the integration management system for integration of informatization and industrialization.

CASE A demonstration intelligent production line is put into operation at Zunyi Saide Cement 📄

To achieve world-class performance, we must take the lead in intelligent production. A typical case is the intelligent production project put into operation in 2019 at Southwest Cement Zunyi Side Co., Ltd. Combining world-leading information and intelligent concepts and a variety of artificial intelligence, online monitoring and control technology, the project consists of nine systems for building a new-generation of intelligent enterprise, fully realizing unattended control of incoming raw materials, production process and shipping of finished products, thus dramatically reducing manual operations on the production line, and makes a great difference in the cement production process. With no more than 80 employees, the plant has reduced the production line's coal equivalent consumption for clinker production to 92kg and comprehensive power consumption of cement production to 68 kWh. Its overall energy consumption has been saved by more than 30% and f-CaO acceptance rate of clinker out of the kiln has been higher than 95%. This project represents a solid step for China's cement industry embracing the era of intelligent manufacturing.

Rapid Development of New Materials

We work actively to accelerate the cultivation of the system of "six categories of new materials", establish a technological agglomeration integrating advanced production technology, essential technical equipment, inspection and certification, and standard development, and realize an effective closed-loop and virtuous cycle from R&D to industrialization and marketing of new materials.

- ◆ China's first production line of image light-guided recognition materials is put into operation
- ◆ China's first production line of microcrystalline graphite flotation purification and processing is put into operation
- ◆ 8.5th-generation TFT LCD glass substrates terminates long-time monopoly by foreign companies
- ◆ The photoelectric conversion rates of copper indium gallium selenium thin film batteries and cadmium telluride power generation glass reached new highs
- ◆ Mass production of high strain point glass, glass for double glass PV modules, special borosilicate glass, 1 mm G3-class silicon nitride ceramic balls

CASE Bringing wings for development of new materials industry



A country's economic and social development, scientific and technological progress and national defense strength can be measured through two important indicators including R&D level and industrialization scale of the "new materials industry". CNBM has a clear vision of the future development direction and has gradually developed into a representative of China's new material industry with constant breakthroughs in R&D and production of new materials, such as high-grade carbon fiber, ultra-thin electronic glass, thin-film solar cell, lithium battery separators and high-precision industrial ceramics. In March 2019, journalists from Economic Daily visited CNBM to explore the development status of China's new material industry...



A Report on
the Economic Daily

New Benchmarks in Engineering Services

As the world's largest building materials manufacturer and engineering service provider, we have been striving to transform from building cement production lines only to a diverse range of engineering and construction activities and provision of technical services. For the plasterboard business, we have built production lines with a total of capacity of 90 million square meters in 3 countries. China Building Material Test & Certification Group ("CTC Group") has participated in the testing for projects in a number of countries in Africa and Central Asia and carried out conversion of more than 10 standards and related cooperation, and its professional strength has won international recognition. In 2019, the Group signed 24 agreements with 21 overseas enterprises at the second China International Import Expo for cooperation in promoting engineering services, and won 2 China Construction Engineering Luban Prizes and 3 National Prime-Quality Project Prizes.

Deepening of Reform

In 2019, we steadily implemented pilot reforms. Now, the pilot reforms cover seven CNBM enterprises, of which four are included in the "Dual-Hundred-Enterprise Action Plan". Two CNBM enterprises are included in the fourth batch of Mixed Reform Pilot Enterprises designated by the National Development and Reform Commission, and one is undergoing the reform of employee shareholding. In the Group's pilot state-owned investment company proposal, which has been approved, the "4335" guiding principles have been clearly established to build the headquarters for strategic management and control, and create a state-owned capital investment company with competitiveness, capability of innovation, influence, control and risk prevention ability in operation. Along with the deepening reforms of internal mechanisms, the innovation capability and morale of our employees have been fully mobilized with the equity incentives in listed companies, employee shareholding, sharing of excess beyond performance targets, participation in project investment, equity incentives and post-linked dividend distribution in scientific and technological enterprises and so on. The correction of "government-like headquarters" has taken effect. The three business units have been reshaped to form more large-scale specialized profit platforms. The three-tier management mode of "government - headquarters - investment enterprise" is being constantly improved. While constantly focusing on financing and investment, the Group is shifting its business from asset management to capital management, from building materials to comprehensive materials, and from the local market to the global stage.

Five Pilot Reforms

- 1 Pilot enterprise for the merger and reorganization of central enterprises
- 2 Pilot enterprise for the development of mixed ownership economy
- 3 Pilot enterprise for the development of state-owned capital investment companies
- 4 Pilot enterprise for the deepening implementation of the duties and power of the board of directors
- 5 Pilot enterprise for employee stock ownership in mixed ownership enterprises

Precision Management

Working methods of management are critical for achieving high-quality development and world-class goals. By summarizing a variety of effective management practices, the Group has developed "Precision Management", "Eight Management Measures", "Six-Star Enterprise", and "increasing efficiency and reducing expenditure and consumption" as a combination of work methods to grasp the market externally and strengthen the management internally. At CNBM, an atmosphere of competition, learning, help and surpassing is strong, and the management level of the enterprises have been effectively improved with the emerging of a large number of benchmark enterprises.

Lean Operation

We have further promoted the structural reform of the supply side of the cement industry and continued to take the lead in off-peak conducting production, phase out outdated production capacity and restrict additional production capacity for maintaining the balance of supply and demand in the industry. In 2019, CNBM phased out 12.78 million tons of inefficient or idle production capacity and suspended the operation of cement by more than 110 days per kiln on average. These efforts have made an important contribution to the substantial improvement in productivity of enterprises across the industry. Jiahua Special Cement increased its market share and worked for participation in key projects such as the Sichuan-Tibet Railway with a light assets model. North Cement achieved mass production of low alkali and oil well cement. The sales volume of cement above grade 52.5 manufactured by Ningxia Building Materials increased by 35% on a year-over-year basis.

The Group has adjusted its marketing strategy and product portfolio in a timely manner, spared no effort by increasing varieties, improving quality and creating brands, and kept building the unified enterprise brand of "CNBM" while developing multiple product brands to build SINOMA as its name card for overseas business. Now, the value of the Group's brands ranks among the top ones in the international building materials industry. In 2019, the Group successfully entered the list of "China's 100 Models of Brands Contributing to National Power Ceremony" released by CCTV and the list of "China Brand (Enterprise) Development 100 Index" published by the People's Daily. For example, BNBM, China Jushi and Sinoma International have become domestically famous and world-recognized brands on the international high-end market.

Fine Management

We have effectively consolidated basic management through continuous digitalized management as well as strengthened informatization and intelligent operation. In 2019, the Group comprehensively implemented cost saving plans with obvious effects in cost reduction and efficiency increase achieved by focusing on 5 major product indicators and 10 comprehensive indicators. Especially China Jushi realized gains of nearly RMB 400 million through "increasing efficiency and reducing expenditure and consumption". In the year, the Group completed implementation of the large-amount fund system, the "three major and one large transaction system" and the collaborative OA system, and ranked 5th among the central enterprises in implementing "integration of informatization and industrialization". We received one First Prize of National Management Innovation Achievement, the 3rd place among central enterprises in the Total Quality Management Competition, and BNBM won the "National Quality Award". The Group enterprises won 61 industry management innovation achievement awards in total.

Intensified Organization

By continuously executing the "2422" reduction program, we reduced our liability asset ratio to 70.4%, 1.3 percentage points lower than that at the beginning of the year, and the interest bearing liabilities decreased by 8% with noticeable de-leveraging effects. We further streamlined the business by reducing 70 enterprises throughout the year, and having reduced 464 enterprises or by 27% on a cumulative basis. In this regard, CNBM was ranked seventh among the central enterprises and specifically praised by the SASAC. Various measures were taken to deal with enterprises entangled in difficulties. 42 of the 43 targeted enterprises met the acceptance criteria, and 34 key loss-making enterprises reduced losses by 20%. China United Cement has optimized the posts of cement plants to 100 and those of ready-mixed concrete enterprises to 50. South Cement has promoted the "three quotas" in ready-mixed concrete enterprises, and BNBM has promoted 50-employee plants and 80-employee bases. The fitness index of these enterprises has been continuously enhanced.

Brand Matrix of CNBM



- CNBM
- Cement
- Glass
- International Engineering
- New Material
- Services and Others

Guided by Party Building

We have implemented the "two requirements for consistency", incorporated the Party's leadership into the corporate governance, make discussions by the Party Committee a precondition for the Board of Directors to make decisions on major issues. By clearly defining the authority and responsibility related to the "three major transactions and one large transaction", the Board of Directors have improved its ability to "set strategies, make decisions and prevent risks", and high-performance Party building is leading the high-performance development of the Group. At the same time, we have solidly promoted education with the theme of "remaining true to our original aspiration and keeping our mission firmly in mind", covering more than 2,000 grass-roots Party organizations and nearly 40,000 Party members. The education has helped the broad base of Party members and cadres hold firm beliefs, supplemented their knowledge, boosted confidence, and firmly controlled the rudder of ideology. We have adhered to strict and humane management, continued to consolidate the "three basic developments", comprehensively deepened the "three transformations", promoted circuit inspection and audit in an integrated way. Three persons received punishment under the Party discipline, and an atmosphere of probity and upright conduct becomes even stronger.

We have actively strengthened education and publicity, delivered training for Party committee leaders, Party organization secretaries, and middle-aged and young Party cadres, cultivated the one of the "Top Ten Brands of Party Building Work", carried out activities such as celebrating the 70th anniversary of the founding of the New China, art performances, and flash mobs, edited and published special issues on the 70th anniversary of the founding of the New China, and told stories of the Group. In the year, 56 entities and individuals were awarded the honors of advanced grass-roots Party organizations and labor models of central enterprises, and 554 people received the Medal of 70th Anniversary of the Republic. The Group has built up an increasing centripetal force of high-quality development.

Brand names in terms of Party building

"Three-Building" working method of China Jushi for Party building
"135" working mode of Sinoma International (Nanjing) for overseas Party building
"Six-three" standard working method of Bengbu Glass Industry Design and Research Institute for Party building
"Six projects" of Zhongfu Lianzhong
Precise Training Project of China Building Materials Academy for young talents of science and technology
"Screw" Fastening Project of Xuzhou China United
"1 + N" Party members' political birthday activities in Nanjing Fiberglass Research & Design Institute
"Three-Five-Five" working method of Guizhou Sandu for Party branches
"Five Integration" project jointly built by the Party and masses at Taishan Fiberglass
Red Benchmarking Plan of BNB

Name of Party Organization

Party Committee of China Jushi Co., Ltd.
Party Committee of Sinoma International Engineering Co., Ltd. (Nanjing)
Party Committee of CNBM Bengbu Glass Industry Design & Research Institute
Party Committee of Lianyungang Zhongfu Lianzhong Composites Group Co., Ltd.
Party Committee of China Building Materials Academy Co., Ltd.
Party Committee of China United Cement Xuzhou Co., Ltd.
Party Committee of Nanjing Glass Fiber Research & Design Institute
Party Committee of Guizhou Sandu Southwest Cement Company Limited
Party Committee of Taishan Fiberglass Inc.
Party Committee of Beijing New Building Material Public Limited Company



Employees of Sinoma Cement (Luoding) Co., Ltd.



Employee Singing Competition of China United Cement Dezhou Dam Cement Co., Ltd. Celebrating the National Day



Celebrating Activities of Sinoma Taishan (Yunfu) Co., Ltd.



Taishan Fiberglass Inc. Celebrates the 98th Anniversary of the Founding of the CPC



 SUSTAINABLE DEVELOPMENT GOALS

SDGs Respond



Scientific and Technological Innovation

We always make innovation-driven development as the primary strategy, undertake tasks for industrial innovation by leveraging our scientific research strength, promote the transformation and upgrading of the industry with forward-looking vision and advanced technology, disseminate and share technical information, strive to create a greener and more comfortable and intelligent living environment, and build a sustainable development for future.

The expenditure for scientific and technological activities was RMB

11.3
billion

The sales revenues of new products was RMB

57.8
billion

Innovation Management

Innovation System

We have actively built a national level material research platform. CNBM has set up China's largest and strongest integrated technology development center in the fields of building materials and inorganic nonmetallic materials represented by 26 research institutes as well as national key laboratories, national enterprise technology centers and other innovative platforms, while creating an efficient, collaborative and open system for technological innovation. The Group received the "Award for Contribution to Technological Innovation" for the fifth term from the SASAC.

1 Continuous Improvement in Enterprise Technology Center Operation System

We keep improving the organizational structure of the technology centers, build platforms for technology transfer and achievement commercialization, and create a whole chain of collaborative innovation featuring "R&D + industrialization". We have compiled 6 volumes of learning materials on industry-research collaboration, and commercialized and promoted a large number of new technologies, processes and new achievements in various industrial sectors. In 2019, the Group obtained the approval for a national enterprise technology sub-center in the field of glass technology and engineering services. The number of national enterprise technology centers of Group continued to rank first among the central enterprises, and their operation is rated as excellent after evaluation by the SASAC.

2 Steady Development of Standardization Platforms within the Group

By integrating internal standardization resources, the Group has set up the first standard committee with 17 professional technical committees for cement, glass fiber and carbon fiber, thermal insulation and sound-absorbing materials, engineering construction, etc. It has also set up the CSTM Building Materials Standard Committee and works to build a leading association standard system. The group applied for 35 new association standards in the year. We are developing an industry center for testing and evaluation of new advanced inorganic nonmetallic materials, and establishing the industry's new material testing evaluation and certification system.

3 Construction Promoted by Large R&D Service Platforms

We pay special attention to the construction of innovation platforms for the new materials industry, coordinate the advantages in resources of the three national key laboratories of green building materials, new float glass technology and special fiber composite materials, and promote the construction of the two industry centers for test and evaluation of advanced inorganic nonmetallic and composite materials. We obtained the approval for several national and industry-level platforms, including the national technology center for engineering of glass furnace fused cast refractories of the building materials industry, and joined the Global Quality Alliance. We also have two newly approved national quality inspection centers for corrosion and protection of building works and for refractories.

National Enterprise Technology Center	17
National Engineering (Technology) Research Center	6
National Scientific Research Design Institute	26
National Key Laboratory	3
Industry Key Laboratory	7
National Engineering Laboratory	2
National Quality Inspection Center	13
Industry Quality Product Testing Agency	20
Overseas Research & Development Organization	4
Provincial and Municipal Industry Research/R&D Center	329
Number of Core Journals	23
Product Evaluation Laboratory	10
International Center for Technology Development and Promotion of UNIDO	6
National and International Scientific and Technological Cooperation Demonstration Base	3

CASE Pioneer of Innovation in Traditional Industry

Sichuan Jiahua Enterprise (Group) Co., Ltd. has established a set of effective management models for self-organizing technological innovation by adhering to the innovation-driven development strategy, continuously increased investment in scientific and technological innovation, paid special attention to cultivating a team of high-level talents, improved its ability of intellectual property protection, and facilitated the promotion and application of scientific and technological achievements with comprehensively enhanced strength in innovation. The company has successively created provincial-level innovation and talent training platforms, such as the Key Laboratory of Oil Well Cement and Materials for Cementing of the Building Materials Industry, the Special Cement and Application Engineering Technology Research Center of Sichuan Province, and the Post-Doctoral Innovation & Practice Base of Sichuan Province. It has also received approvals for its national-level innovation platforms such as National Enterprise Technology Center, National High-Tech Enterprise, and National Enterprise Advantageous in Intellectual Property. In September 2019, the company was designated as a "National Enterprise for Demonstration of Technological Innovation" by the Ministry of Industry and Information Technology, being the first in the cement industry across the country.



Human Resource Development



Inspection personnel from China Building Material Test & Certification Group Co., Ltd.

We have been exploring potential measures for employee shareholding and motivation for mixed ownership enterprises with research institutes and high-tech enterprises which have undergone ownership reforms to continuously enhance the cohesion within the enterprises and the creativity of their employees and thus realize the development of both the employees and enterprises. The Group's headquarters grant science and technology awards and technological innovation awards, while encouraging member enterprises to improve their incentive mechanisms for technological innovation and talent recruitment mechanisms to stimulate the initiative and creativity of scientific and technological personnel. The Group has established and improved the mechanisms for evaluation and motivation of technological innovation achievements with awards being granted based on the industrialization rate, quality and number of scientific and technological achievements, and the number of applications for intellectual property rights, etc., The Group has raised innovation funds through various means to strengthen the transformation of scientific and technological achievements and cultivate new possibilities of growth.

Guiding through Innovation

Data Governance

We keep building a sound data governance system to achieve coordinated strategic, holistic, normative, collaborative and security nature of big data. As typical examples, China National Building Material Engineering has developed the Intelligent Glass Factory Intelligent Center System; the mechanical arms and bagged cement robot loading systems developed by Triumph Robotics play an important role in the key production processes; China Jushi has been included in the second batch of National Intelligent Manufacturing Benchmark Enterprises by the Ministry of Industry and Information Technology; China United Cement Tai'an has built the world's first industrial intelligent cement plant, being acclaimed as the "world's dream factory of cement"...



China's First Indigenously-developed 8.5th Generation TFT-LCD Glass Substrate Successfully Rolls off the Production Line

CASE Building Tomatoes a Home of Science and Technology

Leveraging its own advantages in the glass industry, CNBM has made innovations in intelligent agriculture by introducing greenhouse technology from the Netherlands and applying a scientific environmental control system to ensure the high yield of greenhouses around the year. Through three-dimensional use of the space, these greenhouses not only have reduced footprints but also produce satisfactory economic benefits. On April 6, 2019, CCTV Financial Deep Discovery aired a report on the vegetable greenhouses built by Triumph Group at the Triumph Haofeng Intelligent Agriculture Park in Linyi, Shandong Province.



On February 18, 2019, Hu Chunhua, Member of the Political Bureau of the CPC Central Committee and Vice Premier of the State Council, visited the Triumph Haofeng Intelligent Agriculture Park



CCTV Financial Deep Discovery news report

Emerging Achievements

We have been vigorously implementing the transformation and application of innovation achievements encompassing the core goal of "being strong, superior and world-class". By the end of 2019, the Group has accumulated 12,124 valid patents and won 5 first prizes of the National Awards for Scientific and Technological Progress. In the year, it was granted 100 new international patents and successfully applied for 3 international standards. The Group won 1 Chinese Patent Gold Award and Specialized Champions of Manufacturing Industry for 3 products, had 47 projects designated as R&D achievements for "2nd generation" technology and equipment innovation and improvement, and 25 national key projects in the material field. Many of its technologies and products played an important role in the missions of Chang'e 4, the Daxing Airport, the National Day military parade, and other national key projects and major events.

CASE China's First 8.5th Generation TFT-LCD Glass Substrate Rolls off the Production Line

At 3:28 p.m. on September 18, 2019, an 8.5th-generation thin film TFT-LCD glass substrate rolled off the production line at CNBM (Bengbu) Photoelectric Materials Co., Ltd., which marked that China became the third country in the world able to produce new generation liquid crystal display glass substrates after the United States and Japan. 8.5th-generation thin film TFT-LCD glass substrates are core components of LCD TV display panels of and over 65 inches. China completely relied on foreign technology and products before the day, so the breakthrough in new generation LCD glass substrates is of great significance to ensure security of China's information display industry.

CASE Image Light-Guided Recognition Chip Material Project Completed and Put into Operation

In 2019, the Institute of Glass Science and Special Glass Fiber, China Building Materials Academy completed the development of the world's first large array, ultra-thin, high-performance and low-cost image light-guided recognition chip materials to meet the compelling demand in fields like in-screen fingerprint identification by leveraging its sound foundation of research of core material technology for low light level night vision.

This material is a two-dimensional optical waveguide array created with regular arrangement of micron-level optical waveguides. Due to the excellent optical insulation characteristics between adjacent optical waveguides, optical images can pass through a transparent layer of more than 3mm without deterioration of the image quality. They can effectively block the ambient stray light from entering the image sensor to ensure the accuracy of image signal extraction. This material is mainly used in smart phones with all-screen design, smart door locks, financial transactions and payment, identity recognition (customs, airports, etc.), public security, criminal investigation, etc. In the future, it can also be applied in high-throughput gene sequencing, precision medicine, drug research, and is the world's only large-area in-screen fingerprint identification technology for commercial use. At present, this material has been used and proved on a number of flagship models of mobile phones. It significantly improves the performance of in-screen fingerprint identification modules as well as the user experience. It has been hailed as a "futuristic tech" that revolutionizes in-screen fingerprint identification.



China's first image light-guided recognition chip production line

Collaboration on Innovation

We have established a technological innovation system with enterprises as the main players, market as the guide and deep integration of industry, universities and research institutes for continuously driving collaboration on innovation with capital as the link and featuring close collaboration between the industry, universities, research institutes and users. The system has helped build open service platforms for the industry and effectively enhanced the competitive advantages in integration, interaction and innovation.



© Automatic raw silk quality inspection at Taishan Fiberglass Inc.

Cooperation with Universities

We have worked with the Ministry of Education in building science and technology support platforms, technology alliances, knowledge alliances and other forms of cooperation. We have also cooperated with universities such as Peking University, Wuhan University of Technology and Nanjing Tech University to reduce the costs of R&D and shorten the cycles of R&D and application. Taishan Fiberglass and Jinan University jointly developed and built the world's first high-performance electronic glass fiber production line with an annual capacity of 50,000 tons, breaking the monopoly of foreign companies in this field.

Industry Platforms

We have actively participated in the development of industrial technological innovation alliances and taken the lead in founding the China's Component-Based Building Materials Industry Alliance and the Mineral Functional Material Industry Alliance, and are preparing for founding the China Solid Waste Recycling Industry Alliance. Through the Carbon Fiber Industry Alliance, the Group has facilitated the testing of Zhongfu Shenying's T800 by the Russian Institute of Aviation Materials and its early certification for the China-Russia wide-body jet program.

Working with other Enterprises

We have founded a collaborative innovation consortium among central enterprises, focused on key projects and tasks to promote collaboration between central enterprises. CNBM has identified 7 potential fields of cooperation, including T800 carbon fiber, with COMAC; worked with AECC and other enterprises in developing high-performance large-size structural parts with indigenous intellectual property rights; implemented demonstration application of domestically-made carbon core cables in newly built $\pm 1,000\text{kV}$ UHV transmission lines with State Grid; developed carbon fiber front covers and other lightweight parts in collaboration with Changan Automobile, AVIC Composite Materials and other enterprises; held collaborative innovation and exchange meetings between China Aluminum and CNBM centering on green applications of building materials in seven technical fields.



AGV (automated guided vehicle) at Taishan Fiberglass Inc.



SDGs Respond

6 CLEAN WATER AND SANITATION 	7 AFFORDABLE AND CLEAN ENERGY 	11 SUSTAINABLE CITIES AND COMMUNITIES 	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION 	14 LIFE BELOW WATER 	15 LIFE ON LAND 	



Energy Conservation and Environmental Protection

Believing "lucid waters and lush mountains are invaluable assets", we actively promote green manufacturing and manufacture low-carbon products while reducing consumption and emissions to the greatest extent possible. Leveraging our process advantages, we comprehensively utilize industrial wastes, carry out collaborative disposal, and provide harmless solid waste solutions for the society. We are committed to providing reliable and green building materials and supporting development of the new energy industry with necessary products and services. We are ready to share technology and management experience effective energy-saving and environmental protection, and explore production practices for harmonious coexistence of manufacturing and the nature.

Investment in energy conservation and environment protection: RMB

4.5
billion

Installed capacity of waste heat power generation systems:

2,375.5
MW

Green Management

We take the blue sky as our top responsibility and make green development as one of our three major development strategies. We prioritize the elements of business in the order of "environment, safety, quality, technology and costs", putting the environment in the first place, strive to achieve environmental compliance, constantly establish and improve the green management system, continuously assess and improve the emergency response plans for environmental pollution, and build green and low-carbon modes of development to ensure that all pollution sources and environmental risk points remain stable and controlled.



Three Foundations

Organization

To meet the requirement that "both CPC committee and the management are held accountable with dual responsibilities" for ecological and environmental protection, a leading group has been set up for energy conservation and emission reduction. The headquarters sets up a social responsibility and energy conservation and environmental protection office, and all member enterprises establish energy conservation and environmental protection functions by category and hierarchy to achieve the comprehensive coverage of the energy conservation and emission reduction management system.

Rules

The Group has required all member enterprises to improve and rebuild their rules on environmental protection, revised the Rules on Monitoring and Management of Energy Conservation and Emission Reduction and other 4 rules, added the environmental protection accountability system, and emphasized the importance of compliance in terms of environmental protection.

Funding

The annual capital investment for ecological and environmental protection is incorporated into the comprehensive budget management system, and plans are formulated for the use of fund to ensure the implementation of technical transformation and management improvement.

Three Systems for Enhanced Management

Statistics

Monthly statistics are maintained with 12 reports in six categories, such as energy statistics, pollutant emissions and product energy efficiency. Yearly statistics are maintained including capital investment, waste treatment and pollutant discharge permit.

Monitoring

Powered by information technology, this all-level statistical monitoring system for energy conservation and emission reduction has been running stably for 9 years. With the help of the third-party open platforms, we regularly monitor the environmental performance of member enterprises and urge solution of major environmental issues in a timely manner. At the enterprise level, online environmental monitoring systems for pollutants are being established and improved to ensure the synchronous operation of monitoring equipment and production equipment.

Evaluation/Assessment

A top-down energy conservation and emission reduction evaluation and assessment system has been established combining quantitative assessment and qualitative assessment and incorporating energy conservation and ecological and environmental protection assessment indexes into the corporate performance assessment system.

Three Braces for Improvement

Technical support

We rely on the national key laboratories to build a high-end major science and technology research platform; develop significant, generic and key technologies in the green development of building materials industry based on national strategies such as Blue Sky Engineering and Green Building; utilize the production and research docking advantages of the Group to promote the transformation, application and promotion of green technologies.

Management certification

We actively promote the energy management system certification, encourage member enterprises to pass certification for energy and environment management systems and for clean production, and realize continuous optimization through fine management, energy efficiency diagnosis, benchmarking management, etc.

Integration of informatization and industrialization

We further promote the deep integration of industrialization and informatization, encourage the development of energy management systems, and gradually implement automatic control systems and intelligent factories to realize automated, intelligent and remote production control, and energy-saving and efficient operation.

Closed Loop of Three Ends

Information disclosure

We regularly communicate information on energy consumption and pollutant emissions to stakeholders, disclose annual performance in energy conservation and environmental protection through annual social responsibility reports, and accept the supervision by stakeholders.

Emergency response

We keep improving the risk assessment of emergent environmental incidents, improving the environmental early warning and emergency response mechanism, strengthening the environmental emergency management, standardizing the reporting on emergent environmental incidents, continuously improving the level of environmental risk prevention and control, and preventing and reducing potential environmental damage.

Hazard management

With environmental audit and environmental compliance diagnosis as the starting point, we carry out the investigation, supervision, treatment and correction of potential environmental hazards and risk points, timely eliminate the potential environmental hazards, and make all possible efforts to curb environmental incidents.

Green Manufacturing

We adhere to the concept that "lucid waters and lush mountains are invaluable assets", follow the "three principles of green manufacturing", emphasize environmental protection in selection of raw materials, production and product applications, pursue energy conservation and pollutant control through the whole process, and fight the battle for defending the blue sky, clear water and clean land.

Selection of Raw Materials



We advocate circular economy, make the best use of industrial waste and urban building waste, and use clean and renewable energy for fuel wherever possible.



A Photovoltaic Power Plant at BNBM Ningbo

We rely on technological innovation to utilize industrial by-products as raw materials and reduce the consumption of natural mineral resources to the greatest extent possible while the product quality is ensured. In the raw materials for cement, the proportion of mine slag, steel slag, fly ash and other industrial waste has been increased to replace partial mineral raw materials from the nature. In the raw materials for plasterboard, we have developed a complete set of equipment and technology for producing new-type wall plasterboard with 100% flue gas gypsum after desulfurization from coal-fired power plant instead of natural ore through independent innovation.

In terms of energy sources, we have been actively upgrading production processes, exploring the options of non-fossil energy such as solar energy and biomass, increasing the procurement and use of clean energy, replicating the modes of "cement + PV" and "glass + PV", and making breakthroughs in developing new building materials and energy plants. The 2.8MW distributed power generation project at the Ningbo Plasterboard Base has achieved the four objectives of "saving, reducing, preventing and lowering". It can generate about 66.25 million kWh of electricity and save 23,500 tons of coal equivalent throughout its design life. By actively promoting waste heat power generation, the Group now has an installed capacity of 2375.5 MW per year from cement waste heat power generation, capable of generating over 10.26 billion kWh, saving 1.2 million tons of coal equivalent and reducing more than 6 million of carbon dioxide emissions. Efforts are being made to improve the levels of energy efficiency. We have improved the combustion efficiency by optimizing and upgrading kiln systems and enhanced the efficiency in power consumption by improving the energy efficiency of motors and revamping fans, frequency conversion and grinding systems for energy-saving to reduce the energy consumption per unit of products to the greatest extent possible. Seven cement enterprises of the Group were included in the "Energy Efficiency Leaders in 2019" and nominees list. BNBM received the award of the "Most Influential Enterprise Brand for Green Development in 2019".

CASE Practicing Concept of Green Development and Furthering Comprehensive Utilization of Resources

To expand the application and development of comprehensive utilization of solid waste, Xinjiang Midong Tianshan has been working to solve difficulties in solid waste discharge, protect the ecosystem and environment, and has achieved win-win objectives by revising the formulas of raw meal and clinker, revamping mixing and production equipment and optimizing the production process flows. The company has built the first new-type dry process production line in China that replaces the natural raw material --- calcareous limestone --- with 100% calcium carbide slag. By consuming about 2 million tons of calcium carbide slag per year, the production line reduces exploitation of natural limestone by 1.75 million tons and the emissions of carbon dioxide by about 770,000 tons. Besides consuming all the industrial calcium carbide slag from the upstream enterprises, the company has indigenously developed and utilized new solid waste materials to replace common raw materials from mining. By increasing the use of industrial waste such as fly ash, coal gangue and silica fume discharged by the upstream enterprises, it reduces the discharge of solid waste by 350,000 tons and the production costs by about RMB 4 million per year.



Dabancheng Branch of Xinjiang Tianshan Cement Co., Ltd.

CASE Bengbu Photoelectric Materials is Building a National-Level Green Factory and Insists on Sustainable Development

As environmental protection has become an increasingly compelling issue in recent years, green development has become a recognized trend of our time, and only being "green" can sustainable development be achieved. CNBM (Bengbu) Photoelectric Materials Co., Ltd. actively takes measures to implement "green manufacturing" and takes the responsibility as an industrial enterprise in green development to build a green factory by adhering to scientific development, ensuring product safety, protecting employees' rights and interests, saving energy and resources, protecting the ecology system and environment, etc.

Bengbu Photoelectric Materials always takes green development as its core value, incorporates "low carbon operation, environmental protection, energy conservation and consumption reduction" as essential elements in its strategic development plans, strictly follows the national requirements for environmental protection in project design, environmental layout, procurement control, production processes, equipment selection and planning management, follows the principle of "environmental protection first in enterprise development", applies the concept of green development through the life cycle of its products, and builds a complete green manufacturing system. The furnaces on the company's production lines are designed to provide "electric heating + full oxygen combustion", using natural gas as the fuel to improve the combustion efficiency, reduce the heat loss due to flue gas, and realize a green production process. The broken glass, dust collected by dust collectors and dust collected by bag filters are all recycled as raw materials with a comprehensive utilization rate of industrial solid waste being 99.79%, while 99.95% wastewater is treated and reused. The previous waste is now turned into resources. The waste heat is also fully utilized. Besides dedusting of the furnace flue gas, waste heat boilers have been built to cool the flue gas and produce saturated steam for use in production of the factory with better energy utilization. A 2.4MW distributed photovoltaic power plant has been built on the roof of the company's joint workshop and raw material workshop, the electric power is supplied to the factory's power grid. The power plant generated 1.7 million kWh of electric power in 2019, which helps reduce the production costs and improve the utilization of renewable resources.

The green factory has actively driven the building of a resource-saving and environment-friendly society, and realizes win-win results in terms of the enterprise's development and environmental protection. The company has passed the national-level green factory assessment and became one of the first batch "National-Level Green Factories" in Bengbu City.

Manufacturing Processes



We work to reduce emissions, pursue zero wastewater, waste gas and solid waste, and improve the capacity of resource recycling.



We actively respond to climate change by reducing production of the cement segment to reduce carbon dioxide emissions from the source. We pay special attention to the recycling of water resources and solid waste produced in our operations, and to noise control to ensure that the noise from our operations meet relevant standards at boundaries and minimize the impact on nearby residents. In the mining stage, we improve the comprehensive utilization rate of resources making effective use of low-grade ores; in the shipping stage, we take appropriate measures to prevent undesired emissions of dust in storage, packing and transfer; in the production stage, we actively impose pollutant emission control, increase the coverage of high-efficiency bag filters, apply our indigenously developed nitrogen oxide emission reduction technology, and install desulfurization and denitrification systems for cement kilns. As a result, our internal emission limits are not only lower than the limits in the national standards, but also lower than those in European standards. 19 cement clinker production lines of China United Cement in Henan and Hebei provinces have met the ultra-low emission limits.

Data Review 2019

Fresh water consumption:

109.5

million tons

Rate of reused water:

85.2%

Utilization rate of circulating water:

90.0%

Carbon dioxide emissions:

277.8

million tons

Nitric oxide emissions:

153.8

thousand tons

CASE

China United Cement Juxian Puts "Environmental Protection Isolation Gowns" on Equipment

Dust suppression, noise control and pollution reduction of cement production equipment have been chronic problems besetting the industry for many years. To control noise and suppress dust at the same time, China United Cement Juxian uses sound-proof and dust-proof wall composed of metal plates and sound-absorbing boards for main and auxiliary equipment group such as the grate cooler fan group. The internal and external walls are colored in gray. The inner walls have soft and irregular surface to maximize the noise diffusion and absorption, while the outer walls are covered with blue tiles. The enclosure is clean and tidy, and looks like beautiful "isolation gowns" for the machinery and equipment.

The maximum noise intensity measured at the same monitoring points is reduced from 110 dB to less than 70 dB, and the dust emission is reduced almost zero after the renovation. The measures effectively control the emission of dust and noise, and completely change the scene of roaring machines and blinding dust.



Products and Applications



We pay attention to energy conservation, environmental protection, comfort and health, and are committed to providing reliable and green building materials.



We incorporate the concept of low-carbon life and environmental protection into the whole process of product development, design, production, packaging, sales and recycling. We work to provide customers with high-quality green low-carbon cement products, guide the glass business to "electronic, photovoltaic, intelligent and energy-saving" transformation and upgrading, and promote the application of high-end series of fan blades, thin-film solar battery modules and other products in driving the new energy industry. While the product quality and safety in transportation is ensured, we actively promote simplified packaging and renewable packaging materials wherever possible to reduce packaging waste.

Data Review 2019

Sulfur dioxide emissions:

18.8

thousand tons

Discharge of industrial wastewater:

9.7

million tons

Discharge of ammonia nitrogen:

19.9

tons

Comprehensive utilization rate of self-produced general solid waste:

99.9%

2,853

kinds of products are clearly marked with instructions on safe use and environmental protection reminders on external packaging

108.2

thousand tons of packaging materials are used for finished products

CASE

"Air Corridor" through Mountains



Changxing County is located in the northernmost of Zhejiang Province, adjacent to the Taihu Lake in the East and bordering Jiangsu and Anhui provinces on the northwest. In recent years, the cement industry has developed rapidly in Changxing County. Due to locations and historical conditions, the clinker transportation was subject to low efficiency, high costs, difficulties in management and significant safety and environment risks. There were dozens of bulk cargo terminals on rivers, but they are small, scattered, dirty, chaotic and poorly managed. These issues had not been solved for a long time. South Cement connects seven enterprises more than ten kilometers apart through a conveyance corridor and the products are finally shipped from a large logistics terminal, which is capable of handling tens of millions of tons of goods and thoroughly solves the social conflicts brought about by the small wharfs in Changxing County.

This conveyance corridor passes through mountains and roads and stretches for 22 kilometers like a winding "Great Wall in the air". It is the longest conveyor belt of its kind in China and even in the world. As the first conveyance corridor of "all electric logistics" in China, the "air corridor" transfers more than 12 million tons of goods with costs reduced by more than 50% compared with the traditional transportation by truck. The conveyor belt reduces round trips of about 2,400 trucks between Meishan to Xiaopu on No. 301 provincial highway every day, representing reduction of more than 2,000 tons of fuel consumption and of more than 14,000 tons of exhaust emissions. It has greatly relieved the traffic of highway transportation and reduced the impact of dust, noise and exhaust on the environment.



Green Services

Green development is an essential strategy to solve pollution. We are committed to providing our industrial chain partners with various categories of green products and services, helping optimize and upgrade the structure and service level of the green industry continuously.

1 Professional technical services

The energy conservation of new buildings can reach more than 75%, and more than 90% of the building materials can be recycled. High-efficiency and energy-saving combustion systems, pollutant emission reduction technology, waste heat power generation, collaborative disposal and other technologies are used to provide constant energy-saving and environmental protection technical services, such as professional environmental monitoring and diagnosis, technical renovation and intelligent control. China National Building Material Engineering provides cloud platforms and intelligent factory services for enterprises, and has been designated as an "Intelligent Manufacturing System Solution Supplier" by the Ministry of Industry and Information Technology.

2 Integrated consulting services

As CTC Group is the industry's largest third-party test and certification service organization, we provide consulting, evaluation and certification services in energy assessment, energy management system certification, CDM projects, green building materials evaluation, carbon verification and so on. In 2019, we carried out conversion and cooperation with the standardization authorities of Mongolia and other national countries for more than ten standards, and realized the "going out" of building materials industry standards for the first time.

3 Ecological value-added services

We promote the use of building material kilns to dispose of industrial by-products and urban waste in an effective and harmless way. By 2019, we have built 24 production lines for collaborative disposal, including 13 for handling hazardous wastes, 5 for municipal solid waste and 6 for other solid waste.

4 Comprehensive ecological restoration services

China National Geological Exploration Center of Building Materials Industry has been steadily promoting geological disaster control, and its three contingents have undertaken 7 ecological restoration projects. Sinoma Mining Construction Co., Ltd. is expanding to provide "mining service+", developing the ecological restoration industry and green engineering services, and has obtained "Class-C Qualification for Geological Disaster Control".

Data Review 2019

Area of new-type housing:

725.0

thousand square meters

Consumption and disposal of solid waste:

101.0

million tons



A Glimpse of CNBM Zambia Industrial Park

CASE Ecological Restoration of Mountains, Rivers, Forests, Lakes, Grasslands and Farm Fields

The topography, landscape and vegetation in Qitaihe City, Heilongjiang Province had been damaged for a long time due to reckless mining to meet the needs of urban construction and regional economic development.

The Liaoning Contingent of China National Geological Exploration Center of Building Materials Industry has undertaken the project of "Mountain Mass Restoration and Ecological Restoration and Improvement For Abandoned Coal Mines in Qitaihe City, Heilongjiang Province" since July 2019. The contingent preforms its work by following the concept that "mountains, rivers, forests, lakes grasslands and farm fields constitute the community of life" as noted by General Secretary Xi Jinping. The survey and design of the project mainly covers 6 major areas and 107 work areas in Qitaihe City with a total area of 313.6 hectares. The project is mainly intended to restore the damaged mountain masses and abandoned mines in the City in the Woken River Basin, and to monitor the settlement in abandoned coal mines. The contingent has set up a project team consisting of its best managerial and technical personnel who are experienced in difficult tasks in harsh areas. By following the business policy of honesty, law-abiding and efficient operation, the team works to present beautiful products to the harmonious society with the concept of safety, environmental protection, high quality and high efficiency. This project has also been included in the third batch of pilot projects for ecological protection and restoration for mountains, rivers, forests, lakes, grasslands and farm fields in Heilongjiang Province.



CASE On Way to Refined Management on Water Environment

Water pollution has become increasingly serious due to the production activities by the human kind together with the continuous social and economic development. *The Action Plan for Water Pollution Prevention and Control* released by the State Council requires that the water environment should be improvement in the first phase by 2020, which posing new requirements for the development of enterprises.

China Building Material Test & Certification Group Co., Ltd. actively practices the responsibility for environmental protection and leverages advanced technology and the river basin guardian system in river and lake management and protection to make the water clearer, the scenery more beautiful and the ecosystem more harmonious.

On the one hand, small and micro stations are built and databases are set up for each wastewater discharge port or cross-boundary cross section to effectively realize rapid detection, real-time monitoring, accurate traceability and targeted governance, and make the regional management further refined. On the other hand, close cooperation mechanisms have been developed through monitoring and sampling with USVs as well as patrol and tracking with UAVs to effectively cover the blind areas between very two stations in the basin, accurately lock sources of pollution, and provide strong technical support for the emergency response authorities.



Green Operations

Eco-Enterprises

We take all possible efforts to minimize the damage caused by production to the natural environment and attach great importance to reclamation in mine areas and greening in plants. We actively promote the building of national green mines and garden-like ecological factories, and have created a number of factories in gardens, on grasslands and in forests. 34 member enterprises of the Group are designated as green factories by the Ministry of Industry and Information Technology; 32 mines have passed the national green mine assessment; and 19 member enterprises have been received the title of "National Building Material Emerging Industry Demonstration Enterprise".

CASE Plasterboard King's Green Building Future

BNBM has been committed to promoting green buildings, cities and residential environments. The company has put forward and advocates the industrial concept of "Green Building Future". It invests 5% of its revenues in R&D every year and has established a national enterprise technology center, academician expert workstations, postdoctoral workstations and CNAS laboratories. It has more than 4,000 Chinese core patents and international patents. In 2016, it became one of the few enterprises that took the lead in undertaking the key research and development projects of the 13th Five-Year Plan. BNBM has developed a complete set of technology for producing plasterboard with 100% industrial by-product gypsum with owned intellectual property rights. This technology fills the technical gap for efficient use of low-quality gypsum after desulfurization, reaches the international level and breaks the monopoly of foreign companies. It leads the development of efficient utilization of gypsum after desulfurization, energy conservation and emission reduction in China. With innovative and upgraded ability of formaldehyde decomposition, Longpai-branded formaldehyde-free plasterboard achieved removal of 93.9% formaldehyde. With leading indicators and innovative features, the plasterboard has become exclusively designated product of national key projects such as the venues of APEC and G20 summits.



A Production Site of Beijing New Building Material Public Limited Company



A Glimpse of China United Cement Rizaho Co., Ltd.



Idea Communication

We have practiced the environmental protection responsibility and promoted the idea of green environmental protection together with suppliers, customers and employees since the implementation of the "Responsibility for Blue Sky Action" plan in 2015. At the same time, we advocate green office, which has been included in routine performance evaluation, promote the construction of electronic office and video conference systems, and add luster to a beautiful China through organizing energy-saving technology exhibitions, training, low-carbon transportation, afforestation, fish stocking and other public service activities. We pay close attention to global climate change, actively participate in international events such as the World Bank Energy and the New Climate Economy Conference and the China-France Economic Summit, and share our practices in performing the Paris Climate Agreement, complying and implementing carbon reduction and low carbon policies, technological innovation in the cement industry to promote low-carbon transformation, and response to energy and climate change.

CASE Blue Sky Action, Green Production

China United Cement Corporation actively practices the development concept that "lucid waters and lush mountains are invaluable assets", follow the basic national policy of saving resources and protecting the environment, and comprehensively implements CNCM's core concept of "efficient use of resources to serve the construction" and "Responsibility for Blue Sky" action declaration. It has formulated and released the *Blue Sky Action Plan of China United Cement (2019-2021)* to improve the efficiency of resource and energy recycling, improve product quality, reduce emissions of particulate matter, nitrogen oxides, sulfur dioxide and other pollutants as well as greenhouse gas, carry out the construction of green mines and ecological civilization factories, and create a number of model enterprises of international-class ecological civilization for safeguarding high-quality development of the company.



China United Cement Dezhou Dam Cement Co., Ltd.



SUSTAINABLE DEVELOPMENT GOALS

SDGs Respond

<p>3 GOOD HEALTH AND WELL-BEING</p>	<p>4 QUALITY EDUCATION</p>	<p>5 GENDER EQUALITY</p>
<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>10 REDUCED INEQUALITIES</p>	



Employee Care

CNBM has adhered to the concept of people-first in building an intrinsically safe enterprise. We make all possible efforts to safeguard the rights of employees, respect the individuality of employees, make the company a safe and reliable partner and a happy and comfortable home for employees, create a sustainable and beautiful future together with all employees, and pass the heart-felt happiness to the whole society.

Occupational health & safety fund input: RMB
1.2
billion

Total number of employees
204,763

Employee turnover rate
10.3
%

Safety and Stability

Sound Foundation

We have taken active measures to perfect the workplace safety responsibility system featuring that "both CPC committee and the management are held accountable with dual responsibilities, joint efforts in action and management, and punishment for negligence", carefully perform responsibilities as workplace safety owners, formulated / revised four major regulations, including the *Emergency Response Plan for Workplace Safety Accidents* and the *Emergency Response Plan for Natural Disasters*, formulated 7 safety checklists for safety management and production sites, completed the records of safety management and related processes, improved the occupational health management system, provide a favorable work environment for employees through preparation of the *Rules on Supervision and Management of Occupational Health in Operational Sites*, periodical employee health examination, psychological consulting and training, and further enhanced the Group's efforts for creating an intrinsically safe enterprise.

Safety Enhanced with Science and Technology

We implement a strategy enhancing safety with science and technology. As required for "building an intrinsically safe enterprise", all member enterprises actively tackle major technical difficulties in workplace safety, strengthen cooperation and achievement transformation between the enterprises, and make scientific and technological progress an important driver of workplace safety.

- 1 China United Cement and Ningxia Building Materials Group have adopted an intelligent video inspection technology, which greatly reduces safety risks associated with manual inspection of the clinker production lines
- 2 Sinoma International has launched a mobile APP called "Smart Safety Keeper", which can be accessed via the company's WeChat account to facilitate the its "Smart Safety" efforts
- 3 The bagged cement robot loading system jointly developed by Ningxia Building Materials Group and Triumph Robotics greatly reduces the occupational health hazards and labor in the loading process
- 4 VR experience is utilized in safety training delivered by Beijing Triumph in an overseas project
- 5 South Cement and CTC Group participated in formulation of 4 industrial/association safety standards, including the *Guidelines for Safety in Mechanical Cleaning of Cement Silos* and *Guidelines for Safety Management in Cement Storage and Transportation*, which guide improvement in safety of the industry



Site of Conch Project (Phase I) in North Sulawesi, Indonesia

CASE "e-Safety" Facilitates Early Warning

Ningxia Building Materials Group has actively established the "e-Safety" early warning platform and created a mobile APP relying on the 13 elements of four categories in workplace. The APP's functions include workplace safety objectives, workplace safety organization and personnel management, workplace safety input, rules and regulations management, workplace safety education and training, operation safety management, production equipment and facilities, inspection and hazard management, emergency rescue management, workplace safety accident management, hazardous source management, and performance evaluation, which boost the ability of mobile office for field operators and enhance the timeliness of safety management.

The APP focuses on identification of hazards, application for work tickets, safety risk warning and other functions, realizes the registration of safety hazards, mobile handling of work tickets, approval of applications with mobile phones, and avoids troubles due to a complicated system and those in finding safety ticket signatories around the plant area. Moreover, the safety and security data of the whole plant is sent to the managerial personnel and the field personnel in a timely manner, effectively enhancing the safety management level. At the same time, by expanding the scope of application, using the existing video monitoring platform and combining the voice intercom system, Ningxia Building Materials Group has set up more safety management monitoring points at the sites and high-risk areas, which helps reduce the number of inspection personnel and the frequency of inspection. The APP is interfaced with the access control, attendance check, personnel and vehicle positioning systems to further expand the scope of safety monitoring. The location information of both visitors and employees is collected by the systems to present number of personnel in the plant in real time. Their locations are displayed on a GIS map by work during normal hours, work overtime, prolonged stay and other status.

In addition, the "e-Safety" early warning platform realizes a closed-loop system of perception, transmission and processing by combining the technology of Internet of Things, cloud computing and Mobile Internet. The data monitored by the platform includes real-time data from various workplace safety monitoring and detection devices, real-time video streaming and equipment status data, operation parameters of important equipment (such as liquid level, pressure, temperature, humidity and concentration) with major potential hazards. When the value of any parameter reach the warning threshold, it is displayed directly on the GIS map and triggers interlinked alarms, thus realizing effective prevention and control of safety risks.



Data Review 2019

4,366

safety management personnel

Coverage of employee occupational health examination:

94.0%



Safety Standardization of Sinoma Cement (Hanjiang) Co., Ltd.

Hazard Management

In 2019, we executed activities with the themes of "Year of Workplace Safety Law Enforcement" and "Intensified Correction of Workplace Safety Violations" to a greater extent, and organized special inspections such as safety month inspections, safety inspections prior to the Mid-Autumn Festival and the National Day, inspections at overseas operations, autumn and winter workplace safety inspections focused on identification of unsafe behaviors of people, unsafe state of assets and management loopholes. To urge the member enterprises to identify risks, impose control by level and deal with safety hazards, the Group conducted audit in 48 randomly selected member enterprises, discovered 335 potential safety hazards, and gave comments to correct the insufficiency in workplace safety with hazard-specific countermeasures. Each member enterprise has also improved the safety and emergency response management systems according to the requirements of the Group by taking account of their respective conditions. Ten tier-2 enterprises revised and improved their emergency response plans. By improving the all-employee workplace safety responsibility system, Sinoma International signed 19,928 workplace safety agreements in the year to ensure performance of the responsibility.

CASE Interaction between All Levels of Management to Improve Emergency Response Capability

On June 17, 2019, an earthquake with a magnitude of 6.0 hit Yibin, Sichuan Province. CNBM activated its emergency response plan at the earliest possible time, and its teams arrived at designated places promptly. The member enterprises near the earthquake area also activated their respective emergency response plans at their earliest opportunity. The general managers of these enterprises led teams to check employees who worked during the earthquake, high slopes, tall buildings/structures, important equipment and facilities, and actively deliver education on earthquake emergency to employees to ensure the workplace safety of the enterprises. Personnel from the Group's Safety & Emergency Response Department arrived at the earthquake-stricken area as quickly as possible to deal with outstanding problems. During the period, Junlian Southwest Cement, Tuojiang cement and other enterprises organized a Southwest Cement Party Member Commando, which actively participated in the relief work after the earthquake. The Group's Poverty Alleviation Office provided dedicated assistance of more than RMB 200,000 to the families of 51 employees affected by the disaster. After the earthquake, all levels of the Group's management worked together to fulfill their respective responsibilities, while member enterprises in the earthquake area resumed production and work in an orderly manner. The response efforts serve as a good example for rapid response to sudden natural disasters and improvement of emergency response in the future.

Data Review 2019

10,473

organized emergency drills



An Ammonia Leakage Emergency Drill held by Sinoma Cement Co., Ltd.

Safety Culture

We attach great importance to the "Workplace Safety Month" activities, actively popularize safety knowledge, and promote the development of safety culture. During the Safety Month of 2019, all member enterprises actively participated in the nationwide online contest on the law on emergency response management with a total score of 740,000. The Group organized three sessions of safety training for the "three types of personnel" and two sessions of continuing education for registered safety engineers with a total of 500 participants. China Building Materials Academy has established a pool of 35 safety experts, and organized open classes and publicity activities on workplace safety in the form of lectures, storytelling, singing, sitcom, etc. The academy was designated an Advanced Organization in National "Workplace Safety Month" Activities of 2019. Sinoma Energy Conservation has been awarded the title of "Advanced Organization" of the "Ankang Cup" National Safety Culture Publicity Work for three consecutive years, and Chengxian Qilianshan Cement was awarded the title of "Model Enterprise of National Safety Culture Development in 2019".

Data Review 2019

2.7

million participants in training related to occupational health and safety

343

member enterprises have established employee mental health systems or measures



CASE Safety Culture Makes Home Safer

Located in Juxian County, Rizhao City, China United Cement Rizhao Co., Ltd. has developed a unique safety culture under the influence of the city's profound historical and cultural heritage. The company always follows the pathway of "ensuring safety with culture and promoting safety with culture based on the company's conditions and intrinsic safety". Centering on the people, the company observes the workplace safety policy of "safety first, prevention first, comprehensive management", sums up the safety culture concepts and codes to be followed by all cadres and employees, strengthens the safety culture among the employees and actively promotes the "family" element of safety culture closely linking the safety of employees with their family happiness. Various kinds of activities are held to enhance publicity of the safety culture, and educate the employees to bear safety in their mind and behave safely. The safety concept has taken root in the mind of employees, and the safety vision is reflected in all critical links of production, safeguarding the healthy and sustainable development of the company.

Since 2014, China United Cement Rizhao has successively won the titles of "Five-Star Advanced Organization" in Promoting Five-Access to Enterprise Employee Culture of Rizhao City", "Model Enterprise of Safety Culture Development in Shandong Province", "Award of Outstanding Organization of Workplace Safety Month of Shandong Province", "Advanced Organization of Workplace Safety in Shandong Province", and "Class-1 Enterprise of Workplace Safety Standardization in Industry and Trade Sector". In May 2019, the company was designated as a "National Model Enterprise of Safety Culture Development" by the China Association of Work Safety, recognizing the wisdom and work of all the cadres and employees of the company in the development of safety culture.

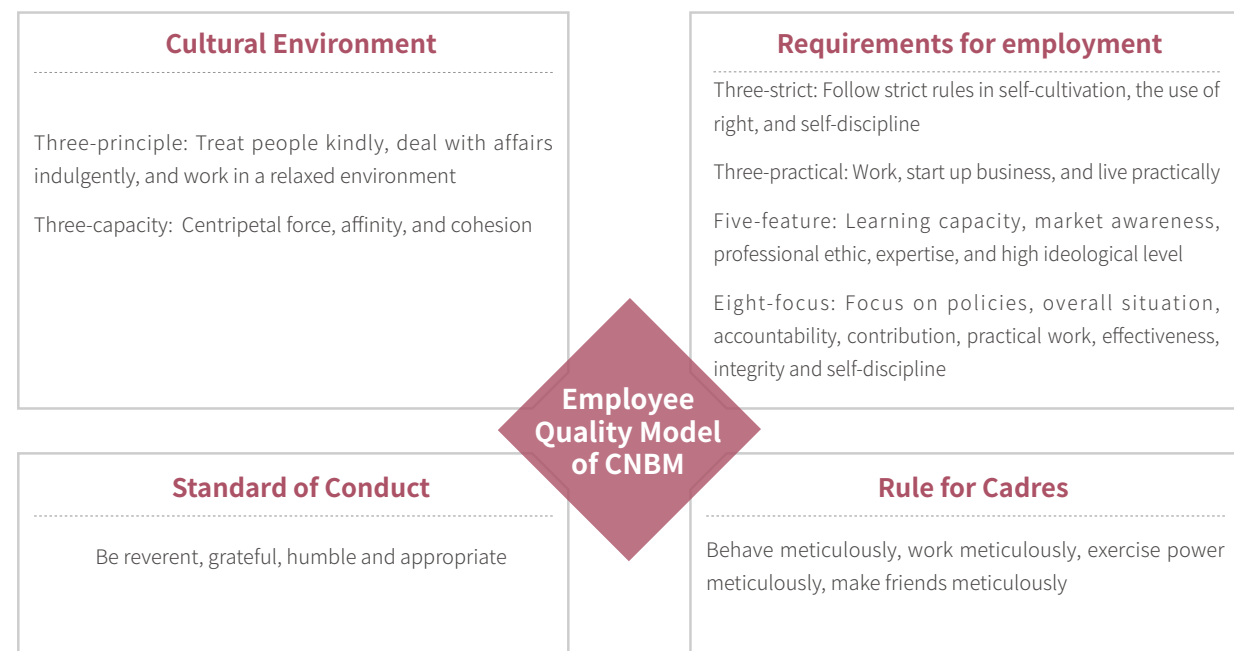
Employee Development

Protection of Rights and Interests

We strictly abide by relevant laws and regulations, conscientiously protect the essential rights of employees provided for by governments and the International Labour Organization, insist on equality in employment, sign employment contracts with employees according to the law and pay contributions to social security insurance programs; promote and establish of a sound pay and benefit system; protect employee privacy, take care of vulnerable groups, eliminate harassment, abuse and use of child labor, and prohibit forced labor in any form; conscientiously implement the policies on the employment of the disabled, ethnic minority employees, and demobilized servicemen. The Group met and surpassed the objectives for employment demobilized servicemen designated by the Ministry of Veterans Affairs in 2019. We underline democracy in management and transparency in corporate affairs, in a bid to ensure equal pay for male and female employees, and work to create a safe, healthy and comfortable working environment for employees.



An Outdoor Development Session for Employees from Taishan Fiberglass Inc.



Employee Cultivation

We attach importance to the cultivation of employees' qualities, encourage employees to "spend more time on study and concentrate more energy on work", and deliver various forms of training with internal training supplemented by external training and with invited instructors and internal instructors. We have created a unique three-level talent quality development model, and employees have two channels for promotion and career development. A scientific assessment and evaluation system has been established, and the results of evaluation are combined with the pay system, appointment, dismissal and transfer to create comprehensive mechanisms for motivation and career development of employees. In 2019, we have recommended candidates for various high-level scientific and technological designations with Peng Shou elected to the Chinese Academy of Engineering.

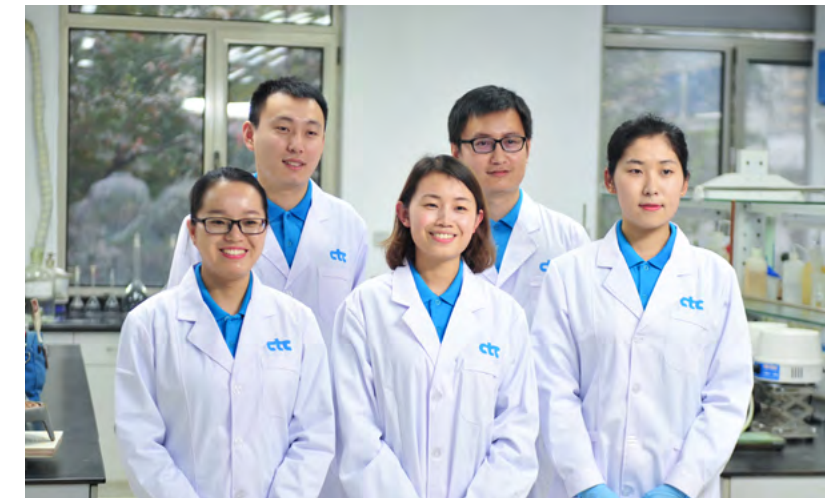
Data Review 2019

Rate of solution of workers' congress proposals: about

88.2%

Proportion of local employees:

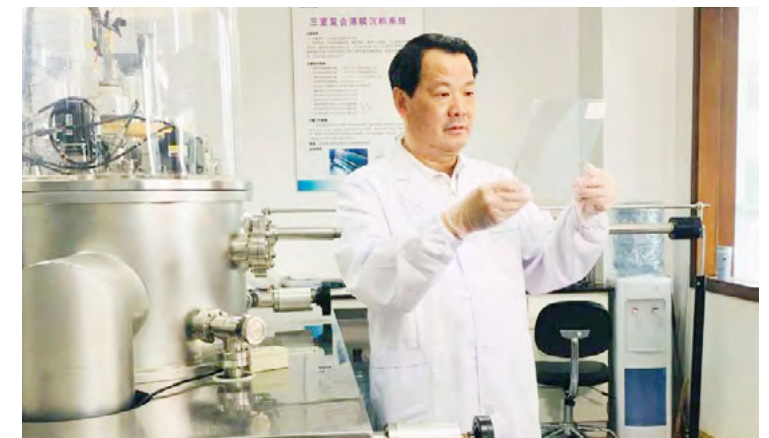
61.5%



Researchers at National Key Laboratory of Green Building Materials

CASE Peng Shou Elected to the Chinese Academy of Engineering

On November 22, 2019, the *Chinese Academy of Engineering* released the *Results of Membership Election of the Chinese Academy of Engineering* in 2019. From the field of chemical engineering, metallurgy and engineering materials, Peng Shou, President of CNBM Bengbu Glass Industry Design & Research Institute Co., Ltd. and Director of the National Key Laboratory of New Float Glass Technology, was elected to the Chinese Academy of Engineering.



Peng Shou has been tracking the demand for new glass materials in China, established a technological innovation system for China's glass industry, and developed various types of new glass materials urgently required by the emerging industries in the country. Through innovation and research, he has developed "ultra-thin information display glass", realized stable industrial-scale production of the world's thinnest 0.12mm float ultra-thin touch glass and production of China's first float new generation TFT-LCD glass substrates with independent intellectual property rights, made breakthroughs in the key technology of "high quality float glass", and designed the world's largest glass furnace. The unique process of "one kiln, multiple lines" developed by him ended China's long-term dependence on imports. He and his team have developed and manufactured high conversion rate copper indium gallium selenium and cadmium telluride glass for power generation, etc., leading China's glass technology and industry to the world level.

Happy Tidbits

CNBM has adhered to the concept of people-first in promote the balance between work and life for employees, safeguard the legitimate rights and interests of female employees, and ensure that pregnant employees can enjoy prenatal examination, maternity leave, lactation leave, reimbursement under maternity insurance and maternity allowances. The Group frequently holds activities such as employee sports games, reading parties and art performances to effectively alleviate the stress in work and enhance the cohesion across the Group.

We also pay close attention to the life of employees with difficulties and disabilities. The Group have released and implemented the *Measures for Management of Employee Consolation, Care and Assistance*, and established mechanisms for employee consolation, care and assistance. The measures including the "Love Fund of and Mutual Assistance for Serious Diseases", the "Golden Autumn Student Assistance" program and the "Sunshine Employment Program" have delivered the Group's support and blessing to elderly employees living alone, employees suffering from work injuries and retired employees with difficulties.



© Walking activity of CNBM Geological Engineering Exploration Academy Co.Ltd.

Data Review 2019

6,131
employee activities were held throughout the year

RMB
15.0
million was spent as consolations for special employees and assistance to employees with difficulties

Consolations for special employees and assistance to employees with difficulties were granted in

10,537
cases



Zhou Yuxian, Party Committee Secretary and Chairman of the Group, extends greetings to a retired employee celebrating his 100th birthday

Employees of China United Cement Dezhou Dam Cement are making rice dumplings



Retired employees of the Group visit the International Horticultural Exhibition in spring



Employees are solving lantern riddles at China United Cement Zaozhuang



"828" Cultural Festival of BNBM Group



 SUSTAINABLE DEVELOPMENT GOALS

SDGs Respond



Corporate Citizenship

We pay high attention to performing community responsibilities, adhere to local operation, and have been engaged in the "Belt and Road" initiative, and pursued the joint development and growth of the enterprise and the region where it locates. We reward the society through characteristic social public welfare programs, perform responsibilities as a corporate citizen with practical actions of volunteer activities, and contribute to poverty alleviation by means of pairing for spiritual support, education for intelligence support, and development of industries.

Accumulative total overseas investment: RMB

1.2
billion

Special fund and material input for poverty alleviation: RMB

104.4
million


© An Interactive Activity with the Theme of "Chinese and Zambian National Flag Jigsaw" is Held in a School Donated by Sinoma Cement Co., Ltd. in Zambia

"Belt and Road" Initiative


Construction Upgrading

By following the principle of "consultation, joint development and sharing", we have been steadily implementing the "six-one" layout of internationalization. We have made a remarkable contribution to the "Belt and Road" Initiative by bringing technology and equipment for manufacturing the most advanced green building materials which are energy saving and environment-friendly to countries along the "Belt and Road" and improving their status in the global value chain. By the end of 2019, CNBM had 172 overseas entities with EPC projects being executed all over the world. We have undertaken 459 projects as general contractor in 79 countries and territories, including 357 cement production lines and 78 glass production lines, and hold 65% of the global market of cement and glass engineering projects. We have built 20 of the world's 41 super-large cement production lines with capacity above 10,000 t/a each.

- 1 Intelligent industry models are applied to provide operation and maintenance management services for nearly 100 cement lines in the Middle East, Central Asia and Africa
- 2 "Plus Energy 5.0" new-type buildings in the "Green Town" model are promoted in 39 countries on five continents
- 3 50 chain supermarkets and furniture and home furnishing centers have been set up in Africa and South Pacific countries
- 4 An e-commerce platform has been created based on the "New-type housing + Internet" mode with 24 newly signed contracts
- 5 The Vietnam warehouse is put into operation as part of "overseas warehousing + international trade"


 Jushi worked with us against all odds, always lived up to their promises, and showed the quality as a world leader of the industry from the very beginning. Together we successfully completed the oilfield project in Kuwait and the thermal power project in Dubai. The latter is also a milestone in response to the China's "Belt and Road" Initiative.

Comment on China Jushi given by Future Pipe, a world famous FRP pipe company





Data Review 2019

18,718

overseas jobs have been created

Overseas projects (enterprises) delivered training to

28,888

local people

CASE

Fulfilling Social Responsibility for Local Communities and Contributing to the "Belt and Road" Initiative

Sinoma International Engineering Co., Ltd. vigorously promotes the management practice with "local employees and local suppliers", strives to provide jobs for communities near the project sites and drives value creation by the local people to create a harmonious environment for the development, construction, operation and management of overseas projects with satisfactory performance of its social responsibilities. The rate of expatriate employees to local employees of its Tanzanian company is 1:20. During the peak period of the Nigerian Dangote Refinery Project, over 5,000 local workers were employed, accounting for 82% of its workers. Based in Egypt, the local business of Chengdu Design & Research Institute of Building Materials Industry has been localized in terms of design, procurement, logistics, construction and management. For the Egyptian sugar refinery project, 62% managerial personnel were natives, all civil construction workers were natives, and 70% workers making non-standard equipment are natives. For the L'AMALI project in Argentina, all employees were natives, and a total of 1,296 local workers were employed in 2019. Moreover, ARS 285 million (about RMB 39.92 million) were paid as social security contributions, and ARS 105 million (about RMB 15.18 million) was paid as taxes in the year. At the same time, we pay attention to the development of local talents and continuous improvement of the quality of the local force. The company's overseas branches, subsidiaries and project departments include local talents in the management, develop their skills and establish a complete system of human resource management, training and appraisal adapted to local laws and regulations and conditions. Nearly 70% of the middle-level management team of its Indonesia subsidiary consists of native employees. At the Philippine project site of Sinoma (Handan) Construction, an "instructor system" is implemented with Chinese personnel "assisting and guiding" local employees in technical clarification, production processes and installation procedures.



A Project of Suzhou, CBMI Construction Co., Ltd. in South Africa

Innovation Cooperation

We have created an ecosystem of innovation featuring "overseas industries + technology + services", established the OKORDER integrated service platform for cross-border e-commerce with the mode of "cross-border e-commerce + overseas warehousing", and built the intelligent industry service platform with the mode of "Internet + O&M services". We carry out a wide range of high-level, scientific and technological cooperation in various forms with universities, research institutes and government departments from countries along the "Belt and Road" and contribute to the development of these countries.



Nobel Laureate Sheldon Glashow Visits CNBM (Chengdu) Optoelectronic Materials Co., Ltd.

Joint platforms

Together with foreign partners, we have built international R&D platforms, such as the China-UK Joint Laboratory of Advanced Building Materials, the China-Egypt Joint National Laboratory of High Performance Glass Fiber and Composite Materials, the China-Ethiopia Laboratory of Materials Science and Technology Transfer Incubation Center, and the Kazakhstan Branch of Asia Cement and Concrete Research Institute to promote the exchange and cooperation related to talent, technology, capital, standards, patents and management experience of the new material industry.

Joint R&D

We encourage member enterprises engaged in the business of new materials to actively cooperate with overseas leading research institutes for jointly efforts in addressing technical problems. Zhongfu Lianzhong cooperates with a German company to have developed four types of wind turbine blades for low wind speed condition, two of which have been mass produced.

Sharing of resources

We organized top foreign experts to participate in academic workshops and international conferences held in China, and appointed well-known foreign professors and academicians as visiting professors to hold academic lectures on cutting-edge technologies around the world. Beijing Sinoma Synthetic Crystals Co., Ltd. has conducted technical exchanges with many foreign enterprises and research institutes in Sweden, Germany and Japan to drive research of the advanced nitride ceramic technology and development of the international cooperation base.

Community Development

Adhering to the concept of "being true, honest, altruistic and trustworthy", we strictly follow the principle of "contributing to local development, cooperating with local enterprises, and getting along with local residents". We are welcomed by local governments, enterprises and people around the world as we are builders of peace and friendship, actively fulfill the responsibilities as world citizens, strictly observe local laws and regulations, fully respect local religious beliefs and ethnic customs, actively integrate into the local culture and enthusiastically participate in public welfare undertakings. In Mongolia, we co-founded the China-Mongolia Foundation for Culture, Education and Social Development and have donated RMB 4.5 million, which have benefited more than 4,000 households in Mongolia. We also implement the "Warm Winter Program" to provide financial aid to local students of primary and secondary schools and consolations to local herdsmen.

CASE Happiness in Desert

Saudi Arabia is an ancient, traditional, rich and mysterious country located in the desert of the Arabian Peninsula. The YCC Waste Heat Power Generation Project in Saudi Arabia consists of the waste heat boilers, steam turbine generator sets, air coolers and 15 diesel generators and other auxiliary equipment for one 8,500 t/d cement production line and one 11,000 t/d cement production line. It is the largest waste heat power generation project in terms of unit installed capacity in the world so far, a representative project in the Middle East and the largest overseas export order of Sinoma Energy Conservation.

The waste heat power generation project is located by the Red Sea with a long coastline within the plant area. In the design stage for the project, the project department chose high standards for treatment of wastewater discharged in the process of waste heat power generation and provided an increased capacity for treating production and domestic wastewater. All production and domestic wastewater are treated and finally reused in production to realize zero discharge of wastewater. After the project is put into operation, the waste heat will be used to generate electricity of 250 million kWh per year while reducing carbon dioxide emissions by about 220,000 tons, equivalent to saving of more than 80,000 tons of standard coal.

In addition, to ensure the high-quality completion of the project, the members of the project team also solicited recommendations from various sources and kept communication with the owner comprehensively in connection with the project planning, technical scheme validation, basic design confirmation, construction drawing review, equipment manufacturing supervision, sea and land transportation, port handling, customs clearance, site subcontractor selection, safety management process, progress and quality monitoring in civil engineering and installation, system commissioning and complete set startup. All units produced electric power and connected to the power grid in a one-off manner. The project turns over a new leaf in the field of cement waste heat power generation in the world.

On December 3, 2019, the 7th Chinese Enterprise Global Image Summit sponsored by the China Foreign Languages Publishing Administration under the guidance of the Publicity Department of the CPC Central Committee and SASAC was held in Beijing. At the summit, Sinoma Energy Conservation won the award of "2019 Outstanding Cases of Chinese Enterprise Global Image Development --- Outstanding Performer of Social Responsibility" for its practices in the Saudi Arabian project.



YCC Waste Heat Power Generation Project in Saudi Arabia

Targeted Poverty Alleviation

We are fighting a battle with decisive significance for poverty alleviation. CNBM focuses poverty alleviation efforts on the "two no worries and three guarantees" and has constantly increased the funding and support by having invested RMB 383 million and implemented more than 400 projects for poverty alleviation on a cumulative basis. In 2019, CNBM launched the final battle against poverty in the designated counties/district (Shitai County of Anhui Province, a county severely stricken by poverty, Jingyuan County of Ningxia Region, and Zhaoyang District, Yongshan County and Suijiang County of Yunnan Province) encompassing the "six strategies" addressing the people's livelihood, development of industries, employment, health, education and e-commerce. With the help of the Group, Jingyuan County and Suijiang County passed the poverty alleviation assessment and acceptance in 2019 and have been removed from the list of poverty-stricken counties. The remaining three counties/districts are expected to get rid of poverty successfully in 2020. The Group was named "Model Non-Governmental Organization of Poverty Alleviation" by the municipal Party committee and municipal government of Guyuan.

Data Review 2019

55

cadres taking temporary positions for poverty alleviation in local communities

19,964

people get rid of poverty



CASE

Successful Grid Connection of a Ground-mounted Photovoltaic Power Plant built by CNBM (Chengdu) Optoelectronic Materials Co., Ltd.

On September 30, 2019, the first ground-mounted CdTe glass cell power plant built by CNBM (Chengdu) Optoelectronic Materials Co., Ltd. in China was successfully connected to the power grid. It is a village-run photovoltaic power plant project for poverty alleviation in Chicheng County, Hebei Province.

In 2019, there were 1,725 registered impoverished households distributed in 45 villages in Chicheng County, which faced heavy and tough tasks of poverty alleviation. By following the principles of "the Party's leadership, the government as the leading player, the masses as the main force, targeted poverty alleviation, ecology protection, and adaptation to local conditions", CNBM (Chengdu) actively performs the social responsibility as a central enterprise, and has built three power plants with a total installed capacity of 12MW for poverty alleviation in Chicheng County. The power plants have increased the value and utilization of land in the rural areas and helped the local residents increase income and get rid of poverty.

The power plants are completely built with CdTe solar cells with the largest single size per cell in the world indigenously by CNBM (Chengdu). The CdTe solar cells are made by depositing a group of cadmium telluride, an advanced photoelectric functional material with stable chemical properties, between two pieces of ordinary glass. This method makes the glass conductive and capable of generating power, suitable for buildings integrating photovoltaic power generation, ground-mounted power plants, etc. As one of the most competitive technologies for energy conservation and environmental protection, CdTe solar cells not only facilitate the transformation of the building materials industry, but also can effectively reduce the building energy consumption in China. It is of great significance in terms of energy conservation, emission reduction and energy structure transformation, and is a typical example of innovative technology driving the supply-side structural reform.

After the village-run PV power plants for poverty alleviation are built in Chicheng County, they will supply affordable electric power for the local impoverished residents, assist 1,725 poor households to increase income, and generate RMB 3000 of "sunshine bank savings" per household every year. The technological innovation has contributed to income increase of poor households and victory of the decisive battle against poverty.

1 Targeted industrial development

The Group is helping develop planting, storage and deep processing of apple and kiwi fruit trees in one district and two counties of Zhaotong, build the "Zhaotonghong" brand of plateau apples, and execute projects for systematic development of Yunnan Embroidery, which is called an "industry on fingertips", to assist local women to gain skills for increasing income and self-development ability. In Shitai County, Anhui Province, the Group has invested RMB 9.67 million to build a poverty alleviation workshop project called "Migrant Workers Enterprise Park", and more than RMB 4 million to conduct exploration of geothermal resources, laying a foundation for industrial development. Gansu Qilianshan Cement has invested RMB 1.389 billion to build two cement production lines in Tibet, with an annual capacity of 2.4 million tons of clinker after completion, which will effectively fill the gap of cement supply in Tibet.

2 Efforts for improving livelihood

In Jingyuan County of Ningxia, the Group has invested more than RMB 10 million to build Yangling Village into a model project and exquisite project of "beautiful village construction" for poverty alleviation integrating health care facilities, village history museum, farmhouse restaurants and hotels, and tourist trails.

3 Stable jobs and income increase

Relying on the enterprises around designated counties/districts for poverty alleviation, efforts have been ensure the whole family gets out of poverty after one family member gets employed. Special job fairs for poverty alleviation were held in Yongshan County, Yunnan and Shitai County, Anhui. A total of 177 employees were recruited, including 101 from registered impoverished households. The enterprises also offer technical posts with relatively high income such as "excavator operator", "loader operator", "blaster" and "rock drill worker" with preferential recruitment conditions, so the poor candidates with low education background and zero skills can also apply for the jobs.

4 Medical assistance for better health

A team of 73 medical experts was set up to carry out volunteer activities. They have provided free medical treatment to a total of 2,550 patients, held 6 medical lectures attended by more than 1,300 people, set up 12 expert workstations in local hospitals with nearly 1,240 trainees, who constitute a medical force that will never leave.

5 Education empowering the future

To provide intelligence support for the efforts of poverty alleviation, the Group has organized various kinds of training at all levels for 1,359 participants, sowing the seeds for prosperity for the local people. "CNBM Shanjian Colorful Classrooms" have been held in four counties and one district with 13 teaching points covering more than 520 children. We have invested RMB 5.5 million in Jingyuan County of Ningxia to build 48 CNBM Smart Cloud Classrooms for building a modern education system with connectivity to high-quality education.

6 E-commerce setting up a golden bridge

We attach great importance to e-commerce in poverty alleviation for accurately driving the development of rural industries. Since its launch, the "Hebaodan" platform has sold agricultural products worth more than RMB 24 million from the four counties and one district, and all the proceeds from the sales have gone to the cooperatives with both social and economic benefits. We have also worked with benlai.com to sell Songluo tea from Shitai County of Anhui Province and wild apples from Zhaotong of Yunnan Province with a sales amount of RMB 1,952,300.

7 Warm charitable deeds

Relying on the "Shanjian Public Welfare Fund", the Group has successfully created platforms for poverty alleviation and charity activities. Party members, cadres and employees of the Group actively respond to the call, and carried out more than 10 "Party building + poverty alleviation" theme activities in each designated county for poverty alleviation, and donated nearly one million yuan of money and articles. On the 6th China Poverty Alleviation Day in 2019, the Group called for donation by the cadres and employees, who enthusiastically responded. A total amount of RMB 5,923,000 was raised with donations from 87,703 people.

CASE Shanjian Colorful Classrooms Are Open!



To further execute poverty alleviation efforts by the youth, promote positiveness among the youth, and support the Group's decisive battle against poverty in the designated counties, the Group successfully held "CBNM Shanjian Colorful Classrooms" on August 1 through 5, 2019, relying on the platform of "CBNM Shanjian Public Welfare Fund" in collaboration with the five designated counties for poverty alleviation. During the activities, free love schoolbags were delivered to the children together with the care and company of the CNBM people.

13 teaching points were set up, covering more than 520 children. More than 80 volunteers from the Group's headquarters and 16 member enterprises arranged diverse courses according to the children's age and characteristics, including interesting English, mathematics and science, early Chinese readings, historical stories, innovative class of Tang poetry, astronomical knowledge, scientific experiments and other cultural courses for improving the comprehensive qualities, as well as interesting cultural and sports courses such as magic game, handwork, music, sports, fine arts, etc. Besides thematic courses that introduced the cultural characteristics of different cities and countries and broadened children's horizons, there were courses related to the characteristics of building materials enterprises such as cement, glass, glass fiber, PTFE films, etc. In five days, the volunteers provided one-on-one coaching to the children in learning, gave them meticulous care in life, and brought love and care to the children while imparting knowledge. They sowed seeds of hope for the children with actions, and accompanied them to look forward to a better future.



I like the teachers very much. You are very interesting! The teachers gave us stationery and answered questions for us. We were so happy together!

Wang Mingxing, a grade 5 student aged 11 in Jingan Town, Zhaoyang District

Sunshine Public Welfare

Performing the social responsibility and contributing to the public welfare are aspirations rooted in the heart of every CNBM employee with concrete actions. Relying on the "Shanjian Public Welfare Fund", the Group also inspires employees to take part in social public welfare activities to devote their love and care for a better world. In 2019, the Group invested RMB 22.2 million in the voluntary activities. The number of volunteers reached 10,343 and the total donations reached RMB 142.4million.



"Pleasant Reading Space" of Lianghekou Primary School in Songxian County, Henan Province, which is built with Osong® oriented strand board from BNBM International Wood Industry Co., Ltd.

CASE Warm Care, Dedication and True Feelings Brought by Shanjian Public Welfare



On November 1, 2019, the representatives of Party members, Communist Youth League members and ordinary employees from BNBM International Trade Co., Ltd. and BNBM International Wood Industry Co., Ltd. visited the Beijing Tianyun Language Barrier Free Rehabilitation Center to deliver love and items to the children there as well as the warmth and blessing to these broken winged angels in winter.

The children were happy seeing the visitors. Facing the volunteers, they did not dodge or felt being inferior. They stood in the center of the stage and sang and danced with the music to express their inner feelings. As the music came to the climax, they invited the volunteers to sing together and gave us strong encouragement. This activity provides volunteers with the opportunity to come into the children's world in person, listen to their heart, and share the sunshine hand in hand.





 SUSTAINABLE DEVELOPMENT GOALS

SDGs Respond

17 PARTNERSHIPS FOR THE GOALS



Responsibility Management

CNBM always adhere to the core concept of "efficient use of resources to serve the construction", conveying the core values of "innovation, performance, harmony and responsibility" to each stakeholder, pursue win-win coordination among the market, environment and society, and working together with stakeholders to build a better life.

369

quantitative indicators for social responsibility management

7

th

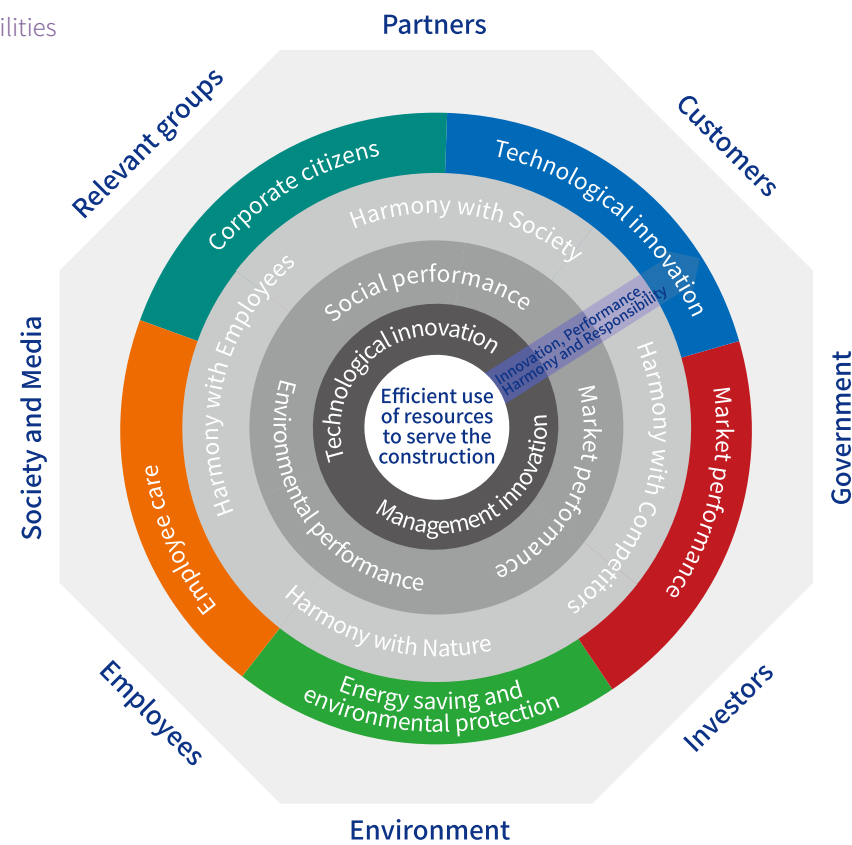
among Top 300 of China's Corporate Social Responsibility Development Index (2019)

Value of Responsibility

Concept of Responsibility

We closely track the requirements of stakeholders, adhere to the core concept of "efficient use of resources to serve the construction", and take "innovation, performance, harmony and responsibility" as our core values. In the course of development, we pay attention to the appropriate combination of technological innovation and management innovation, and pursue win-win coordination among the market, environment and society. We insist on harmony with competitors, employees, the nature and the society, and perform the social responsibility in terms of market performance, technological innovation, energy conservation and environmental protection, employee care, and corporate citizenship in practice.

Model of CNBM Social Responsibilities



Selection of Topics

Taking into account the current situation of social responsibility development and the characteristics of the Group's operation, we have defined the five responsibility frameworks of "market performance, scientific and technological innovation, energy conservation and environmental protection, employee care, and corporate citizenship". Finally, we have determined the annual core topics of corporate social responsibility from the list of substantive candidate topics.

- 1 Overseas Community Co-construction
- 2 Information Disclosure
- 3 Community Integration
- 4 Communication with Stakeholders
- 5 Public Charity
- 6 Targeted Poverty Alleviation
- 7 Green Office and Environmental Public Welfare Activities
- 8 Advocating Sustainable Consumption
- 9 Promoting Industry Development
- 10 Democratic Management
- 11 Responsible Procurement
- 12 Overseas Development and International Cooperation
- 13 Supply-side Structural Reform
- 14 State-owned Enterprise Reform
- 15 Intelligent Manufacturing
- 16 Development of New Materials Industry
- 17 Transformation of Scientific and Technological Achievements
- 18 Mechanism for Customer Complaint Resolution
- 19 Responsibility Management
- 20 Employee Rights and Interests
- 21 Green Services
- 22 Responsible Supply
- 23 Concept of Responsibility
- 24 Green Products
- 25 Cultivation of Innovative Talents
- 26 Environmental Management
- 27 Employee Cultivation
- 28 Supply Chain Management
- 29 Corporate Governance System
- 30 Risk Management and Control
- 31 Green Production
- 32 Strengthening Party Building and Anti-corruption
- 33 Innovation Management
- 34 Safe Operation
- 35 Governing Enterprises by Law
- 36 High-quality Development
- 37 Quality Management
- 38 Credit Business

Social Responsibility Planning 2018-2020

Value of Responsibility

Deepening the concept of responsibility
 Deepening the integration of responsibility and business management
 Deepening the mechanism for employee responsibility fulfillment

Responsibility Management

Strengthening the top-level design of social responsibility
 Improving the organizational system of social responsibility management
 Strengthening the training of social responsibility talents
 Improving the performance evaluation of social responsibility

Responsibility Communication

Strengthening communication with stakeholders
 Creating an important and sustainable responsible brand
 Developing rich responsibility theme activities
 Creating a normalized responsibility communication platform with stakeholders

Responsibility Sharing

Enriching the social responsibility management platform
 Developing social responsibility benchmarking
 Strengthening research on responsibilities
 Strengthening external publicity
 Promoting the CSR report preparation of member enterprises



Responsibility Management

Encompassing the strategic vision of "striving to become a world-class industrial investment group with global competitiveness", we actively improve sustainable development management and drive high-quality development by relying on all-round innovation in technology, business models, management and institutions comprehensively.



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Data Review 2019

35,839
hours of social responsibility-related training for employees

3,258
sessions of social responsibility events organized or participated

643
sessions of social responsibility assessments or evaluations

Organizational Structure

Establish a social responsibility work promotion leading group as the top leading body headed by the chairman of the board of directors to lead and promote the social responsibility work of the Group

Based on the headquarters functional organization for social responsibility management, guide and promote member enterprises to strengthen social responsibility management and actively implement the practice of fulfilling their social responsibilities

With member enterprises at all levels as nodes, and in accordance with the unified requirements of headquarters, clarify the functional departments and managers, and actively implement the practice of fulfilling responsibilities. By the end of 2019, 341 member enterprises have set up their social responsibility management organizations and had 1,521 full-time and part-time employees for social responsibility management.

Ability Improvement

Prepare and issue the *Corporate Social Responsibility Reports in China for Nonmetal Mineral Products (CASS-CSR 4.0)* jointly with the Chinese Academy of Social Sciences

Take the CNBM "Shanjian Public Welfare" Fund as an important platform to create a brand of social responsibility

Keep stable operation of the "CNBM Social Responsibility Management Information System" and achieve online management of personnel and information

Establish an index system of the Group social responsibility with 369 indicators in all to ensure the integrity of social responsibility reporting

Strengthen pilot demonstrations, promote corporate accountability practices and participate in various training courses, such as China Social Responsibility 100 Forum

Performance Evaluation

Prepare and publish annual social responsibility reports, publish performance trends on website columns from time to time, establish an information disclosure system and build an effective communication platform

Participate in external performance evaluation, implement comprehensive evaluation and benchmarking in reporting quality, accountability performance and responsibility management, learn from each other's strengths and make up for each other's weaknesses for continuous improvement

Promote the integration of social responsibility and Group operation management, and form a "six-star enterprise" evaluation system

Continuous Improvement

Give full play to the resources of the think tank of internal management experts to guarantee the applicability and operability of the substantiality and mechanism of social responsibility management

Establish cooperative relations with professional organizations, grasp the development trends of social responsibility at home and abroad, and ensure the professionalism and compliance of the Group's social responsibility management system

Enable the extroverted responsibility management, such as brand responsibility activities, deep responsibility communication and theme responsibility publicity, so that the influence of responsibility is increased gradually

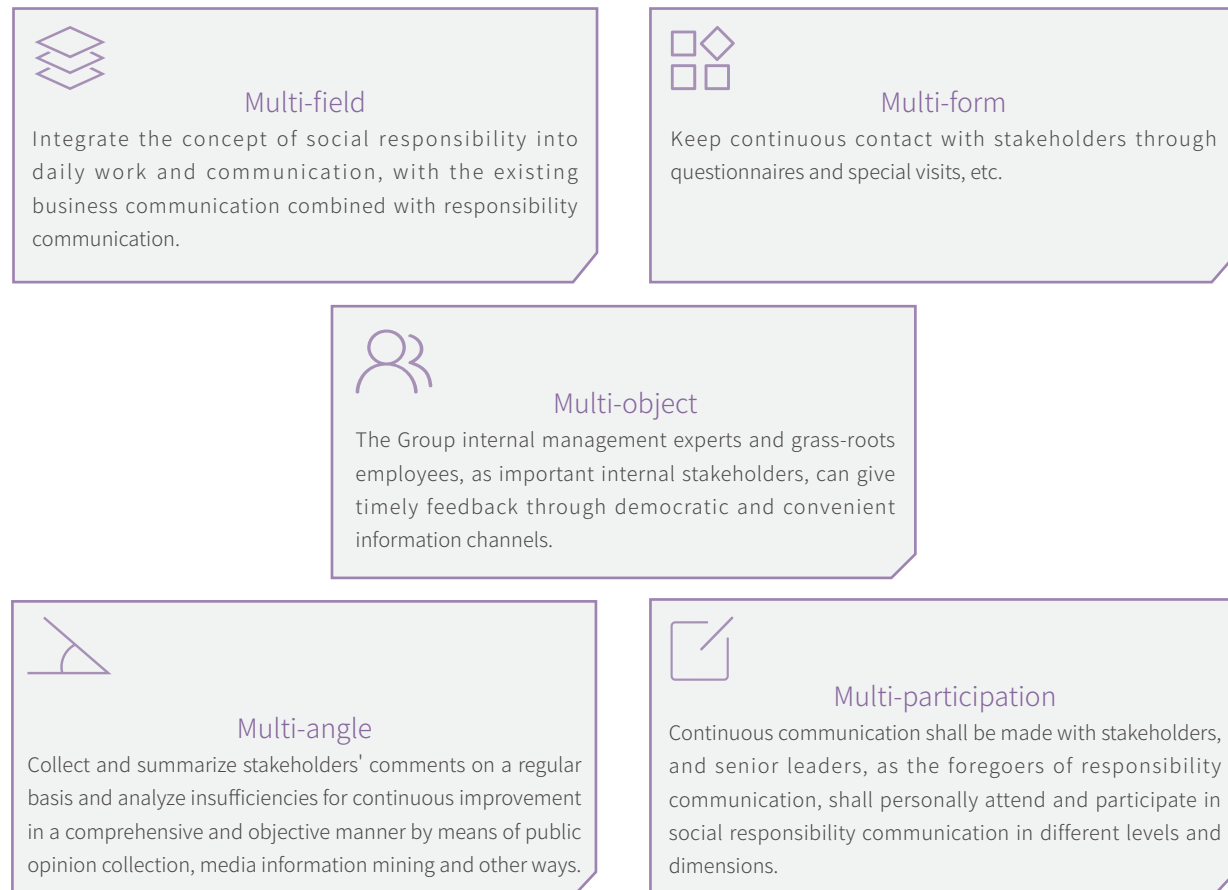
Continuously improve the member enterprises' CSR report publishing rate and quality, and promote the systematization and normalization of CSR performance

Responsibility Communication

We have classified and summarized the objects of responsibility performance from such dimensions as influence, dependence and representativeness, pay attention to the requirements of stakeholders, work to enhance transparency and synergy in operation and keep improving our ability of understanding the comments and recommendations from stakeholders in the cycles of "opinion collection, collective decision-making, specific implementation, and feedback" to maintain a good image of the Group in the public.



Zhou Yuxian, Party Committee Secretary and Chairman of CNBM, delivers an open class on state-owned enterprises at the Communication University of China



Stakeholders	Communication Mode	Focus	Response Measures
 Investors	Periodic report Corporate report Promotion activities Shareholder dialogue and feedback New media and network platform interaction	Enterprise performance Interests of shareholders and creditors Authenticity, accuracy, timeliness and completeness of information disclosure Sustainability of development	Sustainable high-quality management Perfect information disclosure mechanism Improve the value of enterprises Regulate corporate governance Protect investors' interests
 Government	Publication of laws and regulations Special reports and visits Information submission Assessment of work objectives Industry associations	Corporate governance Safety, environment and compliance requirements Secure supply Employment opportunities Development of local economy Response to climate changes	Operate in accordance with the law and implement national policies Sustainable high-quality management Tax payment Provide jobs Adhere to green manufacturing
 Customers	Customer meetings and consultation Market research Daily contact Customer feedback mechanism Telephone service New media and network platform interaction Product packaging information	Enterprise credit Customer relationship Quality of products and services Product innovation Health and safety	Provide high-quality products and services Advocate green consumption Improve quality management Protect customers' privacy Launch scientific and technological innovation Advocating sustainable consumption Standardize safety and environmental protection management
 Partners	Contract negotiation Bidding conference High-level meetings Document and correspondence contacts Daily business communication New media and network platform interaction	Price and prompt payment Long-term partnership Profit distribution Information resources sharing Credit and reciprocity Risk prevention	Credit business Promote suppliers' responsibility performance Establish effective partnership Establish an effective communication mechanism
 Employees	Employee congress Openness of factory affairs Labor contract Rationalization proposals Normal communication Letters and visits New media and network platform interaction	Enterprise performance Corporate governance Employee Rights and Interests Career development planning Complaint handling Occupational health Democratic management Openness of factory affairs	High-quality management Protect employees' rights and interests Provide competitive pay Improve employee welfare Strengthen employee training Provide safe working environment and health protection Establish effective communication Democratic management
 Community and Media	Sign public welfare agreements Participate in volunteer activities Daily contact Open day activities Media interview New media and network platform interaction	Planning affairs Environmental protection and response to climate changes Joint construction of a harmonious community Occupational safety and health	Establish and improve safety and occupational health management system Increase investment Timely information disclosure Improve public welfare investment Participate in community activities Promote green production and protect ecological environment
 Social Organizations	Regular participation in meetings or activities Daily contact New media and network platform interaction	Environmental Conservation Promote sustainable development jointly	Play membership role Provide economic and technical support Establish a cooperative relationship

Responsibility Sharing



© Facilities of Sinoma Cement (Luoding) Co., Ltd under the Sunglow



Guided by Responsibility

As a permanent member of the UN Global Compact and the World Cement Sustainable Development Initiative (CSI), we have promoted the dissemination of the concept of global responsibility and its implementation through more diversified and internationalized platforms.

We recognize and abide by the "Ten Principles of the Global Compact" and actively contribute to the achievement of the sustainable development goals of the United Nations; actively participate in social responsibility sharing and initiative activities in different fields, participate in launching China Social Responsibility 100 Forum and rely on China Federation of Industrial Economics, China Building Material Federation, China Building Materials News and other platforms to disseminate ideas, share experiences and launch initiatives, and work with stakeholders to seek better ways of sustainable development.

Driving Development of Supply Chain

We work to enhance the access system for supplier management for fully guaranteeing the equal rights and interests of small and medium-sized suppliers; incorporate social responsibility into the supplier evaluation system to urge suppliers to continuously improve their product quality; supervise and promote suppliers to pay attention to employees' physical and mental health; deeply integrate the concept of responsibility into supplier evaluation, product design, strategic cooperation mechanism and other processes to guide the performance of responsibilities in the supply chain; build "YANGCAITONG", a professional distribution supply chain service platform for building materials, which helps realize the transformation and innovation from offline to online operations, Internet+ project distribution and supply chain finance. Moreover, we adhere to transparent procurement and make every effort to eliminate commercial bribery by promoting the integration of regional procurement and bidding, standardization of the bidding process, transparency of the bidding performance and informatization of the bidding management. We implement localized procurement of bulk raw materials to reduce transportation costs. In 2019, China United Cement, Sinoma Cement and Qilianshan Cement saved more than RMB 200 million through centralized procurement of materials on-line in collaboration with Alibaba. 100% cement dealers now deliver orders online to Southwest Cement, and Ningxia Building Materials has e-commerce applications covering all of its all business lines.

Responsible Supply

We insist on fair dealing, attach great importance to quality management, integrate quality management into the whole process from raw materials entry to products delivery, and fully promote the construction and certification of quality management standard systems. We have set up a pre-sales consultation, in-sales reception and after-sales service system to respond to and deal with customers' complaints and inquiries at the first time, so as to improve customer satisfaction; we have built a professional customer service team, able to provide professional technical training for dealers on a regular basis and organize customer training meetings to carry out product promotion and offer customers the basic knowledge of green building materials, the considerations in building materials selection and use, and the knowledge of product anti-counterfeiting. Moreover, we have been always paying attention to protecting the privacy of customers and implementing a strict confidentiality system for customers' personal data. At the same time, we have established modern logistics parks for rational planning of supply and marketing as well as logistics schemes, reducing resource occupation and ultimately improving sales efficiency. In addition, we have built an Internet sales platform, providing worldwide online trading services for building materials products to reduce carbon emissions related to customers and sales representatives during business travel.



A Complete Package of Equipment for Float Glass Production Line

Honor of Responsibility

Data Review 2019

742

manufacturing member enterprises have passed quality standard system certification

Product knowledge popularization and customer training were delivered to

110,310

participants from customers

100%

of main business products were found acceptable in national sampling inspection

99.5%

customer complaints were solved

252.3

million tons of bulk cement was sold

130,148

person-sessions received training delivered for suppliers in fields of safety, energy, laws, etc.

Implemented responsible procurement of RMB

266.5

billion

The study of "Industrial Expansion of a Large Scale Building Materials Enterprise Group Led by Technological Innovation" won a first prize of National Innovation Achievements for Enterprise Management Modernization

The Group won the awards of "Enterprise of Outstanding Performance", "Enterprise with Outstanding Contribution to Technological Innovation" and "Enterprise with Outstanding Contribution to Energy Conservation and Emission Reduction" for the term of 2016-2018

CNBM is ranked 5th among the Top 10 State-Owned Enterprises of Corporate Social Responsibility Index, 7th among the Top 300 Chinese enterprises, and among the "Outstanding Performers of Corporate Social Responsibility" for seven consecutive years

CNBM won the title of Enterprise with Outstanding Contribution to Social Responsibility in 2019

CNBM won the "Golden Bee Award of 2019 Excellent Corporate Social Responsibility Reports • Leader Enterprise Award" for the fifth time

CNBM was ranked eighth among the "Top 500 Chinese Enterprise of Credit" and fourth among the "Top 100 Chinese Manufacturing Enterprise of Credit" at the China Enterprise Credit Development Forum 2019 and the 10th Integrity Public Welfare Ceremony jointly held by the China Enterprise Reform and Development Society and the China Cooperative Trade Enterprises Association

It was ranked 51st among the Top 500 Chinese Enterprises, 15th among China's Top 500 Manufacturing Enterprises and 62nd among China's Top 100 Multinational Companies in 2019

61 achievements were awarded the "2018 National Achievement Awards for Management Modernization Innovation by Building Materials Enterprises", and 33 individuals were named "2018 National Outstanding Persons with Contribution to Management Modernization Innovation by Building Material Enterprises"

The Group won the six awards including the fifth "State-Owned Enterprises News Special Award", "Radio and Television Work Award", "Excellent Work Award"

In 2019, the Group successfully entered the list of "China's 100 Models of Brands Contributing to National Power Ceremony"

China National Building Material Company Limited has been awarded the title of "Excellent Issuer of Corporate Bonds" by Shanghai Stock Exchange for three consecutive year

BNBM won the highest award in the field of quality management in China - "National Quality Award", and became the only enterprise in the field of building materials in China that has all the three top awards in terms of industry and quality

BNBM was awarded the only "Outstanding Contribution Award of Global Gypsum Industry" at the 19th Global Gypsum Conference

The "Longpai" brand of BNBM won the title of "China Brand Annual Award No.1" of 2019

China Building Materials Academy and some other member enterprises won the title of "Top 100 Enterprise in Building Materials Service Industry in China", Triumph Group and some other member enterprises won the title of "Top 100 Building Materials Enterprises with Potential of Growth in China", and BNBM won the title of "Harmonious Building Materials Enterprise"

The BAYAH cement project in Indonesia and the GOE cement project in Egypt undertaken by CMBI Construction won the "Luban Award for China Construction Projects (Overseas Project) in 2018-2019"

China Jushi won the "Sustainable Growth Award" and "Technological Innovation Award" at the "2019 High Quality Development Forum of Shanghai Stock Exchange Listed Companies and the "Gold Quality" awards ceremony hosted by Shanghai Securities News

The "Study and Practice of the 'Five-Cattle' Spirit to Provide Political Assurance for High-Quality Development of State-Owned Enterprises" conducted by Bengbu Glass Industry Design and Research Institute won a first prize of "Excellent Achievements in Reform and Development of Chinese Enterprises"

China National Building Material Engineering won the titles of "National Enterprise with Intellectual Property Advantages in 2019", "Best Practice of Enterprise Achieving Sustainable Development Goals in 2019" and "Pilot Demonstration Enterprise of Integrated Development of Building Material Manufacturing Industry and the Internet in 2019". It also won the "Good Story Award about Chinese Enterprises", "Friendship Envoy Award" and "Excellent Works Award" at the first Competition of Short Video in 100 Countries along the "Belt and Road".

CTC Group won the title of "2019 Golden Horse Award of China's Securities Market • Pioneer Responsible for Rewarding Investors"

Sinoma Energy Conservation Limited won the award of "2019 Excellent Case of Overseas Image Building of Chinese Enterprises" and the "Excellent Social Responsibility Award"

CNBM

Fights for Love



CNBM Fights for Love
Scan to view the video

Daring to fight till we win is a persistent spirit and distinct quality of the CNBM people. Novel coronavirus, an unprecedented virus, broke out in early 2020, and the war for prevention and control of the pandemic was quickly launched. This was a test facing every Chinese people and requiring their participation. Since the outbreak of the epidemic, CNBM --- the world's largest comprehensive building materials industry group and a leading new materials developer and comprehensive service provider --- has strictly implemented the spirit of the instructions from the CPC Central Committee and the State Council, expedited the delivery of quality building materials and services to the front line against the disease while impose strict prevention and control measures within our organization, accurately and orderly promoted the restoration of work and production. By remaining true to our original aspiration and keeping our mission firmly, we have undergone the test with satisfactory results.

Prioritization and Timely Response



After the outbreak of the epidemic, our enterprises made the prevention and control of the epidemic the primary work.

— Zhou Yuxian, Party committee secretary and chairman of CNBM

CNBM has attached great importance to effective prevention and control of the epidemic and has taken a wide range of counter measures since January 22, 2020. By following the principle of "intense prevention and control, early identification and quarantine, more care and steady production", we have implemented the measures comprehensively for both epidemic prevention and resumption of work and production. Under the unified leadership of the Group, the member enterprises have bravely taken the responsibility as a central enterprise and demonstrate unselfish humanity. On the one hand, they took the lead to deal with difficulties and leveraged their comprehensive advantages to deliver high-quality building materials and new materials to the front line confronting the disease and safeguard the construction activities required for combating the epidemic around the country. On the other hand, they contributed actively to keeping growth of the enterprises and the economic and social stability by resuming work and production to ensure shipping of goods required for controlling the epidemic and minimizing the impact of the epidemic.

- On **January 22** the Group released the urgent Notice on Prevention and Control of the Novel Coronavirus Epidemic.
- On **January 27** the Group held a special meeting which set up a leading group on epidemic response headed by Zhou Yuxian, Party Committee Secretary and Chairman of the Group, to make decisions on the policies and measures countering the epidemic.
- After **January 27** on-site coordination meetings were held twice a day to arrange tasks for epidemic prevention and control.
- On **January 28** the Group raised the first donation of RMB 25 million for supporting the epidemic-stricken areas.
- On **January 29** the Group released the urgent Work Plan of CNBM on Prevention and Control of Novel Coronavirus and Pneumonia Infection.
- On **January 31** the Group called a teleconference to deploy and implement measures for the prevention and control of the epidemic, returning after the festival and resumption of work.
- On **February 3** the Group called a teleconference to deploy the next step for the epidemic prevention and control, and production and operation.
- On **February 8** the Group released the Guidelines on Returning and Resumption of Production after the Spring Festival.
- On **February 10** the Group called a special teleconference to discuss the situation of the epidemic prevention and control and deploy measures for epidemic prevention and control as well as resumption of production.
- In **February**, the members of the top management conducted research in member enterprises in Beijing, and guided the enterprises to arrange orderly resumption of production.
- On **February 26** the Group forwarded the important speech of General Secretary Xi Jinping and deployed sound measures for the epidemic prevention and control as well as business operation at the monthly work teleconference.



Delivering High Quality Building Materials to the Front Line Day and Night



For the epidemic prevention and control, considering that China National Building Material Group has a wide industrial network and can produce significant synergy, we delivered building materials to 72 hospitals in 19 provinces and municipalities, including the Huoshenshan Hospital and the Leishenshan Hospital in the earliest time possible after the outbreak of the epidemic. We have also provided more than 10 categories of new materials for the front line fighting against the epidemic. So far, we have donated more than RMB 54 million in cash and in kind for the epidemic prevention and control.

— Zhou Yuxian, Party Committee Secretary and Chairman of CNBM

As the only central enterprise in the sector of building materials in China, CNBM, together with its member enterprises, raced against the clock to have supplied large quantities of high-quality building materials for projects countering the epidemic around the country by leveraging their advantages in manufacturing of building materials and new materials. Its powerful industrial strength has underpinned the Group's taking the lead in fighting against the epidemic.

Since the second day of the lunar new year when the first truck that carried materials in urgent need left, BNBM has been ready to respond to requests for goods 24 hours a day. It has delivered goods for 69 hospitals in 36 cities of 20 provinces for fighting the epidemic. It has donated high-quality and environmentally friendly building materials for the combat against the epidemic, including 47,000 square meters of plasterboard, 10,000 square meters of mineral wool boards, 114,000 meters of light gauge steel frames, 485 barrels of waterproof coating, 418 barrels of odorless all-effect finish paint, 2,300 rolls of various waterproof coiled materials, 41 cartons of leak stoppers, and steel stud fittings and waterproof work accessories. Its indigenously developed "Luban universal boards" simplify assembly in construction and allow immediate occupation immediately after installation, saving valuable time for the construction of temporary shelter hospitals.

As a specialized manufacturer of hospital resilient flooring, BNBM Resilient Flooring delivered the urgently needed materials to the Leishenshan Hospital on time, having provided nearly 60,000 square meters of hospital resilient flooring for the Leishenshan Hospital and 18,000 square meters of hospital flooring for other projects fighting against the epidemic around the country.

For the health of our families, the well-being of the motherland, and the construction of the epidemic prevention hospitals, I volunteered to join the commando to fight against the virus in person at the front line, and perform my duties conscientiously and selflessly!

The oath taken upon joining the commando of BNBM for renovation and expansion of hospitals treating the epidemic in Hubei



BNBM Resilient Flooring Delivers Urgently Needed Materials to Wuhan

The Glass Institute of the China Building Materials Academy immediately organized employees living in Beijing to resume production and work overtime to produce infrared lenses. By the end of April, it had delivered 800 sets of high-precision infrared lenses to the front line in cities such as Guangzhou, Chengdu and Wuhan for epidemic screening.

Nanjing Fiberglass Research & Design Institute Membrane Material Co., Ltd. urgently delivered dozens of tons of high-efficiency glass fiber filter paper to the first line fighting against the epidemic. The filter paper is able to filter 99.97% of particles with a size of 0.3 micrometers or larger. It was widely used in the Leishenshan Hospital and the Huoshenshan Hospital in Wuhan and other projects, having considerably mitigated the risk of virus transmission and played a key role in the epidemic prevention and control.



Production Project of Neutral Borosilicate Glass of Triumph Junheng Co., Ltd.

Triumph Junheng Co., Ltd. urgently produced a batch of raw materials for 5.0 neutral borosilicate glass tubes, and collaborated with domestic bottle makers to provide 10 million free glass bottles to the research institutes studying vaccine for the novel coronavirus.

The ceramic flat membranes and equipment indigenously developed and produced by **Shandong Industrial Ceramic Research & Design Institute** are able to intercept and treat various particles, colloids and microorganisms larger than more than 30 nanometers, and widely used in the drainage treatment of medical wastewater, municipal sewage, industrial wastewater and other fields...

CNBM Volunteers Fighting against the Epidemic

In the campaign against the epidemic, China National Building Material Group has actively taken the political and social responsibility, and the member enterprises of the Group and their employees have taken the initiative supporting our efforts. Among them, many volunteered and defied the difficulties and served as examples of our image of being responsible, courageous and humane.

—Zhou Yuxian, Party Committee Secretary and Chairman of CNBM

To support Wuhan City in fighting against the epidemic after its "lockdown", various goods were shipped from all over the country continuously, so how to transfer these goods to designated places though the "last kilometer" became a key problem. Teams of CNBM embodied the dedication spirit of the Group as a responsible central enterprise with actions by taking the risk of being infected with the fearless courage.

Zhang Yuan, an employee of Sinoma Energy Conservation then staying in Wuhan, immediately applied for joining the "Team of Youth Volunteers for Epidemic Prevention and Control in Wuhan City", and persuaded his wife to join him. They managed to deliver goods to the Hankou Hospital and other locations in Wuhan.

Shan Mingzhou, an employee of China National Geological Exploration Center of Building Materials Industry Contingent in Hubei, joined the volunteer organization of the Changyuanli Community, Hanxing Sub-District, which is separated by just a street from the Huanan Seafood Market, where the first cases of novel coronavirus were reported. He worked actively to meet the needs of residents of the community.

Xiong Siqing and Cui Peng from Wuhan Building Material Industry Design & Research Institute actively participated in the investigation and statistics collection of residents at home and their health conditions, give away free masks to residents and property management

firms, and contact food suppliers for group purchases, which were highly recognized by their communities.

Gao Minjie, from CTC Group Suzhou, volunteered to work at the medical observation station for novel coronavirus pneumonia infection at Sujin, Gusu District, Suzhou. He said that as a Party member, he should stand out at such a moment as a pioneer and example and do what he can for the prevention and control of the epidemic.

Party members Bai Feng, Yang Yandong and Qikang of Buerjin Tianshan Cement worked with community cadres in health registration and purchase of necessities for the residents. Yue Zhonghong, a first-line employee, joined the community's "epidemic prevention team" to disinfect the buildings on time every day. Wunierbike patrolled by the road leading to the entrance of his village.

Wang Jiawei, an employee of the Guanzhuang Dongli Hospital of China Building Materials Academy, actively applied for working at the front line of disease screening, performing the duties of a physician.

Jiang Bo, a young employee of South Cement Quzhou, organized his colleagues to assist the government officials on duty on expressways in Jiangshan. They sent ginger soup and fruit to more than 700 Party members and volunteers on duty at check points in 15 communities and more than 200 villages.

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Resumption of Work and Production to Ensure Supply for Related Industries

Our resumption of work and production has not only stabilized our own business and workforce, but also maintained orderly operation of the production chain of China's building materials industry, and positively contributed to the stability of the global industrial chain and supply chain of building materials.

—Zhou Yuxian, Party Committee Secretary and Chairman of CNBM

Our economic society is a dynamic cycling system, which cannot be stopped for a long time. In line with the instructions of the CPC Central Committee and the State Council, CNBM made meticulous and detailed arrangements for facilitating the resumption of work and production while keeping in mind our responsibility for the country, people, employees and shareholders. During the Spring Festival alone, more than 180 enterprises maintained production with more than 35,000 employees working on the first line.

Cement: Cement enterprises that treat domestic and medical waste made all possible efforts to resume work and production as required by the local governments, while other cement enterprises decided the time for resumption production depending on the market supply and demand, evasion of peak production, and other factors.

New materials: Enterprises producing products helping combat the epidemic already resumed production during the Spring Festival holiday and reached full production capacity after the festival to ensure supply. Enterprises producing new-type glass such as electronic glass, photovoltaic glass and display modules maintained production continuously with record highs of outputs and yield rates. China Jushi, a fiberglass maker, sent dedicated buses to collect employees and safely transported them back to work across several provinces. The wind turbine blade enterprises successfully completed this year's first export order to Japan. In the fields of carbon fiber, lithium membrane, ceramics, refractory materials, etc., the enterprises participating in major national projects executed their work as scheduled and delivery key products on time.

Engineering and technical services: The first batch of high-performance optical fiber image inverters, anti-glare window glass and other products were shipped, realizing smooth startup of production and operation. Nearly 200 overseas projects of cement, glass, photovoltaic, energy conservation and other engineering and construction works progressed smoothly. Four new contracts were signed for overseas cement, gypsum board, photovoltaic, housing and other construction projects, and two new contracts were signed for overseas equipment supply. Several other projects successfully started operation or production.

Future Prospects

2020 is the last year of the plan for building a well-off society in an all-round way and of the 13th Five-Year Plan. It is also a critical year to achievement of the first of the "Two Centenary Goals" and laying a sound foundation for the 14th Five-Year Plan and achievement of the second of the "Two Centenary Goals". CNBM will stay confident in its pathway with firm goals and resolved to perform its responsibility with unbeatable courage, sense of responsibility, hard work and perseverance. We will keep materializing our glory and dreams in building a world-class industrial investment group with global competitiveness and developing from being big to being great.

We always adhere to innovation-driven development, carrying out all-round innovation in technology, business models, management and institutions comprehensively to provide strong support for the high-quality development, and promote rational division of work of the innovation chain, complementary advantages of the industrial chain and co-construction and sharing of the value chain.

We continue to empower development through reform, take the opportunity of reform of state-owned capital investment companies to actively adjust strategic positioning, optimize the management and control models, accelerate resource integration, deepen the mechanism reform, and continuously demonstrate the benefits of the deepening reform, and find a new duplicable way for healthy development of state-owned enterprises.

We shall insist on facilitating development by internationalization, tackle difficulties encountered in consolidating the main business and limited but diversified development and internal coordination, abide by the three principles of "contributing to the local development, cooperating with local enterprises and getting along well with local residents", serve as builders of peace and friendship, and drive the building a community with a shared future for mankind.

We uphold development guided by Party building, take the Party's political development as the highest beacon, accelerate the deep integration of Party building and business operation, race against the time to win the "three tough battles" and work to make new and greater contributions to building a well-off society in an all-round way and realizing the Chinese dream for the great rejuvenation of Chinese nation!



Appendix Responsibility Performance

Market Performance

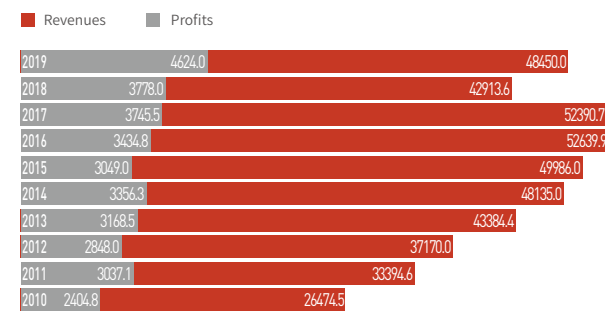
Fortune Top 500 Building Material Enterprises in 2019

Ranking in 2019	Company Name	Revenues in 2019 (USD million)	Country
203	CNBM	52610.6	China
226	Saint-Gobain	49300.4	France
397	CRH	31625.0	Ireland
447	Lafargeholcim	28088.8	Switzerland

Data Source: www.fortunechina.com

Total Revenues and Profits of Enterprises above Scale in China Building Materials

Unit: RMB 100 million



Data Source: China Building Material Quantity Economic Supervision Society

Production of Cement from 2010 to 2019

Unit: 100 million tons

Year	CNBM	China	Global
2019	3.7	23.3	42.0
2018	3.4	22.1	39.5
2017	3.4	23.2	41.0
2016	3.2	24.0	42.0
2015	2.4	23.5	41.0
2014	2.5	24.8	41.8
2013	2.4	24.2	40.0
2012	2.7	21.8	38.0
2011	1.9	20.1	36.0
2010	1.7	18.8	33.1

Data sources: National Bureau of Statistics, U.S. Geological Survey

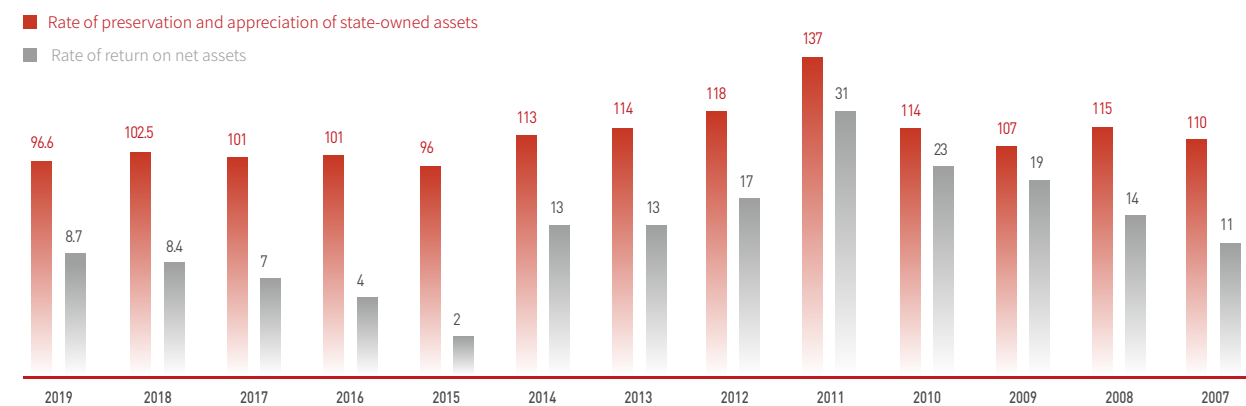
Total Revenues and Profits from 2010 to 2019

Unit: RMB 100 million

Year	Revenues	Profits
2019	3981.0	235.2
2018	3480.0	206.6
2017	3021.2	151.1
2016	2612.3	75.8
2015	1992.5	38.4
2014	2504.3	130.1
2013	2522.6	115.1
2012	2174.3	111.6
2011	1940.9	158.5
2010	1353.6	75.6

Rate of Preservation and Appreciation of State-owned Assets and Rate of Return on Net Assets from 2007 to 2019

Unit: %



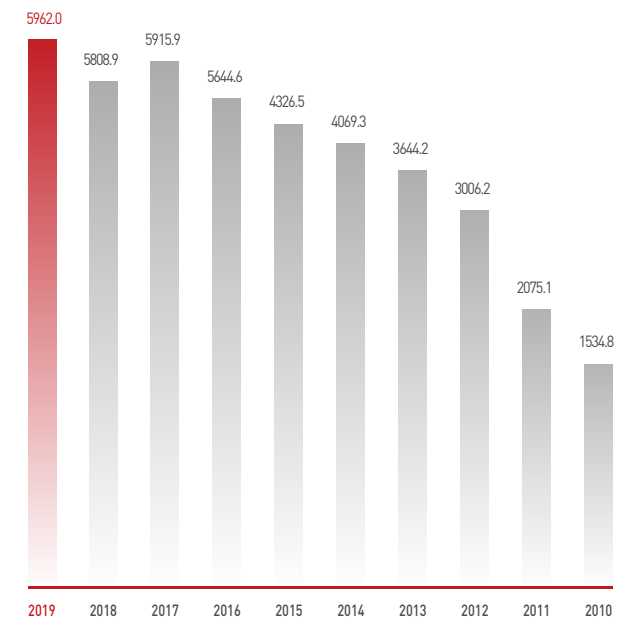
Performance of Listed Companies in 2019

Unit: RMB

Stock name	Stock exchange	Stock code	Dividends per share	Earnings per share
CNBM	Hong Kong Exchanges and Clearing	3323.HK	0.3500	1.3010
BNBM	Shenzhen Stock Exchange	000786.SZ	0.0820	0.2610
China Jushi	Shanghai Stock Exchange	600176.SH	0.1930	0.6078
Sinoma International	Shanghai Stock Exchange	600970.SH	0.3010	0.9200
Tianshan Cement	Shenzhen Stock Exchange	000877.SZ	0.5100	1.5598
Ningxia Building Materials	Shanghai Stock Exchange	600449.SH	0.5100	1.6100
Qilianshan Cement	Shanghai Stock Exchange	600720.SH	0.5800	1.5890
Sinoma Tech	Shenzhen Stock Exchange	002080.SZ	—	0.8223
Triumph Science & Technology	Shanghai Stock Exchange	600552.SH	—	2.2900
Sinoma Energy Conservation	Shanghai Stock Exchange	603126.SH	0.0700	0.2016
Luoyang Glass	Shanghai Stock Exchange	600876.SH	—	0.1000
Luoyang Glass Company Limited	Hong Kong Exchanges and Clearing	1108.HK	—	0.0965
Ruitai Technology	Shenzhen Stock Exchange	002066.SZ	—	0.1110
CTC	Shanghai Stock Exchange	603060.SH	2.0300	0.6765

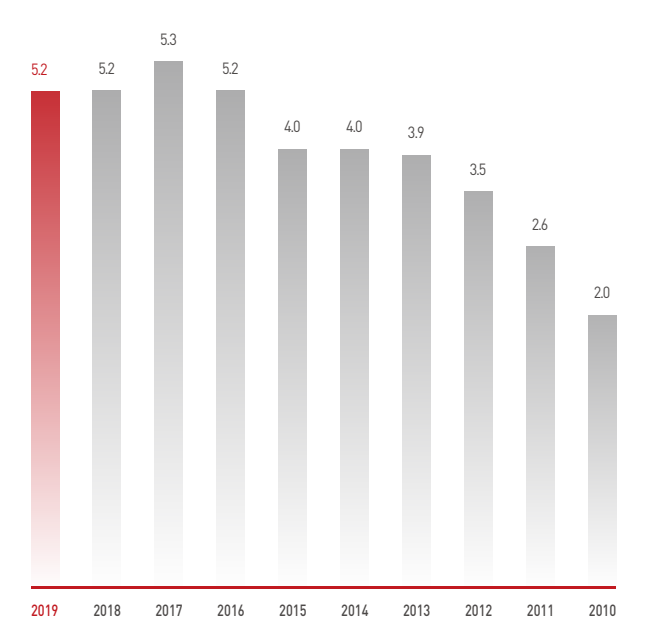
Total Assets from 2010 to 2019

Unit: RMB 100 million



Cement Capacity from 2010 to 2019

Unit: 100 million tons



Technological Innovation

Science and Technology Awards at or above the Provincial and Ministerial Level from 2010 to 2019 Unit: Item

Year	Awards at or above the provincial and ministerial level	National Science and Technology Progress Awards	Technology Innovation Awards
2019	166	3	0
2018	231	1	73
2017	197	2	66
2016	173	2	82
2015	123	0	48
2014	117	1	48
2013	145	1	54
2012	152	0	89
2011	132	2	46
2010	63	0	17

Annual Patent Application and Authorization from 2010 to 2019 Unit: Item

Year	New patent applications	Invention patents	Patents newly authorized	Invention patents
2019	3308	1638	1804	478
2018	2287	1056	1571	385
2017	2144	1039	1524	428
2016	2156	880	1793	455
2015	1568	566	1492	193
2014	1571	531	1381	106
2013	1262	373	848	128
2012	766	228	729	143
2011	630	170	487	80
2010	514	173	420	54

Expenditure on Scientific Research Activities from 2010 to 2019 Unit: RMB 100 million

Year	Expenditure on scientific and technological activities	Expenditure on research and test development
2019	113.3	95.9
2018	95.4	81.9
2017	77.3	59.3
2016	66.3	51.2
2015	50.6	40.9
2014	57.7	41.6
2013	54.9	36.2
2012	49.7	33.4
2011	46.7	31.6
2010	28.2	20.7

Standards – CNBM Presiding over and Participating in Compilation or Revision from 2010 to 2019 Unit: Item

Year	Total Standards	International	National	Industrial
2019	88	0	52	36
2018	167	4	90	73
2017	122	4	90	28
2016	91	2	57	32
2015	62	2	36	24
2014	104	3	35	66
2013	59	1	8	50
2012	22	1	5	16
2011	28	1	15	12
2010	79	0	30	49

Accumulative Patents from 2010 to 2019 Unit: Item

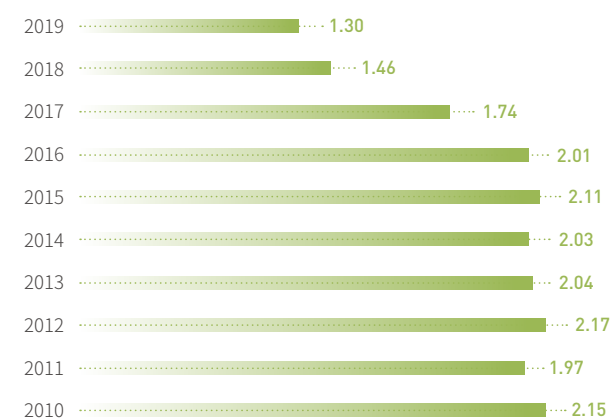
Year	Accumulative patents	Invention patents
2019	12124	3164
2018	10967	2765
2017	10024	2403
2016	8408	1913
2015	5663	900
2014	4255	687
2013	3231	589
2012	2549	448
2011	1606	288
2010	1232	227

Revenues from Scientific and Technological Innovation from 2010 to 2019 Unit: RMB 100 million

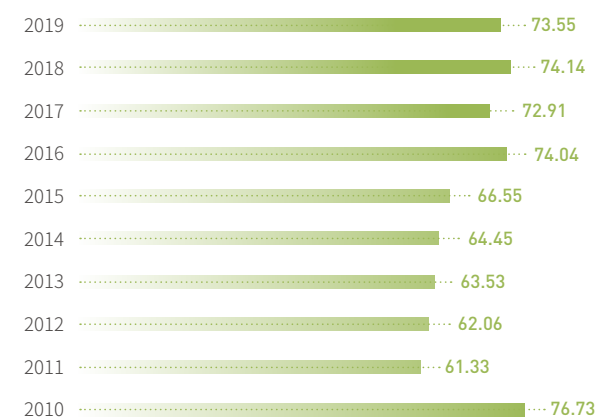
Year	Revenues from scientific and technological innovation	New product sales revenues
2019	28.4	577.6
2018	30.1	555.9
2017	16.6	468.5
2016	15.7	339.0
2015	11.5	256.5
2014	8.8	289.9
2013	10.3	259.4
2012	9.4	248.4
2011	11.0	240.3
2010	14.1	158.4

Energy Conservation and Environmental Protection

Comprehensive Energy Consumption per RMB 10,000 Output Value from 2010 to 2019 Unit: ton of standard coal/RMB 10,000



Comprehensive Energy Consumption per Ton of Cement from 2010 to 2019 Unit: kgce/ton



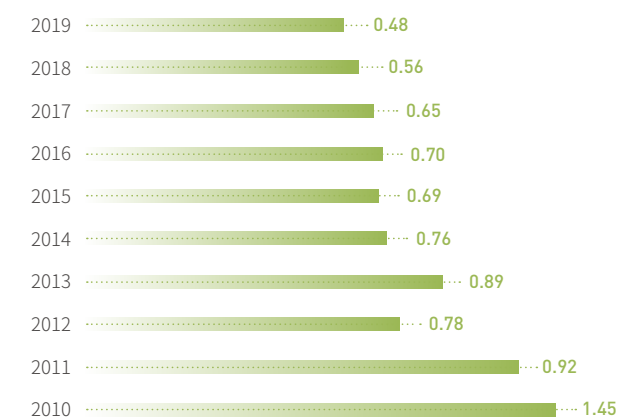
Performance of Solid Waste Disposal and Utilization from 2010 to 2019

Year	Solid waste consumption (10,000 tons)	Disposal rate of self-produced solid waste (%)
2019	10100	99.9
2018	9900	92.8
2017	15615	99.0
2016	14909	88.6
2015	7545	98.5
2014	7882	98.0
2013	6191	99.2
2012	9700	100
2011	6500	100

SO2 and COD Emissions per RMB 10,000 Output Value from 2010 to 2019 Unit: kg/RMB 10,000

Year	SO2 emissions per RMB 10,000 output value	COD emissions per RMB 10,000 output value
2019	0.62	0.03
2018	1.09	0.03
2017	1.07	0.03
2016	1.60	0.05
2015	1.46	0.06
2014	1.36	0.06
2013	1.39	0.07
2012	1.45	0.07
2011	1.60	0.12
2010	2.33	0.12

Nitrogen Oxide Emissions per Ton of Cement Clinker from 2010 to 2019 Unit: kg/ton



Performance in Utilization of Water Resources and Waste Heat Resources from 2011 to 2019

Year	Fresh water consumption per RMB 10,000 output value (ton/RMB 10,000)	Fresh water consumption per ton of cement clinker (ton/ton of cement clinker)	Utilization rate of circulating water (%)
2019	3.6	0.34	90.0
2018	7.9	0.45	90.8
2017	7.1	0.51	96.2
2016	6.2	0.38	93.7
2015	7.2	0.46	93.5
2014	6.2	0.41	90.3
2013	8.0	0.41	96.4
2012	5.0	0.33	94.7
2011	5.5	0.37	—

Employee Care

Employee Profile from 2010 to 2019

Unit: Person

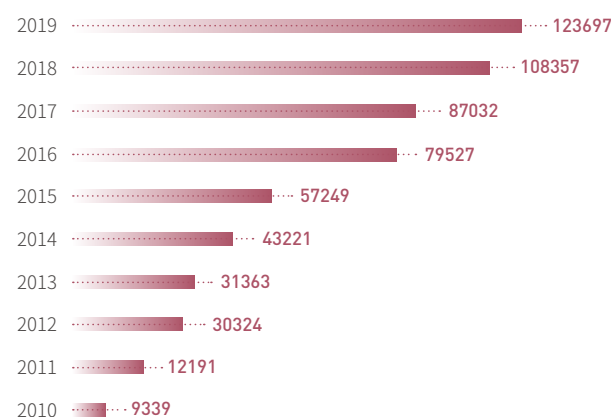
Year	Total number of employees	Foreign, Hong Kong, Macao and Taiwan employees	Ethnic minority employees	Disabled employees	Proportion of female employees in management
2019	204763	483	5808	1729	16.2%
2018	208680	1059	5167	1697	18.7%
2017	221421	750	5985	1732	18.4%
2016	234511	1126	5964	1875	18.3%
2015	176610	841	3521	1449	17.2%
2014	176854	892	3120	2263	18.4%
2013	179421	1234	3031	1685	18.1%
2012	165652	1190	2706	1620	13.5%
2011	126385	594	3516	1023	11.6%
2010	112676	397	1566	599	24.0%

Progress of Enterprise Annuity from 2010 to 2019

Year	Number of member enterprises participating in enterprise annuity (entity)	Number of employees participating in enterprise annuity (person)
2019	207	56174
2018	100	35644
2017	74	24093
2016	71	22871
2015	68	22165
2014	67	21750
2013	67	21131
2012	66	20392
2011	53	13368
2010	38	12811

Occupational Health and Safety Investment from 2010 to 2019

Unit: RMB 10,000



Employment Contract and Social Security Coverage and Labor Union Membership from 2010 to 2019

Unit: %

Year	Coverage of employment contracts	Coverage of social security	Proportion of employees with labor union membership
2019	100	92	78
2018	100	90	78
2017	100	98	92
2016	100	98	91
2015	100	98	91
2014	93	88	70
2013	96	92	75
2012	96	92	80
2011	94	91	73
2010	88	87	—

Employee Training Performance from 2011 to 2019

Year	Training programs organized and participated (session)	Employees' training participation (10,000 hours)	Employees' on-the-job academic degrees obtained (case)
2019	107787	137	1679
2018	75187	485	1424
2017	52676	112	2251
2016	47554	331	3028
2015	32672	133	2882
2014	43352	91	3520
2013	37491	164	2387
2012	21028	126	1138
2011	11975	108	1580

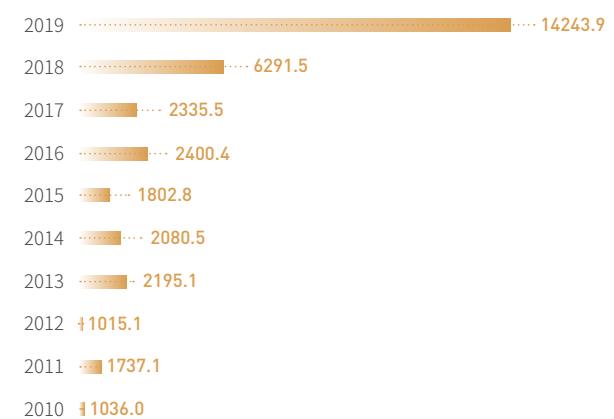
Workplace Safety Performance from 2010 to 2019

Year	DIFR recorded per 1,000 employees (%)	New case of occupational diseases (case)
2019	0.4	1
2018	0.5	1
2017	0.5	2
2016	0.5	0
2015	0.9	3
2014	1.3	2
2013	1.6	1
2012	2.3	3
2011	1.4	19
2010	1.5	24

Corporate Citizenship

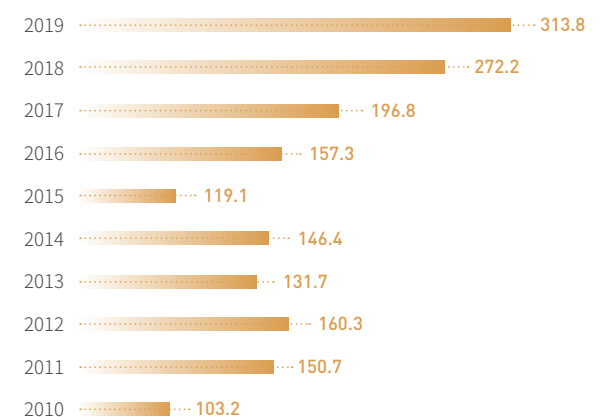
Social Public Welfare Expenditure from 2010 to 2019

Unit: RMB 10,000



Payment of Taxes from 2010 to 2019

Unit: RMB 100 million

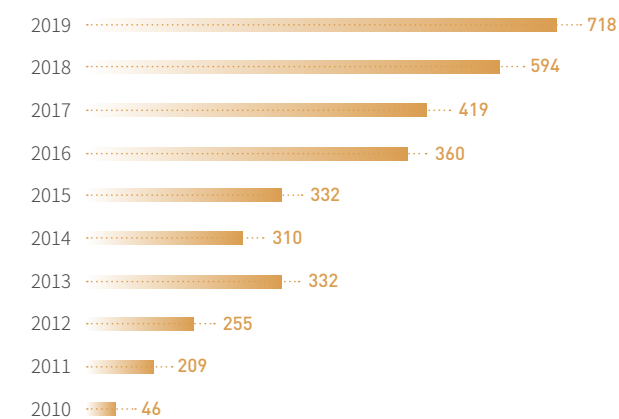


Assistance of Students from 2011 to 2019

Year	Special scholarships established (item)	Total scholarship provided (RMB 10,000)	Number of students awarded or subsidized (person)	Internship bases established (base)	Undergraduate posts provided (person day)
2019	22	113	284	132	52689
2018	18	73	188	118	45464
2017	14	72	155	163	31519
2016	8	37	266	134	34030
2015	8	36	159	47	26586
2014	31	53	227	97	28619
2013	18	112	506	119	36530
2012	20	136	466	98	17815
2011	27	—	727	—	—

Number of Supported Social Welfare Projects from 2010 to 2019

Unit: Item



Performance in Employment Assurance from 2011 to 2019

Unit: Person



Year	Number of new employees	Current year's graduates	Military personnel transferred to civil work
2019	27763	3890	22
2018	26553	3626	141
2017	29612	4727	139
2016	22342	3129	23
2015	16929	2473	10
2014	23617	3848	46
2013	16081	4383	158
2012	15901	3743	521
2011	21182	4276	241

Volunteer Activity Organization from 2011 to 2019

Year	Volunteer groups established (group)	Input in volunteer support (RMB 10,000)	Number of staff volunteers (person)	Volunteer service provided (hour)
2019	213	2219	10343	40192
2018	189	126	6853	44445
2017	335	363	5334	25164
2016	112	344	5646	28157
2015	56	191	2187	14840
2014	65	145	3400	9418
2013	109	145	4864	10681
2012	67	91	3337	39778
2011	—	—	—	10618

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Reporting Process

01	Project start-up	Determine the annual work plan and hold meetings or issue documents
02	Key topics identification and reporting boundary recognition	Analyze stakeholders' concerns, identify annual key topics of the company and study the CSR standards, guidelines and new trends
03	Issue list of documents	Acknowledge the index system of the information system and prepare the list for annual major cases
04	Collect report materials	Collect and analyze member enterprise materials, functional department materials and media reports, etc.
05	Report writing	Formulate the reporting framework, identify the report topic and formulate a preliminary draft report
06	Solicit opinions	Solicit opinions from the CSR leading group, headquarters functional departments, member enterprises, stakeholders and CSR experts
07	Report improvement	Revise texts; verify data and complete standard self-check
08	Report design	Readability, innovation and continuity
09	Report rating	Standards for CSR Reporting in China (2019)
10	Report release	Distribute to stakeholders through various carriers and channels
11	Summary and improvement	Analyze shortcomings for rectification and improvement

Rating Report

Rating Report of China National Building Material Group Co., Ltd. Sustainability Report 2019

Entrusted by China National Building Material Group Co., Ltd., Chinese Expert Committee on CSR Report Rating selected experts to form a team to rate China National Building Material Group Co., Ltd. Sustainability Report 2019 (hereinafter referred to as the "Report").

I Rating Basis

Corporate Social Responsibility Reports in China for Nonmetal Mineral Products (CASS-CSR 4.0) issued by the Chinese Academy of Social Sciences and Standards for CSR Reporting in China 2020 issued by Chinese Expert Committee on CSR Report Rating.

II Rating Process

1. The rating team reviewed and confirmed the Confirmation of Process Data of Corporate Social Responsibility Report and related supporting materials submitted by the "Report" writing group;
 2. The rating team evaluated the preparation process and content of the "Report" and complete the rating report;
 3. The vice chairman of Chinese Expert Committee on CSR Report Rating, the leader and member experts of the rating team jointly reviewed and signed the rating report.

III Rating Conclusion Process (★★★★★)

China National Building Material Group Co., Ltd established a leading group for social responsibility work. The chairman of the board served as the team leader to guide the overall direction and be responsible for the final review of the Report. The Safety Emergency Department took the lead in setting up the report preparation team, and the deputy general manager served as the team leader to coordinate the specific preparation work and control key nodes; report Positioned as an important tool for strengthening stakeholder communication, improving social responsibility management, and disseminating responsible brand images, with clear functional value positioning; according to national macro policies, international and domestic social responsibility standards, industry benchmarking analysis, company development strategies, and stakeholders Investigate and identify substantive issues; promote the compilation and release of social responsibility reports by three subsidiaries of China National Building Material Co., Ltd., Jushi Group, and Sinoma International Corporation, and strengthen the vertical integration of social responsibility; plan to publish the report on the official website, and will publish the report in electronic and printed materials Reports are presented in the form of, long plates, etc., with excellent process performance.

Substantial (★★★★★)

The Report systematically disclosed product quality management, product innovation, occupational health management, safety production, environmental protection technology and equipment development and application, energy conservation, hazardous chemical management, reduction of wastes emissions, and environmental governance around the plant The key issues of the industry are detailed and fully narrated, and the substantive performance is excellent.

Completeness (★★★★★)

The main content of the Report systematically disclosed 92.25% of the industry's core indicators from the perspectives of market performance, technological innovation, energy saving and environmental protection, employee care, and corporate citizenship. The integrity is excellent.

Balance (★★★★★)

The Report disclosed data of negative things such as major and more serious environmental accident, employee turnover rate, industrial accidents recorded, new case of occupational diseases, and number of people received the Party discipline sanctions, and briefly described the problems found in the investigation of potential safety hazards and rectifications. The balance is excellent.

Comparability (★★★★★)

The Report disclosed comparable data of 64 key indicators such as the revenue, expenditure on scientific and technological activities, comprehensive energy consumption per ton of cement, disposal rate

of self-produced solid waste, public welfare expenditure and input in volunteer support for 3 consecutive years, and ranked 5th among the central enterprises in implementing "integration of informatization and industrialization". The comparability is excellent

Readability (★★★★★)

The Report built a framework structure around the topics, and systematically displayed the corporate responsibility concept, actions and performance under key issues such as company organization, technological innovation, customer service, environmental protection, employee development, charity and so on, which showed the company's commitment to social responsibility. The cover and chapter connection adopted large real-world images to highlight the characteristic commitment scenarios, echo the theme of the content, and enhance the recognizability of the Report; the chapter page is embedded with narrative introduction and key performance, outlining the main content of the Report, facilitating readers to quickly grasp the key content and improving the readability of the Report; QR codes were embedded to extend the interpretation of the Report with images and videos, enhancing the dissemination of the Report. The readability is excellent.

Innovation (★★★★★)

The Report had a part called "CBNM Fighting for Love" to actively respond to current political hot topics such as the fight against the Covid-19 pandemic, demonstrating the responsibility of the Group; innovatively released a long graphic report, enriching the forms of spreading and enhancing the communication value of the Report; Built a indicator system of social responsibility, including 369 specific indicators; and collected social responsibility information through the Responsibility Management Information System of China National Building Material Group Co., Ltd. to form a standardized and normalized social responsibility information disclosure management system. The Report is outstanding in the innovation.

Comprehensive Rating (★★★★★+)

After evaluation by the rating team, the process, substance, completeness, balance, comparability, readability and innovation of China National Building Material Group Co., Ltd. Sustainability Report 2019 have all reached five-star rating standards, so the comprehensive rating is "Five-Star Best", and is a model in the corporate social responsibility report.



China National Building Material Group Co., Ltd. Sustainability Report has won five-star reviews in eight consecutive years

IV Suggestions for Improvement

Increase the disclosure of industry core indicators to further improve the integrity of the Report.

Signature of Vice Chairman of Chinese Expert Committee on CSR Report Rating

Vice Chairman of Chinese Expert Committee on CSR Report Rating

Signature of Rating Team Leader

Signature of Rating Team Experts

Process Assessor Ren Jiaojiao



Feedback

Dear Readers:

Thank you very much for your attention and support to the social responsibility work of China National Building Material Group Co., Ltd. Please kindly fill in the following questionnaire. We'll continue to improve in the future according to your comments and suggestions.

Your comments on China National Building Material Group Co., Ltd. Sustainability Report as follows:

Overall evaluation: Very good Good General Not good Rather poor

Richness in contents: Very good Good General Poor Rather poor

Page suitability: Very good Good General Poor Rather poor

Design: Very good Good General Poor Rather poor

Language friendliness: Very good Good General Poor Rather poor

In your opinion, what are the most essential elements for China National Building Material Group Co., Ltd. to perform its social responsibility:

- Operating Performance
- Scientific and Technological Innovation
- Energy Conservation and Environmental Protection
- Employee Care
- Corporate Citizenship
- Responsibility for Governance

What do you think we should do to further strengthen our social responsibility management:

- Information collection
- Organizational structure construction
- Talent training
- Performance evaluation
- External publicity
- Stakeholder management
- Public welfare planning
- Level of annual report preparation
- Research on social responsibility
- Others _____

How would you like to know about our responsibility performance:

- Printing report
- Social Responsibility Column on Official Website
- WeChat Public Account
- Professional media on social responsibility
- Others _____

What would you like to see in China National Building Material Group Co., Ltd. Sustainability Report?

Which performance of China National Building Material Group Co., Ltd. do you pay more attention to in the future?

Other comments and suggestions?

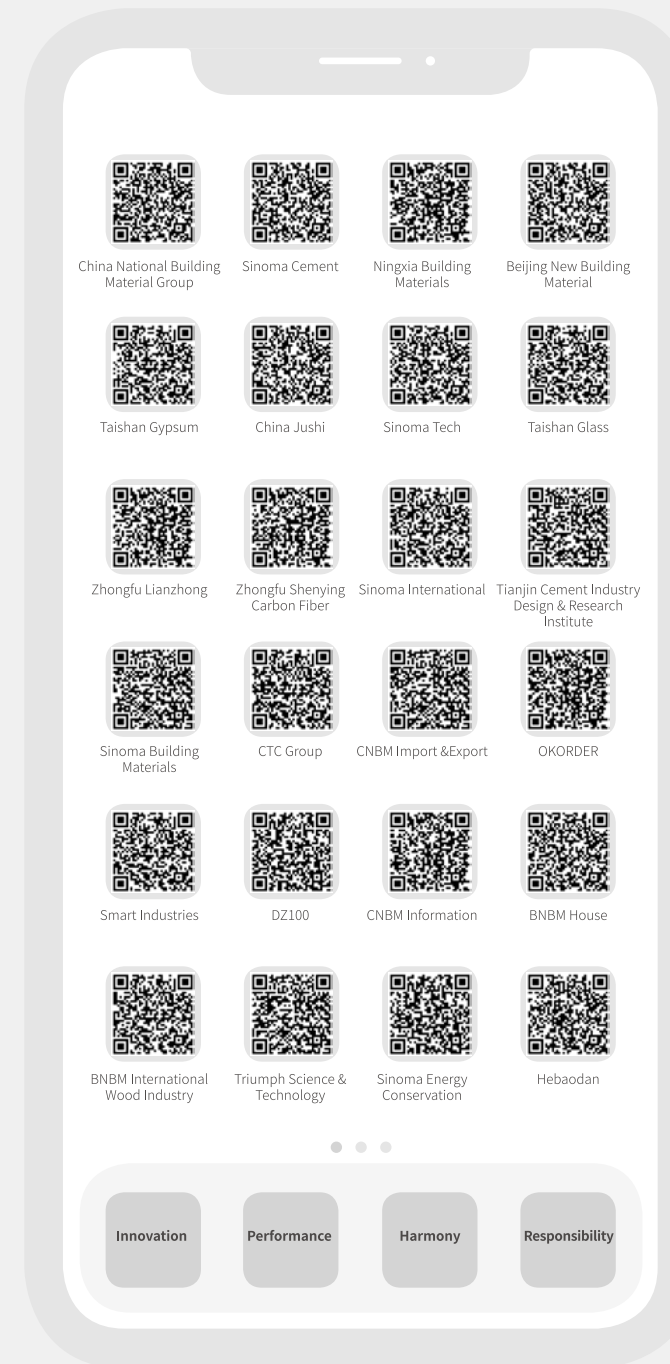
In what position did you participate in our activities for collecting opinions?

- Government department
- Institutional investors
- Small and medium shareholders
- Financial institution
- Industry association
- Supplier
- Customer
- Competitive enterprise
- Partner
- CSR professional institution
- Public welfare organization
- News media
- Group middle and senior manager
- Group staff
- Others _____

In order to contact you conveniently and respond to your comments and suggestions in time, please offer your contact and related information.

We'll keep it reliably confidential.

Name: _____ Occupation: _____ Institution: _____
 Contact Address: _____ Zip Code: _____ e-mail: _____
 Telephone: _____ Fax: _____



Scan WeChat to follow the public account number.



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