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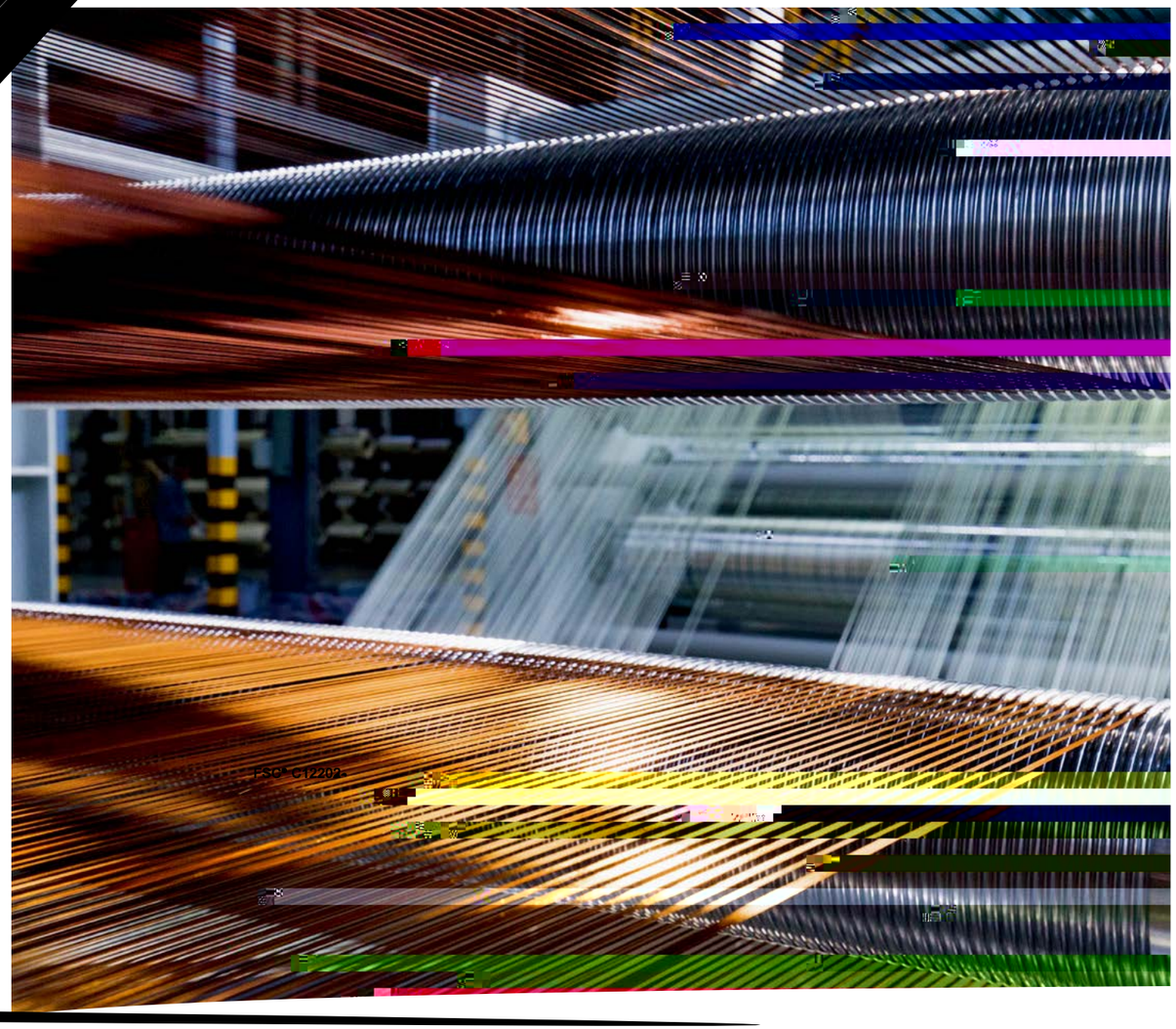
CNBM

CHINA NATIONAL BUILDING MATERIAL GROUP CO., LTD

Sustainability Report



CHINA NATIONAL BUILDING MATERIAL GROUP CO, LTD

Sustainability Report 2017

CNBM

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Notes

This Report truly reflects China National Building Material Group Co., Ltd.' s (CNBM) sustainability and social responsibility performance.

Period Covered by the Report

January 1st to December 31st, 2017; given the ongoing continuity of certain businesses and projects, some contents involve the first and second quarters of 2018, the details of which are indicated in the Report.

Reporting Cycle

Annual report.

Entities Covered by the Report

All wholly-owned or controlled (including absolutely and relatively controlled) members 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.

Data Sources

All the information and data used herein comes from the Headquarters and member companies 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.

Which report is this? How can I obtain these reports?

This is the seventh social responsibility report/sustainability report released by CNBM. You can request the print version of each year's report via the contact information on the cover. You can also scan the QR code below or log onto http://www.cnbm.com.cn/EN/ to download the electronic version and receive further related information in the 'Social Responsibility' column.

How can the data released in the Report be guaranteed?

The financial data in the Report is derived from the CNBM 2017 Annual Financial Statement which has been audited by Baker Tilly China.

The external data in the Report is derived from data released by third parties through the media, the sources of which are indicated in the Report.

The non-financial data in the Report is derived from CNBM's comprehensive data management system. The data in the system was faithfully reported by the functional departments and offices of the CNBM Headquarters and its member companies in accordance with the CNBM Social Responsibility Management Information Collection Measures. The data of member companies was submitted to the Headquarters after being approved at all levels; each department or office of the Headquarters reviewed the data from member companies and then verified the data through sampling at a proportion of at least 5% in order to ensure its standardization, reliability and authenticity.

How was this report prepared?

This report was prepared according to the Guidelines for the Preparation of Corporate Social Responsibility Reports in China (CASS-CSR 4.0) issued by the Chinese Academy of Social Sciences, CNBM Administrative Social Responsibility Fulfillment Measures and CNBM Social Responsibility Management Information Collection Measures. The detailed preparation process is as follows:

Preparation Process of CNBM Annual Sustainability Report

1. Project startup	2. Identifying core topics and boundaries	3. Printing and distribution of information list
Defining the annual work plan, convening meetings and issuing documents.	Analyzing stakeholders' concerns, identifying annual major topics and studying CSR standards and guidelines, and new trends.	Defining the indicators for the information system and making a list of example cases in the year.
4. Collecting materials	**5. Writing report**	**6. Consultation**
Collecting and analyzing materials from member companies, functional departments and offices, and media reports.	Drawing up the report framework, defining topics and compiling the first draft.	Consulting the CSR leading group, functional departments and offices of the Headquarters, member companies, stakeholders and CSR experts.
7. Improvement	**8. Design**	**9. Evaluation**
Revising the text, verifying the data and self-checking the standards.	Ensuring readability, innovation and consistency.	The Rating Standards of Corporate Social Responsibility Reporting in China (2018).
10. Issuance	**11. Summary and promotion**	
Delivery to stakeholders via multiple carriers and channels.	Analyzing deficiencies and making improvement plans.	

Standards, benchmarking and evaluation of the Report

The preparation of the Report is based on the Sustainable Development Report (G4) published by the Global Reporting Initiatives (GRI), Social Responsibility Guide (ISO26000) issued by the International Organization for Standardization (ISO), Guidelines for the Preparation of Corporate Social Responsibility Reports GB/T36001-2015 and Guidelines for the Preparation of Corporate Social Responsibility Reports in China (CASS-CSR 4.0) issued by the Chinese Academy of Social

How can I contact you to give feedback?

You can complete the feedback page at the end of the Report and send it to us via fax or mail, visit the official website of our company or scan the QR code below and fill in your opinions on the website or WeChat platform; you can also contact us directly through the contact information on the back cover.

Scan the QR code and send your feedback through the website

Scan the QR code and send your feedback through WeChat

Contents

Chairman's Address 4
Company Profile 6
Corporate Culture 7
Strategy of CNBM 8
High-quality Development 9
Management Team 10
Main Businesses 12

01 **Market Performance** 14

'1+1>2' 16
Tripod 20

02 **Energy Conservation and Environmental Protection** 24

Green Development 26
Green Manufacturing 28

03 **Employee Care** 34

Safety is a Culture 36
Happy 'Little Material' 40

04 Corporate Citizenship 44

The 'Belt and Road' Initiative 46
Targeted Poverty Alleviation 51

05 Technological Innovation 54

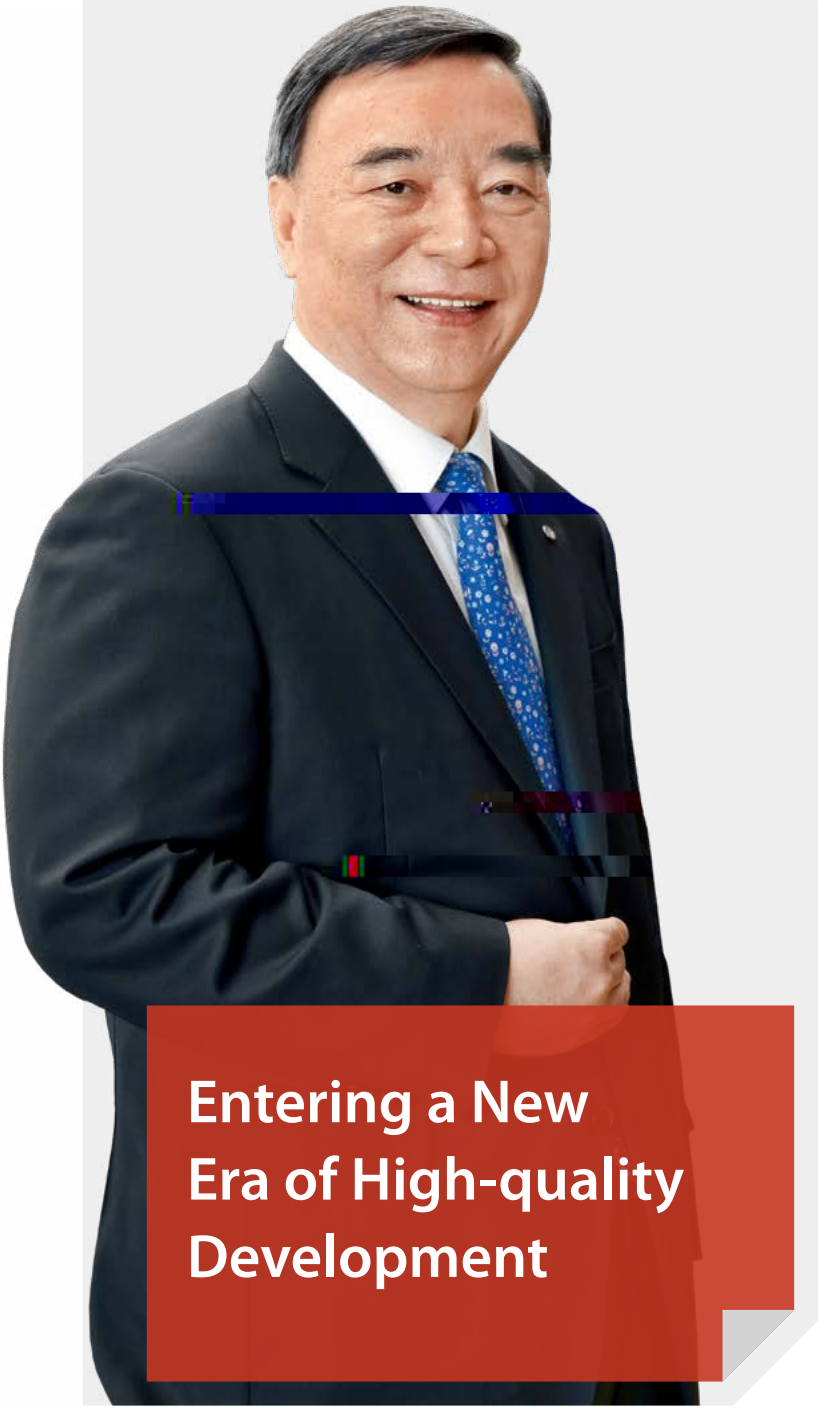
Guarantee of Strength 56
Guiding and Surpassing 58
Collaborative Innovation 60
Sharing and Communication 62

06 Responsibility Management 64

Responsibility Value 66
Responsibility System 69
Responsibility Communication 70
Responsibility Sharing 72

The Road to Reform

Chairman's Address



Entering a New Era of High-quality Development

40 years after the implementation of the reform and opening up policy, socialism with Chinese characteristics has entered a new era, as has China's economic development. It was stated in the report given at the 19th CPC National Congress that China's economy has been transitioning from a phase of rapid growth to a stage of high-quality development. The development of China National Building Material Group Co., Ltd. (CNBM) is closely linked to the development pulse of the People's Republic of China. In this stage of China's rapid economic growth, we have taken the development path of joint restructuring, capital operation, management integration and integrated innovation, by virtue of which our enterprise has grown rapidly and currently keeps pace with the rapid growth of the national economy.

In 2017, CNBM made a beautiful debut after the merger of the China National Building Materials Group Corporation and China National Materials Group Corporation. This was the year in which we delivered a perfect answer sheet to all of society. All our cadres and staff think with one mind and work with one heart, devoting themselves to the tasks of reorganization, integration and reform, and truly creating outstanding achievements in '1+1>2' . The annual operating income in 2017 reached RMB 302.1 billion with total social contributions exceeding RMB 73 billion, creating the best performance in recent years.

The two corporations have reorganized seamlessly and integrated deeply. At the group level, the four major optimizations of strategic planning, Headquarters organization, secondary platforms and institutional system have been completed, and the six major integrations of brand culture, institutional framework, cement business, international engineering, industry and finance, and production and research have been implemented. The share-swap and merger between the two Hong Kong-listed enterprises was approved by a 99.9% vote at the shareholders' meeting. This unprecedented approval rate made it a classic case in the international capital market.

We actively promote the supply-side structural reform of the building materials industry. In light of the current situation of serious overcapacity in the cement industry, we insist on staggering peak production, restrict new capacity, eliminate backwards production capacity and adhere to market self-discipline so as to realize profits for the enterprises, tax for the government,

income for the employees and environmental improvement. Under the guidance of such leading groups as CNBM, the total output of the national cement industry in 2017 reached 2.32 billion tons, representing a slight decline, although the cement price rebounded in a good way and industry revenue increased by 18% year-on-year, with profit increasing by 94% year-on-year, second only to the historically high records set in 2011. Practice and achievements prove that in the case of serious overcapacity, supply-side structural reform will promote the healthy development of enterprises and enable the industry to achieve considerable economic benefits.

We also have unique approaches to innovative transformation. Through implementing the intensive promotion of basic building materials, vigorous development of new materials and active cultivation of such new formats as R&D and technical services, we promote high-end, intelligent, green and internationalized transformation. The Group has accumulated 10,000 effective patents, added 92 new international patents and published 4 international standards. Its high-performance carbon fiber R&D and industrialization achievements won the First Prize in the National Science and Technology Progress Awards. The Group's new materials business has sprung up and a number of new materials including high-grade carbon fiber, ultra-thin electronic glass, copper indium gallium selenide (CIGS) and cadmium telluride thin film solar cells, lithium battery diaphragms and high-precision industrial ceramics have been successfully mass-produced.

We support the construction of the 'Belt and Road' Initiative with advanced technology, superior production capacity and high-quality building materials, becoming a new national business card for the 'Going Out' policy. The international market share of our cement engineering has reached 65%, ranking first in the world for 10 consecutive years. The 6 cement production lines with a daily production capacity of 6,000 tons built by Chengdu Design & Research Institute of Building Materials Industry Co., Ltd. in Egypt are lined up and have all been successfully ignited, becoming an unprecedentedly grand project in the industry. The China-Kazakhstan, China-Ethiopia and China-Zambia laboratories have all been established, as well as testing and certification centers in Africa, Australia, Southeast Asia, etc.; we are also exploring the 'smart industry' model and managing the operation of 57 production lines along the 'Belt and Road' route in such areas and countries as the Middle East, Africa and Russia.

We deeply understand that a successful company should fulfill its economic, social, political and national responsibilities. We adhere to the goal of being a dignified enterprise and forming the four characteristics of environmental protection, enthusiasm for public welfare, employee development and world citizenship. The Kasen Junheng Pharmaceutical Glass Project, which was built in impoverished Weixian County of Hebei Province, was ignited in June 2017, successfully filling the gap in China's high-end pharmaceutical glass field. Through this high-tech industrial project, we have not only realized precise poverty alleviation in the industry but also facilitated the Group in achieving structural adjustment, transformation and upgrading.

Through the implementation of new development concepts, CNBM has accelerated its structural adjustment and transformation and upgrading, transforming into a comprehensive building material and new material industry investment group based on the three pillars of cement, new materials and engineering technology services. On the one hand, it has always insisted on promoting supply-side structural reform in the traditional business field; on the other, it has cultivated a number of products and businesses with huge development potential. At present, CNBM is not only the world's largest building material manufacturer and building material integrated service provider, but also a leading new material developer in the world. With its industrial scale, innovative ability and core competitiveness, it is entering a new phase of world-class high-quality development.

In this high-quality development stage, the challenges we face include overcapacity, technological revolution and environmental protection. On the basis of the current situation, we have identified five measures for high-quality development. The first is to strengthen the main business. We should keep a foothold in the main business, lay a solid foundation and promote 'refocusing' . The second is to lose weight and build up. We should continue to adjust and optimize the business structure, organizational structure and personnel structure so as to ensure that the enterprise improves in its quality and efficiency. The third is to reinforce management. We should promote efficiency and reduce costs through management. The fourth is innovation and transformation. We should achieve high-end, intelligent, green and international change. The fifth is the mechanism revolution. We should fully mobilize the enthusiasm of the employees, enhance the centripetal force and cohesiveness of the Group, make the Group into a platform of benefit sharing for society, shareholders and employees, and establish a positive correlation between the interests of employees and the benefits of the Group, thereby enabling CNBM to revitalize.

High quality development is the main line of work in our future plans. We are no longer pursuing scale but putting superior technical competitiveness and the superior performance of our business in a more prominent position, aiming to become a first-class enterprise with first-class technology, first-class efficiency, first-class management and first-class competitiveness, and ensuring the realization of our near-term and medium-term development. Our goal is to achieve a leap from big to great, and from good to excellent.

By 2020, we will realize operating income of RMB 350 billion and total profits of RMB 20 billion, basically becoming a world-class enterprise with global competitiveness;

By 2035, our operating income will double, our total profits will reach about RMB 50 billion, our innovation ability, profitability, management & control ability, and market competitiveness will reach the world-class level, and a world-class enterprise with global competitiveness will be formed.

By 2050, our operating income will exceed 1 trillion, our total profit will break into hundreds of billions and CNBM will be a great and universally respected world-class enterprise.

Chairman Song Zhiping

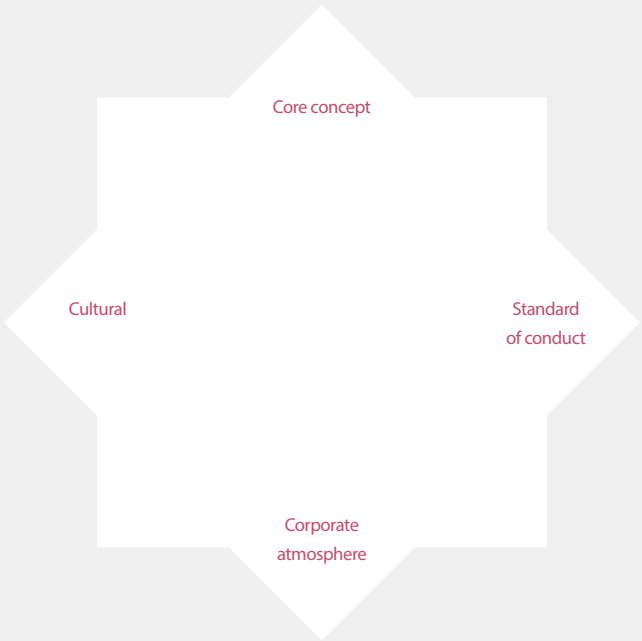
Company Profile

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. Having integrated its scientific research, manufacturing and logistics, CNBM is not only the largest comprehensive building materials and new materials industrial investment group in China, but also a leading group in such fields worldwide. It has been listed in the Fortune Global 500 seven consecutive years. As at the end of 2017, the total assets of the Group amounted to RMB 591.59 billion and its total number of employees reached 221,000. In 2017, CNBM achieved revenue of RMB 302.12 billion and total profits of RMB 15.11 billion, while its paid taxes amounted to RMB 19.68 billion.

Headquartered in Beijing, CNBM controls 15 listed companies including 2 overseas listed companies. The Group can produce 530 million tons of cement clinker, 460 million m^3 of ready-mix concrete, 2.2 billion m^2 of plasterboard, 2.2 million tons of fiberglass and a 16 GW capacity of wind turbine blades per year, all of which rank first in the world. It is also the No. 1 player in the international cement engineering market and international cogeneration market. It has 26 national scientific research and design institutes, 38,000 scientific R&D and technical engineering employees, 55 national industrial quality inspection centers, 10,024 patents, 3 national key laboratories, 8 national

Corporate Culture

In order to fulfill its social and economic responsibilities satisfactorily, CNBM adheres to the core concept of 'Efficient use of resources to serve the construction' , the core values of 'Innovation, Performance, Harmony and Responsibility' , and the standard of conduct: '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 culture, corporate culture, integrity culture and safety & environmentally friendly culture. In addition, as 'realizing the happiness and value of the staff' 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-staff co-growth' .



Strategy of CNBM

Adhering to the five development concepts of 'innovative, coordinative, green, open and shared' , CNBM vigorously implements the three strategies of innovation, green development and international cooperation in line with its strategic positioning of being the 'leader of industrial integration, innovator of industrial upgrading and pioneer of international capacity cooperation' , and builds six business platforms (basic building materials, international capacity cooperation, three-new industries, national material research, national mine resources and financial investment and operation) along 'three curves' of refining the basic building material segment, vigorously developing new materials and actively fostering such new segments as R&D and technical services. On this basis, we are transforming towards 'high end, intelligent, green and internationalized' , forming a business pattern in which the cement, new material and engineering technical service segments constitute a tripod, and striving to be a world-class building material supplier with global competitiveness.

We keep the following missions in mind: 1. take on heavy responsibilities and guarantee both quality and quantity in supplying major projects and the undertakings of new-type urbanization and a new socialist countryside with products and services; 2. actively guide resource integration and structural adjustment in the building material industry, advocate market co-competition, increase the value of the building material industry and establish win-win partnerships with other practitioners so as to enable the healthy development of the building material industry; 3. make great efforts to technically average up the building material industry and increase its innovation capability, boost the transformation and upgrading of the building material industry, and lead the building material industry to become resource-conservative and environmentally friendly; 4. continuously and steadily promote the reform of CNBM in accordance with the market laws, release systems and mechanisms that meet the requirements of the market economy, and contribute passion and full efforts to the great rejuvenation of China.

CNBM's development strategy

Objective

to be a world-class building material supplier with global competitiveness

Positioning

leader of industrial integration, innovator of industrial upgrading and pioneer of international capacity cooperation

Three strategies

innovation, green development, international cooperation

Three curves

refining the basic building material segment, vigorously developing new materials and actively fostering such new segments as R&D and technical services

Six platforms

basic building materials, international capacity cooperation, three-new industries, national material research, national mine resources and financial investment and operation

Four transformations

high end, intelligent, green and internationalized

Four 'world-class'

world-class technology, world-class benefits, world-class management and world-class competitiveness

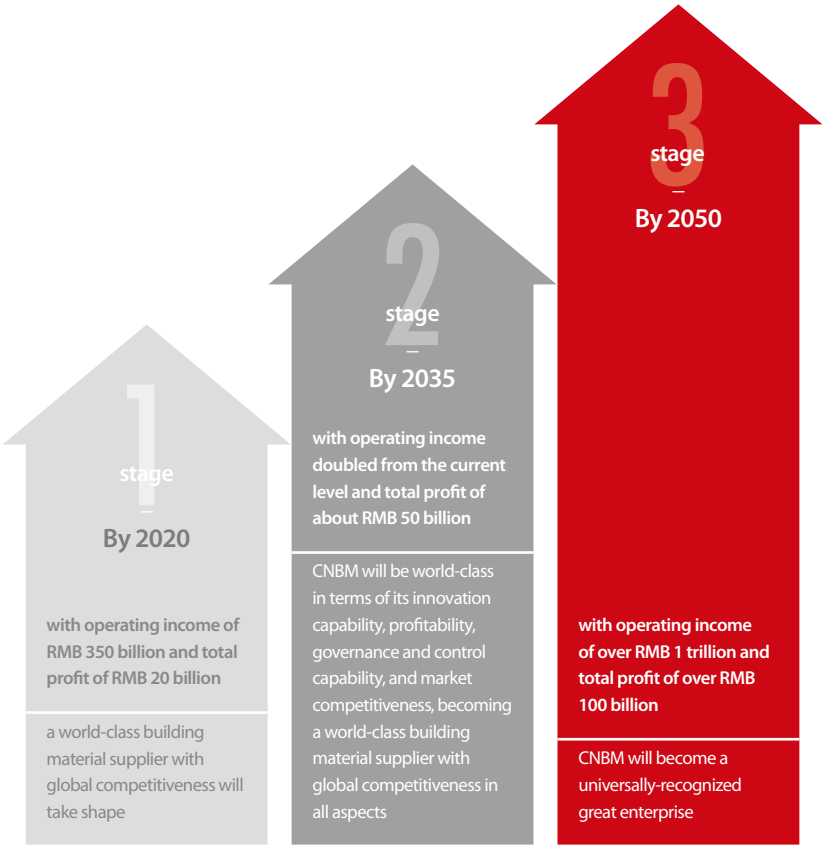
High-quality Development

As a new era has come in China, CNBM is moving from high-speed growth to high-quality development. In the high-quality development stage, we will achieve our strategic objective and vision of being world-class in three steps:

By 2020, with operating income of RMB 350 billion and total profit of RMB 20 billion, a world-class building material supplier with global competitiveness will take shape.

By 2035, with operating income doubled from the current level and total profit of about RMB 50 billion, CNBM will be world-class in terms of its innovation capability, profitability, governance and control capability, and market competitiveness, becoming a world-class building material supplier with global competitiveness in all aspects.

By 2050, with operating income of over RMB 1 trillion and total profit of over RMB 100 billion, CNBM will become a universally-recognized great enterprise.



In order to achieve our near-term, mid-term and long-term development goals, and leapfrog from largeness to greatness and excellence, we take the road of high-quality development and focus on the following six measures:

Strengthening of main segments: We focus on, strengthen and upgrade the main segments. Under the principle of refocusing, we enhance the development of profit platforms and improve core competitiveness and profitability by gradually cutting out non-core and marginal segments.

Streamlining: For the purpose of higher quality and efficiency, we adjust and optimize the business, organization and manpower structures.

Deleverage: For the purpose of deleverage, we conduct financing in capital markets and make use of debt-to-equity swaps in a market-oriented and legalized way in addition to the accumulation of profit and the reduction of receivables and funds for inventory.

Silo breaking: Strategically aware of the objectiveness and harmfulness of the silo effect, we strengthen integration and optimization, enhance the synergistic effect based meticulous system design and deepen teamwork by building a strong cooperative culture.

Innovation and transformation: We continue to increase our efforts in innovation and unremittingly improve our competitiveness through dependence on technology and innovation so as to truly transform CNBM into a high-end, intelligent, green and internationalized enterprise.

Mechanism revolution: Through the mechanism revolution, effective mechanisms are established to enable more cadres and workers to share bonuses from the development of CNBM, increase cohesion and activate the group.

Management Team

The Board of Directors of CNBM has 13 members, 7 of whom are external directors; there are 4 special committees under the Board of Directors, of which the Remuneration and Appraisal Committee and Audit and Risk Management Committee consist solely of external directors. As the strategic, resource and cultural center, the CNBM Headquarters exercises the rights and performs the duties of the capital contributors.

Management Team of CNBM [1]

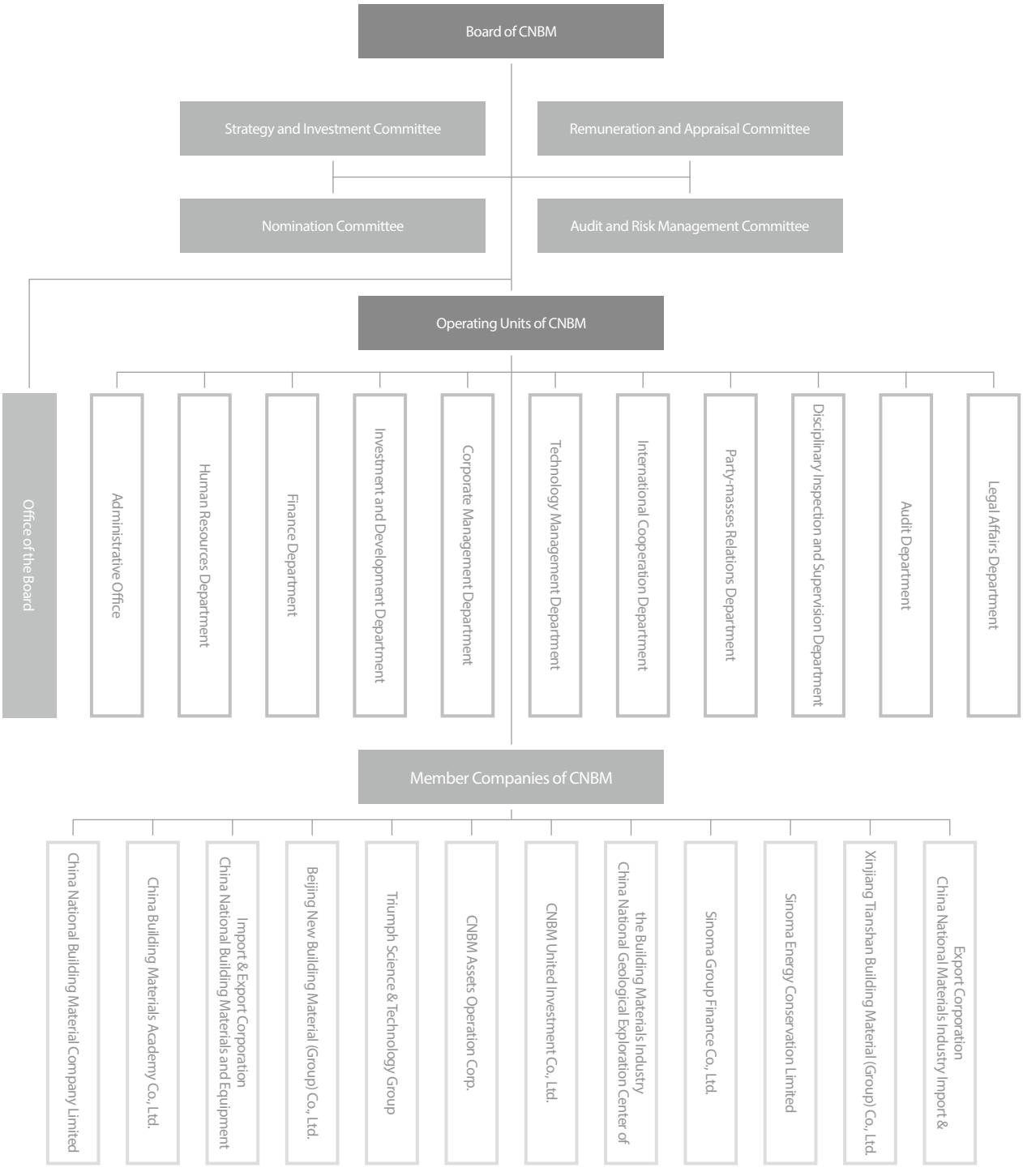
Song Zhiping	Liu Zhijiang	Yao Yan	Cao Jianglin	Li Xinhua
Chairman and Party Committee Secretary	Vice-Chairman and Deputy Party Committee Secretary	Vice-Chairman and Party Standing Committee Member	Director, President and Party Standing Committee Member	Vice-Chairman and Party Standing Committee Member

Zhao Xiaogang	Chen Jinen	Zhao Jibin	Sha Ming	Xu Lipeng	Zhang Yanling
External Director	External Director	External Director	External Director	External Director	External Director

Liu Xinquan	Wang Yumeng
External Director	Staff Director and Trade Union Chairman

Zhang Hai	Xu Weibing	Sun Lishi	Huang Anzhong	Yang Jie
Vice-President and Party Standing Committee Member	Chief Accountant and Party Standing Committee Member	Deputy Party Committee Secretary	Vice-President and Party Standing Committee Member	Discipline Inspection Commission Secretary and Party Standing Committee Member

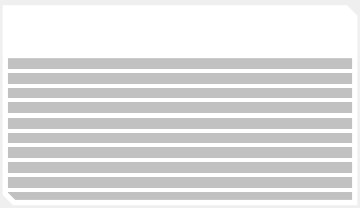
1: As of June 23rd, 2017, Song Zhiping serves as the Party Committee Secretary of the Group and Liu Zhijiang serves as the Deputy Party Committee Secretary of the Group; as of March 9th, 2018, Yao Yan no longer serve as the Vice-Chairman and Party Standing Committee Member of the Group; as of March 17th, 2017, Wu Jiwei no longer serves as the Chief Accountant and Party Standing Committee Member of the Group.



Note: On May 2nd, 2018, a split-off was completed between China National Building Materials Co., Ltd. and China National Materials Co., Ltd., and the new group (H-share) officially went public at the Hong Kong Stock Exchange on May 3rd, 2018.

Main Businesses

New Materials



Market Performance

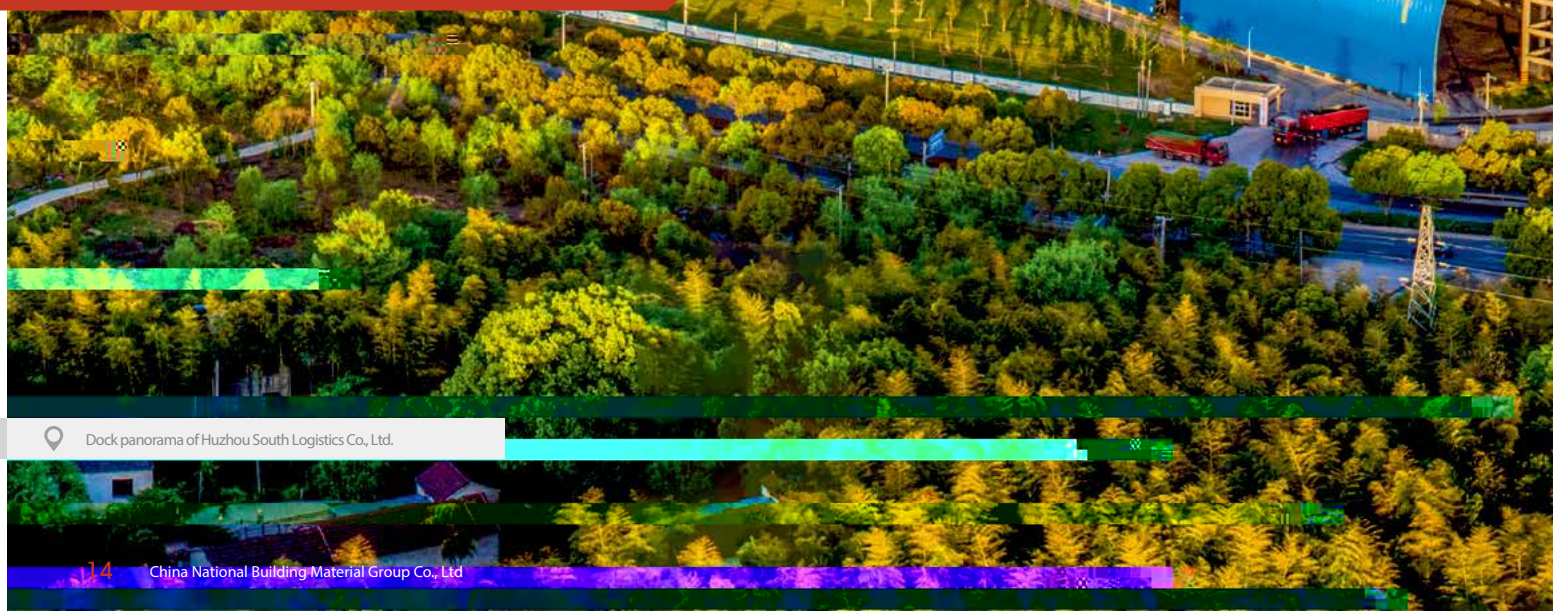
Report Delivered at the 19th NCPCC

China's economy has been transitioning from a phase of rapid growth to a stage of high-quality development. This is a pivotal stage for transforming our growth model, improving our economic structure and fostering new drivers of growth. It is imperative that we develop a modernized economy. This is both an urgent requirement for getting us smoothly through this critical transition and a strategic goal for China's development.

Key Points of Responsibility Fulfilment

We actively promote high-quality development, reward our shareholders and investors with excellent performance, serve our clients with quality products and services, grow together with our suppliers and industrial partners, and provide a value creation platform for all our stakeholders. Meanwhile, upholding the philosophy of 'industrial interest outweighs corporate interest' , we are dedicated to deepening supply-side structural reform, accelerating the structural transformation and upgrading of the industry, and achieving mutual development and win-win results with the industry and our peers in the same industrial chain.

Response to SDGs



Dock panorama of Huzhou South Logistics Co., Ltd.

Total assets of RMB

591.59

billion in 2017

Revenue of RMB

302.1

billion in 2017

Total profit of RMB

15.1

billion in 2017

Taxes paid of RMB

19.68

billion in 2017

'1+1>2'

In August 2016, the China National Building Materials Group Corporation and China National Materials Group Corporation were merged into China National Building Material Group Co., Ltd. In the time since, especially in 2017, centered on supply-side structural reform, CNBM has made efforts to promote high-quality development . Specifically, we have made great efforts in integration and optimization, accelerated innovation and transformation, and spared no effort to achieve steady growth. This has resulted in a significant increase in our scale, strength and economic benefits, creating a '1+1>2' effect. CNBM ended 2017 with total profit of RMB 15.1billion and operating income of RMB 302.1billion, up by 99.3% and 15.6% respectively over the previous year, in addition to tax payment of RMB 19.7 billion.

Stabilized Growth

Insisting on the working rule of lawful, compliant and honest operation, we have established 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 bu6 (2.53(v)-4295d0 13dv)-4i42ss pl of RMB 15he CNBM

The largest modern plasterboard production line

Strong management

Our management methods ensure high-quality development. We adhere to the 'grid management and control' model, 'six-star enterprise' rules, 'eight management measures' and 'increasing efficiency and reducing expenditure and consumption working method' . In the 'grid management and control' model, we fix the function division, operation mode and development orientation of the enterprises in a specific grid, thereby avoiding 'rights exercise and investment chaos' . The 'six-star enterprise' rules are six standards that we set for a good enterprise; the 'eight management measures' represent a body of effective experience obtained during reorganization and integration, which combines marketing with cost control. The 'increasing efficiency and reducing expenditure and consumption working method' requires us to promote activities that can help us to increase revenue, economize and reduce consumption by virtue of project management, wherein all the staff participate in continuously encouraging the enterprises to improve their operation quality through fundamental innovation and management optimization.

In 2017

174,000

person-times of employees participated in legal publicity and education activities.

In 2017, the rate of the legal review of rules, regulations, management decisions and management contracts hit

100

%

In 2016, the performance rate of business contracts reached

96.3

%

'Grid management and control' model

- regular governance
- functional hierarchy
- professionalized platform
- refined management
- cultural integration

Eight management measures

- five centralizations
- KPI
- zero inventory
- tutorship
- benchmarking
- profit-making through price rationalization and cost reduction
- core profit zone
- co-competition

Six-star enterprise

- strong performance
- refined management
- highly-effective environmental protection
- safety & stability
- well-known brand
- fruitful Party building

Structural Adjustment

In the wake of the coming of a new era in China, after the reshuffle, CNBM defined its strategic vision for being a world-class building material supplier as 'from largeness to greatness' . Along the 'three curves' of refining the basic building material segment, vigorously developing new materials and actively fostering such new segments as R&D and technical services, we focus on the building of six business platforms (basic building materials, international capacity cooperation, three-new industries, national material research, national mine resources and financial investment and operation) and strive to promote the transformation of CNBM towards 'high end, intelligent, green and internationalized' , thereby moving from high-speed growth to high-quality development. The year of 2017 witnessed the completion of four optimizations (optimize strategic thinking, optimize HQ organization, optimize secondary platforms and optimize systems) and six integrations (integrate brand cultures, integrate the organizational structure, integrate the cement segment, integrate the international engineering segment, integrate business and finance, and integrate the business and research institutes) at CNBM. In the same year, the HQ was streamlined from more than 30 departments to 12, the number of subsidiaries was reduced from more than 30 to 13, and rules and regulations were developed in the four aspects of corporate governance, work safety, Party building and the staff manual. Such integrations and optimizations have significantly improved the synergistic effect.

Launch of the 'Rejuvenation' Reshuffle

When the new Group emerged in August 2016, a perfect, seamless integration was realized between the China National Building Materials Group Corporation and China National Materials Group Corporation in a short time, bringing about the largest group with the most assets and largest talent pool in China's building material industry. This marked a new stage of supply-side structural reform throughout the building material industry. In 2017, based on the completion of the integration between the HQ and secondary platforms, the Group officially launched the integration and reshuffle of China National Building Material Co., Ltd. and China National Materials Co., Ltd., two H-share companies listed in Hong Kong, so as to further improve operating quality, release the synergistic effect and realize the combination and complementation of the advantages of these two giants in industrial layout, business scale, marketing, management and technological innovation. This action was favorable by virtue of involving CNBM deeply in the healthy restructuring of the building material industry and revolutionizing supply-demand relations throughout the industry, as well as stabilizing prices and improving profitability.

As representatives of the 15 listed companies under the Group, China National Building Material Co., Ltd. ('CNBM Co., Ltd.' , stock code: HK3323) and China National Materials Co., Ltd. ('Sinoma' , stock code: HK1893) boast a standardized 'three boards plus one level' (board of shareholders, board of directors, board of supervisors, management level) governance structure, and efficient and flexible governance mechanisms for incentives, supervision and counterbalance. In both companies, the shareholders exercise their rights through the board of shareholders, which is the supreme authority, and run, supervise and manage the company through the board of directors and board of supervisors; as the operating decisions of major shareholders and control over the board of directors and board of supervisors are regulated, the role of independent directors in protecting minority shareholders' rights and interests comes into play, and a flexible exit mechanism for minority shareholders is applied to practically protect shareholders' rights and interests. For the purpose of compliance in terms of information disclosure, such information as financial data and important matters is disclosed on a faithful, accurate and timely basis in strict accordance with the Information Disclosure System. On September 8th, 2017, CNBM Co., Ltd. and Sinoma published the merger announcement; and on September 11th, 2017, the two companies respectively held a shareholders' meeting and jointly announced the merger, which was adopted with an absolute majority (at both companies, more than 99% of the shareholders agreed to the merger). Subsequently, a split-off was completed between the two companies on May 2nd, 2018 and the new group (H-share) officially went public at the Hong Kong Stock Exchange on May 3rd, 2018, marking that a brand-new aircraft carrier had set sail in the global building material industry.

Joint conference of China National Building Materials Co., Ltd. and China National Materials Co., Ltd.

Enhanced Reform

We formulated a pilot employee stock ownership plan and accelerated its implementation, completed an interim summary of the mixed ownership experiment and steadily promoted the pilot realization of the board of directors' functions and powers. The deepening of internal mechanism reform is exemplified by fruitful projects, including the pilot stock option incentive at Sinoma International Engineering Co., Ltd., pilot dividend incentive (unlisted scientific and technological enterprise) at CNBM Quzhou Kingglass Quartz Co., Ltd., stock option incentive at CNBM (Hefei) Powder Technology Equipment Co., Ltd., employee stock ownership at Beixin International Wood Industry Co., Ltd. and surplus profit distribution at Guizhou Southwest Cement Co., Ltd.

CNBM will continue to deepen the pilot work and actively explore group-level mixed ownership reform under the concept of the three principles of mixed ownership (adequate, normative and effective), as well as enhancing ownership diversification reform. While such bottom lines as 'relative holding' , 'first majority shareholder' and '1/3 or higher' will be maintained, we will introduce activist shareholders, standardize governance through ownership diversification, actively explore internal mechanism reform and create a mode in which the coordination of interest is realized among CNBM and its management level and staff. In this way, we can contribute valuable experience and successful solutions to the field of enterprise reform.

Party Building

We take the Chinese-style socialism theory put forward by Xi Jinping for the new era and the spirit of the 19th National Congress of the CPC as our ideological weapons and practice guides. To give full play to the fortress-like role of grass-roots Party branches and the pioneering role of Party members, more efforts are made in the building of grass-roots Party organizations, Party building is supervised on the basis of a responsibility system, and a Party building KPI has been invented for the leaders; and to create a strong Party building atmosphere, such activities as 'Party Building Branding', ' "Five-Good" Party Branch' and 'Party Member Pioneer' are conducted throughout the Group.

By combining Party building with management, governance, cultural development and integrity, we conduct integrity improvement and anti-corruption work in depth, and clarify the responsibilities regarding Party management and governance. On this basis, we uphold the 'three stricts and three honests' , and constantly endeavor to establish 'intimate and clear' working relationships so as to create and solidify a corporate environment of integrity; through the establishment and improvement of discipline inspection and supervision departments, we enhance the building of discipline inspection and supervision organizations/teams, and conduct inspection tours and rectification in depth for the purpose of the continued improvement of the efficiency and quality of discipline inspection and supervision; the Party building of CNBM has seen significant and substantial progress, and stepped into a new phase.

' "Five-Good" Party Branch'

should achieve good performance in education, organizational building, activities, working style and role fulfillment.

A 'Party Member Pioneer'

should strive to be pioneering in his/her study, work, service, compliance and promotion of proper behavior.

Tripod

Building materials represent an important basic material industry and pillar industry of China. As China's largest integrated building material group, CNBM is committed to supplying high-quality and high-level products and services for major projects and urban infrastructure construction, and supplying systematic building material solutions for the people's livelihood. In summary, we offer customers value-added returns by virtue of our high product diversity, large production capacity, reliable quality assurance, globalized marketing system and convenient customer-friendly service system.

By implementing the 'CNBM'-focused multi-brand strategy, we have launched a range of knock-out products on the market. Of them, 'CUCC' and 'South' are representatives of high-quality cement brands; green gypsum board brands 'Dragon' and 'Taishan' serve many landmark buildings; and 'JUSHI' has the highest market share in the global glass fiber market, as does 'SINOMA' in the international large turnkey project market. In the COE brand communication ranking (2017) exclusively published by the Gsdata Index, CNBM is ranked 16th. Other COEs ranking in the top 20 include CRRC, China Mobile, etc.

Gsdata Index

As an authoritative big data platform operating in the form of new media, the Gsdata Index studies and analyzes data from worldwide social media, and assesses relationship and value indexes based on major media platforms. The 'brand communication index' aims to be a stimulator and supporter for branding and brand communication by COEs, help COEs improve their brands and cultural influence, provide reference data and measures for more effectively impelling COEs to enhance their quality management, and boost supply-side structural reform.

A brand cannot be outstanding without high quality. We encourage the members of CNBM to become fully involved in the building and certification of the quality management standard system, launch QC group activities and introduce quality management throughout the whole process from the acquisition of raw materials to product delivery. Based on the disclosure of quality commitments and the customer evaluation and feedback mechanism, we invite customers to play a part in our product quality control and compensate for losses determined to have been caused by inferior product quality. Backed by the pre-sales consultation, reception and after-sales service systems, we respond to and handle complaints and inquiries from customers without any delay; our professional customer service teams regularly conduct technical training for dealers; we impart the basics of green building materials, notes for the selection and use of building materials, and knowledge concerning the identification of fake materials to our customers through customer training sessions and product presentations; with attention paid to customer privacy, we execute a strict confidentiality system for our customers' personal data.

In light of the goal put forward at the 19th National Congress of the CPC to cultivate world-class building material suppliers with global competitiveness, CNBM is transforming its development mode from extensive growth to endogenous organic growth; that is, scale is no longer the foremost goal and higher priority is given to technological competitiveness and business performance. To bring about higher core competitiveness, strengthen the main segment and realize refocusing, we are forming a business pattern in which the cement, new material and engineering technical service segments constitute a tripod.

A Side of CNBM You Haven' t Seen

Upon its debut, Amazing China aroused a strong response. This documentary shows the many amazing miracles China has achieved in recent years, and depicts the pillars and mega projects of the great power that amaze every viewer and fill us with pride. These elements collectively reflect the comprehensive national strength of China, and represent the wisdom and perspiration of all CNBM people.

According to incomplete statistics, CNBM appears in many parts of this documentary, such as 'Chinese Bridges' , 'Chinese Roads' , 'Chinese Vehicles' and 'Chinese Ports' . The special cements for hydropower stations all come from CNBM. The Group's subsidiary CTC has participated in the construction of multiple hydropower station projects including the Three Gorges Dam, Xiluodu Hydropower Station, Xiangjiaba Hydropower Station and Houziyan Hydropower Station; CTC is also engaged in evaluating the reliability of high-speed railway components.

T1000 carbon fiber

High-quality Development of the Cement Segment

As cement is a basic material which makes significant contributions to the national economy, we advocate supplying high-end cement. Every year, China consumes about 2.4 billion tons of cement, accounting for a 60% share of total global consumption. With a cement product capacity in excess of 500 million tons, CNBM is the world's largest cement producer and has always committed itself to the healthy and sustainable development of the cement industry. By giving top priority to structural adjustment, energy conservation and emission reduction, we are developing our cement segment towards 'high grade, specialization, commercial concrete and productization', and have successfully developed high-tech cements usable for dams, nuclear power stations and high-speed railways. Furthermore, we are determined to close down outdated production facilities. For example, in the rapid growth stage, we eliminated such outdated processes as small shaft kilns and wet-process kilns, and built many new-type dry-process cement lines; when the new-type dry process became mature, we offered to stop producing 32.5 low-grade general cement and voluntarily closed down many small kilns of less building material industry, CNBM makes constant efforts in slashing overcapacity, de-stocking, deleverage, lowering costs and improving weak links, and takes a firm stand in limiting new capacities, closing down outdated production facilities, scheduling off-peak production, advancing co-competition, mergers and reshuffles, and becoming involved in international capacity cooperation. On this basis, we optimize the allocation of resource stock, upscale the incremental supply of quality products and solidify our advantages in high and medium-end markets so as to shift the building material industry back on the track of steady development following its rollercoaster progress in the 'new normal' context. In 2017, CNBM's cement segment made a profit of nearly RMB 90 billion, marking a healthy and reasonable rebound.

We advocate self-discipline in the building material industry. This industry is fiercely competitive. Oversupply, especially serious cement oversupply, previously aroused disorder and blind price competition, causing astonishing social problems such as resource waste and environmental pollution. Based on abiding by the national laws and regulations, we took the lead in all-round co-competition featuring rational development, orderly competition, production-sales balance and healthy markets, and led the building material industry to a vigorous and favorable path of orderly competition, steady prices and healthy operation, creating a blue ocean pattern in which Chinese cement enterprises can develop in a harmonious and win-win environment.

The acceptance rate of major products in national sampling inspections reached

100

% in 2017.

The resolution rate of customer complaints reached

99.7

% in 2017.

'Six Firmly' in Supply-Side Reform

- Firmly limit new capacities
- Firmly close down outdated production facilities
- Firmly schedule off-peak production
- Firmly advance co-competition
- Firmly advance mergers and reshuffles
- Firmly become involved in international capacity cooperation

Rise of New Materials

Ma Kai and other leaders visit the CNBM booth at the COE Exhibition

Along the 'three curves' of refining the basic building material segment, vigorously developing new materials and actively fostering such new segments as R&D and technical services, we strive to promote the transformation of CNBM towards being 'high end, intelligent, green and internationalized' through enhanced technological innovation. As a result, CNBM's new material segment saw rapid growth in 2017, achieving total profits of nearly RMB 7 billion. In particular, we have developed ten types of new high-tech materials: new-type building material, high-performance fiber, refractory material, photoelectric glass, special functional glass, advanced composite material, polymeric film material, carbon-based graphite material, artificial crystal and high-end industrial ceramics. Among them, the T800 carbon fiber, lithium battery ionic diaphragm, high-performance silicon nitride ceramics, CIGS PV module, CdTe thin-film power-generating glass and EHV mixed electric porcelain insulator have entered the stage of mass production, and won high praise from Vice-Premier Ma Kai and State Councilor Wang Yong at the COE Innovative Achievement Exhibition. In addition, CNBM has launched a range of high-end product projects (including glass fiber, wind turbine blades, PV glass, electronic glass, etc.).

A 'Like' for CNBM

On the afternoon of November 3rd, 2017, Vice-Premier Ma Kai, head of the National New Material Development Leading Group, visited the CNBM booth at the 'COE Exhibition: Achievements in Practicing New Development Concepts, Implementing the Innovation-driven Development Strategy and Promoting Mass Entrepreneurship and Innovation' in the company of SASAC Party Committee Secretary Hao Peng and Chairman Xiao Yaqing.

When Song Zhiping introduced the CIGS thin-film solar cell, CdTe thin-film solar cell, T800 carbon fiber, lithium battery ionic diaphragm, silicon nitride ceramic ball/bearing, electronic thin display glass, quartz glass, high-tension porcelain insulator, glass fiber, paper-faced gypsum board and +energy house with great familiarity, Ma Kai nodded again and again. He inquired enthusiastically about the yield, cost and price of the T800 carbon fiber in detail. Upon learning that this product is superior in performance indexes among its international peers, Ma praised it highly. He also asked how the new material segment progressed during the transformation of CNBM. Inspired by the fact that the new material segment currently accounts for 1/3 of CNBM's operating income and makes an annual profit of RMB 10 billion, Ma gladly said, 'CNBM can be renamed "China Materials" '.

New Progress in Engineering Services

The total profit made by the engineering service segment saw a significant increase in 2017, reaching RMB 2.4 billion. In the same year, CNBM made outstanding achievements in international capacity cooperation: witnessed by CPC General Secretary Xi Jinping and the President of France, CNBM joined the Sino-French Entrepreneur Committee (CCCME) as one of 15 representative Chinese enterprises; innovative achievements made by CNBM in the Lancang-Mekong Cooperation ('LMC') were spoken of highly by Premier Li Keqiang and the leaders of other countries involved in the LMC; the construction of the Zambian Industrial Park by CNBM won high praise from councilor Wang Yong; the overseas project signing ceremony in Macao was witnessed by SASAC Party Committee Secretary Hao Peng and that in Belarus was witnessed by SASAC Chairman Xiao Yaqing. Overseas investment was fruitful: factories built by the Group in Egypt and Mongolia are producing increasing benefits; the construction of the Zambian Industrial Park is 86% complete; the Egypt-based Glass Fiber Project (Phase III) has gone into operation and the India-based project is proceeding steadily; 63 new engineering service contracts have been signed, including more than 20 projects based on internal synergy; more than 200 overseas cement projects are in the stages of construction, installation or design; and CNBM holds its leading position in the global cement and glass project market (all six 6,000 t/d clinker cement projects contracted by Sinoma International Engineering Co., Ltd. have gone into operation, and the Bulgarian Cement Project won the 'Luban Prize for Construction Projects'). New energy projects play an increasingly large role in the engineering service segment: by undertaking PV power station projects in Europe and Myanmar, CNBM has become the largest Chinese general contractor of PV projects operating in Europe. In addition, significant achievements have been made in branching out into energy conservation and environmental protection projects in the fields of biomass treatment, chemical engineering and metallurgy.

Following the principles of 'uniform business philosophy, uniform co-competition, uniform benchmarking system and uniform coordination mechanism', we are actively promoting the in-depth integration of engineering service sectors in accordance with the requirement to ensure 'careful marketing, precise services, optimized technology and refined management'. By giving full play to the synergistic effect in the international engineering field, strengthening equipment manufacturing, creating new business modes and extending industry chains, CNBM has achieved new incremental advancements in management and investment, and is striving to grow from the world's largest building material manufacturer and a mere general contractor of cement and glass projects into a world-class integrated building material service provider.

At CNBM, the concept of 'industrial benefits outweigh the benefits of CNBM, and the benefits of CNBM are born out of industrial benefits' has always been pursued in both the formulation of development strategies and specific operations. With openness and inclusiveness, we give higher priority to the benefits of the building material industry and grow along with our peers, partners and other stakeholders. Multi-level platforms and flexible, effective mechanisms for strategic sharing underlie our long-term cooperation with our partners; the exchange and sharing of technologies and experience, as well as joint planning for the future, are realized in high profile visits, regular contact and daily communication in the form of strategic agreements and research alliances. In 2017, President Song Zhiping became the founding chairman of the World Cement Association, in which he discusses the sustainable development of the cement industry with worldwide peers as a representative of Chinese cement enterprises.

Song Zhiping Becomes Founding Chairman of World Cement Association

On December 11th – 12th, 2017, the founding assembly of the World Cement Association ('WCA') was grandly held in London to resounding success. A total of 59 founding cement enterprises from 33 countries were present, and the execution committee, directors and chairman of the WCA were elected. CNBM Chairman Song Zhiping was elected as the founding chairman by a unanimous vote, making him the first entrepreneur from China's large basic industries to chair a world-class industry association.

The WCA is an independent non-profit organization incorporated in the UK under UK law. Co-founded by 59 members from 33 countries, the WCA is subject to laws of the UK and its articles of association and code of conduct. As the world's only industry association representing the cement industry and other stakeholders, the WCA aims to make the cement industry a contributor to global growth and social wellbeing, popularize concrete as a sustainable building material, combat climate change and improve the worldwide image of the cement industry, thereby creating an international platform for technical cooperation, business cooperation and production cooperation. Chairman Song Zhiping said, CNBM is willing to join hands with the other members of the WCA to strive to secure support from various sectors including governments and NGOs, protect the interests of the cement industry, fulfill its social responsibilities and put the cement industry on the track of sustainable development.

Inaugural Meeting of the World Cement Association

In 2017, CNBM's investment in energy conservation and environmental protection reached RMB

5.03

billion

In 2017, its installed cogeneration capacity reached about

2,444.9

MW

In 2017, its treatment and reuse amount of solid waste reached about

160

million tons

Green Development

As one of the three development strategies of CNBM, green development highly relies on resources and energy. The Group strictly executes national systems and standards for industry access, limits energy consumption and pollutant discharge, takes a firm stand in closing down outdated production facilities and actively conducts clean production. We sequence our management elements as follows: 'environment, safety, quality, technology, cost' . That is, we give top priority to the environment and refuse to make profits at its cost. In particular, with attention paid to the management and guidance of energy conservation and environmental protection, we have designed a green, low-carbon development mode by building and improving green management systems.

We have established an emissions reduction leading group and a social responsibility, energy conservation and emissions reduction office at the CNBM Headquarters. Member companies have established related functional organizations of different categories and levels, achieving the overall coverage of the Group's management system.

We have printed and issued five management systems including CNBM Energy Conservation and Emission Reduction Supervision and Management Methods. We manage our member companies based on their categories; formulate strategies, general policies, plans and systems for energy conservation and emissions reduction; and improve our work through the three systems of measurement and statistics, monitoring and analysis, and evaluation and assessment.

We integrate funds for energy conservation and emissions reduction into the overall budget management system, and formulate a related expenditure plan to guarantee the implementation of technological upgrading and management improvement.

We promote the thorough integration of industrialization and informatization, encourage the development of the energy management system, automated control system and intelligent factory construction in phases, and achieve unmanned, intelligent and remote production control, and energy-saving and efficient operation.

A complete statistical management system covering energy consumption, pollutant discharge, energy efficiency of products, circular economy and water resource utilization has taken shape on the basis of improved measurement & testing and statistics & monitoring systems for energy conservation and environmental protection at all levels.

We have established an information disclosure mechanism in which we disclose our annual energy conservation and environmental protection performance via annual reports, and accept the supervision of stakeholders. We strictly implement the 'three simultaneous'principle of environmental protection. During the feasibility study, construction, reconstruction and acceptance of a project, we take advice from nearby residents and stakeholders in the region, and reduce to a minimum the adverse impact of the operation activities of our enterprises on the environment and society.

We implement a standardization management system, encourage manufacturers to participate in the development and accreditation of quality, environment and energy management standardization systems, promote the verification of clean production and realize energy conservation and consumption reduction through refined management.

By optimizing the environmental warning and emergency response mechanisms, enhancing environmental emergency response management and standardizing environmental accident reporting, we keep improving environmental risk prevention and control so as to prevent and reduce potential environmental hazards.

Backed by key state laboratories that study green building materials and new float glass technologies, we build high-end platforms to tackle common major technological problems arising in the green development of the building material industry in line with such national strategies as the 'Blue Sky Project' and 'Green Building' . On this basis, we promote the application, transformation and popularization of green technologies by using the Group's advantages in engaging with research institutes.

by BNBM, BNBM House and the Triumph Group was rated as an excellent case in the Report on Chinese Enterprises' Indigenous Contributions to Combating Climate Change.

We not only promote green production and manufacturing but also advocate green offices, having formulated detailed green office plans covering such aspects as power conservation, water conservation, reduction of office consumables and so on. Our green office performance is included in our routine monitoring and evaluation system. We actively promote the development of a video conference system and arrange business travel in a scientific way by favoring low-carbon vehicles.

We drive and influence stakeholders with real actions, and do our best to promote environmental protection concepts. We jointly develop ecological forests with local community entities to increase carbon sinks; we organize and hold exhibitions and promotional events of energy conservation

Green Manufacturing

We always follow three principles for our green manufacturing: advocate recycling in material selection and use industrial waste and urban construction waste whenever possible; minimize emissions during production, pursue the zero release of the three types of waste and improve recycling capability; and emphasize energy conservation, environmental protection, comfort and health during product application, and supply reliable and environmentally friendly building material products.

In 2017, CNBM's total energy consumption reached

37.6

million tons of standard coal equivalent

In 2017, the total power generated from the waste heat of cement production reached

9.66

billion kWh

In 2017, the power generated from the waste heat of cement production accounted for

29.3

% of the total amount of power used by the Group

In 2017, the recycling rate of water hit

96.2

%

Tremendous Changes in a Cement Plant

Backed by technological innovations and the concepts of energy conservation, safety, low carbon and ecological protection, we have broken through the barrier of the traditional building material industry relying heavily on resources by making unremitting efforts in technological breakthroughs. Based on quality assurance, we use industrial by-products whenever possible and endeavor to reduce the consumption of natural mineral resources. In material selection for cement production, we have substituted more industrial residue (e.g. mineral waste residue, slag and coal ash) for natural mineral resources. In addition, through ingenious innovation, we have mastered a complete set of technologies for producing new-type gypsum boards for walling by entirely replacing natural ore with FGD gypsum from coal-fired power plants.

In terms of energy selection, we upgrade our production processes, explore the use of such non-fossil energies as solar and biomass, and increase our procurement and use of clean energy. Eligible production lines are equipped with waste heat generation units to convert waste heat into electricity, which is then returned to the production lines and consumed, thereby reducing electricity consumption. We increase our energy efficiency by reconstructing and upgrading our kilns and furnaces to improve combustion efficiency. We increase our electricity efficiency and reduce the energy consumption per unit of our products through carrying out the energy efficiency increase of motor systems, energy conservation transformation of rotors, variable frequency transformation, energy conservation transformation of grinding systems, etc.

Powerful Cooperation between Cement Production and PV in Linyi

Sheets of PV panels in the sunshine draw the attention of every first-time visitor to China United Cement Linyi Co., Ltd. ('CUCC Linyi'). This enterprise takes an unusual approach to exploring green transformation and upgrading. In cooperation with Jetion Solar, it has built a 6.5 MWp distributed grid-connected PV power station on the spare land of its plant and living quarters. After completing the installation and commissioning, these sheets of blue PV panels have made CUCC Linyi 'full of power' .

As a highlight among the towering vertical mills and thick rotary kilns of the cement plant, this PV power station represents the first cooperation between cement production and PV in China. Since it was put into operation in March 2017, the PV power station has generated 4.67 GWh of electricity, equivalent to saving 574 tons of standard coal and reducing carbon dioxide emissions by 2,849 tons.

Resulting from CNBM's efforts and explorations in resource optimization, the 'cement + PV' mode provides the cement industry with a new feasible means of optimization and upgrading. Following the success of the PV power station at CUCC Linyi, CNBM has taken the lead to promote this mode within the group. For example, a 35 MW PV power station project is underway at CUCC Tengzhou, and a 3 MW PV power station is under construction at CUCC Taian.

In the production process, we reduce the omission and discharge of waste to the minimum. In mining, our mines are blasted by means of multi-row core short delay blasting so as to reduce shock and resource waste; we establish reasonable proportions of components, effectively use low-grade ore, improve homogenization and give full play to the value of mineral resources; and in terms of transportation in our factories, we use closed belt corridors and watering carts to avoid dust raised by automobile transportation. We control and treat the emission and discharge of pollutants, and build desulfuration and denitration systems to greatly reduce the emission of SO_2 and NO_x. We adopt bag-type dust collection technology to bring the emissions of industrial dust and smoke in waste gas up to the standards. With

On one side of the glass, you can enjoy a coffee in an atmosphere suffused with an exquisite fragrance; on the other, a domestic refuse co-processing line is running in a cement kiln. Such a sharp contrast is unbelievable unless you see with your own eyes.

Compared with traditional domestic refuse

New Materials, New Landscapes

Regarding product application, in order to supply systematic low-carbon environmentally-friendly products, we have integrated the concepts of low carbon and environmental friendliness into the whole process of our R&D, design, production, packaging, sales and recycling. We remain rooted in the traditional building materials sector and actively encourage the cement industry to develop in the direction of 'high-performance, specialized, ready-mixed and commercialized' so as to supply our customers with high-quality, green and low carbon cement products. We guide the glass industry to transform and upgrade in the direction of 'electronics, PV, intelligence and energy conservation' so as to improve the added value of our products. We also support the development of new materials and products through technological innovation, thereby continuously improving development quality.

0.12 mm ultra-thin electronic touchscreen glass

New-type building materials	High-performance fiber	Refractory materials	Photoelectric glass	Special functional glass
green enclosing materials for buildings, e.g. green gypsum boards, energy-efficient glass	E7 high-performance glass fiber, E8 high-performance glass fiber, HS6 high-strength special glass fiber, T700/800 high-performance carbon fiber, M30 high-performance IM carbon fiber	low thermal-conductivity composite mullite bricks, pleonaste bricks, AZS bricks, magnesium-zirconium bricks, heat-insulating refractory materials	ultra-thin electronic glass, TFT-LCD glass substrate, PV glass, CIGS thin-film solar cells, CdTe thin-film solar cells	quartz glass, glass for aircraft, infrared glass, fireproof glass, optic fiber panels

Ten Types of New Materials

Advanced composite materials	Polymeric film materials	Carbon-based graphite materials	Artificial crystals	High-end industrial ceramics
wind turbine blades, carbon-core cables, structural members made of advanced composite materials	lithium battery diaphragms, functional organic film materials, environmentally friendly filtering materials	high-purity graphite and graphene	non-linear optic crystals, infrared optical materials, scintillation crystals	silicon carbide ceramics, silicon nitride ceramics, high-tension porcelain insulators, aluminum oxide ceramics

Ultra-thin Glass – As Thin As A4 Paper

We see glass everywhere in daily life. However, have you ever seen glass which is 0.12 mm thick? What is such glass like? A piece of A4 paper is 0.095 mm; that is, this glass is only a little thicker than A4 paper. More amazingly, it is very strong – even a 55 g steel ball dropped from a height of 1 m cannot break it.

This technology comes from CNBM's member enterprise Bengbu CNBM Information Display Materials Co., Ltd. Through innovation, the company has accelerated its breakthroughs in the core technologies of electronic information displays and successfully invented 0.2 mm, 0.15 mm and 0.12 mm ultra-thin electronic touchscreen glass by using a complete set of advanced technologies and equipment with proprietary intellectual property rights. Representing the great leap from 'ultra-thin' to 'extremely thin' , this invention sets a new record in the glass industry. At present, the first batch of 0.12 mm ultra-thin electronic touchscreen glass has been released from the production line.

The successful invention of 0.12 mm ultra-thin electronic touchscreen glass has made the company the only Chinese enterprise capable of producing the full range of 0.12-1.1 mm ultra-thin electronic touchscreen glass. This world-leading technology is of high significance for improving the international competitiveness of CNBM's glass segment.

The ten types of new materials have been incubated as series of green and low-carbon products. For example, the formaldehyde-clearing gypsum board, a green gypsum board that releases no harmful substances and can absorb formaldehyde, was used by state guest houses to create zero-formaldehyde spaces for the leaders of different countries during the G20 summit; with a phase-change temperature of 25 ° C, 'Dragon Brand' energy-storing gypsum board, a phase-change gypsum board that saves energy in buildings and improves indoor thermal comfort, can lower the indoor maximum temperature by 3-4 ° C in summer without air conditioning, thus reducing the annual energy consumption of central heating by 30%.

We provide high-end serialized rotor blades and thin-film solar cell packs, guaranteeing the sound development of such new energy industries as wind power, solar power and hydropower. In 2017, the LZ68-4.0 offshore wind turbine blade independently developed by CNBM was released from the production line in Lianyungang; the successful release of China's first CIGS thin-film efficient solar module in Anhui's Bengbu marked an important step for CNBM in becoming a leader of the international new energy industry, and laid a firm foundation for linking up the complete solar PV industry chain; and the successful release of the world's first piece of large-sized CdTe thin-film low-light power-generating glass in Sichuan's Chengdu marked the official launch of China's first world-leading CdTe thin-film low-light power-generating glass line (100 MW/a), which is a demonstrator of the 'Industry 4.0' initiative. Furthermore, the same year witnessed the launch of the first lithium battery diaphragm line (240 million m^2/a) and the commencement of the construction of the 100 t/a high-performance silicon nitride ceramics line based in Zibo of Shandong. The products of these two lines are promising in such fields as high-end equipment, electric vehicles and aerospace.

On this basis, our new housing products not only integrate high-performance green building materials but also merge seamlessly with new energy technologies and intelligent control technologies, creating 'zero emission' , 'energy plus' and 'future core' dream homes. Containing no energy-intensive material, the '+energy' 5.0 house is built entirely with new-type green and recyclable materials. The organic mix of effective energy utilization and intelligence pursues a high-end resident-friendly design. By effectively integrating such clean energy as 1.0 geothermal energy, 2.0 optical energy, 3.0 photoelectric energy, 4.0 home-use wind energy and 5.0 marsh gas, it can output energy on the basis of energy self-sufficiency.

Enhanced Synergy in Engineering Services

Along the 'three curves' , based on refining the building material segment and vigorously developing new materials, we actively foster such new segments as R&D and technical services with the aim of shaping new growth poles. Backed by enormous industrial advantages and technological strength, we have successfully extended our business from the production of building materials to other building material fields, including engineering technical services, testing & certification services and logistics & trading services. Furthermore, depending on the Group's engineering service advantages, we have successfully put our building material products into use in agriculture and the new energy industry, thereby promoting coordinated and sustainable development among multiple industries.

In the three fields of technical transformation, smart control and refined management, CNBM provides industrial enterprises with the five energy conservation and environmental protection services of detection and diagnosis, transformation and upgrading, intelligent control systems, expert consultation and financing management. As such, we contribute our share to continuously enhancing industrial energy efficiency and environmental performance, as well as achieving sustainable development.

1

assigned operation utility of CDM

12

technical service agencies of energy conservation and environmental protection

1

building materials industry training base of national carbon market competency construction

Triumph Haofeng Intelligent Agriculture Park

We optimize our service modes on the basis of 'Internet+' and make great efforts to promote new foreign trade modes (e.g. 'cross-border e-commerce + overseas location' , BNBM HOME) so as to build a world-leading integrated service system. For example, as the building material and home furnishing supermarket chain mode has successfully settled in Africa, two new building material and home furnishing supermarkets have opened in Tanzania; and 46 enterprises have settled in the Dubai-based logistics park, which operates under the 'cross-border e-commerce + overseas location'mode.

Based on the Group's industrial advantages, talent advantages and expertise in the field of high-transmittance ultra-clear glass, we are dedicated to creating a new agricultural domain and propelling China's agriculture to develop in the direction of high end and intelligence. An intelligent agriculture base has been built with the ultra-clear rolled glass produced by CNBM. This highly-transmissible product was awarded the National Second Prize for Technological Progress. In addition, a Venlo ganged glass structure has been introduced to the intelligent agriculture base from Holland. With the functions of high-level scattering and reduced reflection, these elements maximize the transmissivity, light utilization efficiency and overall heat-insulating effects of greenhouses, and minimize the area of skeleton shade.

Fruitful Intelligent Agriculture

On December 29th, 2017, the Triumph Haofeng Intelligent Agriculture Park officially opened in Dezhou of Shandong. Built by CNBM as the general contractor, this park covers an area of 1,154 mu and boasts eight 7-hectare world-leading multi-span glass greenhouses. These greenhouses are backed by IOT technology, modern cultivation and management technologies, and environmentally friendly production processes, thereby revolutionizing cultivation modes. Compared with traditional greenhouses, they actually form a refined agricultural factory in which water, fertilizers, sunshine and temperature are controlled in an integrated and efficient manner. This system can reduce water consumption, carbon dioxide emission and energy utilization by 80%, 40% and 25% respectively. Furthermore, all the software and hardware has been designed in consideration of the specific demands for tomato growth, resulting in a tomato output of 75 kg per m^2, 3-5 times higher than that of a traditional greenhouse.

As CNBM's first product for the public, tomatoes from the park are currently selling well in Beijing, Tianjin and Hebei. Upholding the concept 'green from the seed to the dining table' and the values of 'standardizing agriculture, eradicating food pollution, professionalizing brands and creating a sharing business' , the park is committed to assuring the customers of agricultural products and addressing the Three Rural Issues through technologies and innovations.

introduces the sweet and sour index, and recommends dishes through product packaging

Employee Care

Report Delivered at the 19th NCPCC

We promote safe development and raise public awareness that life matters most and safety comes first; we improve the public safety system and responsibility system for workplace safety; we take resolute measures to prevent serious and major accidents, and build up our capacity for disaster prevention, mitigation and relief.

Key Points of Responsibility Fulfilment

We adhere to the idea of 'people first' and build a company with safety at its core. We make every effort to safeguard the rights of our employees, respect their differences and make the company a reliable partner and happy and comfortable home for our employees. We try to jointly build a brighter and more sustainable future with all our employees, and deliver happiness to society.

Response to SDGs

Engineers of CNBM's Triumph Haofeng Intelligent Agriculture Park

At the end of 2017, CNBM's total number of employees reached

221,000

In 2017, the number of member companies carrying out employee satisfaction surveys stood at

688

In 2017, the employee turnover rate was

13.1

%

Safety is a Culture

Safe Production

"I am a CNBM citizen, I value safety in work" — this is a line from a song which is well-known among CNBM's cement enterprises. Created by a technical expert from a CNBM member enterprise, the song is made up of 31 sentences and summarizes the safety risks and job specifications of the cement plants. As cement represents a core business segment of CNBM, its hundreds of cement lines all over the country are the priority among priorities in work safety management and the epitome of the Group's work safety management system. The creation and popularization of this song demonstrates how 'safety' has been deeply rooted among the staff and become a culture of the Group.

A Work Safety Song for Cement Plants

I am a CNBM citizen, I value safety in work
I give top priority to work safety and always keep it in mind
My post is a battlefield, my responsibility is of great importance
Labor protection equipment is a treasure, it is essential for my safety
No playing at work, no irregular operation allowed
Be serious in equipment patrol and inspection, be careful in operations
Conduct a check after each trip, no switching-on before finding out the cause
Often clear sundries beside equipment, no blocking of access
Provide complete protective devices, protect equipment against accidental power failures
Equipment servicing is important, safety measures are essential
Remember to fill in lists, put up signs and disconnect power supplies
Verify the disconnection of the power supply before servicing, ensure the safe connection of ground wires
Clean the site after servicing, clear away the warning signs before production recovery
In such hot work as welding and cutting, prevent fire disasters and explosions
In work at heights, fasten safety ropes
When passing on parts, use ropes instead of throwing
No standing below crane arms, look out for falling objects
For work in confined spaces, the special watch is a cardinal task
Be cautious of ash spray when stoking a kiln tail, obey procedures to prevent scalding
Never stand downwind when stoking, wear protective clothes and remember the path
Do not get close to hot kiln doors, be cautious of positive-pressure firing
Be cautious of clinker pits, collapses at the kiln tail are injurious
No smoking in the oil station or power house, fire protection is important
Avoid high temperatures in coal powder preparation, report potential risks without delay
Clear deposits in storage, prevent all collapse risks
Provide clear signs on sites, alert everyone at all times
For the safety of all, ensure 'four-do-not-injure'
To avoid injury, do not indulge in irregular operations
Often inspect potential risks and nip them in the bud
Safety discipline is iron, execute it to the letter Safety breeds happiness, the company and I are of the same mind

Su Dongyi
Former Minister of Production Technology at CNBM Investment Shaoguan Cement Co., Ltd.

In 2017

157,000

person-times of CNBM employees participated in emergency response drills

In 2017

0

zero production safety accidents occurred

We have established a domestically top-ranking management system for safe production with the safe production accountability system as the core, standardization of safe production and workplace safety technical regulations as the emphases, troubleshooting and treatment of potential accidents as the methods, informatization of safety management as the tool and development of safety culture as the guarantee, thereby ensuring safe production and the occupational health of the staff.

We have established an organizational system for safe production. The Party and administration heads of the enterprises are the primary persons responsible for safety in the workplace. All key enterprises within the Group employ full-time production safety management personnel. We establish smooth channels for feedback and encourage all staff to participate in safety management.

We have established a safety production management system and issued the CNBM Safe Production Manual.

We attach great importance to building up our safety management team. We have continuously fostered a sense of responsibility and awareness of safety procedures in the workplace, and improved the professional quality of safety management personnel through training and assessment. The role of the Group's Safety Training Center has stood out and the continuing education of certified safety engineers is underway in an orderly manner.

Informatization technology is applied for the purpose of daily safe production management. A safety production prediction and alert system independently developed by CNBM is also utilized. We generate monthly warning information according to the data on the reporting and rectification of hidden dangers, and promptly publish work safety warning information to remind enterprise leaders and all staff to take targeted precautions for the purpose of identifying, handling and removing hidden dangers as soon as possible, thereby minimizing the probability of accidents and their consequences.

We guarantee input in safety and provide a fund guarantee for the continuous improvement and maintenance of our safety and protection equipment and facilities, as well as implementing technical innovations for the purpose of essential safety.

We continue to improve our emergency management system. In this system which covers all levels of CNBM, the Group's emergency management team takes general charge while the emergency management teams of member companies are responsible for specific measures. A comprehensive emergency response plan is established and supplemented by special emergency response plans and on-site response schemes. The model plan we have made for emergency response to safety accidents in the building material industry has set an example in the optimization and quality improvement of emergency response plans in China's building material industry.

We take the development of the 'capacity to identify and prevent hidden hazards' as an important part of our efforts to improve the basic management level of enterprise safety. We have explored how to build a double prevention system for level-to-level risk prevention and control, as well as the identification and rectification of potential risks. In particular, Sichuan Golden Cement Co., Ltd. has been designated as a pilot unit for executing the double prevention system in national non-coal mines.

We regard standard safe production as the key to improving and testing our safe production management. As a national pilot enterprise of standard safe production, we actively promote the work of meeting the safety standards of cement enterprises, improving the safety management system, increasing the safety management level and boosting safety management performance.

Total Involvement in 'Potential Risk Snapshot'

The 'potential risk snapshot' system is an innovative item provided by Gansu Qilianshan Cement Group Co., Ltd. ('Qilianshan') in its WeChat account. This system consists of the four sub-items of potential risk reporting, unrectified potential risks, rectified potential risks and potential risk statistics. It enables an employee to photograph and upload a potential risk immediately when it is found, and transfer such details as the type, description and location of the potential risk, responsible department and time limit. When a hidden risk is uploaded, the system will push a potential risk notice to the responsible department or team/group. Subsequently, the responsible department or team/group should rectify the hidden risk within the required time limit, then upload a picture of the rectification results. These links constitute closed-loop management. Types of time limits include 'immediately' , 'within four days' and 'deferred' . In general, if a hidden risk is not rectified within the required time limit, the system will send an alarm regarding the exceeding of the time limit, and the safety administration will punish the responsible department or team/group in accordance with the administrative measures for potential risk identification.

'Potential risk snapshot' realizes total involvement in potential risk identification and enables uploaded hidden risks to be monitored comprehensively at all times. In addition, targeting the hidden risk rectification of each department, this system provides such functions as monthly statistics, retrieval & printing, sample reservation and archiving. Every month, Qilianshan rewards employees who perform excellently in identifying potential risks. Such action further motivates the enthusiasm of front line workers for identifying potential risks that may threaten the environment or safety, and realizes closed-loop management from identification to completion of rectification, thereby effectively improving safety management.

In 2017, with the help of 'potential risk snapshot' , Qilianshan identified 1,167 hidden risks and rectified 1,152 of them (rectification rate: 98.7%). Such performance has played a key role in the stable and efficient running of equipment and effective handling of various forms of leaks, laying a foundation for setting records in various indexes by the company in 2017. On this basis, the company was successfully rated as a Class I cement enterprise in terms of work safety standardization.

Unity of Efforts to Resist a Typhoon

On July 17th, 2017, Force 10 typhoon 'Talas' attacked the grinding station of Sinoma (Suzhou) Construction Co., Ltd. based in Song Lam of Vietnam. When the Project Department learned of the imminent extreme weather, fewer than 18 hours remained for making preparations. Despite this, the Project Department remained calm in the hour of peril and minimized losses through an intense but orderly emergency response.

When it received the message on the morning of July 16th, the Project Department immediately called a meeting involving all the subcontractors at which they calculated the force and path of the typhoon while specially assigning persons to verify and purchase such relief supplies as woven bags, shovels and raincoats. When the rain became heavier and heavier at noon, the Project Department promptly decided to forego the noon break and set up a temporary emergency response leading group to arrange specific measures for resisting the typhoon: the Electrical Department inspected the tower cranes on sites to verify whether they could rotate freely; the Machinery Fitting Department fixed travelling cranes on the yard for making non-standard parts; the Safety & Environment Department collected objects at risk of falling from a height; the electromechanical construction team moved materials and equipment piled near the sea; and the civil construction team solidified the roofs of the living quarters using sand bags. In addition, in the office, all the files were locked up in cabinets and the power supply was disconnected; all the flashlights and cell phones were charged to the full to maintain unblocked communication; and valuables in the dormitories were packed, enabling the employees could leave anytime.

All the preparation tasks were fulfilled by 6:00 PM and the enterprise eventually made it through the extreme weather.

Occupational Health

With the deepening of work safety management and leveling off of the production situation, we have gradually transformed a management that aimed to prevent accidents into a management system that promotes the integration of work safety and occupational health. In particular, we identify caring for and protecting the occupational health of laborers as an important measure for fixing the underlying problems of work safety.

When speaking of the environment, the first thing that comes to mind must be your living environment. In the wake of social development, increasing attention being paid by environmental authorities and the improvement of people's environmental

Happy 'Little Material'

'Every day, we anticipate a happy meeting here… We are the all-round Little Material, contributing good materials to the beautiful world. We are the happy Little Material, adding materials to the happy life…' This is our official WeChat account's theme song Little Material Song, also named We Are the Happy Little Material. Little Material is the spokesman of CNBM's staff on the WeChat account. Written and composed by CNBM staff, the song expresses the aspirations of all 220,000 CNBM people. In the Group, they work happily.

Foreign staff at CNBM Investment Vanuatu Co., Ltd.

Equality & Democracy

We adhere to equal employment and treat employees of different nationalities, ethnicities, genders, ages, religions and cultural backgrounds with respect and equality. Employees are recruited and employed in an open, fair and impartial manner. We respect and support the international covenants on human rights and labor standards, strictly forbid forced labor or discrimination, guarantee a decent working environment for our employees and strictly prohibit and reject employing child laborers in any form.

Hiring rate of local employees in 2017

62.4

%

Hiring rate of local senior management in 2017

56.6

%

In line with the principle of equal pay for equal work, we treat our part-time employees, temporary staff and workers of our subcontractors with equality. Their legitimate rights and interests are well protected. We respect the privacy of our employees and have established a privacy management system covering such management links as recruitment, assessment and health records.

We standardize our human resources management and sign labor contracts with our employees. We pay our employees basic pension insurance, basic medical insurance, unemployment insurance, work injury insurance, maternity insurance and other forms of social insurance in accordance with the law, and establish supplementary medical insurance and corporate pension schemes, as well as a periodic physical examination system. We also encourage our member companies to purchase comprehensive accident insurance and other supplementary insurance for their employees in line with their actual conditions. We adopt a paid leave system according to such related regulations as Regulations on Paid Leave of Employees, and pay remuneration for overtime work.

We have established a complete trade union network and continually improve our trade union organizations and work organizations at all levels; we develop the members of these organizations and make the trade unions more attractive and cohesive. We implement the Workers' Congress system, implement regulations on the disclosure of factory affairs and ensure employees' rights regarding participation, information and supervision. We share corporate operation information with our employees through such channels as the disclosure board of factory affairs, employee discussion meetings, managers' mailboxes and company websites.

In 2017, the number of female employees reached

47,000

In 2017, the ratio of the average salary of male employees to that of female employees was

2.9:1

In 2017, the total amount of remuneration for overtime work was about RMB

380

million

In 2017, the number of disabled employees was

1,732

In 2017, our coverage rate of collective bargaining and contracts was approximately

33.8

%

In 2017

88.6

% of the proposals of the Workers' Congress were handled and settled

Employment of Disabled People

Baixian South Cement Co., Ltd. ('Baixian') is a member of the South Cement Company Limited, a key cement enterprise under CNBM. Its predecessor Meishan Zhongsheng, as a private joint-equity welfare enterprise designated as a 'unit for the centralized employment of disabled people' , made significant contributions to the local employment of disabled people. In 2005, the number of disabled people in the company reached 105, accounting for 40% of its total employment. Since its accession to CNBM, Baixian has continued its support for the centralized employment of disabled people. In 2017, its actual employment number was 200, including more than 60 disabled employees. Accounting for 30% of total employment, these disabled employees served at 14 posts.

In order to protect disabled employees' rights to employment and promote the local protection of disabled people, Baixian helps disabled employees to build their confidence and improve their skills and professional abilities. Since 2007, the company has never dismissed any disabled employee, and no disabled employee there has ever been badly injured in an accident. More amazingly, the past eight years have seen multiple excellent and skilled mechatronic employees standing out from among the disabled employees, and some of them have been promoted to team/group heads, managers or middle-level cadres. This fact has enormously motivated disabled employees' enthusiasm for work.

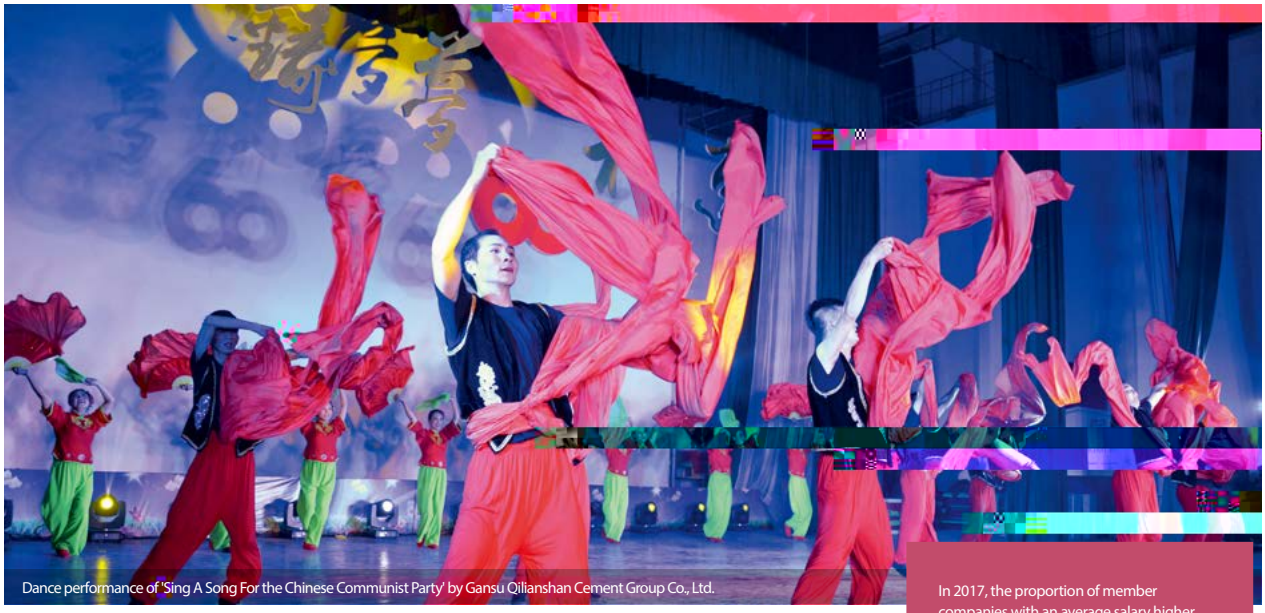
We are the happy Little Material
Scan the QR code to follow

Respect and Self-actualization

In pursuit of a culture of ambition, we advocate 'spending time in study, concentrating our thoughts on work' , and encourage the staff to be wholehearted in at their posts. Accordingly, we have proposed the concepts of 'four-meticulous' and 'five-have' for cadres. In more detail, we require leading cadres to be 'responsible, cultivated and refined' , middle-level cadres to be 'devoted, professional and excellent' , and the staff to be 'conscientious and meticulous' . We also pursue 'enterprise-staff co-growth' and make every endeavor to create good environments and opportunities for employee growth. In addition, we have established a fault-tolerant mechanism to encourage the staff to be bold in assuming responsibilities. Inspired by such a culture, many workaholics who are earnest and skillful with inflexible will have stood out from the Group.

We organize learning groups for the goal of building a multichannel, multi-form, multi-level and differentiated employee cultivation and training platform. Following the training approach of 'based on internal training and supplemented by external training' , we share education resources so as to build a comprehensive training system for the Group. We support the autonomous training of employees

Workaholics



Dance performance of 'Sing A Song For the Chinese Communist Party' by Gansu Qilianshan Cement Group Co., Ltd.

Love & Belonging

We care for the health and lives of our female employees, and treat them equally with their male counterparts in salary, management positions, professional training and vocational development opportunities. We purchase maternity insurance for them and provide antenatal examination leave, maternity leave, breastfeeding leave and birth allowance. We are concerned about the lives and mental needs of our young employees. We bring young people together through the Communist Youth League, providing them with a platform on which to demonstrate their talents and exchange ideas. We care for the work and lives of expatriates, especially those who are stationed abroad in the long term or in communities of minority ethnic groups, hold special afterwork activities and provide mental health counseling to relieve their pressure. We also improve the home leave system to remove their worries and promote their happiness. We respect disabled employees and provide them with a convenient working environment and the necessary amenities.

We improve the system of employee support and relief, and help employees to overcome their difficulties through the 'Mutual Fund for Combating Serious Illness' , 'Golden Autumn Grant-in Aid' , 'Sunshine Employment Program' and so on. We carry out practical measures, solve difficult problems and do good deeds for employees in difficulty, and we make such actions regular, institutionalized and standardized. We stick to the custom of visiting needy groups in winter and during the two major festivals, mainly including childless and widowed elderly people, families of martyrs and poor retired employees.

We encourage our member companies to strengthen the construction of gymnasiums, recreation rooms, libraries and psychological counseling rooms. We also organize colorful cultural and art activities, sports competitions, visits and educational tours, and special educational activities, offering a broad stage for our staff to show their gifts and improve their capability to improve themselves, care for their families and benefit society. Through continuously improving the physical qualities, cultural literacy and life qualities of our employees, we strive to make the company their happy and comfortable home.

In 2017, the proportion of member companies with an average salary higher than that of the local level was

59.5

%

In 2017, our employees attended training for

1.12

million hours

In 2017, RMB

27.26

million was spent to help and reward special groups of employees

In 2017

11,528

person-times of special groups of employees received help and rewards

In 2017, we organized

264,000

person-times of employees to participate in various cultural and sports events

Corporate Citizenship

Response to SDGs

Report Delivered at the 19th NCPCC

We should pursue the Belt and Road Initiative as a priority, place equal emphasis on 'bringing in' and 'going global,' follow the principle of achieving shared growth through discussion and collaboration, and increase openness and cooperation in building our innovation capacity. With these efforts, we hope to break new ground in opening China further through links running eastward and westward, across land and over the sea. We will expand foreign trade, develop new models and new forms of trade, and turn China into a trader of high quality.

We should continue to implement targeted poverty alleviation and alleviation measures. We will continue to advance poverty alleviation by drawing on the joint efforts of the government, society and markets. We will pay particular attention to helping people increase their confidence in their own ability to lift themselves out of poverty and ensure that they have access to the education they require in order to do so. We will strengthen collaboration on poverty alleviation between the eastern and western regions; and we will provide focused assistance to areas of extreme poverty. We must ensure that by the year 2020, all rural residents living below the current poverty line have been lifted out of poverty, and that poverty is eliminated in all impoverished counties and regions. Poverty alleviation should reach those who truly need it and deliver genuine outcomes.

Key Points of Responsibility Fulfilment

We attach great importance to fulfilling our community responsibilities, adhere to localized operations and deepen the 'Belt and Road' Initiative so as to pursue the common development and growth of enterprises and regions. We give back to society through our unique social welfare projects. We also exercise our corporate citizen responsibilities with our actions in voluntary activities. We try to promote poverty alleviation by working in pairs to help people increase their confidence in their own ability to lift themselves out of poverty, improving education to help people access the training they need and developing industries to reduce poverty.

The Malaysia HUME Project undertaken by Tianjin Cement Industry Design & Research Institute Co., Ltd.

In 2017, CNBM's number of new employees hit

30,000

In 2017, the amount of taxes paid to local governments reached RMB

11.1

billion

In 2017, the donation amount reached RMB

23.35

million

In 2017

1,002

people realized targeted poverty alleviation

The 'Belt and Road' Initiative

According to the report delivered at the 19th NCPCC, as China is moving closer to the center stage of the world, it should adhere to the fundamental national policy of opening up and pursue the 'Belt and Road' Initiative as a priority so as to break new ground in pursuing opening up on all fronts. As one of the enterprises listed in the Fortune Global 500, China National Building Material Group Co., Ltd. (CNBM) closely follows the national strategies of 'Belt and Road' development and international capacity cooperation, fully utilizes its advantages in technology, capital and talents, steadily conducts overseas investment in accordance with the principle of marketization, actively expands its overseas engineering contracting business, makes innovations to its international trade model, accelerates the pace of 'Going Out' for building materials and equipment, and makes substantial progress, becoming a new business card in the national 'Going Global' policy of China's building materials industry.

We rely on our scale and comprehensive advantages, vigorously develop the large markets of 'Belt and Road' countries, actively carry out overseas investment and explore the 'EPC + investment + management + services' mode for 'Going Global' . We have founded overseas business enterprises and agencies in 58 countries and regions, and expanded our business to over 160 countries and regions in the world, playing a leading role in the 'Belt & Road' Initiative. As the world's largest building material manufacturer, we fully utilize our own technology and equipment advantages. Our cement engineering market share stands at 65%. We have ranked first in the world for many years. We operate 14 overseas building material chain supermarkets and outsource and manage more than 30 factories around the world, firmly establishing a good corporate image and reputation. On this basis, we have also locked up the seven key regions of East and South Africa, the Middle East, Central and East Asia, South Asia, Central and Eastern Europe, ASEAN and South America, and proposed achieving the 'Six' development goals by 2020; that is, 10 mini industrial parks, 10 overseas warehouses, 10 international inspection centers and laboratories, 100 building material chain distribution centers, 100 managed smart factories and 100 EPC projects.

Deepening the 'Belt and Road' Initiative through Combined Efforts

1

The first move

Supporting the construction of the 'Belt and Road' with advanced technology and advantageous production capacity. The goal of the 'Belt and Road' is to build a community of interests, community of responsibility and community of destiny. In the process of participating in 'Belt and Road' construction, we have always insisted on highlighting Chinese brands and technology, emphasizing our first-class quality and reputation, and insisting on exporting our advanced technologies and advantageous production capacity. With independent intellectual property rights in cement and glass engineering design and technical equipment capabilities, we have promoted Chinese manufacturing and standards in the cement and glass industries on a global scale, opening up a 'China Building Materials Channel' . Regarding cement, CNBM has undertaken 336 large-scale cement production lines in 75 countries, accounting for 65% of new cement production lines worldwide, and has been ranked 1st in terms of global market share for 9 consecutive years. Regarding glass, we have generally contracted or designed nearly 60 production lines in countries along the 'Belt and Road' route. In addition, we actively cooperate with such multinational companies as Schneider Electric SA and the Mitsubishi Group in the fields of cement, glass and photovoltaics, and combine the high-end equipment of CNBM with the high-end technology of developed countries so as to jointly develop third-party markets.

A Shining Pearl on the 'Belt and Road'

Egypt's GOE Beni Suef 6 × 6,000 TPD Project is the largest cement production line in the global cement industry which has been synchronously constructed in the same place and the same period. It is also the shortest project among CNBM's overseas EPC projects and a milestone of the 'Belt and Road' . With a daily output of 6,000 tons, these 6 cement production lines are implemented by Chengdu Design & Research Institute of Building Materials Industry Co., Ltd. (hereinafter referred to as 'Chengdu Building Materials Institute'). During the implementation of the project, Chengdu Building Materials Institute focused on cooperation with local enterprises and made efforts to localize employment. We subcontracted civil works to several local companies, and our number of local employees reached 8,000 among tens of thousands of employees. The Beni Suef Project closely follows the national development strategy of the 'Belt and Road' , establishing a glorious example of 'China Technology, China Manufacturing, China Standards, China Speed' on the route and becoming known as the 'pyramid' of the world's 'Cement Kingdom' . This project plays an important role in the Group's 'Six'strategic objectives by greatly enhancing the brand image, popularity and influence of Chinese enterprises in the world cement industry.

In the hinterland of the Sahara Desert in Algeria stands a cement plant built and operated by Beijing Triumph Building Materials Engineering Co., Ltd. of CNBM. At present, the plant produces 4,200 tons of cement clinker each day. It is estimated that the annual production of various types of cement can reach more than 1.5 million tons, which not only greatly fills the gap in the building materials market in Algeria, but also radiates through the cement markets in such neighboring countries as Mali and Niger.

1 The 6 large cement production lines at the Egypt

2 Adrar Cement Plant

2

The second move

Promoting infrastructure in 'Belt and Road' countries with high-quality building materials. As an army marches on its stomach, so infrastructure marches on its building materials. Chinese building material enterprises should be the vanguards of 'Belt and Road' construction. On the basis of past

Panorama of China United Cement Wulanchabu Co., Ltd.

In 2017, the proportion of raw materials purchased in local areas reached

25.7

%

CNBM Grows With Local Communities Overseas

Do you remember the cement plant on the cover of CNBM's 2015 Social Responsibility Report, the one surrounded by boundless prairie? That is the cement production base invested in by the China United Cement Corporation in Mongolia, the annual production capacity of which reaches 1 million tons. The project was put into operation in 2016 with an annual output of 780,000 tons of clinker and 1 million tons of cement, meeting 40% of the local cement market demand; implementing a localized procurement policy, it consumes 150,000 tons of fly ash per year; it has taken advantage of railways to transport about 1.3 million tons of limestone, coal and other raw materials, and about 1 million tons of cement; it has provided Mongolian society with more than 280 jobs; and it has paid tax of USD 5 million to the Mongolian government each year, promoting Mongolia's economic growth and the development and upgrading of its related industries. In June 2017, the Munkhiin Cement Plant won the 'Best Enterprise Award' in a safety evaluation activity organized by the Ministry of Labor and Social Security of Mongolia. It is the only foreign company among the five award-winning enterprises.

Jushi Egypt Fiberglass Co., Ltd. (hereinafter referred to as 'Jushi Egypt') has invested USD 580 million in three steps to build a world-class large-scale fiberglass production base in Africa with an annual production capacity of 200,000 tons, the only base of such scale in Africa, and meet the growing and diversified demands for fiberglass products in surrounding areas. The products are mainly supplied to the domestic markets of Europe, Turkey, the Middle East, North Africa and Egypt. At present, three large-scale kiln glass fiber production lines have been established with a total production capacity of more than 200,000 tons. After the completion of the Jushi Egypt Project, the products are in short supply and more than 90% have been exported. The foreign exchange earned by the local government exceeds USD 200 million per year, and the tax payment exceeds USD 20 million. At the same time, Jushi Egypt actively advocates the management concept of the joint development of employees and the corporation, vigorously promotes the localization of management posts and has directly created about 2,000 jobs. The localization rate of middle management posts has exceeded 66% and the localization rate of first-line posts has reached 99%.

3

The third move

Making innovations to the 'Going Out' mode to help 'Belt and Road' trade inter-flow. We have successfully built the 'Online Silk Road' for the building materials industry and continue to increase the increments and profits of overseas trade. We created the 'Internet trading platform + overseas warehouse' model, giving full play to the advantages of the first spot trading electronic platform of China's building materials industry, namely okorder.com, by combining domestic building materials with overseas warehouses through the Internet.

Furthermore, overseas warehouses are connected with suppliers of home furnishing materials along the 'Belt and Road' route. We took the initiative to build 24 'overseas warehouses' on the 'Belt and Road' to provide an 'Online Silk Road' of global marketing for domestic and foreign manufacturers; we have launched the 'Internet + Global Operations Management' model, using CNBM Smart Industry to provide outsourcing management services for about 50 cement plants in the Middle East, Central Asia and Africa. In addition, CNBM actively promotes the 'Building Materials + Home' chain supermarket model and expands the African market on the basis of being the largest integrated service provider of building materials in the South Pacific region, offering building and home services to African countries. With the 'green town' model, we promote 'Energy Plus 5.0' new houses across the whole world. At present, CNBM's green houses cover 39 countries in five continents, creating good economic and social benefits, and have won the high praise and affirmation of local governments.

4

The fourth move

Standing at the cutting edge of industrial development and building an international innovation, research and development platform. CNBM has 26 state-level research institutes and 38,000 scientific and technological workers. It also has more than 10,000 effective patents, including more than 2,400 invention patents, and 14 international standards, constituting a world-class driving force for innovation. CNBM not only pays attention to its own innovation-driven development but also attaches great importance to international scientific research cooperation and exchange. On the one hand, it acquired the equity of overseas technology companies and strengthened integrated innovation; for example, it rapidly mastered the core technology of CIGS thin-film solar cells through the acquisition of AVANCIS of Germany and became the first MW-class wind turbine blade producer in China through the acquisition of NOI of Germany. It also further enhanced its competitiveness in building materials and equipment in the international market through the acquisition of 68% equity in the Indian company LNVT and 59.09% equity in the German company HAZEMAG Group. On the other hand, it actively participates in international exchanges, regularly communicates with building materials companies listed in the Fortune 500, successfully held the International Congress on the Chemistry of Cement (ICCC), established the Asia Cement and Concrete Research Academy (ACCRA), and insists on organizing and participating in

China Building Material Test & Certification Group Co., Ltd. (CTC) under CNBM is the largest and most influential institution in the field of building materials and construction engineering in China. It is the first listed company to be inspected and certified by the Shanghai Stock Exchange. In 2017, CTC undertook laboratory construction projects in such countries as Ethiopia and Kazakhstan, and cooperated with the China Airport Construction Group

Three Principles Help Cultural Integration

...

Friendship along the 'Belt and Road'

The CNBM – Zambia Building Material Industry Park is a good example of fulfilling overseas public welfare. The Project Department has drilled 100 wells to solve the problem of drinking water for local residents. It also donated USD 1.5 million to build schools and hospitals, bringing vitality to the development of the surrounding communities. On June 6th, 2017, Chairman Song Zhiping visited Nachtete Elementary School and greeted the teachers and children in the classes. Principal Eliana Tembo said with emotion that the schools and hospitals built by Sinoma Mpande have been eagerly desired by the surrounding areas for many years. The local people are deeply grateful.

On November 29th, 2017, in order to commemorate the 30th 'World AIDS Day' , the CNBM – Zambia Building Material Industry Park held a charity donation activity themed 'Anti-HIV Right to Health' in Lusaka, the capital of Zambia. During the activity, the industry park was commissioned by CNBM and Sinoma Cement to donate 500,000 kwacha to the Kolelawaka Foundation and basic AIDS prevention organization in Zambia. This sum of money will be used as a special fund to support the Zambian Government in carrying out AIDS prevention and treatment. Special Representative Ms. Bernadette Dika, delivered a speech on behalf of Mrs. Ester

Targeted Poverty Alleviation

We constantly focus on poverty alleviation in order to fulfill our social responsibility. Since 2002, CNBM has established site-specific poverty alleviation relationships with Shitai County of Anhui Province, Zhaoyang District, Suijiang County and Yongshan County of Yunnan, and

Good Poverty Alleviation Assistant 'He Bao Dan'

If given a chance to realize one's dream, ordinary people may dream of their family being healthy and safe; farmers in impoverished areas may dream of earning more money, escaping poverty and having a better life; while 'He Bao Dan' dreams of bringing the people green and natural food ingredients, and helping more and more impoverished farmers to increase their income, escape poverty and live a moderately prosperous life. The 'He Bao Dan' e-commerce platform has 220,000 CNBM's employees, millions of dependents and the public as its target customers. The main products include high-quality ecological natural food ingredients from site-specific poverty alleviation areas, including local special agricultural products from Shitai County of Anhui Province, Zhaoyang District, Yongshan County and Suijiang County of Zhaotong, Yunnan Province, and Jingyuan County of the Ningxia Hui Autonomous Region. CNBM conducts site-specific poverty alleviation in the these areas, helping to promote the sales of local agricultural products, build brands and spread the products across the whole country, as well as meeting the pursuit of a healthy diet for people from all walks of life.

As of December 31st, 2017, more than 12,000 households in 208 counties and cities across 29 provinces in China had tasted high-quality agricultural products from site-specific poverty alleviation areas, leading to an increase in the income of 1,042 households. The 'He Bao Dan' platform has promoted the sales volume of local agricultural products while cultivating the modern market awareness of local farmers, helping them to adapt to the current 'Internet + agriculture' situation, creating a good demonstration effect for the development of local rural e-commerce and providing new ideas for exploring sustainable poverty alleviation models through industrial development; at the same time, it has promoted the characteristics of local agricultural products as natural, ecological, healthy, safe and environmentally-friendly, and publicized local agricultural production, people's lives, natural scenery and local customs and practices. Special agricultural products form the link, shortening the distance between people with caring hearts and those living under the poverty line, arousing the employees' sense of poverty alleviation and helping them to learn more about the poverty alleviation work of the state and organizations.

The 'He Bao Dan' platform carries out the important instructions concerning 'targeted poverty alleviation' put forward by the Central Committee of the Communist Party of China, and opens up a new model of poverty alleviation through technology and innovation, which has injected new vitality into the 'hematopoiesis' of the Group's targeted poverty alleviation work. Since its launch more than a year ago, 'He Bao Dan' has worked with farmers, sharing happiness and worries. The platform has won the support of local farmers and also gained attention from all walks of life. Such media groups as the Economic Daily, China Building Materials Daily, China Economic Net, Central Enterprise E-commerce Alliance Journal, local television stations and local official public accounts have repeatedly reported on the 'He Bao Dan' model. On February 6th, 2018, the 'He Bao Dan' platform won the 'China Time' Poverty Alleviation Contribution Award in the large-scale selection activity held by China Economic Net.

Scan the QR code to support poverty alleviation

In 2017, special funds for poverty alleviation reached RMB

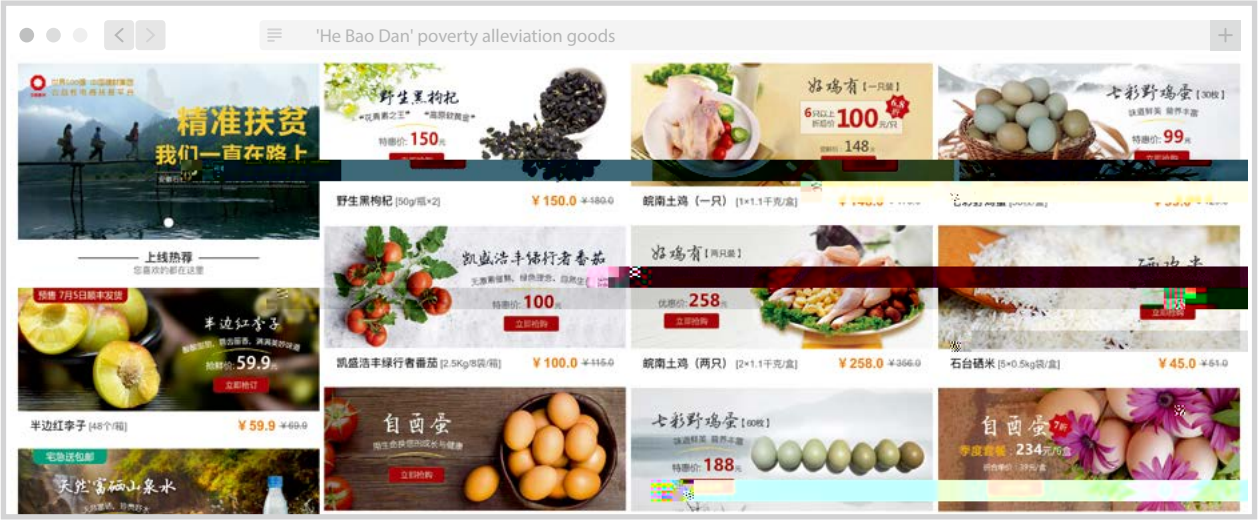
13

million

In 2017

1,002

people realized targeted poverty alleviation



In order to support the development of underdeveloped western areas facing special difficulties, we invest in and found enterprises in Xinjiang, Qinghai and the Tibetan regions of Sichuan and Gansu, actively develop the cement, cogeneration, PV and new energy industries, vigorously support local infrastructure construction and sustainable development, and create many job opportunities for minorities and local graduates. In addition, we have assigned multiple Xinjiang-aiding and Tibet-aiding cadres to deliver advanced technologies and management experience with the aim of facilitating local industrial development.

Youth volunteers of Gansu Qilianshan Cement Group Co., Ltd. care for the children of migrant workers

'Gsanghua' on the Plateau

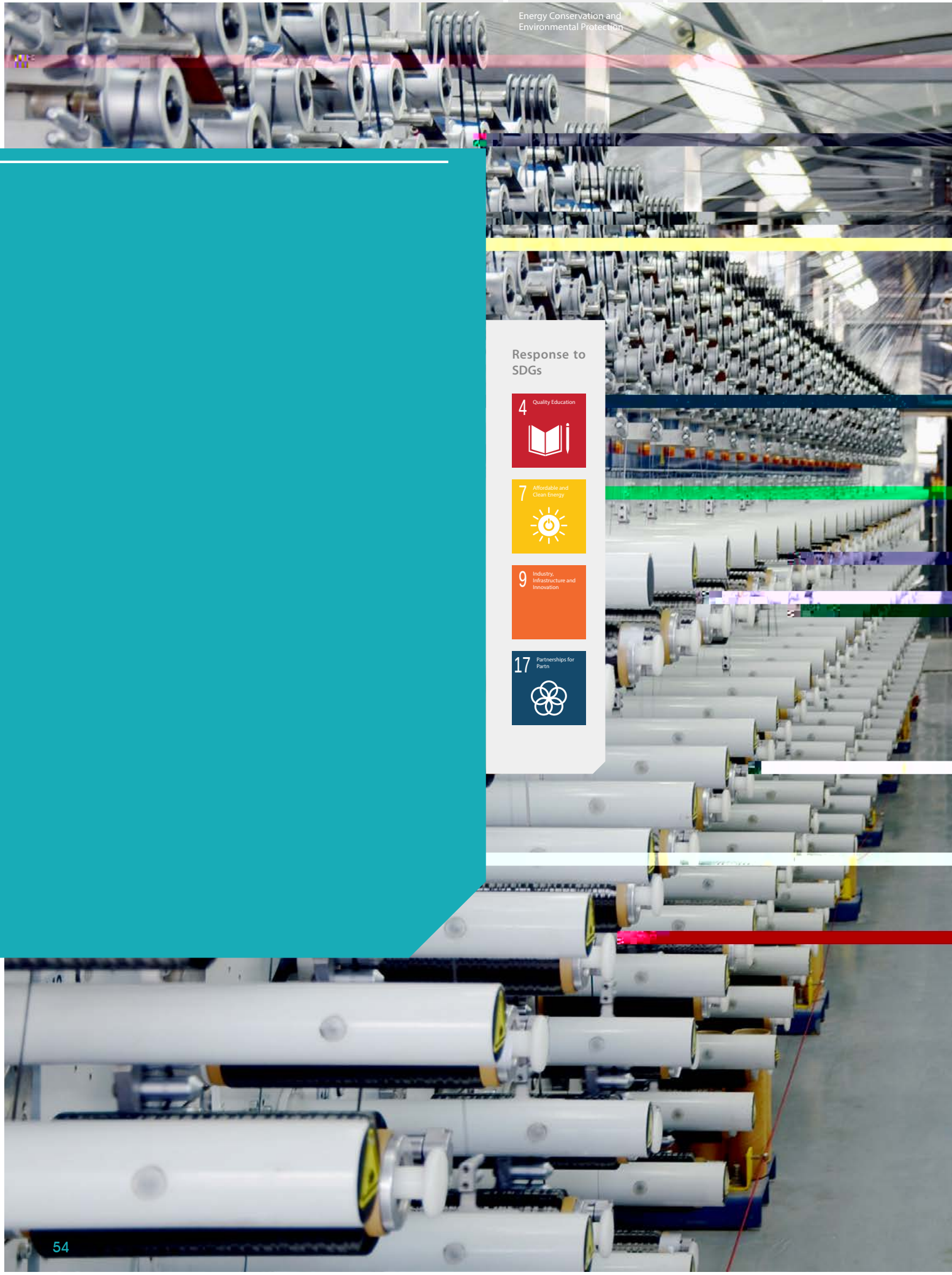
On July 28th, 2017, the Party Committee of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) held a working conference of the Communist Youth League of Central Enterprises. At the conference, 10 'Young Pioneers of Central Enterprises' selected by the SASAC Party Committee were specially awarded. Ma Guangchao of Taishan Gypsum Co., Ltd. was awarded the honorary title of 'Young Pioneer of Central Enterprises' .

Ma Guangchao is currently Deputy Director of the office of Tai Shan Gypsum Co., Ltd. (hereinafter referred to as 'Tai Shan Gypsum'). At the age of 23, he gave up work envied by many of his peers and resolutely went to teach in 8 remote mountainous schools under the jurisdiction of the Yushu Tibetan Autonomous Prefecture in Qinghai Province at his own expense. He stayed in Yushu for 6 years. During these years, he taught Tibetan children how to wash their faces and brush their teeth, how to read and write, and how to sing the national anthem and raise the national flag. He experienced painful altitude sickness, disease and car accidents, and narrowly escaped death several times. Luckily, he survived by virtue of his tenacity; he did a lot of meaningful things for the Tibetan herdsmen, serving as a doctor, repairing electrical appliances, building pools and repairing bathhouses. He used to be poor but insisted on being a volunteer teacher without taking any money. He sprinkled his true love over the snowy plateau and grew from an enthusiastic youth to a mature Tibetan-aiding volunteer.

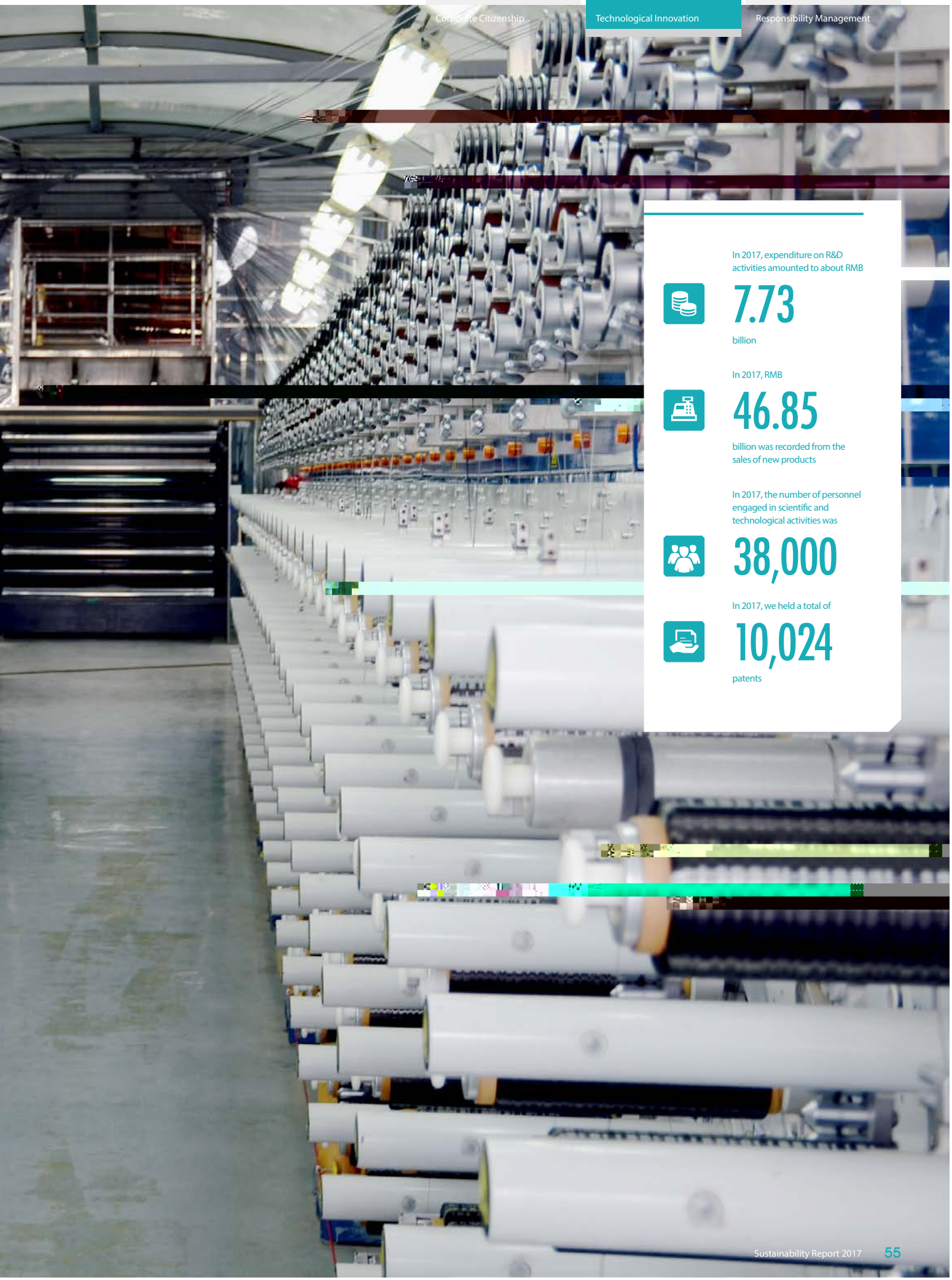
In the past six years, Ma Guangchao has overcome many unimaginable difficulties, including the massive 7.1-magnitude earthquake that struck Yushu of Qinghai in 2010. When the earthquake struck, Ma Guangchao did not run out of the classroom until he had confirmed that each child was safe. After the children were transferred quickly and safely, he immediately joined the local villagers in disaster relief work. He wrote two letters in case he were to die. In one letter, he wrote: 'If God gives me another life, I will again choose to devote myself to voluntary education on the plateau.'

After learning the story of Ma Guangchao, Tai Shan Gypsum, a member of CNBM, invited him to join the company. On December 6th, 2014, Ma Guangchao was appointed Captain of the Tai Shan Gypsum Volunteer Service Team. On March 15th, 2015, he was appointed Secretary-General of the Tai Shan Gypsum Love Association. Based on the principle of 'poverty alleviation' , the association gives full play to its loving and helping role. While assisting needy employees, the association strives to make public welfare activities the welfare of all employees. As Ma Guangchao said, "One person's love is still a small love after all. But when we have a lot of small loves, we can create a big love! Although I've already ended my voluntary teaching career, with the support of Tai Shan Plaster, I'm not only experienced in business but also capable of helping more people in distress. I think this is the greatest value of my life!"

Ma Guangchao and his students



Response to SDGs



In 2017, expenditure on R&D activities amounted to about RMB

7.73

billion

In 2017, RMB

46.85

billion was recorded from the sales of new products

In 2017, the number of personnel engaged in scientific and technological activities was

38,000

In 2017, we held a total of

10,024

patents

Guarantee of Strength

R&D investment in 2017 hit RMB

5.9

billion

In 2017, the number of personnel engaged in scientific and technological activities in the Group was

38,000

In 2017, the percentage of science and technology personnel of the Group accounted for

16.8

of the total number of employees

We put innovation in first place among our three strategies and core values. For this, we create innovative cultures, enhance the building of innovative talent teams and concentrate our efforts on addressing common key technologies and frontier technologies in the building material industry so as to provide strong support for making China a technological power and building an intelligent society. We have established an integrated scientific research innovation system that comprises national research and design institutes, state and industrial key laboratories, national accredited enterprise technology centers, technology development and promotion centers, scientific and technological cooperation demonstration bases, and public service demonstration platforms. We intend to build China's largest integrated scientific research platform with the greatest strength in the field of building materials and inorganic non-metallic materials.

We have 26 National Scientific Research and Design Institutes, 3 National Key Laboratories, 1 National Engineering Laboratory, 16 National Accredited Enterprise Technology Centers, 8 National Engineering (Technology) Research Centers, 10 Industrial Product Quality Control & Technical Assessment Laboratories, 3 National SME Service Demonstration Platforms, 6 State and Provincial-Ministerial International Scientific Cooperation Demonstration Bases, and 55 State Industrial Quality Testing Organizations, all of which serve the building material industry of China and even the whole world, and have developed almost all key technologies in the building material industry of China. At present, CNBM has already become China's largest scientific and technological R&D center with the greatest strength in the field of building materials and inorganic non-metallic materials. Research conducted by CNBM's sub-centers covers all related professions, including cement, glass, fiber & composite materials, new-type building materials, equipment manufacturing and energy conservation & environmental protection. Their businesses run through all the related links, including basic theoretical research, technical R&D and services, standard development, testing and certification, experimental apparatus and production equipment manufacturing, engineering design and general contracting. In 2017, with a score of 91.2, CNBM's Technical Center was ranked 35th in the assessment results of 1,345 national corporate technical centers (2017-2018) officially published by the NDRC, and rated as an 'Excellent Corporate Technical Center' .

We have deployed 38,000 personnel in scientific and technological activities, established an academician workstation and post-doctoral research stations and workstations, and implemented the 'Thousand Talents Program' to maintain smooth channels for the introduction and exchange of high-caliber talents from overseas and domestic universities and institutes. We also provide a mechanism guarantee for the scientific research of the Group. Focusing on such aspects as the protection of intellectual property, management of scientific research funds and information confidentiality, we have combined the development of internal control systems with risk management requirements to form a scientific research management system which conforms to national scientific research management requirements and has the features of the building materials industry.

Chinese and German engineers conduct research and discussion on a project at Chengdu Design & Research Institute of Building Materials Industry Co., Ltd.

Scientific Research and Service Platforms of CNBM

26 National Scientific Research and Design Institutes	China Building Materials Academy Co., Ltd.	Tianjin Cement Industry Design & Research Institute Co., Ltd.
	Hefei Cement Research & Design Institute Co., Ltd.	Sinoma International (Nanjing) Engineering Co., Ltd. (Nanjing Cement Institute)
	Bengbu Design & Research Institute for Glass Industry Co., Ltd.	Chengdu Design & Research Institute of Building Materials Industry Co., Ltd.
	China New Building Materials Design & Research Institute Co., Ltd.	Nanjing Fiberglass Research & Design Institute Co., Ltd.
	Harbin FRP Institute Co., Ltd.	Beijing Composite Materials Co., Ltd.
	Qinhuangdao Glass Industry Research and Design Institution Co., Ltd.	Suzhou Sinoma Design and Research Institute of Non-metallic Minerals Industry Co., Ltd.
	Xi'an Research & Design Institute of Wall & Roof Materials Co., Ltd.	Shandong Industrial Ceramics Research & Design Institute Co., Ltd.
	Xianyang Research & Design Institute of Ceramics Co., Ltd.	Beijing Sinoma Synthetic Crystals Co., Ltd.
	Hangzhou Mechanical and Electrical Design and Research Institute of Light Industry Co., Ltd.	Suzhou Concrete & Cement Products Institute Co., Ltd.
	Horological Research Institute of Light Industry Co., Ltd.	Xianyang Non-metallic Minerals Research & Design Institute Co., Ltd.
	Light Industrial Xi'an Mechanic Design and Research Institute Co., Ltd.	Wuhan Building Material Industry Design & Research Institute Co., Ltd.
	Research Institute for Automation of Light Industry Co., Ltd.	Sinoma Science & Technology Development Center Co., Ltd.
	Suzhou Waterproof Research Institute of China Building Materials Academy	Sinoma Geological Engineering Exploration Academy Limited
3 National Key Laboratories	State Key Laboratory of Green Building Materials	National Key Laboratory of Special Fiber Composites
	National Key Laboratory of New Float Glass Technologies	
1 National Engineering Laboratory	State Key Laboratory of Pulp and Paper Engineering	
16 National Accredited Enterprise Technology Centers	Technology Center of China National Building Materials Group Co., Ltd.	Technology Center of Beijing New Building Material (Group) Co., Ltd. (Sub-center)
	Technology Center of Sinoma Technology & Equipment Group Co., Ltd.	Technology Center of China Luoyang Float Glass Group Co., Ltd. (Sub-center)
	Technology Center of Taishan Glass Fiber Co., Ltd.	Technology Center of Lianyungang Zhongfu Lianzhong Composites Group Co., Ltd. (Sub-center)
	Technology Center of Xinjiang Guotong Pipeline Co., Ltd.	Technology Center of Hefei Smarter Technology Group Corporation (Sub-center)
	Technology Center of Sinoma Science & Technology Co., Ltd.	Technology Center of Jushi Group Co., Ltd. (Sub-center)
	Technology Center of Sinoma Energy Conservation Limited	Technology Center of Hefei Cement Research & Design Institute (Sub-center)
	Technology Center of Xinjiang Tianshan Cement Joint-Stock Cement Co., Ltd.	Technology Center of Hefei Zhongchen Light Industrial Machinery Co., Ltd. (Sub-center)
	Technology Center of Sichuan Jiahua Enterprise (Group) Co., Ltd.	Technology Center of Taishan Glass Fiber Zoucheng Co., Ltd. (Sub-center)
8 National Engineering (Technology) Research Centers	National Glass Deep Processing Engineering Technology Research Center	National Non-metallic Minerals Deep Processing Engineering Technology Research Center
	National Resin Matrix Composites Engineering Technology Research Center	National Industrial Ceramics Engineering Technology Research Center
	National and Local United Engineering Research Center for Glass Industry Energy-saving Technology	National Fiber Reinforced Moulding Compound Engineering Technology Research Center
	National Fiberglass and Products Engineering Research Center	National Research Center of Cement Energy Conservation & Environmental Protection Engineering
10 Industrial Product Quality Control and Technical Assessment Laboratories	Industrial (Building Materials) Product Quality Control and Technical Assessment CTC Laboratory	Industrial (Building Materials for Roofs, Walls and Road Surfaces) Product Quality Control and Technical Assessment Laboratory
	Industrial (Building and Sanitary Ceramics and Products) Product Quality Control and Technical Assessment Laboratory	Industrial (Non-metallic Mineral Products) Product Quality Control and Technical Assessment Laboratory
	Industrial (Light Industrial Machinery) Product Quality Control and Technical Assessment Laboratory	Industrial (Glass) Product Quality Control and Technical Assessment Laboratory
	Industrial (Fiberglass & Thermal Insulation Material) Product Quality Control and Technical Assessment Laboratory	Industrial (Horology) Product Quality Control and Technical Assessment Laboratory
	Industrial (Decorative Building Materials) Product Quality Control and Technical Assessment Laboratory	Industrial (Composites) Product Quality Control and Technical Assessment Laboratory
3 National SME Public Service Demonstration Platforms	Hangzhou Mechanical and Electrical Design and Research Institute of Light Industry Co., Ltd.	Xianyang Non-metallic Mineral Design Institute Co., Ltd.
	Horological Research Institute of Light Industry Co., Ltd.	
5 Academician Workstations	Academician Workstation of China Building Materials Academy	Academician Workstation of Enterprises in Jiangsu Province
	Academician Workstation of Bengbu Design & Research Institute for Glass Industry	Academician Workstation of Beixin Building Material
	Academician Workstation of Zhengzhou Cement Industry Functional Refractory Material	
3 State International Scientific Cooperation Demonstration Bases	International Scientific Cooperation Base of Green Building Materials	State International Scientific Cooperation Base of HV Insulating Materials Research & Development
	State International Scientific Cooperation Base of Glass Industry Design & Research of Bengbu	

Guiding and Surpassing

As a basic material, cement has revolutionized human environments. In just under 130 years since the introduction of cement to China, our country's cement industry has experienced rapid development and witnessed the birth of a cement giant strong in developing complete sets of ultra-large equipment and cement production technologies. The history of China's cement industry can be summarized as 'from catching up to guiding' . When it comes to CNBM's cement segment, we boast world-class cement production equipment and technologies, and have developed multiple technologies included in the NDRC's directory of energy-saving low-carbon technologies for priority in promotion.

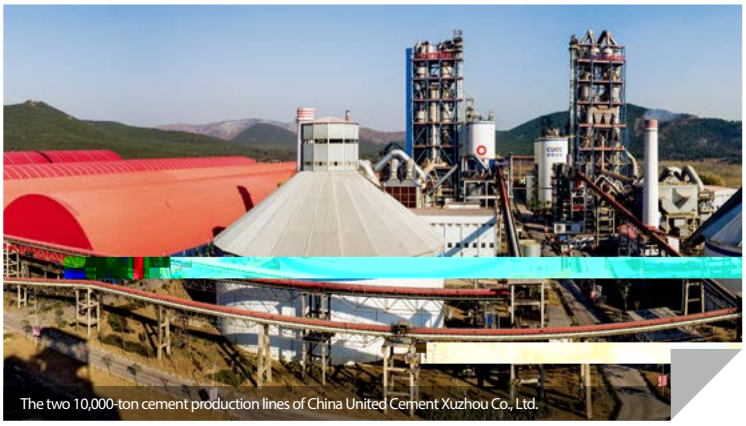
In addition, our cement segment includes a range of high-quality technological innovation resources. For example, we have developed core technologies and equipment for the co-processing of hazardous waste, civil sludge, domestic refuse and contaminated soil, made multiple world-leading technical achievements and formed a complete industry chain that spans R&D, industrial testing, design & construction, management and testing & inspection.

Pillars of a Great Power

Pillars of a Great Power, a documentary produced by CCTV, tells the legend of China becoming powerful by engaging in industry. It shows 'Made in China' super-scale factories, super-scale equipment, super-advanced technologies and key breakthroughs, and depicts China's advantages in manpower, talents and systems. In 2017, the camera crew visited CNBM's member enterprises CNBM (Hefei) Powder Technology Equipment Co., Ltd. ('Hefei Powder') and China United Cement Xuzhou Co., Ltd. ('CUCC Xuzhou') to film complete sets of ultra-large equipment and technologies for cement production.

As the production process has evolved from the wet-process vertical kiln to the current new-type dry-process rotary kiln, China's cement industry has experienced a course of 'introduction → chasing → catching up → guiding' with a yield growing from less than 1,000 t/d, to 2,000 t/d, 5,000 t/d and currently 10,000 t/d. Located beside a 10,000-ton cement line introduced from abroad, the Xuzhou-based 10,000-ton cement line which was developed, designed and installed independently by CNBM boasts excellent environmental protection facilities, a very low level of dust emissions and world-leading technical indexes. This 10,000 t/d new-type dry-process cement line represents the peak of the global cement industry. At present, there are 31 ultra-large fully-equipped 10,000 t/d cement lines in the world, 20 of which were manufactured by CNBM.

The roll squeezer plays a core role in cement production equipment. The raw material grinding and cement grinding links which account for 65-70% of the total electricity consumption of cement production are the keys to energy conservation, emission reduction, yield increase and efficiency improvement. Hefei Powder's roll squeezer (diameter: 2 m; overall weight: 438 tons) with proprietary intellectual property rights boasts world-leading technical and economic indexes. In particular, its tooth-like small columnar blades can easily break any rock. Their deeply-staggered arrangement, independently designed by CNBM's engineers, prolongs the service life of the roll's surface tenfold. Such an ultra-large roll squeezer answers the question of how to realize efficient grinding on a large-size cement line, and features a high grinding efficiency, large capacity, simple process system and low maintenance, winning it universal recognition as the roll squeezer with the highest grinding efficiency. Roll squeezers are used wildly in cement production as well as metallurgy, mines, non-ferrous metal ore beneficiation and the deep processing of slag. Depending on its high reliability, low operating costs, high operability and high maintainability, and represented by the energy-efficient grinding unit of the roll squeezer, CNBM's range of technical equipment has been exported to more than 20 countries and regions including the EU, and has captured a market share of 70%. In January 2017, Hefei Powder was included in the first batch of manufacturing sector demonstration champions published by MIIT.



The two 10,000-ton cement production lines of China United Cement Xuzhou Co., Ltd.

Awards ceremony of National First Prize for Technological Progress

Along the 'three curves' , we give priority to accelerating the development of the new material segment, and have made breakthroughs in this regard. For example, we have clustered complete sets of world-class technologies and equipment for producing special cement, high-performance concrete, new silicon-based materials, gypsum boards, high-performance glass fiber, high-performance carbon fiber, MW-level wind turbine blades and thin-film solar cells; our T800 high-strength carbon fiber (1,000 tons), E8 high-modulus glass fiber (10,000 tons), lithium battery diaphragms (240 million m^2), 100-ton high-performance silicon nitride ceramics, 1.5 mm ultra-thin PV glass, 0.15 mm ultra-thin electronic glass, 0.1 mm TFT-LCD glass substrate, 300 MW CIGS PV module and 80 MW CdTe PV module have entered the stage of mass production; key technologies developed by CNBM in relation to high-performance fiber, lithium battery diaphragms, functional ceramics, new energy material, high-performance structural material, non-metal ore and solid waste have been included in key R&D programs in the national '13th Five-year Plan' , and rank among the first batch of special projects and new materials for intelligent manufacturing, green manufacturing and improving the core competitiveness of manufacturing and technological transformation.

A New Material Technology Awarded the National First Prize for Technological Progress

Recently, the project 'Application of Key Technologies for Industrialization of Dry-jet Wet Spinning of High-Strength Carbon Fiber (1,000 t/a) and IM Carbon Fiber (100 t/a)' was awarded the National First Prize for Technological Progress, marking the second time that CNBM has won this prize. The first win occurred 12 years ago.

This project aims to tackle the core technical problems in the dry-jet wet spinning of carbon fiber one by one, and build China's first line with proprietary intellectual property rights for producing carbon fiber strands (5,000 t/a) and high-strength T700 carbon fiber (1,000 t/a)/IM T800 carbon fiber (100 t/a) through dry-jet wet spinning. It has made a range of major technological achievements: creatively developing technologies for preparing a large volume of polymer dope and homogenizing dope; addressing key technologies for the dry-jet wet spinning of high-strength/IM carbon fiber strands; ingeniously developing pre-oxidation, carbonization and integration technologies for the rapid homogenizing of PAN fiber; and creating an industrialized high-strength T700 carbon fiber (1,000 t/a)/IM T800 carbon fiber (100 t/a) production system (dry-jet wet spinning) for the first time. This project has filled in the technical blank for the dry-jet wet spinning of carbon fiber in China, enabled CNBM to independently manufacture carbon fiber production equipment and improved the technical profile and industrialization of China's carbon fiber industry, thereby successfully allowing CNBM to march into the medium and high-end echelons of the global carbon fiber industry.

Nobel Prize in Physics Laureate Sheldon Glashow's Workstation Settles at CNBM (Chengdu)

If you have ever followed the TV show The Big Bang Theory, you must know the leading character well, gifted physicist Sheldon Cooper, who was modelled after famous theoretical physicist Sheldon Glashow (AAS fellow). Lately, Glashow and his team, settled his workstation at CNBM (Chengdu) Optoelectronic Materials Co., Ltd. ('CNBM (Chengdu)'). As an innovation platform for CNBM's transformation and upgrading, CNBM (Chengdu) is dedicated to the development and industrialization of CdTe low-light power-generating glass, and has formed a business pattern in which the CdTe low-light power-generating glass segment plays a core role with the support of the dissipated metal and graphene segments. As a Harvard doctorate holder and winner of the J. Robert Oppenheimer Distinguished Fellowship and Nobel Prize in Physics, Glashow is engaged in studying fundamental particle and quantized field theories. His research findings are widely used in such projects as the Super Proton Synchrotron and Spacelab, and such fields as superconducting electromagnetics, Te-based photoelectric materials and new-type magnetic materials. The settling of his workstation at CNBM will advance the development of new energy at the Triumph Group and give further play to CNBM (Chengdu)'s advantages in new-generation thin-film solar power-generating glass. In the next step, a range of innovation teams will be formed to make high-end achievements and promote emerging fields.

Opening Ceremony of Nobel Prize Workstation

Collaborative Innovation

In 2017, we held a total of

10,024

patents

In 2017, we gained

197

scientific and technological awards at provincial or ministerial level or above

CNBM strives to be a leader of material technology through enhanced technological innovation and in-depth cooperation with research institutes; we produce valuable patents, accelerate the transformation of technological achievements into technical standards, and promote transformation and upgrading by making more efforts in the management, application and transformation of intellectual property; we keep improving our innovation incentive mechanisms, tap the innovation potential of technological talents by holding partnership meetings with research institutes in the cement and commercial concrete segments, enhance innovation examinations, carry forward the spirits of entrepreneurship and craftsmanship, and pay attention to fostering the innovation, engagement and patriotism spirits of excellent strategic scientists and innovation-oriented entrepreneurs in improving the quality of technological achievements, making more contributions to innovation and increasing innovation efficiency.

We make great efforts to promote enterprise-led technological innovation and integration. For example, the China Building Materials Academy (CBMA) has joined hands with such competitive enterprises as the Triumph Group, China Non-metallic Minerals Industry Co., Ltd., BNBM, Sinoma Science & Technology Co., Ltd., Sinoma Advanced Materials Co., Ltd., Jushi Group, Tianjin Cement Industry Design & Research Institute Co., Ltd. and Zhongfu Shenying Carbon Fiber Co., Ltd. to enhance collaborative reporting on national technological projects. Among approved projects reported under the leadership of CBMA, 14 are included in national key R&D programs and 6 are intelligent manufacturing and green manufacturing projects, covering the five sectors of important basic materials, air pollution abatement, green building materials, intelligent manufacturing and green manufacturing. In addition, 6

Winding production line of Jushi Group's Third Branch

National Science & Technology Awards Won by CNBM since the '11th Five-year Plan'

2006

First Prize for Technological Progress

Application of Complete Technologies and Key Equipment for Ultra-thin Float Glass Production in Industrial Production of Electronic Glass

Second Prize for Technological Invention

Preparation and Application of High-performance Low-heat Portland Cement (High Belite Cement)

2007

Second Prize for Technological Progress

Development and Engineering Application of Major Support Equipment for New-type Dry Process Cement Line

2008

Second Prize for Technological Progress

Development and Application of Complete Engineering Technologies for 'Level-by-Level Refining' of Float Glass and Upsizing of Melting Furnace

2009

Second Prize for Technological Progress

Key Technologies for Long-distance Water Supply Works in Deserts and Severe Cold Regions

2011

Second Prize for Technological Progress

Development and Application of Key Equipment for Pulverization on Large-scale New-type Dry-process Cement Line

Second Prize for Technological Progress

Complete Technologies and Industrialized Development of Micro-ferrum High-transmittance Filter Glass for Solar Battery

international cooperation projects under the B&R Initiative will be reported on. In the meantime, we actively implement the Group's strategy for the integration of CNBM and research institutes. By holding the Technological Working Conference (2017), Enterprise-Research Institute Partnership Meeting (Cement and Commercial Concrete Segments) and Communication Meeting on Enterprise-Research Institute Partnership for Waste Co-processing of Cement Kilns, we address the current demands in the cement, solid waste co-processing and commercial concrete segments with technological achievements from research institutes, thereby boosting the in-depth integration, quality improvement and efficiency enhancement of the Group's business.

Being market-oriented, we have scientifically set our research direction on the basis of the principles of technology productization, product marketization and market efficiency. We give full play to the advantages of an integrated production-study-research platform, closely link the industry and market so as to respond to market demands without any delay, and scientifically plan our R&D direction and technical research focuses.

Our R&D achievements have solved technical problems in the production process and met the higher standards of market demands. Based on our successful engagement with the Commercial Aircraft Corporation of China Ltd., we actively promote the application of home-made carbon fiber in the field of civil aviation. As a result, a significant breakthrough has been made in applying carbon fiber to large-scale MW-level wind turbine blades, and a staged achievement has been made in applying carbon fiber to vehicle weight reduction.

Enterprise-college-research institute cooperation: Backed by 16 national accredited corporate technical centers (e.g. special cement, equipment manufacturing, glass fiber, composite materials, new-type building materials, etc.), we have further integrated the Group's technical centers and established a professional R&D department. By strengthening the leading role of the core segments and enhancing innovation in cooperation with research institutes and the transformation of technological achievements across all segments, we have built a cluster of advanced production technologies, core technical equipment and testing & certification services. With attention paid to extensive partnerships with well-known colleges and research institutes in tackling key problems, technical cooperation, academic exchange, personnel training and achievement incubation and transformation, we have established a multi-level innovation alliance. Furthermore, we are exploring an open research system that enables public technological resources to be mobilized to tackle key difficulties of concern to the country and building material industry.

By the end of 2017, the Group had been awarded more than 10,000 valid patents, including 2,300 inventive patents, 92 new international patents and 430 innovation patents produced by front line technical workers; CBMA had also published four international standards and a range of valuable patents (e.g. high-performance carbon fiber, E-series glass fiber, lithium battery diaphragm, etc.) had been produced. In addition, to promote the sharing of technological innovation achievements throughout the Group, we organize a prize-giving technological innovation challenge in five divisions.

2013

Second Prize for Technological Progress

Key technologies for Micro-defect Control and Energy Conservation of Float Glass and their Industrial Application

Second Prize for Technological Progress

Key Technologies for Preparation and Application Of High-performance Fibrous Composites for Civil Engineering

2014

Second Prize for Technological Progress

Key technologies for Mechanical Property Testing and Assessment of Structural Ceramics under Typical Application Conditions and their Application

Second Prize for Technological Invention

Structural Design, Control, Preparation and Application of Multi-directional Preformed Carbon Fiber for Anti-Ablative Composite Material

2017

Second Prize for Technological Progress

Integrated Technology for Stirring-type Indirect Heat Drying of Sludge and Clean Incineration on Compound Circulating Fluidized Bed

Second Prize for Technological Invention

Epitaxy and Chip Technologies of F-30902-2-02 Low Thermal Resistance and High Optical Efficiency Sapphire-based GaNLED Material

2018

Second Prize for Technological Progress

Development of Key Technologies and Complete Equipment for Industrialization of Ultra-thin Information Display Glass

Second Prize for Technological Progress

Development of Key Technologies and Complete Equipment for Low-cost Large-scale Production of High-performance Glass Fiber

First Prize for Technological Progress

Applications of Key Technologies for Industrialization of Dry-jet Wet Spinning of High-Strength Carbon Fiber (1,000 t/a) and IM Carbon Fiber (100 t/a)

Second Prize for Technological Progress

Applications of Key Technologies and Equipment for Testing Risks and Evaluating Reliability in Service of Architectural Glass

Sharing and Communication

We have 18 national standardization technology committees, and took the lead in establishing 4 industrial alliances. We undertake the secretariat work of standardization organizations, industrial organizations, professional societies and scientific agencies, and lead the technology innovation and industry revolution of the professional sector. We develop extensive science services. We run industrial websites and professional publications to promptly publish the latest information and share technological results and commercial messages. By building resource repositories (technical innovation institutional repository, technological results database, etc.) and information inquiry platforms, we offer multiple channels of information exchange and technical communication for building material enterprises.

We have actively built a service platform system in the open industry style, a comprehensive technical service platform system for the building material industry integrating industry-wide inspection and certification resources, industrial product quality control and technical evaluation laboratories, and a national public service demonstration platform for enterprises. These systems provide enterprises with such services as inspection and detection, management system certification, standardization, technical product development, intellectual property and brand building, promote advanced practical technologies and provide entrepreneur services. In 2017, CNBM was awarded the 'Green Building Material Evaluation Mark' and national three-star assessment body qualification. The same year also saw the establishment of the International Technological Cooperation Platform for R&D of High-tension Insulating Material, as well as such international R&D platforms as the China-Ethiopia Material Science Laboratory and Technological Transfer & Incubation Center, and the UK-China Joint Laboratory of Advanced Building Materials. The construction of the 'overseas industry + technology + service' innovation ecosphere saw steady progress in 2017; for example, the China-Ethiopia Joint Laboratory of Building Materials and CNBM Africa Applied Technology Center were inaugurated; the construction of the China-Ethiopia Joint Laboratory of Glass Fiber was accelerated; CTC led the implementation of the national key project

In 2017

686

academic exchange activities were organized and held

In 2017

22,000

person-times of industrial technology and knowledge training were organized and held

Jinping–Southern Jiangsu ± 800 kV UHV DC Transmission Project of Sinoma Electroceramics Co., Ltd.

'Study on the Applicability of Key Building Material Standards under the Going Out Initiative'; and the extension from multilateral recognition and technological cooperation in international accreditation to quality services for overseas projects saw substantial progress.

To give full play to our role as a demonstration base of international scientific and technical cooperation, we hold domestic and overseas academic meetings, run forums, develop exchange and visit activities to provide specialists and scholars with communication and promotion platforms, serve innovation and common progress, accelerate technological upgrading and reform in the industry and related fields, and motivate technological innovations to more rapidly and effectively serve the sustainable development of society. We also undertake professional exhibitions in order to collectively exhibit and recommend new technologies and products, offering platforms and services for the industrialization of technological results, and thereby promoting technological progress and result-sharing in the industry.

Establishment of CNBM Standardization Committee

Centered on 'a country strong in quality' and standardization strategies, CNBM actively organized the establishment of a standardization committee and carefully arranged and scheduled tasks for CNBM's standard branding, corporate standard leadership and services for the innovative development of the building material industry. The first CNBM Standardization Committee consists of 45 members, with its secretariat located at the CNBM Standardization Office. By preparing a range of innovative and guiding standards, the committee will build a CNBM standard brand, boost the innovative transformation and structural adjustment of the Group, and lead business quality and efficiency improvement. Through enhanced management, it will also improve the standard management system, give full play to standardization experts and release a range of high-quality technical standards that suit the development of the Group.

Standardization has been a new engine for CNBM in growing into a world-class building material supplier with global competitiveness. Suiting the Group's development strategies, the establishment of this committee marks a new stage of standardization, a step towards systematic, normative, professional and international standardization, and a new milestone in establishing a complete standardization management mechanism matched with new standard systems.

CBMA Helps to 'Make Our Skies Blue Again'

Implemented under the leadership of CBMA, the 'Air Pollution Abatement in the Building Material Industry and Related Regulatory Policies' project is subordinate to the Ministry of Ecology and Environment's 'Brainstorm: Causes and Abatement of Heavy Air Pollution' project. As the Government's work report for 2017 states, 'make our skies blue again' . In response, CNBM concentrated its research force on the 'Brainstorm: Causes and Abatement of Heavy Air Pollution' project by putting together a team of multiple academicians and more than 1,500 researchers.

'Air Pollution Abatement in the Building Material Industry and Related Regulatory Policies' is another national project undertaken by CBMA, China's largest integrated research institute and technological R&D center engaged in studying building materials and inorganic non-metal materials, in active response to national policies. Overcoming such difficulties as limited time and heavy workload, CBMA has succeeded in preliminary demonstration and project establishment, prepared three research reports (Technologies for Air Pollution Prevention and Control in the Building Material Industry in Beijing, Tianjin, Hebei and '2+26' Cities, General Estimate Report – Pollutant Discharge in the Cement Industry, and Assessment and Analysis Report on Nodes and Abatement of Air Pollutant Production and Discharge in the Coating Industry) and five modification lists, proposed one policy suggestion and completed a few standards and codes (e.g. De-capacity Action Plan of the Cement Industry (2017-2020)) .

Responsibility Management

Key Points of Responsibility Fulfillment

We pay close attention to the expectations of such CNBM stakeholders as investors, government, employees, clients, partners, related groups, communities, the media and the environment. We insist on the core philosophy of 'efficient use of resources to serve the construction' and regard 'innovation, performance, harmony and responsibility' as our core values. We insist on establishing a harmonious relationship with our competitors, the ecology, our employees and society. We stress both technology and management innovation in our development, pursuing a coordinated and win-win situation with the market, environment and society, and constantly improving our capacity for fulfilling responsibilities.

Response to SDGs

17 Partnerships for Goals

AVANCIS of the Triumph Group

367

quantitative indicators of social responsibility management

CNBM ranked the

6th

among the Top 300 Enterprises in the 2017 CSR Development Index of China

55,000

person-times of exchanges with external stakeholders in 2017

Responsibility Value

Responsibility Concepts

We pay close attention to the expectations of such CNBM stakeholders, as investors, government, employees, clients, partners, related groups, communities, the media and the environment. We insist on the core philosophy of 'efficient use of resources to serve the construction' and regard 'innovation, performance, harmony and responsibility' as our core values. We insist on establishing a harmonious relationship with our competitors, the ecology, our employees and society. We stress both technology and management innovation in our development, pursuing a coordinated and win-win situation with the market, environment and society, and constantly improving our capacity for fulfilling responsibilities. We perform our social responsibility in the five aspects of Market Performance, Technological Innovation, Energy Conservation and Environmental Protection, Employee Care and Corporate Citizenship. We are committed to becoming a world-class building materials industry group with outstanding global competitiveness.

Responsibility Topics

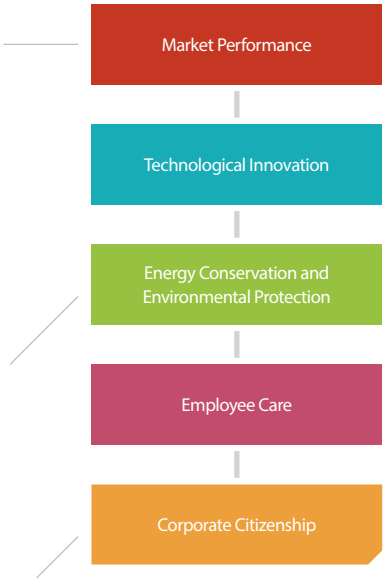
With reference to the 'Triple Bottom Line' principle, we decompose and summarize the interests of our various stakeholders, and combine the characteristics of the Group's operations with those of the daily management system in order to define the five frameworks of responsibility: Market Performance, Technological Innovation, Energy Conservation and Environmental Protection, Employee Care and Corporate Citizenship.

Social Responsibility Topics of CNBM

We proactively advance high-quality development, reward our shareholders and investors with excellent operating results, serve our clients with quality products and services, pursue mutual growth with our suppliers and industrial partners, and provide a platform for all our stakeholders to create value. Meanwhile, upholding the philosophy of 'industrial interests outweigh corporate interests' , and deepening supply-side structural reform, we endeavor to accelerate the structural transformation and upgrading of the industry, and seek to achieve mutual development and win-win results with the industry and our peers in the same industrial chain.

By upholding the philosophy of green development, we comprehensively utilize industrial and urban waste, producing low-carbon products with minimized consumption and emissions. We are committed to providing reliable and green building materials, sharing effective green technology and management experience, exploring development modes for the harmonious coexistence of industries and nature, and advocating the sustainable development of industries and society.

We pay attention to fulfilling community responsibility, emphasize local operation, further the development of the 'Belt and Road' Initiative, and pursue mutual development and growth with the regions in which we operate; we reward society through characteristic public welfare undertakings; by participating in voluntary services, we practically perform the social responsibility of a corporate citizen; and in order to help intensify poverty alleviation, we help people increase their confidence in their own ability to lift themselves out of poverty through working in pairs, ensure that they can access the education they require to do so and reduce poverty through industrial development.

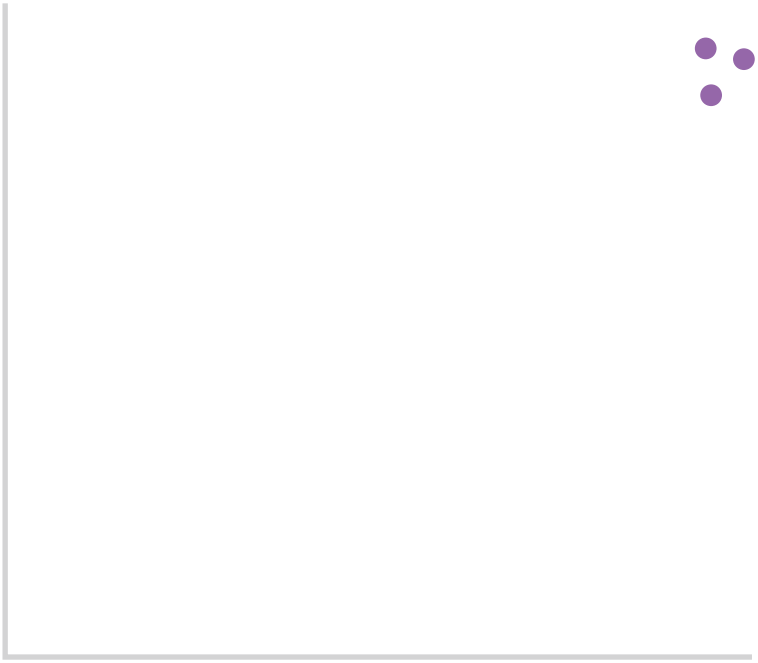


Responsibility Model

Responsibility Focus

Focusing on the five core issues, we have further clarified 30 secondary core issues by analyzing the latest national macro policy guidance, latest domestic and international indicator systems, and current status of industry and Group development. In order to better understand the opinions of our stakeholders, we have specially designed questionnaires and pushed them through

Survey Results of the Core Issues in CNBM's Social Responsibility



Importance to the development of the Group

- Credit management
- Quality control
- Market performance
- Brand building
- Occupational safety
- Anti-corruption
- Energy conservation
- Risk prevention and control
- Technological innovation
- Comprehensive utilization of resources
- Staff development
- Normative governance
- Responsibility management
- Equal employment
- Party building activities
- Industrial development driving force

Responsibility System

We include social responsibility management in the strategy, overall plan and day-to-day operations of the Group, and identify organizations, objectives, measures and priorities for improvement so as to continuously improve our performance level.

P Organizations

We take the leading organization of social responsibility as the core of the 'CNBM Leading Group for Promoting Social Responsibility' headed by the Chairman. The highest leading organization for promoting CNBM's social responsibility endeavors, the Leading Group is in charge of guiding and promoting social responsibility initiatives.

We take the functional social responsibility management organization of the Headquarters as the connection through which to direct and advance member companies in strengthening their social responsibility management and actively performing their responsibilities. According to the division of businesses, the functional departments of the Headquarters work in coordination to advance special tasks.

With the member companies at all levels as the nodes, and according to the unified requirements of the Headquarters, we define the functional departments and assign management personnel to formulate the social responsibility plans and schemes of the Group, satisfy work requirements and actively perform responsibilities.

D Competency Improvement

We have issued and are implementing the CNBM Guiding Opinions on Social Responsibility Fulfillment, CNBM Administrative Social Responsibility Fulfillment Measures and CNBM Social Responsibility Management Information Collection Measures so as to systemize, institutionalize and standardize our social responsibility management.

The 'CNBM Social Responsibility Management Information System' is maintained for the online management of information concerning social responsibility fulfillment and social responsibility administrators. The system covers more than 1,000 member enterprises.

We have established a CNBM-style social responsibility indicator system which is divided into 4 classes and consists of 367 indicators. This system contains the core indicators of non-metal mineral products, thereby assuring the completeness of our social responsibility report.

The social responsibility teams of our member enterprises are improved in terms of quality and professional proficiency by means of publicity and training. The practice of social responsibility fulfillment is promoted by cultivating and selecting highlighted cases. On March 15th, 2017, we invited experts from the Economics Department of the Chinese Academy of Social Sciences (CASS) to conduct social responsibility training for member enterprises. The training covered the introduction of corporate social responsibility and preparation of the social responsibility report, and helped to promote the responsibility and professionalism of the social responsibility management personnel.

C Performance Evaluation

We prepare and issue an annual social responsibility report in order to continuously improve our social responsibility fulfillment capability and improve our management through the procedures of preparation, benchmarking and assessment. The report is published regularly and information concerning our social responsibility fulfillment development released irregularly in a special column on our website, constituting an information disclosure system and establishing an effective communication platform.

We selectively take part in external performance evaluations; implement comprehensive evaluation and benchmarking in such special aspects as report quality, responsibility performance, responsibility management, etc.; pay attention to the social responsibility progress and effects of international and domestic enterprises, industries in which we operate, enterprises in the supply chain and other related enterprises; learn from the strong points of others in order to offset our own weaknesses; and carry out continuous improvement.

In the process of promoting the integration of social responsibility and group management, a 'six-star enterprise' evaluation system for social responsibility assessment and evaluation has been formed, including good performance, refined management, first-class environmental protection, well-known brand, excellent Party building, security and stability. Member enterprises continue to improve their social responsibility implementation level by striving to become six-star enterprises. In 2017, 18 member enterprises were evaluated as 'six-star enterprises' , thus becoming exemplary enterprises of the Group.

A Continuous Improvement

We give full play to the talent resources of the management experts within the Group and take their suggestions and advice in terms of adjustments to our social responsibility concepts and strategies, preparation and revision of management systems, and establishment and quantification of the social responsibility indicator system, thereby ensuring the feasibility and operability of our social responsibility management mechanism.

We establish cooperation with professional institutes, grasp the latest development tendencies of social responsibility at home and abroad, deeply study the new standards and requirements of social responsibility management, and guarantee the professionalism and compliance of the Group's social responsibility management system.

We are gradually extending from endogenous responsibility management to outward-facing responsibility management (e.g. responsibility-themed branding activities, responsibility-themed in-depth communication and responsibility-themed publicity) so as to enable the responsibility system to generate inside-out effects and drive more interested parties to fulfill their social responsibility.

By exploring evaluation mechanisms, we continuously improve the frequency and quality of our member enterprises' annual social responsibility reports in order to make the fulfillment of social responsibility a systemic and regular activity in the Group.

Responsibility Communication

Communication is the best way to enhance mutual understanding and trust. Open to supervision, we acquaint our stakeholders with how social responsibility is fulfilled at CNBM through active and effective communication, thereby improving our operational transparency. We also continuously improve our social responsibility management by promptly engaging with opinions and suggestions from internal and external interested parties.

Chinese and foreign employees hold discussions

Nearly

55,000

person-times of CNBM employees participated in communication with external stakeholders in 2017

7,569

person-times of corporate senior management participated in communication with external stakeholders in 2017

78,000

person-times of employees participated in training related to social responsibility in 2017

Communication with Stakeholders

Communication with Stakeholders

We take the demands of our stakeholders as the core focus. We analyze and streamline our objects of responsibility according to the principle of the 'Triple Bottom Line' , and categorize them according to influence, dependency, representativeness and so on. Through this process, we have finally identified our eight core stakeholders. Based on the concerns of the stakeholders, we resolve and identify the core topics of responsibility performance, and respond to the demands of our stakeholders through responsibility performance. We regard communication with stakeholders as a core part of social responsibility management, and have established a timely, transparent and systematic communication system.

Multi-dimensional communication system

Multiple fields: We integrate the concept of social responsibility into our daily work and communication while combining and unifying our business communication and responsibility communication.

Multiple forms: We keep in touch with stakeholders through such operable and unblocked means as questionnaires, special visits and online communication.

Multiple objects: In addition to communication with external stakeholders, we identify international management experts and grass-roots staff as important stakeholders of internal interest, and facilitate timely feedback by offering convenient and democratic information channels.

Multiple angles: The positive and negative evaluations of the stakeholders are regularly collected and arranged by means of public opinion collection and media information mining so as to analyze our shortcomings more comprehensively and objectively for the purpose of continuous improvement.

Continuous participation of senior management

The senior management of CNBM continuously participates and constantly communicates with our stakeholders. As the main force of responsibility communication, the top management personnel pay close attention to responsibility communication and personally take part in responsibility communication activities at different levels and in various dimensions. Significant communication results are achieved through regular/irregular symposia, the leaders' mailbox and employee assemblies.

Responsibility Sharing

Responsibility Leadership

CNBM promotes the popularization and implementation of global responsibility concepts through a range of increasingly diversified and international platforms. In 2017, Chairman Song Zhiping was elected as the founding chairman of the World Cement Association, representing Chinese cement companies and their global peers in discussing the sustainable development of the industry.

We recognize and abide by the ten principles of the Global Compact, and strive to contribute to the achievement of the UN Sustainable Development Goals; we actively take part in social responsibility sharing and advocacy activities in different fields, participate in the initiation of the 'China Social Responsibilities 100-person Forum' and disseminate concepts, share experience and sponsor initiatives through 'Golden Bee' , the China Federation of Industrial Economics, China Building Materials Federation, China Building Materials News, etc. Through continuous sharing, study and discussion, we make efforts to be a disseminator and advocator of social responsibility, and seek better ways of pursuing sustainable development on the basis of cooperation.

We attach importance to responsibility research. We have jointly formulated the Guidelines for the Preparation of Corporate Social Responsibility Reports in China 4.0 – Nonmetallic Mineral Products Industry with the CSR Research Center of the Chinese Academy of Social Sciences, offering management and practice resources, and serving the study, publication and promotion of social responsibility standards. To actively meet the government's requirements for combating climate change, we participate in research into Chinese enterprises' determined contributions to combating climate change, share low-carbon development practices and guide the building material industry to create a new green development outlook.

Supply Chain Promotion

In 2017, CNBM reviewed

21,000

suppliers

34.7

%

of suppliers engaged in long-term cooperation with member companies of the Group passed environmental management system certification in 2017

In 2017, cooperation with

43

suppliers was terminated due to their non-compliance with social responsibility

In 2017

61

potential suppliers were rejected due to their non-compliance with social responsibility

We promulgated and implemented the 'Supplies Procurement Management Approach of CNBM' , implemented the access system for supplier management, set up the threshold for entry and conducted supplier evaluation under the same conditions so as to fully protect the equal rights of small and medium-sized suppliers. Fulfilling social responsibility is included in our supplier evaluation system. Our suppliers are dynamically evaluated in terms of legal compliance, environmental protection and the protection of the rights and interests of laborers. We urge our suppliers to continuously improve their product quality and supervise and encourage them to pay attention to the physical and psychological health of their staff. In each bidding for production line construction, such issues as safety, energy conservation and environmental protection are essentially included in the bidding documents. During construction, we pay constant attention to occupational health, safe production and the protection of the basic rights of the staff. By deeply integrating the concept of responsibility into supplier evaluation, product design and strategic cooperation, we guide our suppliers, customers and partners to carry out responsibility management concerning value chain activities, and serve as a leader of sustainable development on the value chain.

We have integrated the concept of social responsibility into our procurement management. We adhere to 'sunshine procurement' and spare no efforts to eradicate commercial bribes in procurement by promoting regional procurement bidding integration, bidding process normalization, bidding performance transparency and information-based bidding management. We implement the local purchasing of bulk raw materials and fuel in order to reduce transportation costs. We implement green procurement: in our procurement of raw materials, we give priority to products that are produced in low carbon and environmentally friendly ways, and cause a lower degree of damage to the environment; when selecting energy, we choose clean energy and vigorously promote the use of such non-fossil energies as low-grade energy, municipal refuse, biomass energy, etc.; and when choosing daily office supplies and other consumer goods, we prefer products that have simple packaging and are convenient for recycling.

Responsibility Supply

In 2017, the bulk sales ratio of cement was

61.1

%

In 2017, our suppliers carried out

13,8000

person-times of training in such aspects as safety, energy and law

In 2017, the rate of responsibility-based procurement reached

95.2

%

We also optimize the supply of the industrial chain. We continuously advocate the policy of simple packaging. We insist on promoting bulk packaging for cement products and bare packaging for glass products. We seek to maximize the use of recyclable packing materials so as to reduce waste while ensuring the quality and transportation safety of the products.

We adopt a green sales model. We reduce resource occupation and improve marketing efficiency through establishing modern logistic parks and rational plans for supply, marketing and logistics. Several member enterprises of Hunan South Cement Company Ltd. use their regional advantages to integrate port shoreline resources and build docks, transit storage and transportation projects to ease transportation pressure and improve the development environment in the surrounding areas. We provide online transaction services for worldwide building material products and reduce the carbon released by the business travel of clients and sales personnel through establishing an online marketing platform.

By deeply integrating the concept of responsibility into our regionalized operation and course of internationalization, we extend the social responsibility management system to the overseas fields and regions in which we invest, operate and offer services. Based on cultural respect and legal compliance, we disseminate advanced technologies, help local economies to prosper, establish service areas, cultivate a responsible image and play a leading role in the development of responsibility culture.

Milestones of Sustainable Development in 2017

The China Building Materials Group Corporation 2016 Sustainability Report was released. The Research Center for Corporate Social Responsibility of the Chinese Academy of Social Sciences awarded it with another

CNBM was named a 'Five-star Social Responsibility Fulfiller of China's Industries (2017)' by the China Federation of Industrial Economics, and awarded the 'Corporate Social Responsibility Reports – Best Report Manager' prize by the Chinese Academy of Social Sciences.

The Report on the Independent Contribution of Chinese Enterprises to Addressing Climate Change (2017) was officially released in Beijing. Two excellent cases of CNBM were selected for the research report: the 'Responsibility for Blue Sky' Action Program of CNBM and 'Responding to Climate Change and Developing the Three-new Industries' of Beijing New Building Material (Group) Co., Ltd. (BNBM Group), Beijing New Housing (Group) Co., Ltd. and the Triumph Group.

The China Social Responsibility 100 Forum released the Research Report on Poverty Alleviation of Chinese Enterprise (2017), and the 'He Bao Dan E-commerce Targeted Poverty Alleviation Project' of the CNBM Import and Export Corporation was named an 'Excellent Case of Enterprise Poverty Alleviation' .

CNBM Chairman Song Zhiping attended the first meeting of the World Cement Association and was elected as its founding chairman. He thus became the first Chinese entrepreneur to be elected as the chairman of a world-class industry association among China's large-scale basic industries.

The Road to Reform

The year of 2018 marks the 40th anniversary of the launch of the reform and opening policy up in China. As CPC General Secretary Xi Jinping pointed out at the opening ceremony of the 2018 Boao Forum for Asia, in 1978, on the initiative of Mr. Deng Xiaoping, China embarked on reform and opening up in the wake of the 3rd Plenary Session of the 11th Central Committee of the CPC. This campaign has developed from the countryside to cities, from experiment to promotion, and from economic system reform to in-depth comprehensive reform, witnessing 40 years of unity, struggle and radical change. Chinese people have written a beautiful chapter of national development with their own hard work.

A drop of water can reflect the glory of the sun. As a spoondrift of the reform wave, CNBM was born from Deng's care. By seizing the historical opportunities arising from reform and opening up, the Group has blazed its own trail of reform and growth.

Birth BNBM

1979

Deng's Care

BNBM's predecessor the Beijing New Building Materials Testing Factory ranked among the first batch of projects to be introduced after the launch of reform and opening up, and was founded under Deng's care. In August 1979, while inspecting a model house built with new-type building materials in Zizhuyuan, Deng required the construction of a factory for the mass production of new-type building materials as soon as possible. To meet this requirement, the Beijing New Building Materials Testing Factory was subsequently founded. According to the plans, covering an area of 1 km^2, the factory would be an integrated enterprise engaging in the manufacture of prefabricated parts, gypsum boards, rock wool, asbestos facade panels and plastic floor panels, serving the construction of 600,000 m^2 of buildings every year in the industrialization mode.

Breakout BNBM

1984

Gypsum Board Sales

Around this time, BNBM introduced production lines and technologies from Europe. A promotion department was also established to promote technologies among design institutes all over the country. Designed by Americans, the Great Wall Hotel is Beijing's first building to use many gypsum boards. After inspecting the production line, the American designer who visited BNBM said with a sigh that the existence of such a good factory in China was beyond his expectations. Among the ten or so cities that first opened on the coast of China, Shenzhen, Guangzhou and Xiamen were the first major gypsum board consumers. In light of this, BNBM exploited markets from south to north. With the increasing opening up of such markets, BNBM performed better and better in acclimatization.

Listing BNBM

1994

Involvement in the 'Experiments in 100 SOEs'

In 1993, a critical year for the bailing out of enterprises in which BNBM suffered badly, Song Zhiping stepped in as Factory Manager. Initially contributing RMB 10,000, he organized a fundraising activity and called on all the staff to take part. Eventually, RMB 4 million was collected to support the continued running of the factory. In November 1994, the State Council launched a project named 'Experiments in 100 SOEs' which involved conducting experiments in the modern corporate systems of 100 selected SOEs, one of which was BNBM, so as to build a modern corporate system featuring clearly-established ownership, clearly-defined rights and responsibilities, separation of administrative functions from enterprises and scientific management. On June 6th, 1997, BNBM went public. Following this listing, BNBM made it through the growing pains of SOE reform by building a modern corporate system and introducing 5S and TQC.

Orientation CNBM

2003

Renaming

In 2002, Song Zhiping took up the post of General Manager of the China New Building Materials (Group) Company. At a strategic seminar, the attending experts agreed that in order to become stronger, the company must engage in the cement segment, which at that time accounted for 70% of the GDP of the building material industry. In the same year, the company was renamed 'China National Building Materials Group Corporation' .

Set sail CNBM

2006

Listing in Hong Kong

The year of 2004 witnessed CNBM shift onto the right track through debt restructuring and strategic transformation. In March 2005, CNBM merged two A-share member enterprises (BNBM and China Fiberglass) and several profitable enterprises into China National Building Material Co., Ltd., which was listed on the Hong Kong Stock Exchange in March 2006. During roadshows, our promoted new-type building materials and other products failed to catch the attention of investors, who were mainly focused on the cement segment. This defined the direction of the subsequent large-scale merger. Through the IPO and three new issues, a total of HKD 11 billion was collected from society. This limited amount funded the large-scale merger.

Merger CNBM

2007-2011

Large-scale Integration of the Cement Segment

Around 2007, almost all the cement enterprises in Zhejiang were making losses because the market was rudderless with vicious competition. As such, in the same year, Song Zhiping invited the presidents of four cement enterprises, which constituted half of Zhejiang's cement market, to drink tea at Wangzhuang by West Lake. During the meeting, Song explained CNBM's concepts and proposed that the health of the market could be restored only if the cement enterprises in the province united under the leadership of CNBM. Giving adequate consideration to private enterprises' mood and interest, CNBM served 'three dishes of beef' under the 'win-win cooperation' concept: fixing prices in a fair and reasonable way, reserving shares for private entrepreneurs and providing entrepreneurs with opportunities to become professional managers. The meeting is renowned in the cement industry as the 'Wangzhuang Talks' . Subsequently, South Cement Company Limited was founded on September 26th, 2007. In just three years since then, the company merged nearly 150 enterprises and formed a cement capacity in excess of 100 million tons from scratch. After learning about this achievement, then Shanghai Municipal CPC Committee Secretary Xi Jinping wrote a personal letter of congratulations, which mentioned such keywords as 'strategic integration' , 'regional cooperation' and 'joint development' . The following years saw how CNBM conducted the merger in accordance with these keywords. As a result, North Cement Company Limited and Southwest Cement Company Limited were founded in 2009 and 2011 respectively. Attributed to the wind-like action of merging nearly 1,000 enterprises in just a few years, CNBM became the world's largest cement supplier in one leap, earning the name 'Cement King' in the media and creating a miracle in global cement history. In particular, this large-scale merger was included in the case pool of Harvard Business School. As CNBM took the lead in the merger, the capacity concentration rate of the cement industry rose from 12% (2006) to about 63%, and a healthy industrial pattern featuring orderly competition was restored; for example, the cement industry made a profit of nearly RMB 90 billion in 2017. Parallel with the merger, CNBM took the initiative to close down outdated and excess production facilities, promoted the slimming of cement production, passionately advocated co-competition, promoted voluntary production limiting and off-peak production, and restored reasonable product prices. These actions constituted an effective booster for the healthy and stable development of the cement industry.

Mixing CNBM

2008-2017

Development of Mixed Ownership

During the merger, CNBM blazed a trail of developing the mixed ownership economy and pursuing mutual growth with private enterprises. Under the principles of 'normative operation, mutual benefits, mutual respect and longstanding cooperation' , we developed a growth pattern featuring capital operation, mergers, management integration and integrated innovation, thereby answering the question of where to obtain funds, resources, scale effect and technologies. In addition, we fostered a mechanism advantage through the 'market-oriented operation of COE' , attracted private enterprises with the 'three dishes of beef' , deepened ownership reform at the back of the 'three levels of mixes' , and designed the shareholding structure under the '3/7 rule' . In the meantime, we improved corporate governance by introducing activist shareholders, promoted harmonious development by creating an 'inclusive culture' , and guaranteed the effect of reform through 'management improvement' . Attributed to this in-depth market-oriented reform, industrial structure adjustment and successful engagement with thousands of private enterprises, this 'grass-roots COE' , which once suffered terribly, managed to leap into the Fortune Top 500.

Rebirth
New CNBM

2016

Merger of CNBM and Sinoma

On August 26th, 2016, the original CNBM and Sinoma were merged into the new CNBM. For the merger, we made a 'three-step' general plan. These three steps, which were independent of but overlapped with each other, satisfactorily fixed such problems as the highly difficult integration of listed companies and horizontal competition in segments in a level-by-level, link-to-link way.

The first step

The first step was the strategic positioning at the levels of the Group and secondary segments. The new Group defined the strategic vision of being 'a world-class building material supplier with global competitiveness' and the strategic positioning of being 'a leader of industrial integration, innovator of industrial upgrading and pioneer of international capacity cooperation' . On this basis, we completed the 'four optimizations' (Group strategy, HQ organization, secondary platforms and institutional system) in accordance with the concepts of business integration, streamlining, asset optimization and refocusing, and conducted the 'six integrations' (integration of brand cultures, integration of listed companies, integration of the cement segment, integration of international projects, integration of business and finance, and integration of business and research institutes).

The second step

The second step was the merger of two H-share companies listed in Hong Kong (known as the 'sub-merger of CNBM and Sinoma' in the capital market). When it was launched in July 2017, a merger scheme using a split-off ratio of 1:0.85 was defined. At either of the shareholders' meetings held by the two companies on December 6th, 2017, while the majority shareholders were absent from voting in line with the challenge system, more than 99% of the minority shareholders agreed to the merger, setting a new record among recent mergers completed in capital markets. So far, the merger has achieved great success; the new Group (H-share) has officially gone public at the Hong Kong Stock Exchange, and the first board meeting was held on May 3rd, 2018. To perform its duties to the stakeholders, the new Group assigned directors and supervisors to China National Building Material Co. Ltd. while recommending independent directors and supervisors, and proposed a candidate to serve as president. The company is currently adjusting the assignment of its middle-level cadres and employees under the principle 'job grades maintained, compensation maintained' .

The third step

The third step is the optimization and merger of segments with horizontal competition. Under the refocusing principle, by developing a large industrial structure around the core segments, each of our subsidiaries strives to be a professional medium or large-scale listed company ranking in the Top 3 worldwide. In the meantime, adhering to the logic and rules of the capital market, we are integrating homogeneous segments in different ways and forming a pattern in our listed H-share companies in which the cement, new material and engineering service segments constitute a tripod, thereby improving our capabilities in capital operation, mergers and integration. As a result, the value of the listed companies has been maximized.

The seamless merger of CNBM and Sinoma has had a significant synergistic effect and met the expectations for '1+1>2' . For these reasons, we have become much stronger and achieved outstanding performance in scale, technological R&D, reform deepening and internationalization.

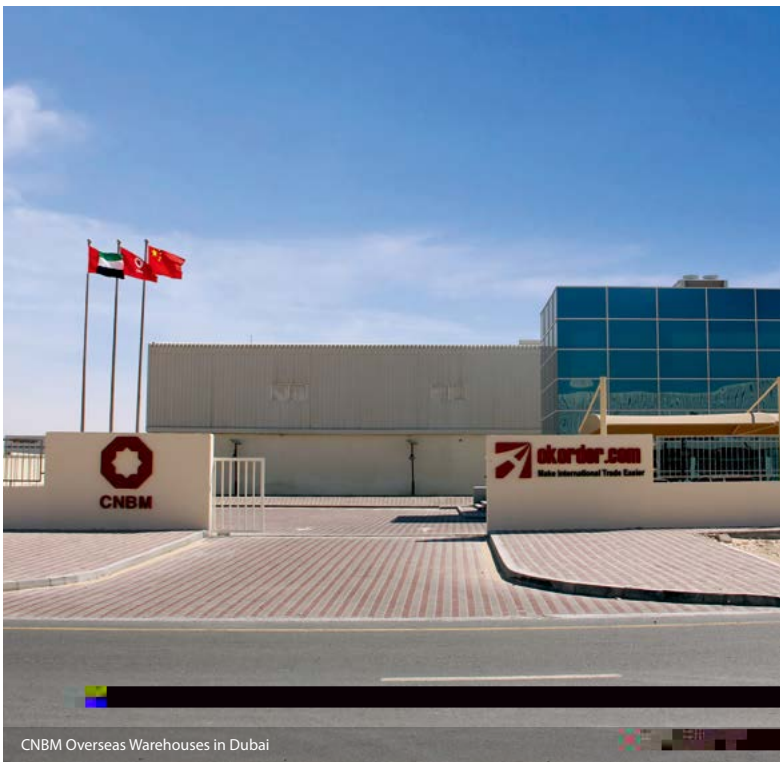
Transformation
New CNBM

The 'three curves' in our new industrial layout (first curve: structural adjustment and technological progress in the basic building material segment; second curve: development of the new material segment; third curve: service-oriented transformation of the manufacturing) were deduced from British management expert Charles Handy's 'Second Curve' theory. Along the 'three curves' , CNBM takes the road of enterprise-research institute cooperation, and pursues high end, integration, accelerated industrialization and relevance in technological innovation. The sudden rise of the new material segment has been a strong booster for the innovative development of the Group. In 2017, as the new material segment made a total profit of nearly RMB 7 billion, such new materials as T1000 carbon fiber, lithium battery diaphragms, high-performance silicon nitride ceramics, CIGS thin-film solar modules, CdTe thin-film solar modules, EHV mixed electric porcelain insulators and ultra-thin electronic conduction display glass have entered the stage of mass production, and the High-performance Carbon Fiber Industrialization Project (1,000 t/a) undertaken by Zhongfu Shenying Carbon Fiber Co., Ltd. was awarded the National First Prize for Technological Progress.

In 2017, the new material business realized total profit of nearly

7

billion RMB



CNBM Overseas Warehouses in Dubai

2017

Sudden Rise of the New Material Segment

The first large-area cadmium telluride film weak power glass rolls off the assembly line

Fruitful Internationalization

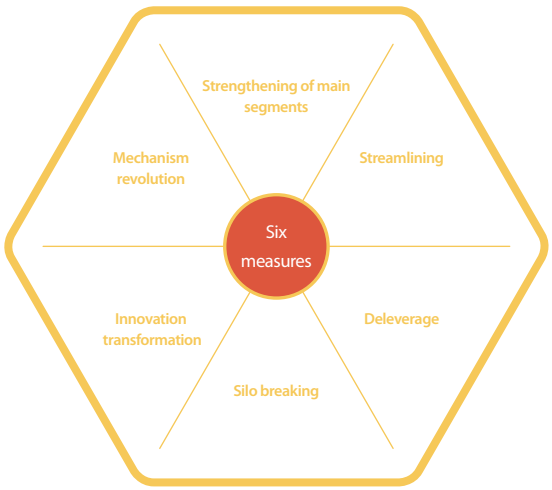
In process of accelerating internationalization and deeply exploiting large markets under the 'Belt and Road' Initiative, CNBM has founded enterprises and organizations abroad, extended its business to more than 160 countries and regions in six continents, and captured a market share of 65% in the cement and glass production equipment market. We are active in conducting innovation under the 'Belt and Road' Initiative. First, we develop strategies suiting local conditions by selecting different business portfolios to meet demands of different countries. Second, we establish bases by deeply exploiting regional markets, highlighting core segments and expertise, and adequately conducting business diversification in line with the requirements for meticulous market development, precise services, optimized technologies and refined management. Third, we develop overall strategies and investment systems, represented by the '6 × 1' plan: By 2020, we will have built 10 mini industrial parks, 10 overseas locations, 10 overseas testing & certification centers, 100 building material chain distribution centers, 100 smart factories and 100 EPC projects.

In 2020, we will have
10 mini industrial parks
10 overseas warehouses
10 overseas testing & certification centers
100 building material chain distribution centers
100 smart factories
100 EPC projects

2018

Marching into High-Quality Development

In this current stage of high-quality development, CNBM aims to be a world-class enterprise with global competitiveness; namely, top-ranking in technology, innovation capability, management, benefits and competitiveness. Besides CNBM, there are many potential 'champions' developing in China. With extremely high performance in their segments, they rank among the Top 3 in China or even the world. They are also examples of high-quality development. In light of the object of cultivating world-class enterprises with global competitiveness which was set forth in the report given at the 19th National Congress of the CPC, we have reconsidered and replanned our development strategies, and are taking the following six practical measures: strengthening the main segments, streamlining, deleverage, silo breaking, innovation & transformation and mechanism revolution. From now on, centered on high-quality development, we will repay such stakeholders as government, shareholders, customers, staff and communities with higher value, develop in harmony with the economy, society and environment, and join hands with our stakeholders to create a sustainable future.



In the future, CNBM will focus on high-quality development and create more valuable feedback for the government, shareholders, customers, employees, communities and other stakeholders, thereby achieving a win-win situation with the economy, society and environment. We will work together with all interested parties to secure a sustainable future.

Office building of the Group

Market Performance

2017 Fortune Global Top 500 Building Materials Enterprises

2017 Ranking	Company	Operating Revenue in 2016 (US$ million)	Country
225	Saint-Gobain	43,230.8	France
259	CNBM	39,322.6	China
363	CRH	29,972.8	Ireland
398	Lafargeholcim	27,308.4	Switzerland

Source: Fortunechina.com

2010-2017 Business Revenue and Total Profit of Scale Companies in the Chinese Building Material Industry

Unit: RMB 00' million

Source: China Building Materials Quantitative Economics Supervision Society

2010-2017 P.O.42.5 Price of Bulk Cement in China

Unit: RMB/ton

Source: Digital Cement

2010-2017 Cement Yield

Unit: 00' million tons

Source: National Bureau of Statistics, United States Geological Survey

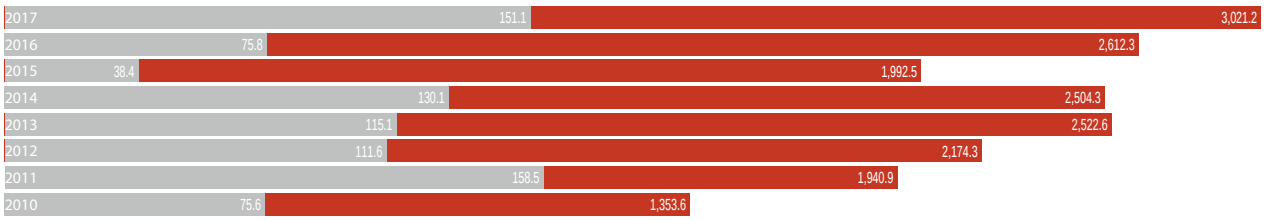
2010-2017 Sales Revenue and Total Profit of the Chinese Cement Industry

Unit: RMB 00' million

Source: Digital Cement

2010-2017 Business Revenue and Total Profit

Unit: RMB 00' million

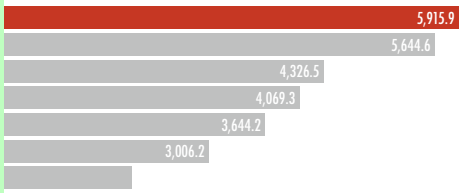


ance of Listed Holding Companies

	Stock Exchange	Stock Code	Dividend per Share (RMB)	Earnings per Share (RMB)
	Hong Kong Exchanges and Clearing	3323.HK	0.1000	0.5970
	Shenzhen Stock Exchange	000786.SZ	0.3550	1.3110
	Shanghai Stock Exchange	600176.SH	0.2500	0.7366
	Hong Kong Exchanges and Clearing	01893.HK	-	0.4900
ional	Shanghai Stock Exchange	600970.SH	0.1680	0.5600
tock	Shenzhen Stock Exchange	000877.SZ	0.0800	0.3010
Materials	Shanghai Stock Exchange	600449.SH	0.2200	0.7100
	Shanghai Stock Exchange	600720.SH	0.2300	0.7403
& Technology	Shenzhen Stock Exchange	002080.SZ	0.3000	0.9510
& Technology	Shanghai Stock Exchange	600552.SH	-	0.1009
aving	Shanghai Stock Exchange	603126.SH	0.0700	0.2180
	Shanghai Stock Exchange	600876.SH	-	0.0390
ompany Limited	Hong Kong Exchanges and Clearing	1108.HK	-	0.0390
y	Shenzhen Stock Exchange	002066.SZ	-	0.0626
	Shanghai Stock Exchange	603060.SH	0.2000	0.6556
g	Shenzhen Stock Exchange	002205.SZ	-	0.1369

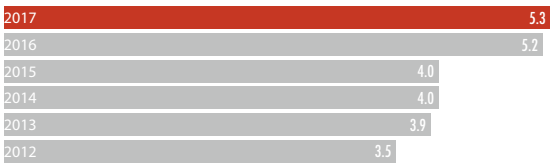
al Assets

Unit: RMB 00' million



2010-2017 Cement Production Capacity

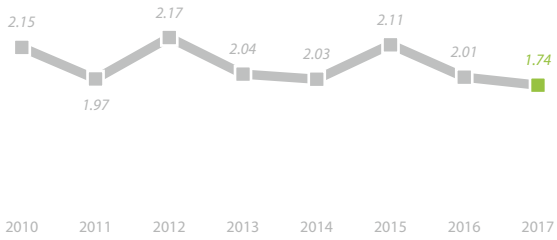
Unit: 00' million tons



Energy Conservation and Environmental Protection

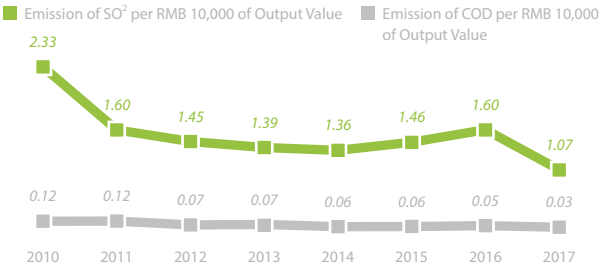
2010-2017 Comprehensive Energy Consumption per RMB 10,000 of Output Value

Unit: tons of standard coal equivalent per RMB 10,000 of output value



2010-2017 Emission of SO_2 and COD per RMB 10,000 of Output Value

Unit: kg/RMB 10,000

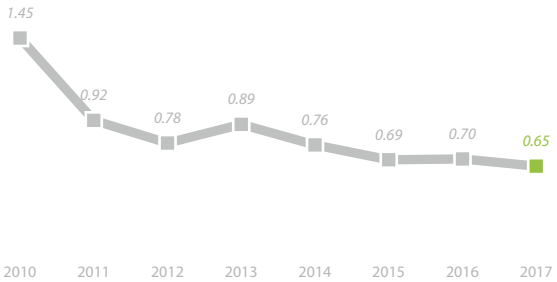


2010-2017 Comprehensive Energy Consumption of Cement

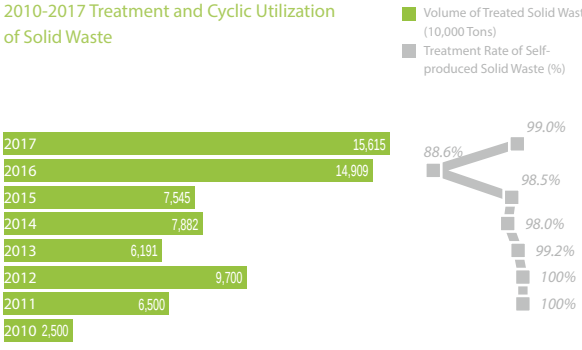
Unit: kg of standard coal equivalent/ton

2010-2017 Emission of NO_X per Cement Clinker Unit

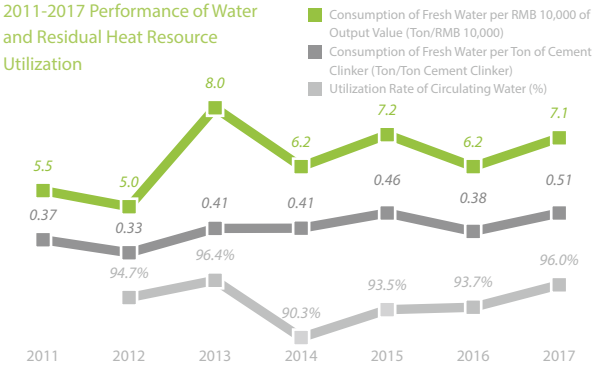
Unit: kg/ton



2010-2017 Treatment and Cyclic Utilization of Solid Waste



2011-2017 Performance of Water and Residual Heat Resource Utilization



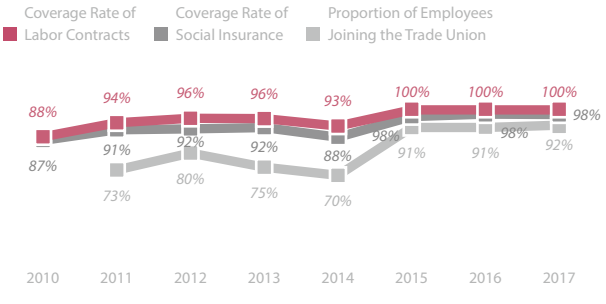
Employee Care

2010-2017 Employee Profile

Unit: Person

	2010	2011	2012	2013	2014	2015	2016	2017
Total Number of Employees	112,676	126,385	165,652	179,421	176,854	176,610	234,511	221,421
Employees from Foreign Countries, Hong Kong, Macau and Taiwan	397	594	1190	1234	892	841	1126	750
Employees of Ethnic Minorities	1,566	3,516	2,706	3,031	3,120	3,521	5,964	5,985
Employees with Disabilities	599	1,023	1,620	1,685	2263	1,449	1,875	1,732
Proportion of Female Employees in Management	24.0%	11.6%	13.5%	18.1%	18.4%	17.2%	18.3%	18.4%

2010-2017 Coverage Rates of Labor Contracts, Social Insurance and Employees Joining Trade Union



2010-2017 Progress of Enterprise Annuity

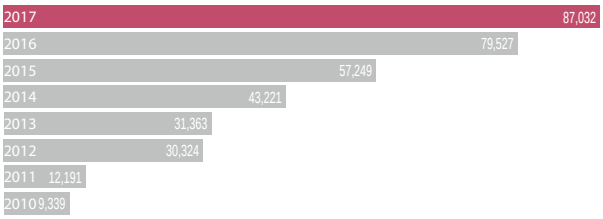
	2010	2011	2012	2013	2014	2015	2016	2017
Number of Member Enterprises Participating in Enterprise Annuity	38	53	66	67	67	68	71	74
Number of Employees Participating in Enterprise Annuity	12,811	13,368	20,392	21,131	21,750	22,165	22,871	24,093

2011-2017 Performance in Staff Training

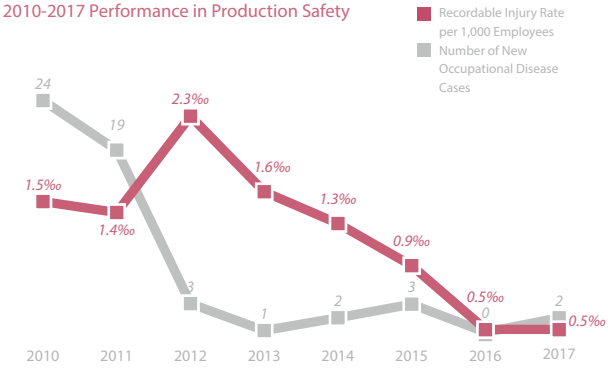
	2011	2012	2013	2014	2015	2016	2017
Number of Employee Training Programs	11,975	21,028	37,491	43,352	32,672	47,554	52,676
Training time (Unit: 0' Thousand Hours)	108	126	164	91	133	331	112
Number of Diplomas or Degrees Obtained by In-service Employees with Our Assistance	1,580	1,138	2,387	3,520	2,882	3,028	2,251

2010-2017 Investment in Occupational Health and Safety

Unit: RMB 0' thousand



2010-2017 Performance in Production Safety



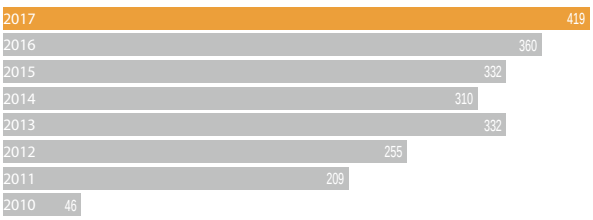
Corporate Citizenship

2010-2017 Expenditure on Social Welfare Activities

Unit: RMB 0' thousand

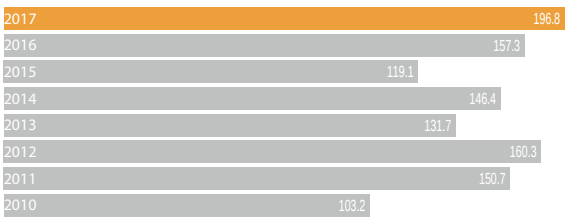
2010-2017 Number of Supported Social Welfare Projects

Unit: number of projects



2010-2017 Tax Paid

Unit: RMB 00' million



2011-2017 Performance in Creating Employment Opportunities

Unit: Person

Technological Innovation

2010-2017 Technology Awards at Provincial and Ministerial Levels

Unit: Number of Awards

	2010	2011	2012	2013	2014	2015	2016	2017
Scientific and Technological Awards at Provincial or Ministerial Level or Above	63	132	152	145	117	123	173	197
Of which: National-level Scientific and Technological Awards	0	2	0	1	1	0	2	2
Of which: Technical Innovation Awards	17	46	89	54	48	48	82	66

2010-2017 Standards Prepared or Revised with the Leadership of CNBM

Unit: Number of Standards

	2010	2011	2012	2013	2014	2015	2016	2017
Total Number of Standards	79	28	22	59	104	62	91	122
Of which: International Standards	0	1	1	1	3	2	2	4
Of which: National Standards	30	15	5	8	35	36	57	90
Of which: Industrial Standards	49	12	16	50	66	24	32	28

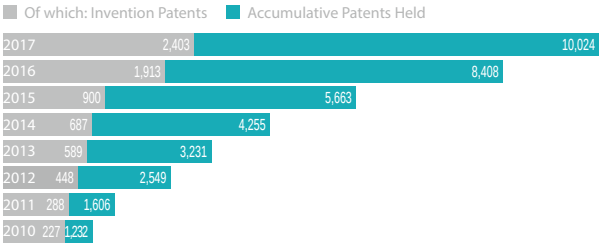
2010-2017 Application and Granting of Patents

Unit: Number of applications and patents

	2010	2011	2012	2013	2014	2015	2016	2017
New Patent Applications	514	630	766	1,262	1,571	1,568	2,156	2,144
Of which: Invention Patents	173	170	228	373	531	566	880	1,039
Newly Granted Patents	420	487	729	848	1,318	1,492	1,793	1,524
Of which: Granted Invention Patents	54	80	143	128	106	193	455	428

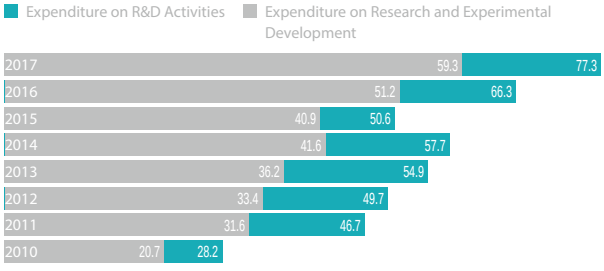
2010-2017 Accumulative Patents Held

Unit: Number of patents



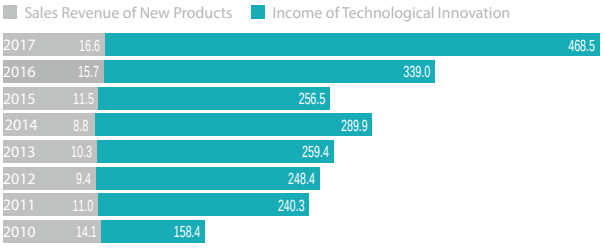
2010-2017 Expenditure on R&D Activities

Unit: RMB 00' million



2010-2017 Income of Technological Innovation

Unit: RMB 00' million



Indicator Index (CASS-CSR4.0)

Indicator Classification	No.	Content of Indicator	Page
Part 1 Preface of Report (P series)			
Scope of report	P1.1	Quality assurance	Cover 2
	P1.2	Interpretation of data	Cover 2
	P1.3	Report system	Cover 2
Executives' Address	P2.1	Analysis of social responsibility performance situation and strategic considerations	P4-5
	P2.2	Progress of annual social responsibility work	P4-5
Responsibility focus	P3.1	Important social responsibility events	P66-68
	P3.2	Progress and results of key social responsibility topics	P73-77
Corporate profile	P4.1	Corporate strategy and culture	P7-8
	P4.2	Organizational structure and operating regions	P6, 12-13
	P4.3	Major products, services and brands	P12-13, 20
	P4.4	Corporate scale and influence	P6
	P4.5	Major changes in organizational scale, structure, ownership or supply chains within term of report	P18
Part 2 Responsibility Management (G Series)			
Vision	G1.1	Mission, vision and values of corporation	P7-8,66-67
	G1.2	Social responsibility philosophy and motto of corporation	P66
Strategy	G2.1	Identification and management of major social responsibility topics	P67-68
	G2.2	Strategic planning and annual planning of social responsibility	P68
	G2.3	Promoting the integration of social responsibility into corporate development strategy and daily operations	P69
	G2.4	Building a responsible brand with influence and sustainability	P69
Organization	G3.1	Support and encouragement for social responsibility work by senior management	P69-70
	G3.2	Leadership organization and work mechanism of social responsibility	P69
	G3.3	Organizational system and division of social responsibility	P69
System	G4.1	Social responsibility management system establishment	P69
	G4.2	CSR indicator system construction	P69
	G4.3	CSR theoretical research enrichment	P72
Culture	G5.1	Organizing and carrying out CSR training	P69
	G5.2	Carrying out CSR assessment and evaluation	P69
Participation	G6.1	Identifying and responding to claims of stakeholders	P71
	G6.2	CSR communication and participation led by the enterprise	P70
	G6.3	Participation in and support for economic, environmental or social conventions, principles or other initiatives initiated by external parties	P72
Part 3 Market Performance (M Series)			
Responsibility with regard to shareholders	M1.1	Standard corporate governance	P16
	M1.2	Nomination and selection process of highest governance organization and its committee	P10
	M1.3	Anti-corruption	P19
	M1.4	Disclosure of compliance information	P18
	M1.5	Protecting interests of mid-to-small investors	P18
	M1.6	Growth	P78-79
	M1.7	Profitability	P78-79
	M1.8	Safety	P78-79
Responsibility with regard to customers	M2.1	Improving accessibility of products/services	P12-13
	M2.2	Product/service quality management system	P20
	M2.3	Pass rate	P21
	M2.4	Sticking to the driving power of innovation	P56
	M2.5	Investment in R&D	P56
	M2.6	Number of new patents	P80
	M2.7	Commercialization of scientific achievements	P60-61
	M2.8	No false or misleading publicity	P20
	M2.9	Popularization of product knowledge and customer training	P20
	M2.10	Warning of hidden risks	N/A
	M2.11	Fair transactions	P21
	M2.12	Advocating sustainable consumption	P73
	M2.13	Protection of customer information	P20
	M2.14	Active after-sales service system	P20
	M2.15	Actively dealing with customer complaints	P20

		Part 4 Social Performance (S Series)	
Responsibility with regard to the community	S4.3	Proportion of local employment	P49
	S4.4	Local procurement policy	P48
	S4.5	Supporting the development of women, minorities, farmers, herdsman and fishermen in the communities	P50
	S4.6	Corporate public welfare policy or main public welfare fields	P50
	S4.7	Establishing corporate public welfare funds/foundations	P50
	S4.8	Total donation amount	P50
	S4.9	Creating brand welfare projects	P50
	S4.10	Policies and measures supporting voluntary service	P27
	S4.11	Voluntary service performance of employees	P27
	S4.12	Supporting targeted poverty alleviation	P51-53
	S4.13	Input into special funds for poverty alleviation	P52
	S4.14	Number of people escaping poverty	P52
		Part 5 Environmental Performance (E Series)	
Green Management	E1.1	Environmental management system	P26
	E1.2	Environmental warning and response system	P26
	E1.3	R&D and application of environmental protection technologies	P26
	E1.4	Statistics and verification systems and methods of environmental indexes	P26
	E1.5	Training and publicity in environmental protection	P27
	E1.6	Building a green supply chain	P73
	E1.7	Supporting the development of green and low-carbon industries	P30-31
	E1.8	Total investment in environmental protection	P25
	E1.9	Dealing with climate change	P27
	E1.10	Carbon intensity	P27
	E1.11	Proportion of non-fossil energy	P28
	E1.12	Carbon sink	P27
Green production	E2.1	Green design	P30
	E2.2	Procurement and use of environmentally friendly raw materials	P28
	E2.3	Improving energy efficiency	P28
	E2.4	Total annual energy consumption and reduction	P28, 81
	E2.5	Comprehensive energy consumption per unit of output value	P81
	E2.6	Policies and measures for utilization of clean energy	P28
	E2.7	Utilization amount of clean energy	P28
	E2.8	Policies and measures for conservation of water resources	P29
	E2.9	Annual consumption of fresh water	P81
	E2.10	Fresh water consumption of unit per industrial added value	P29
	E2.11	Policies, measures and technologies for reducing waste gas emissions	P29
	E2.12	Emission and emission reduction of waste gas	P29, 81
	E2.13	Systems, measures and technologies for reducing wastewater discharge	P29
	E2.14	Emission and emission reduction of wastewater	P81
	E2.15	Systems, measures and technologies for reducing waste emissions	P29
	E2.16	Emission and emission reduction of waste	P81
	E2.17	Policies and measures for development of the circular economy	P28
	E2.18	Performance of circular economy development	P28
	E2.19	Green packaging	P73
	E2.20	Total amount and amount per unit of packaging materials of products	P73
	E2.21	Green transportation	P73
	E2.22	Effects on the environment of product/manpower transportation	P73
	E2.23	Energy conservation policies and measures	P28
	E2.24	Plan and action for reduction of greenhouse gas emissions	P27
	E2.25	Emission and emission reduction of greenhouse gases	P27
Green operation	E3.1	Green office measures	P27
	E3.2	Green office performance	P27
	E3.3	Ecological restoration and governance	P29
	E3.4	Protection of biological diversity	P28
	E3.5	Zero net deforestation	Back cover
	E3.6	Public welfare activities for environmental protection	P27

Part 6 Report Postscript (A Series)		
(A1)	Future plan: Corporate planning for social responsibility work	P4-5, 68
(A2)	Key performance forms: Display of key data of annual corporate social responsibility	P78-83
(A3)	Corporate awards form: Display of key awards for annual corporate social responsibility	P73
(A4)	Report evaluation: Evaluation of report by social responsibility or industrial experts, stakeholders or professional organizations	P88
(A5)	Reference index: Application of indicators required to be disclosed in the Guidelines	P84-87
(A6)	Feedback: Questionnaire of readers' opinions and feedback channels for readers' opinions	P89

Rating Report

Rating Report of CNBM Corporate Social Responsibility Report 2017

Upon the request of CNBM, the Chinese Expert Committee on CSR Report Rating selected experts to form the CNBM CSR Report 2017 (hereinafter referred to as the 'Report') Rating Team.

IV. Recommendations for improvement

Provide further disclosure of negative events so as to further improve the balance of the Report.

Rating Team

Team leader: Zhong Hongwu, Director of the Research Center for Corporate Social Responsibility of the Economics Division of the Chinese Academy of Social Sciences

Members: Wang Dayang, Director of the Social Mobilization Group of the Social Poverty Alleviation Department of the State Council Leading Group Office of Poverty Alleviation and Development

Process Evaluators Yang Jing and Yuan Yuqing

Feedback

Thank you very much for caring about and supporting the social responsibility work of CNBM. Please fill in the questionnaire below and send it back to us via fax or mail. If the blank space is insufficient for your response, please attach an additional page; if you wish to reply via electronic means, please log onto our website at www.cnbm.com.cn, click on 'Social Responsibility' and then click on 'Social Responsibility Communications - Feedback' . You can also scan the QR code on the left to fill in your feedback via a mobile terminal. According to your suggestions and advice, we will make continuous improvements in our work in the future.

Your overall evaluation of the CNBM Sustainability Report:

Overall evaluation	☐ Very good	☐ Good	☐ Ordinary	☐ Not good	☐ Very poor
Contents	☐ Very good	☐ Good	☐ Ordinary	☐ Not good	☐ Very poor
Number of pages	☐ Very good	☐ Good	☐ Ordinary	☐ Not good	☐ Very poor
Design	☐ Very good	☐ Good	☐ Ordinary	☐ Not good	☐ Very poor
Language	☐ Very good	☐ Good	☐ Ordinary	☐ Not good	☐ Very poor

In your opinion, what's the core of responsibility performance of CNBM?

☐ Operation Performance ☐ Technological Innovation ☐ Energy Saving & Environmental Protection ☐ Employee Care ☐ Corporate Citizenship ☐ Responsibility Governance

Which aspect do you think we need to improve?

☐ Information collection ☐ Development of organizational structure ☐ Talent development ☐ Performance evaluation ☐ External publicity ☐ Management of stakeholders

☐ Public welfare planning ☐ Preparation of annual report ☐ Studies on social responsibility ☐ Other _____

Through which means would you like to learn about our responsibility performance?

☐ Printed report ☐ Special 'Social Responsibility' column on the official website ☐ Official WeChat account ☐ Professional social responsibility media ☐ Other _____

What do you expect to see in the annual Sustainability Report of CNBM?

_____

_____

Which aspect of CNBM's performance do you pay most attention to?

_____

_____

Do you have any other suggestions or advice?

_____

_____

_____

What is your standpoint when participating in our collection of suggestions?

☐ Government ☐ Institutional investor ☐ Middle or small shareholder ☐ Financing institution ☐ Industrial association ☐ Supplier ☐ Client

☐ Enterprise in the same industry ☐ Partner ☐ Professional CSR institution ☐ Public welfare organization ☐ Media ☐ Senior executive of the Group

☐ Employee of the Group ☐ Other _____

In order to reply to your suggestions and advice in time, please provide your contact information. We will keep your personal information confidential.

Name _____ Age _____ Occupation / employer _____

Gender ☐ Male ☐ Female Department / position _____ Address _____

Telephone _____ Postal Code _____ E-mail _____

Please fold here

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STAMP

Suite 2216, Building 2, Guohai Plaza, 17
Fuxing Road, Haidian District, Beijing

Social Responsibility and Energy Saving & Environmental
Protection Office China National Building
Material Group Co., Ltd.

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China National Building Material Group Co., Ltd.

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