



# 2015

CHINA NATIONAL BUILDING MATERIALS GROUP CORPORATION

## Social Responsibility Report



China United Cement Corporation's Cement Production Base with Annual Capacity of 1 Million Tons in Mongolia

## Preparation Notes

This Report gives a true picture of China National Building Materials Group Corporation's (CNBM) performance of social responsibilities.

### Period Covered by the Report

1 January to 31 December 2015; given the progressing continuity of certain businesses or projects, some contents relate to the first and second quarters of 2016, the details of which are indicated in the Report.

### Reporting Frequency

Annual report.

### Entities Covered by the Report

All the wholly-owned or controlled (including absolute and relative controlled) members of CNBM. For the purpose of concise description, terms of "CNBM", the "Group" and "We" are used in the Report to refer to China National Building Materials Group Corporation.

### Data Sources

All information and data used herein are from the headquarters of CNBM and its member companies. Notes have been made in the report for the information from external reference. Unless otherwise

### Which report is this one? How to get these reports?

This is the seventh social responsibility report released by CNBM. Please ask for the printed version of each year's Report via the contact information on the cover. You can also scan the two-dimension code below or log onto <http://www.cnbm.com.cn/EN/> to download the electronic versions and get more related information.



### How to guarantee the data released in the Report?

The financial data in the Report are derived from CNBM 2015 Annual Financial Statement which has been audited by Baker Tilly China.

External data in the Report are derived from those released by third parties through media, sources of which are indicated in the Report.

The non-financial data in the Report are derived from CNBM's CSR information management system. Data in the system are faithfully reported by functional departments and offices of CNBM headquarters and its member companies in accordance with CNBM Social Responsibilities Management Information Collection Measures; data of member companies are submitted to the headquarters after approved at all levels; each department or office of the headquarters reviews special data according to its function; to ensure the standardization, reliability and authenticity of the data, the headquarters verify data of member companies through sampling at a proportion of at least 5%.

### How is this report prepared?

This report is prepared according to China CSR Reporting Guidelines (CASS-CSR3.0) issued by the Chinese Academy of Social Sciences, CNBM Methods of Social Responsibility Management, and CNBM Social Responsibilities Management Information Collection Measures. The detailed preparation process is as follows:

#### Preparation Process of CNBM Annual Social Responsibility Report

##### 1. Project startup

Defining annual work plan, convening meetings or issuing documents

##### 2. Defining core topics and boundaries

Analyzing of stakeholders' concerns, defining annual major core topics, analyzing domestic and overseas CSR standards and guidelines, studying new standards and trends

##### 3. Printing and distributing information list

Defining indicator system of information system, making list of annual star cases

##### 4. Collecting materials

Feedback on member companies' materials, feedback on functional departments and offices' materials, analysis of stock materials, collection of media reports

##### 5. Writing report

Drawing framework of the Report, defining the topic, compiling the first draft

##### 6. Consultation

CSR leading group, functional departments and offices in the headquarters, member companies, stakeholders, CSR experts

##### 7. Improvement

Text revision, data verification, standard self-examination

##### 8. Design

Readability, innovation, continuity

##### 9. Evaluation

Rating Standards of Corporate Social Responsibility Reporting in China (2014)

##### 10. Issuance

Transmission to stakeholders via multiple carriers and channels

##### 11. Summary & Promotion

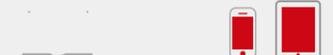
Analyzing deficiencies and making improvement plan [http://www.cnbm.com.cn/EN/c\\_111101611041101/](http://www.cnbm.com.cn/EN/c_111101611041101/)

### On what standards is the Report based? How about the benchmarking and the evaluation?

The preparation of the Report is based on Sustainable Development Report (G4) published by the Global Reporting Initiatives (GRI), Social Responsibility Guide (ISO26000) issued by the International Organization for Standardization (ISO), CSR Reporting Guidelines GB/T36001-2015, China CSR Reporting Guidelines (CASS-CSR3.0) issued by the Chinese Academy of Social Sciences, etc. Please refer to Page 62-65 of the Report for the benchmarking between the Report and CASS-CSR3.0 and the evaluation result.

### How to feed back opinions and contact us?

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



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## Responsibility Performance

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## Chairman's Address

### Standing on the moral high ground to do business



During the "Twelfth Five-year Plan" period, China National Building Materials Group Corporation (CNBM), centering on the strategic goals of "Stronger and better; World leadership", actively transferred mode and adjusted structure, deepened market-oriented reform, vigorously promoted structural adjustment, merger and reorganization, and energy conservation and emission reduction of cement and glass, as well as developed new building materials, new housing and new energy materials, making remarkable achievements. During the "Twelfth Five-year Plan" period, CNBM realized a total profit of 55.4 billion yuan, with taxes of 61.2 billion yuan and total social contributions of 220.8 billion yuan. Started as a grassroot enterprise with small capital and weak economic foundation, CNBM has developed and grown into one of the world's top 500 enterprises with 180,000 employees and assets of more than 400 billion yuan.

The "Twelfth Five-year Plan" period is a golden stage for CNBM's growth and development, as well as a key period for us to make steady headway in social responsibility management and systematically carry out responsibility practices. Starting from releasing the first social responsibility report, we built social responsibility organization system, established and perfected social responsibility management rules, deepened the concept of responsibility and established responsibility model; we conducted stakeholder management and regular release of social responsibility report; we built the framework of five major responsibilities, continued

responsibility-fulfilling practices and persisted in improving responsibility-performing ability and level; we carried out responsibility research, joint in responsibility initiating organization and action plans to promote the dissemination and sharing of responsibility. We achieved growth from scratch and became the practitioner, impeller and leader of social responsibility.

General Secretary Xi Jinping said: "Only wealth with care is of true meaning; only the enterprises actively undertaking social responsibilities are the most competitive with the most vitality." Over the years, CNBM has been exploring in practice the most effective ways of sustainable development, as well as its laws and logic. Business activities regard profits as the core, but the companies are not pure economic organizations whose fundamental purpose is to serve the community. As the saying goes, a small victory is won by wisdom, a big by virtue. The development of enterprises should be combined with well-being of human, fate of the country, interests of the industry and happiness of employees. We should stand on the moral high ground to do business.

**Being people-oriented and pursuing the realization of human values and happiness.** CNBM has always regarded "people" as the company's most valuable asset, and adhered to the principle of "enterprises being people, by the people, for the people and loving the people." Running enterprises relies on efforts and dedications of cadres and staffs; the development of enterprises is, in the final

analysis, for the people, including business people, investors and social persons. We have always been people-centered, focusing on the life security and occupational health of employees, respecting employee's rights and interests and caring staff's well-being and growth. We will build the corporate into a stage for employees to show their talents, as well as a home giving them sense of security, warmth and happiness. We devote creativity and labor contributions of staff to social developments and regard human happiness and value as a significant goal and the fundamental pursuit of the Group.

**Putting the interests of the whole industry above everything and taking the course of mutual benefits and win-win situation.** We always adhere to the idea of "industry interests outweigh those of enterprises which lie in the former" and strive to prop up the umbrella aiming at coexistence and multi-win situation for the industry. We take the lead in eliminating the backward, merger and reorganization and industry consolidation, leading the industry from competition to cooperation-competition and from the jungle to the blue ocean. We unite industry strengths with inclusive heart, making cement-industry concentration degree increase from 15% in 2005 to the present 58%. We have continuously expanded scientific and technological resources of the industry, built industry's innovation flagship and contributed efforts to industry sustainable development. A number of major scientific and technological achievements have been successfully applied to major engineering and construction projects such as Beijing Olympics,

high-speed railways, the Three Gorges, and Beidou Satellite. We promote adjustment and upgrading of industrial structure while realizing leapfrog self-development.

**Human well-being first and following the logic of green and sustainable development.** Building materials industry has all the time been highly dependent on resources and energy. We pay more attention to the sustainability of resources and energy, climate and ecological and environmental problems. We have implemented efficient manufacturing, clean production and comprehensive utilization of industrial and urban waste resources in many ways, achieving nearly 100 million tons of absorptive capacity of solid waste and taking lead in green manufacturing of building materials. In 2015, we launched "Blue Sky Responsibility" action plan, and made guarding the blue sky the first corporate responsibility, and proposed implementation plan for building materials industry group to tackle climate change. We are committed to providing for the community green and environment-friendly building materials, promoting new building materials and Energy Plus 5.0 green town. We manufacture fan blades and strive to develop thin-film solar cell industry. Solar energy conversion efficiency of thin-film solar cell module has exceeded 17.9%, making contributions to the development of new energy.

**Taking common development as the guiding principle and practicing responsible operation model of "the Belt**

**and Road Initiative".** CNBM is an advocate and practitioner of common development concept. In the meantime of giving play to our own industrial advantages, we promote common development within our area and related industries. During the "Twelfth Five-year Plan" period, a total of 42.18 billion yuan was turned over to local taxes, a total of more than 90,000 new employment opportunities were created and our charitable donations reached 88.31 million yuan. In the practice of "the Belt and Road Initiative", we uphold three concepts: first, to contribute to local economic development; second, to work closely with local businesses; third, to live on friendly terms with local people. With common development concept as the core, we actively promote policies of localization of raw materials, staff, environmental protection and public welfare, adhere to responsible development and utilization of resources in the area when giving play to our own industrial advantages, provide goods and services, jobs, tax contributions, public support for the region and protect the local environment and market order, and strive to become a practitioner, advocate and promoter of harmonious development.

Chinese economy has entered a new normal, with lack of market demand and severe overcapacity, and is facing enormous pressure and challenges. Looking into the "Thirteenth Five-year Plan" period, CNBM people, with full confidence, have worked out a blueprint for transformation in the new stage. In the next five years, we will focus on five development philosophies, stick to "three major development strategies" of innovation-driving,

green development and internationalization; as for transformation and upgrading, we will work well to achieve the transformation and upgrading of traditional industries; we will vigorously develop the "three new" industries, strengthen "three curves" of manufacturing servitization and R & D industrialization, promote "four changes" in business model, value orientation, business areas and market area to achieve humanization, wisdom, green-orientation, performance-base and "five visions" of global enterprise groups.

As Confucius said, "the benevolent love others", "the benevolent take delight in benevolence; the wise practice benevolence for its sake". The true benevolent should bear in heart sincerity for love and the true wise must show with practice their favor of benevolence. Responsible businesses should have the quality, culture and mind of the benevolent, as well as the attitude of gratitude and the idea of love. We should make efforts to give back to and benefit the society with inclusive philosophy and spirit of altruism. We should adhere to "self-discipline and social commitment". We believe that if we stand on the moral high ground to do business and make joint efforts with stakeholders, we will surely have a better and more harmonious future!

Chairman of CNBM Song Zhiping

# Company Profile

As the leader of China's building materials industry, CNBM is the largest comprehensive building materials industry group in China. It has been ranked first among the top 500 enterprises in the building materials industry for many years, 50th among the Top 500 Enterprises in China, and 270th among the Fortune Global 500. Up to the end of 2015, the total assets of the Group amounted to RMB 432.65 billion and the total number of employees reached 176,610. In 2015, CNBM achieved revenue of RMB 199.25 billion with total profit of RMB 3.84 billion, whilst taxes paid amounted to RMB 11.91 billion.

Headquartered in Beijing, CNBM has over 1,100 member companies, and dominates 6 listed companies, including 2 overseas listed companies. Member companies of CNBM are located in 30 Chinese provinces, municipalities and autonomous regions, whose businesses cover over 120 countries and regions in the world.

As an enterprise engaged in the highly competitive field, CNBM takes "efficient use of resource, serving the construction" as our core values, always follows market rules, strongly promotes structural adjustment, consolidation and restructuring, and energy conservation and emission reduction of such industries as cement and glass. CNBM vigorously develops new building materials, new energy-saving buildings, and advanced energy materials. CNBM has unswervingly followed the development path of capital operation, consolidation and restructuring, management integration, and integrated innovation. We have gradually established business segments of industrial manufacturing, research and design, engineering services, equipment manufacturing, logistics and trading, and new housing. We are committed to becoming a world-class comprehensive building materials industry group with sustainable innovation capabilities and outstanding international competitiveness.

Largest ready-mixed concrete producer in the world

**432.65** billion

Total assets of RMB 432.65 billion in 2015

**3.84** billion

Total profit of RMB 3.84 billion in 2015

**176,610** employees

176,610 employees in 2015

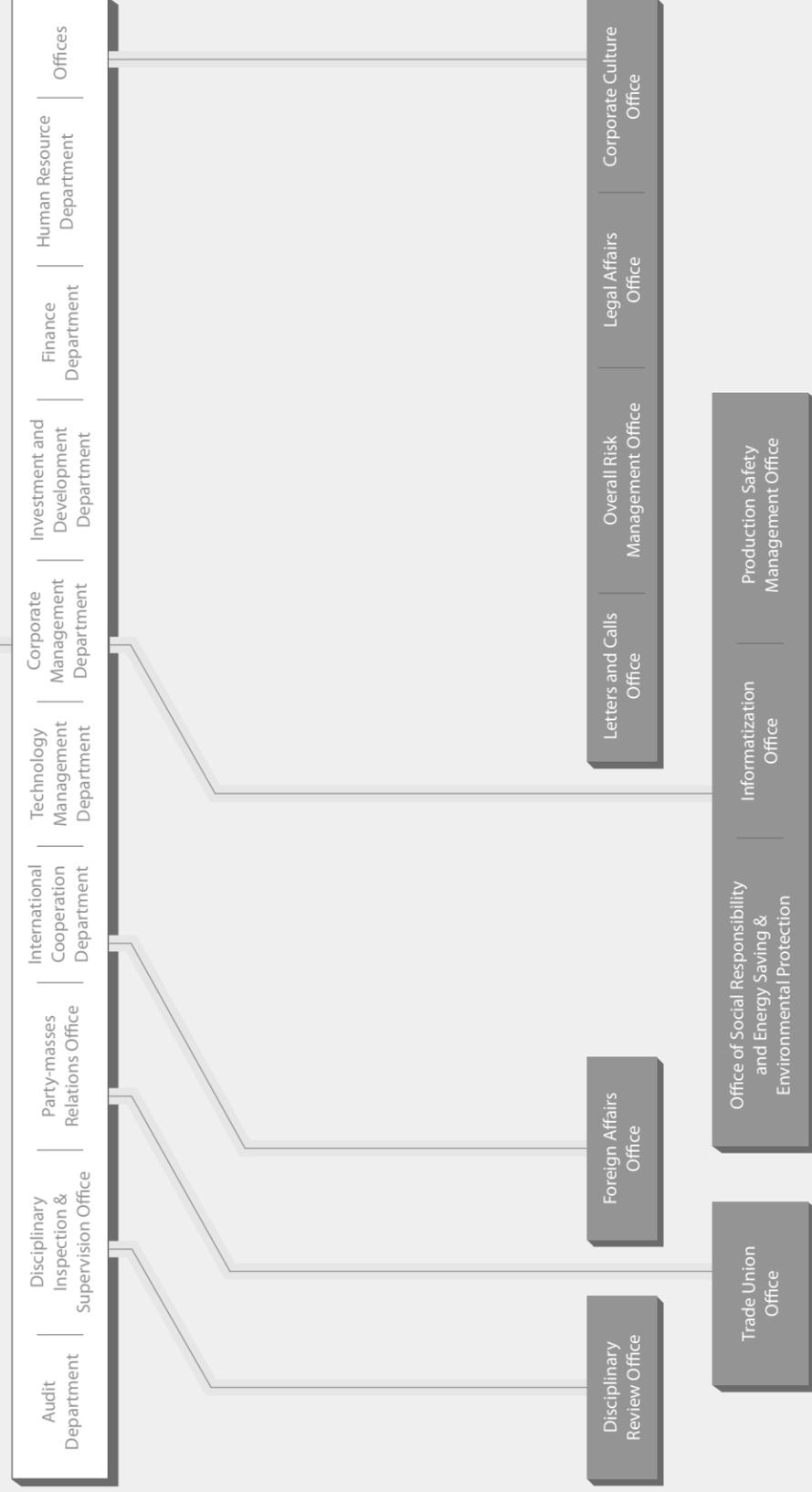
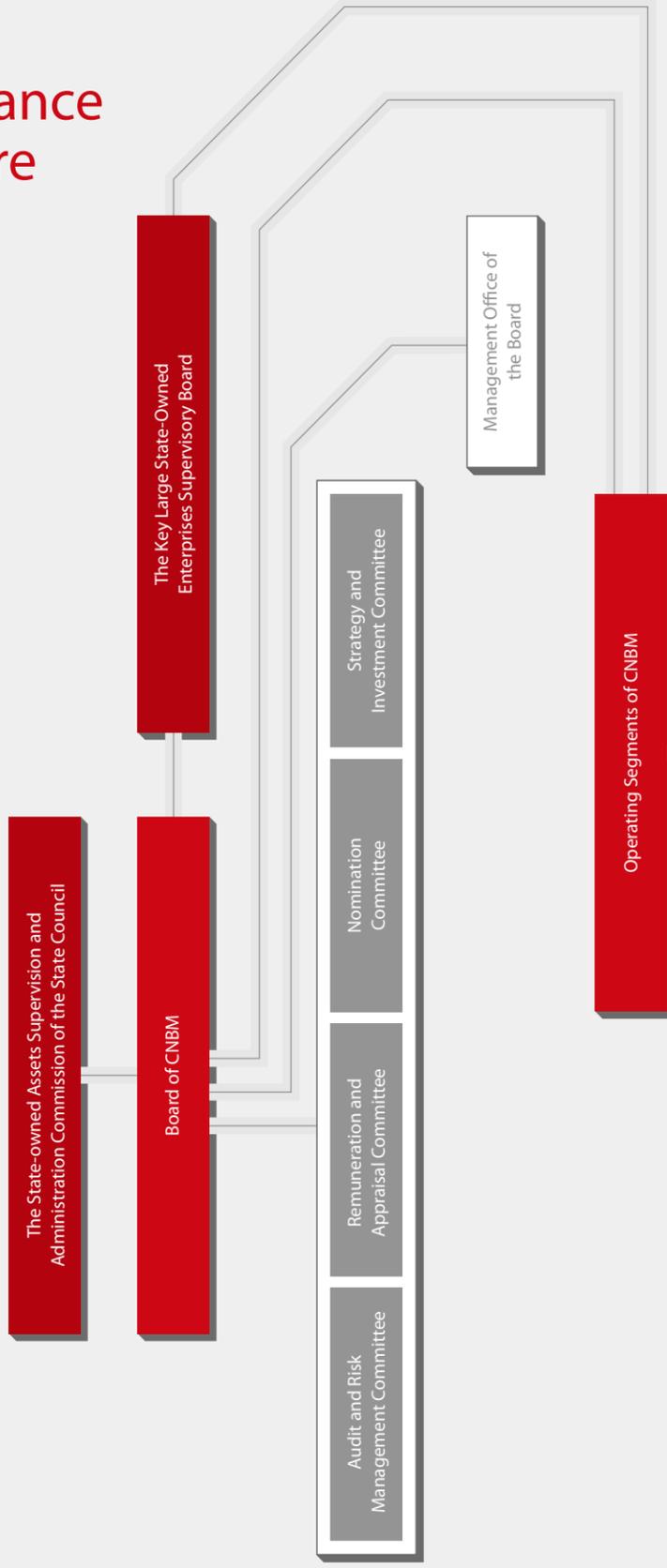
**11.91** billion

Taxes paid of RMB 11.91 billion in 2015

**199.25** billion

Revenue of RMB 199.25 billion in 2015

# Governance Structure



<b>China National United Equipment Group Co., Ltd.</b>	<b>China National Building Materials &amp; Equipment Import &amp; Export Corporation</b>	<b>China Building Materials Academy</b>	<b>China National Building Materials Company Limited</b>
<b>China New Building Group Corporation</b> China New Building Huagou Residence Industry Co., Ltd.	China National Building Materials & Equipment Supply Chain Co., Ltd. CNBM Smart Industry Technology Co., Ltd. CNBM International Engineering Co., Ltd. CNBM International Corporation CNBM International E-Commerce Corporation CNBM Wood Trading Co., Ltd. CNBM Engineering Materials Co., Ltd. CNBM Technology Co., Ltd.	China Building Materials Academy (Beijing Headquarters) Ruitai Materials Technology Co., Ltd. China Building Materials Test & Certification Group Co., Ltd. Hefei Cement Research & Design Institute Harbin FRP Institute CNBM Design & Research Institute Qinhuangdao Glass Industry Research and Design Institution Xian Research & Design Institute of Wall & Roof Materials Xianyang Research & Design Institute of Ceramics Horological Research Institute of Light Industry	China United Cement Corporation South Cement Company Limited North Cement Company Limited Southwest Cement Company Limited BNBM Public Limited Company China Composites Group Co., Ltd. Lianyungang Zhongfu Lianzhong Composites Group Co., Ltd. China Triumph International Engineering Co., Ltd. Nanjing Kisen International Engineering Co., Ltd. Beijing Triumph International Engineering Co., Ltd. China Jushi Co., Ltd. CNBM Investment Co., Ltd.
<b>Triumph Science &amp; Technology Group</b>	<b>Beijing New Building Materials (Group) Co., Ltd.</b>		
<b>CNBM United Investment Co., Ltd.</b> Zhongfu Shenyang Carbon Fiber Co., Ltd.	China National Building Materials & Equipment Supply Chain Co., Ltd. CNBM Smart Industry Technology Co., Ltd. CNBM International Engineering Co., Ltd. CNBM International Corporation CNBM International E-Commerce Corporation CNBM Wood Trading Co., Ltd. CNBM Engineering Materials Co., Ltd. CNBM Technology Co., Ltd.		
<b>Zhejiang Leomax Group Co., Ltd.</b>	INTECH Building Co., Ltd. BNBM House Co., Ltd.		
<b>CNBM Assets Management Corp.</b>			

# Business Activities

The annual capacity of cement is about 400 million tons; ready-mixed concrete is 410 million m<sup>3</sup>, both of which rank the first in the world.

Representative companies

China United Cement Corporation, South Cement Company Limited, North Cement Company Limited, Southwest Cement Company Limited, CNBM Investment Co., Ltd.

The glass industrial platform can produce high-quality float glass with a processing capacity of 10 million m<sup>2</sup>, covering products of vehicle glass, architectural fabricated glass, and decorative glass. We can produce 15 ultra-thin glass products from 0.15 mm to 1.3 mm. We also have an industrial base capable of producing 40 million pieces of ITO electropane and TFT crystal glass substrates.

Representative companies

China Luoyang Float Glass Group Co., Ltd., Anhui Huaguang Photoelectricity Materials Technology Group Co., Ltd., Bengbu Design & Research Institute for Glass Industry

The light-weight building material industrial platform includes three business sectors, namely the wall and suspended ceiling system, the housing parts and architectural energy conservation system, and the exterior building envelope system. It provides application solutions pack for public buildings and family housing with its complete product system. It also possesses internationally recognized high-end brands and proprietary intellectual property rights, as well as 54 major industrial bases. Its annual productivity of gypsum plasterboard exceeds 2 billion m<sup>2</sup>, ranking the first in the world.

Representative companies

BNBM Public Limited Company

The total productivity of fibreglass has surpassed one million tons. We have several production bases both at home and abroad, and the world's largest alkali-free tank furnace production line with annual capacity of 120,000 tons. We also possess proprietary intellectual property rights of such packaged technologies as alkali-free tank furnace, medium-alkali tank furnace, recycling of wasted silk of fibre glass, etc.

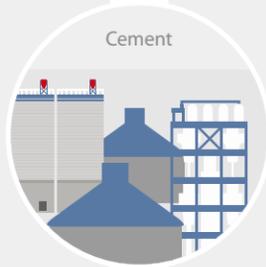
Representative company

China Jushi Co., Ltd.

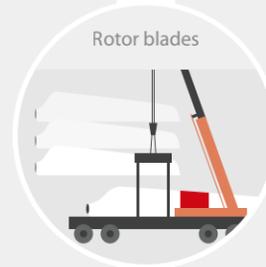
We have the 1,000-ton carbon fibre production line, which owns the largest scale and most advanced technology in China. We've reached the annual productivity of 10,000 tons of PAN silk and 5,000 tons of carbon fibre. We have China's first production line successfully producing high-quality T700 PAN silk and carbon fibre and T800S carbon fibre with good performance, with the productivity of T700 silk reaching 8,000 tons and that of T700 carbon fibre reaching 4,000 tons. We can produce ACCC conductor with a sectional area of 150 – 1,250 mm<sup>2</sup>, which can be applied in transmission lines of 35 – 1,000 KV.

Representative companies

Zhongfu Shenyang Carbon Fibre Co., Ltd., Zhongfu Carbon Fibre Core Cable Technology Co., Ltd.



Cement



Rotor blades



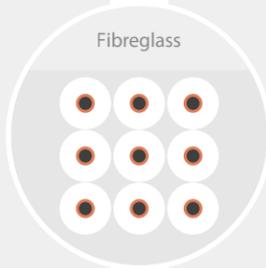
Glass



PV



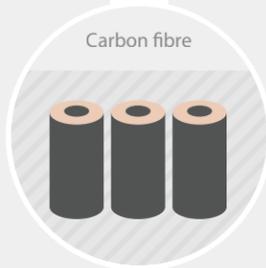
Refractories



Fibreglass



New housing



Carbon fibre

We are a leading manufacturers of megawatt rotor blades in China, with a total capacity of 4,500 sets. Our products have 9 series and 58 types with categories varying from 1.25 MW to 6 MW, and length of blade varying from 31.5 meters to 75 meters. Our products cover all categories of products for land and marine use, and have been exported to dozens of countries and regions. We have blade production bases in Lianyungang, Shenyang, Jiuquan, Baotou, Hami, and Guizhou respectively, a R&D center in Germany, and a national blade testing center.

Representative companies

Lianyungang Zhongfu Lianzhong Composites Group Co., Ltd.

We establish a whole industrial chain of BIPV (Building Integrated PV) with a focus of thin-film solar products and technologies. We have several solar cell production bases at home and abroad. We have a 100-MW CIGS thin-film solar cell production base in Germany, and have developed several PV power stations in China, Great Britain, the United States, Thailand, and Japan respectively. We are committed to the integrated application of advanced energy materials and distributed energy and carrying out the R&D and application and dissemination of new-energy housing.

Representative companies

Bengbu Design & Research Institute for Glass Industry, China Triumph International Engineering Co., Ltd., CNBM Jetion Solar Technology Co., Ltd.

Our products include refractories of fusion-cast zirconia alumina and fusion-cast aluminum oxide series, and unshaped, basic, alumina-silica and silica refractories. We have a world's largest professional production base of fusion-cast refractory, whose annual productivity is nearly 40,000 tons, and an automatic production line of unshaped refractory with annual capacity of 100,000 tons. Our comprehensive strength, product quality and service are all at a leading level in the industry.

Representative company

Ruitai Materials Technology Co., Ltd.

As the amateur and promoter of the environment-friendly and energy-conservation new housing industry of China, we integrate R&D, design, production and installation with system integration, and have several product systems, including steel, wood, PC, etc. As one of the first national demonstration bases of housing industrialization, we have many demonstration bases of new housing in Beijing, Sichuan, Jiangsu, Hainan, etc.

Representative companies

Beijing New Building Materials (Group) Co., Ltd., China New Building Group Corporation

## Logistics and trading

With our experience of new Internet technology and e-commerce operation, we have rationally and effectively integrated such services as suppliers of bulk building materials, logistics and transportation, insurance and credits, inspection and quarantine, etc. We provide comprehensive solutions covering all links of international trade, and have realized the online one-stop management of export services. We've become a comprehensive building materials service provider for the international market, and been listed as a key export support enterprise and key commercial distribution enterprise by MOFCOM.

Representative companies

China National Building Materials & Equipment Import & Export Corporation, Beijing New Building Materials (Group) Co., Ltd., CNBM Investment Co., Ltd.

## Verification service

Backed by the Group's strong research and technical capabilities, the verification service business covers testing and verification services, including certification test, energy efficiency assessment, carbon assets checking, contract energy management, comprehensive utilization and evaluation of resources, production approval and evaluation of green building materials, energy-conservation building materials, and supporting building materials products for constructions. We provide technical guarantee for the QC of building materials products, and the sound and sustained development of building materials market.

Representative company

China Building Materials Test & Certification Group Co., Ltd.



# Responsibility Management

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



## 343

343 quantitative indicators of social responsibility management

## 11<sup>th</sup>

11th in Top 300 Enterprises of CSR Development Index of China in 2015

## 5 star

Five-star in the 2015 Evaluation of Corporate Performance of Social Responsibilities in the Industry of China







# Market Performance

We reward our shareholders and investors with excellent operating results, serve our clients with quality products and services, growing together with our suppliers and industrial partners, and providing a platform for all the stakeholders to create values. Meanwhile, upholding the philosophy of "industry interest overweighs corporate interest", we are dedicated to promoting industry restructuring, transformation and upgrading, and seek to achieve mutual development and create win-win situation with the industry and peers of the same industrial chain.



**199.25** billion  
Revenue of RMB 199.25 billion in 2015

**3.84** billion  
Total profit of RMB 3.84 billion in 2015

**11.91** billion  
Taxes paid of RMB 11.91 billion in 2015

# Dealing with New Normal by Surmounting Difficulties

2015, just last year, was the most difficult year for cement industry during the past 25 years. In 2015, CNBM faced the most serious and complex situation and the most difficult tasks since the outbreak of financial crisis in 2008. The painful process caused by restructuring and difficulties in building up new driving forces were intertwined; low effective demands and a shortage of effective supply coexisted. We suffered intensified industrial overcapacity, weak market demands, sharp decline in prices, and severe cutthroat competition. And the

cement industry suffered a negative growth for the first time during the past 25 years, decreasing by 5.3% on a year-on-year basis, with a sharp decline in industrial economic benefits.

During the past year, we endeavored to overcome the difficulties of the decline in sales volume, price, and economic benefit, strengthen marketing, adhere to the concept of price-cost-profit and self-discipline conventions, and lead the industry to a development path with orderly competition,

price stability, energy, and sound operation. Concerned companies actively carried out three-dimensional competition-cooperation by region, category, and structure; we made efforts in the field of supply by conducting peak-shifting production and closing down some kilns for production restriction so as to address the imbalance between supply and demand, stabilize prices, expand sales volumes, and maintain market shares. We actively promoted the concept of sound industrial development for the plateau of new normal, and endeavored to create a

positive atmosphere with industrial self-discipline. The whole management and all the staff of CNBM worked hard together. In face of heavy operating pressure, the Group's cement business didn't offer good performance, but compared with the overall situation of the sector, other basic raw materials industries, and most of comparable companies, CNBM's cement business offered a better performance. Gratifyingly, three new business sectors, such as rotor blade,

glass fibre, and engineering services, offered excellent performance. In 2015, the cost of cements sector declined by 11%. The performance of major products of three new sectors met expectations and took over the lead: the sales volume of rotor blades increased sharply; the sales volume of glass fibre increased by 4% on a year-on-year basis, offering excellent performance in price and cost, with retained profits increasing by 107%; revenue and gross profit rate of engineering services increased on a year-on-year basis.

## Cost Reduction and Efficiency Increase

In accordance with the operation principles of "early, refined, lean, practical", "four-emphasize, four-control, four-improve, four-reduce", "price stabilization, cost reduction, receivables collection, inventory curtailment, adjustment", and "quality improvement, efficiency increase, transformation, upgrade", we paid attention to increase stabilizing, internal enhancement and transformation promoting. We fully implemented

cost and expense reduction plan and strictly control the scale of "finished goods inventory and receivables", with CNBM's competitiveness in cost and organization constantly strengthened; we actively carries out capital operation and strictly control debts, with capital expenditure and debt to assets ratio declining on a year-on-year basis.

- Quality improvement and efficiency increase, transformation and upgrade

- Four-emphasize, four-control, four-improve, four-reduce

### CNBM's Four Principles for Operation and Management

- Early, refined, lean, practical

- Price stabilization, cost reduction, receivables collection, inventory curtailment, adjustment

## Transformation and Upgrade

We develop cement business in four aspects, with capacity of specialized cement reaching 20 million tons and that of aggregates hitting 30 million tons; we actively implement the strategies of "Internet plus" and "mass entrepreneurship and innovation"; CUCC Tai'an has established an intelligent cement mill with the production model of "cement + mouse" and "Internet + mine" achieved, which was given the title of "Demonstration Enterprise for Experiment of Intelligent Manufacturing" by Ministry of Industry and Information Technology of the People's Republic of China. The development of three-new business enjoys sound momentum. The technologies of light-weight and high-

strength building materials are fully popularized and market share in China hits 60%. In the field of rotor blades, we readjust the product mix, with the share of high-power blades in the sales increasing continually. In the field of glass fibre, we adhere to the strategy of internationalization and high-end products, with the share of high-end products hitting 56% and its global market share exceeding 20%. In the field of engineering services, we speed up the transformation of traditional business and actively develop the market of emerging sectors, such as, energy conservation and environmental protection, new housing, and artificial intelligence.

- High-grade, Specialized, Ready-mixed, and Commercialized

- New Building Materials, New Houses, New Energy Materials

Cement

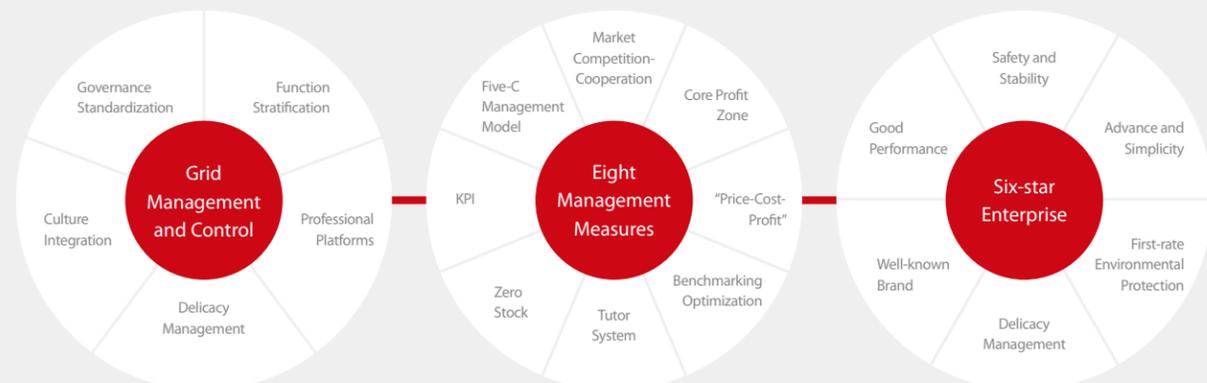
Glass

Three New

- Electronic, Photovoltaic, Intelligent, Energy-efficient

## Refined Management

effective experience that is obtained during reorganization and integration, combining marketing with cost control and helping CNBM steadily keep good benefits with new normal. "Increasing efficiency and reducing expenditures and consumption working method" requires us to promote activities that can help us increase revenue, economize, and reduce consumption by virtue of project management, where, with all staff's participation, we continuous



## The Belt and Road

We actively participate in "the Belt and Road Initiative" and steadily advance internationalized operation. Priority has been attached to a number of projects along the counties of the Belt and Road, such as China Jushi's galls fibre project in Egypt, CTIEC's cement project in Kazakhstan and glass project in Bengal, and Xi'an Research & Design Institute of Wall & Roof

Materials' industrial park project in Congo. With global market development accelerated, CNBM has invested to expedite the development of BNBM HOME, an overseas chain operation mode. At present, CNBM has established 13 overseas outlets for the chain.

# Responsibility Operation for New Development

- We insist on the working rule of lawful, compliant and honest operation. The Group has been awarded as AAA in credit rating for many years.
- We insist on fair competition without infringing competitor's or partner's rights by improper means or misconducts (fraud, bribery, malicious price cutting, etc.), and advocate building good partnerships based on free will and equality.

**86,000** person-times

86,000 person-times of employees participated in legal publicity and education in 2015

**100%**

In 2015, the rate of legal review of rules, regulations, management decisions and management contracts was 100%

**99.8%**

In 2015, the performance rate of business contract was 99.8%

In international operations, we firmly maintain national interests and our dignity, and actively respond to malicious anti-dumping events. With great attention paid to promote the concept of fair competition, staffs are organized to participate in fair competition training.

- We continue to improve our legal affairs mechanism. Major decisions and management contracts must be subject to a strict legal review procedure. Rules and regulations can be issued and put into practice only if approved by the legal affair department; we adhere to the integration of law popularizing activities with legal affair management and by means of law-popularizing activities in different form, we deeply publicize the concept of "legal system" and prevent risks in a systemic way.
- With much attention paid to anti-corruption, we integrate anti-corruption into reform, development and stabilization of the enterprise; we emphasize integrity in work and make efforts to create the culture of integrity; to give full play to its effects, efforts are made in efficiency supervision and inspection; we establish and perfect bodies for discipline inspection and supervision and further develop organizations and teams for discipline inspection and supervision, with work efficiency and quality of the Group continuously improved.

## Lawful Operation

- CNBM establishes a standard corporation management system. As the strategic, resource and cultural center, the headquarters of the Group exercises the rights and functions of capital contributor. Business platforms focus on their expertise and principal businesses to build up profit centers. As operating entities, the enterprises at the primary level implement strict cost control while assuring quality. We align the pace of different enterprises with orderly management in the course of rapid development.
- Public companies build up efficient and streamlined shareholders communication model. Shareholders exercise their rights by holding shareholders meetings. They implement daily operation, supervision and management of the company through the board of directors and the board of supervisors. Decision-making by major shareholders or controlling shareholders and their control over board of directors and board of supervisors are regulated to give full play to the role of independent directors in protecting

interests of medium and small shareholders and an effective mechanism to maintain seats for and allow disinvestment by small shareholders is set up.

- Public companies truthfully, accurately, completely and compliantly disclose periodic financial data, significant matters and the matters required to be disclosed in accordance with Information Disclosure System issued by supervisory authority. In case that a company encounters an emergency possibly influencing its share prices, the secretary of the board of directors would organize study on handling, and timely disclose related information to investors in accordance with related procedure.

## Regular Governance

## Quality Service

- We provide material supports and technical services for national key projects and urban infrastructures, and systemic building materials solutions for residents' daily life. Through our various products, sufficient production capacity, reliable quality assurance, globalized marketing system and convenient and friendly service system, we offer customers returns beyond commercial values.
- Our member companies are instructed in the construction and certification of standard quality management systems, and implement quality management throughout the procedure from procurement of raw materials to delivery of products by QC group activities. We make public quality commitment and a customer evaluation & feedback mechanism is built. Customers are actively invited to get involved in product quality control, and we will compensate customers for their loss caused by the quality defect of our products.
- Service systems for pre-sales consultation, sales reception and after-sales service are well established. Complaints and inquiries from customers are responded to and handled without any delay. We own professional customer service teams and they regularly provide professional training for our agencies. Customer training meeting and product publicity meetings are held to deliver basic knowledge of green building materials, notes on selection and use of building materials, and knowledge of counterfeit identification to customers. With attention paid to protecting customer privacy, we execute a strict confidentiality system for customers' personal information.

## Win-win Partnership

- Keeping the responsibilities of leading enterprises in mind, we serve economic and social development, pay taxes, offer opportunities of employment, and support programs for public good, making contributions to national economy and harmonious development of the society.
- Under the concept of "industry interest overweighs and breeds corporate interest", we firmly curb illegal and blind capacity expansion, and practice expansion based on stock combination, technological transformation and upgrading based on increment input, and benefit creation based on management integration; we maintain balance between supply and demand in the market, execute industrial reconstruction, improve concentration ratio of the industry, and endeavor to create a new intra-industry ecosystem.
- We establish long-term strategic partnerships

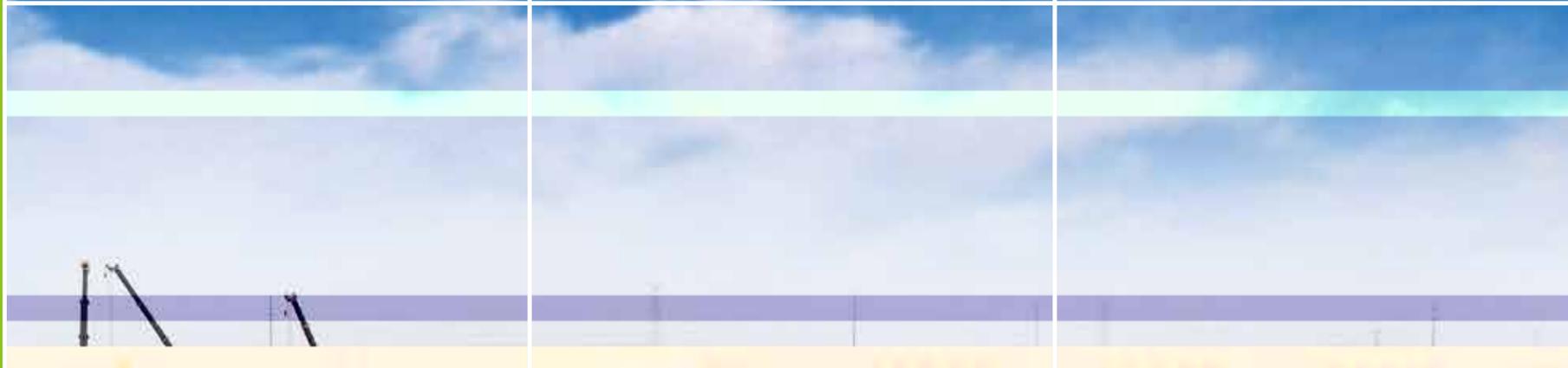


The Night Scene of 20,000 tpd Cement Production Line of CUCC



# Energy Saving & Environmental Protection

We comprehensively utilize industrial and urban waste resource and manufacture low carbon products with minimal consumption and emissions; we are committed to providing the society with green and environment-friendly building materials with reliable quality and providing product and service support for new energy industry; we are delighted to share effective energy saving technologies and management experience, explore development mode for the industry and the nature to co-exist in harmony, and advocate sustainable development of the whole industry and society.



**1.71** billion

In 2015, investment for energy saving and environmental protection reached RMB 1.71 billion

**1,732** MW

In 2015, installed capacity of cogeneration reached 1,732 MW

**100** million

In 2015, treated and reused solid waste reached about 100 million tons

53,000<sup>person</sup>

53,000 person-times of employees attended training in regard of energy saving and environmental protection in 2015

13

13 on-site conferences were replaced by video conferences in 2015

- 7 Hazardous wastes, urban refuses and sludge are co-pressed, and ecological services are offered.
- 8 Electricity-saving measures like VF reconstruction of motor system, expert control system and peak-shifting production are taken to improve efficiency and safety of electricity utilization.
- 9 Low-grade energy and renewable energy are made full use of. Flammable wastes like gangue, sludge and urban refuse are comprehensively used on production line to replace fossil fuels (coal, etc.).
- 10 Clean energy is selected to reduce the formation and emission of pollutants (SO<sub>2</sub>, etc.) in waste gas.
- 11 Denitration systems are built to significantly reduce emission of NO<sub>x</sub>. Information-based control technologies are adopted to reasonably control consumption of reductant, prolong service life of system and control cost of denitration.
- 12 The technology of bag-type dust collection is adopted to bring emission of industrial dust and smoke up to standard in waste gas.
- 13 With attention paid to water resource protection, water recycling is realized in both waste gas systems and cooling systems. Auxiliary process water (washing water, etc.) is also effectively recycled through sedimentation and sewage treatment system. Industrial wastewater is drained up to standard.
- 14 Waste residues from production, reclaimed packing materials and non-conformity products are re-treated, and recycled as raw material after passing inspections. This realizes recycling of self-produced solid waste.
- 15 Industrial solid wastes are treated upon cooperation to reduce consumption of natural mineral resource.
- 16 Layout of production line is optimized. Measures like physical isolation, greening shield and occupational protection are taken to reduce noise, reach national standards on noise treatment and relieve the impact of noise on staffs and communities around.
- 17 Cements in bulk and packing material minimization are promoted, and regional marketing systems are built to reduce energy consumption in transportation and packing.
- 18 Natural gas is selected as the fuel for transportation to reduce environmental pollution of tail gas.
- 19 In-depth integration of industrialization and informatization is deeply promoted, intelligent factory construction is greatly promoted to achieve unmanned, intelligent and distant production control and energy-saving and efficient operation.
- 20

# Green Synergy

## Going with Industry Chain

- We implement green procurement. In the procurement of raw materials, we give priority to products which are low-carbon and environmentally-friendly in the production and have a lower degree of damage to the environment; when selecting energies, we choose clean energy, and vigorously promote the use of such non-fossil energies as low-grade energy, municipal refuse, biomass energy, etc.; when choosing daily office supplies and other consumer goods, we prefer products with simple packages and convenient for recycling.
- Provide green building materials products. We research and develop new building materials, which is carried out in accordance with four core concepts, namely energy

saving, safety, comfort, and ecology. We improve the quality of products, extend the service life of products, and reduce repetitive production. We develop and use industrial waste resources as raw materials to produce building materials to reduce the consumption of natural mineral resources, and achieve maximized recycle and effective disposal after service life. The new housing products not only integrate high-performance green building materials, but also joint seamlessly with new energy technologies and intelligent control technologies, thus turning into zero-emission, energy plus, future-core dream homes.

1

1 assigned operation utility of CDM

12

12 technical service agencies of energy-saving and environmental protection

1

1 training base of building materials industry of national carbon market competency construction

## Every "family" can be an "energy plant"

It has always been the dream of China National Building Materials Group Corporation to develop green building materials and build green constructions. In the nearly 40 years of exploration and practice, the Group has chosen new-type houses as supporting points to start a way for building green dream houses.

New-type houses refer to the kind of green building and manufacturing mode that is high-efficiency, high-quality, resource-saving (energy saving, water saving, materials saving and land saving) and less-polluting with new-type environment-friendly building materials as well as with standardization, normalization and refinement as productive criterion, modular coordination and information technology equipment system intelligentization

as basis, large-scale manufacturing of house components as industrialization means and on-site mechanized assembly construction as mode of operation. Compared with the conventional brick-structure houses, new-type houses have such physical performance advantages as safe structure (anti-seismic and wind-proof), heat insulation and recyclability, so the residence comfort has been greatly improved.

In recent years, China National Building Materials Group Corporation has developed Energy Plus 5.0 House on the basis of "zero energy" houses. Green, environment-friendly and recyclable new-type building materials have been adopted in Energy Plus 5.0 House instead of high energy consumption materials. Such houses have combined effective utility of energy with the

concept of network and intelligentization in an effort to seek for high-end and humanity design. Not only can self-sufficient energy resources be achieved, but the energy can also be exported by effectively integrating 1.0 terrestrial heat, 2.0 photo-thermal, 3.0 photoelectricity, 4.0 domestic wind power and 5.0 marsh gas and other clean energy. In the meantime, such systems as smart home, central ventilation system, sewage treatment and rainwater collection can also be fully integrated to build "green ecological intelligence" houses. Self-sufficient energy and intelligence demand plan can be customized in accordance with the clients' requirements so as to make the dream of making every family to become an energy plant come true.



## Cooperate with Stakeholders

- We establish the information open mechanism. We disclose annual energy saving and environmental protection performance via annual CSR reports, and accept the supervision of stakeholders. During the feasibility study, construction, reconstruction and acceptance of project, we take advice from residents nearby and stakeholders in the region, and reduce the adverse impact of operation activities of enterprises on the environment and society to the minimum.
- Keeping the responsibilities of enterprises in mind, we endeavour to become a practitioner, fugleman, and advocator in coping with climate change. We actively undertake national energy saving and emission reduction missions, have initiated and signed conventions and written proposals, and advocate responses to

climate change, environmental protection, dust-haze treatment, and low-carbon development. We also advocate and implement peak-shifting production, relieve the problems of overcapacity, and explore the sustainable development.

- We are active in environmental protection welfare and publicity activities, doing our best to promote environmental protection concepts; we donate money and supplies to support the construction of environmental protection facilities. We develop ecological forests with local community entities to jointly cope with climate change; we actively promote the knowledge of energy conservation, low-carbon life and green consumption.

752

In 2015, we organized or participated in 752 publicity events on environmental protection



## Employee Care

We make every effort to safeguard the rights of our employees, respect their differences and make the company a reliable partner, and a happy and comfortable home for the employees. We try to build a sustainable and better future together with all our employees and deliver our happiness to the society.



Ultra Clear Glass Production Line of China National Building

**13.4%**

In 2015, the employee turnover rate was 13.4%

## Safety

We have established a domestically top-ranking management system for safe production with safe production accountability system as the core, the standardization of safe production and the post safety technical regulations as the emphases, troubleshooting and treatment of accident potentials as the methods, the informatization of safety management as the tool, and the development of safety culture as the guarantee, to ensure the safe production and occupational health of staffs.

### Safety System

- We set up the organizational system for safe production with the principles of comprehensive coverage and practicality. The managers in charge would be the primary persons responsible for safety in the workplace and take charge of safe production matters. All key production safety enterprises within the Group employ full-time production safety management personnel. We establish smooth channels for feedback, and encourage all staffs to participate in safety management.
- We attach great importance to building up a safety management team. We have continuously fostered the sense of responsibility and awareness of safety procedures in the workplace and improved the professional quality of safety management personnel. We strictly follow CNBM Safety Training Rules, ensuring the popularization of safety knowledge, the execution of safety procedures, the

implementation of contingency plans, the knowledge of occupational hazards, and the self-protection abilities through training and assessment.

- We give importance to investment in safety in order to provide financial support for improving and maintaining the safety equipment and facilities, implementing technical innovations for the purpose of essential safety, organizing training in safety procedures, spreading safety culture, etc.

**124,000** person-times

124,000 person-times of employees received training in occupational health and safety in 2015

**570** million

About RMB 570 million was invested in occupational health and safety in 2015



### Security Mechanism

- We have established safety production management system covering penalty for safety violations, etc. We have also introduced special regulations and work guidelines for managing occupational health, major hazard sources, overseas projects and non-coal mines, etc.
- We implement the standard safety management, and actively push member companies to implement occupational health system certification. As a national pilot enterprise in standard safe production, we actively promote the work of reaching standards of standard safety of cement enterprises, improve the safety management system, increase the safety management level, and boost the safety management performance.
- Intensify the check of hidden dangers. We take the development of "capacity to reject and prevent hidden hazards" as an important part of the effort to improve the basic management level of enterprise safety, and promote the closed-loop control, composed of "basic capacity building—assessment and control of latent dangers of accident—work and performance reward assessment—the ability to enhance the safe operation", to achieve the PDCA's continuous improvement. We explore and establish a six-in-one screening and governing system of accident potential, the six respectively being "focusing on the job responsibilities fulfillment, using listed investigation standards as a tool, taking the close-loop self-examination and self-reporting of hidden hazards as the means, basing on team construction and all-staff participation,

taking reward and punishment system as the safeguard, and being supported by information-based management tools".

- Informatization technology is applied for the purpose of safe production management. The safety management information system independently developed by CNBM has also been included as one of the "Integration of Informatization and Industrialization" key projects by the Ministry of Industry and Information Technology. Online management has covered all key procedures and links of safe production management, including qualification management for safe production, basic files of safe production, eradication of hidden dangers, danger source management, safety checks, and safety training.

- We continue to improve the emergency management system. In the system that covers all layers of the Group, the Group's emergency management team takes the general charge, while the emergency management teams of the member companies would be responsible for specific measures. A comprehensive emergency response plan is established, supplemented by special emergency response plans and on-site response schemes. We organize member companies to check the reserves of emergency supplies regularly, take emergency response drills, and give on-site instruction on emergency response work.

idea of "people first and life foremost" into the corporate culture.

- We attach great importance to safety and occupational health management of suppliers and subcontractors, include terms on safety and occupational health into service contracts, and cooperate with companies in the supply chain to carry out routine safety checks, training, emergency response drills, and culture transmission.

**63,000** person-times

63,000 person-times of employees participated in emergency response drills in 2015

**30.8%**

Recordable injury rate per 1,000 employees was decreased by 30.8% on a year-on-year basis in 2015

**97.1%**

In 2015, the completion rate of physical examination of employees reached 97.1%

### Occupational Health

- We have installed and optimized supporting facilities for dust prevention, gas defense, noise reduction and emergency alerts as well as first-aid equipment in the production place, based on our in-depth study and analysis on the features of building materials production. For the purpose of labor protection, we offer labor protection articles, which are put in place and replaced in a timely manner to ensure their efficacy.
- It's an established practice to organize employees to take health examinations, arrange extra health checks for staffs in jobs with exposure to dust or radiation, establish Personal Health Record and keep reexamination.
- We gradually incorporate mental health into the occupational health management. We encourage member companies to set up mental health consultancies or cooperate with mental health institutions to build health record archives and pay attention to the mental health of our employees.

### Improving attentively and restarting

In 2015, production safety accidents happened in two member companies of China National Building Materials Group Corporation. After the accident, the Group rescued the employees and comforted their families immediately; reported the accident conditions in a serious manner, investigated and analyzed the accident causes thoroughly and seriously punished the responsible persons. The Group has also requested that all the member companies including those where accidents happened investigate and implement enterprise entity responsibilities seriously, further establish and improve regulations of safe production in accordance with such legal provisions as Law on Safety in Production and Safety Production Management Regulations, strengthen the on-site

safety management and eliminate hidden troubles of production safety from the source. Supervision and accountability on commanding against rules, illegal operations and violation of labor discipline should also be enhanced. The Group should make every effort to investigate hidden troubles of production safety and urge those with potential safety hazards to rectify and reform immediately to ensure safe production, strengthen employee safety training and ensure the blind-angle-free training, enhance the examination, supervision and training of outsourcing labor employment, treat the production safety accidents with sincere and positive attitudes, take this as a lesson, make attentive improvements and restart, ensure life health of the employees and safe production of the Group.

**2**

2 production safety accidents happened in 2015





# Corporate Citizen

During production and operation, we seek to achieve mutual development with the region where we operate. Our accomplishment cannot be achieved without the support of the stakeholders and people from all walks of life; we reward the society through unique social welfare projects. Our employees are delighted to make contributions and dedicated to volunteer activities, exercising their responsibilities as corporate citizens with their actions.



**17,000**

In 2015, the number of new employees hit 17,000

**9.91 billion**

In 2015, the amount of taxes paid to local governments was RMB 9.91 billion

**52**

In 2015, the headquarters of the Group took posts in 52 organizations like associations and so on

**18.03 million**

In 2015, the amount of donation hit RMB 18.03 million

# All-win Harmony

We have established the overseas operation system with characteristics of CNBM and integrated the concept of responsibility and sharing into the business activities. Particularly in the practice of overseas business, CNBM has abided by local laws, respected the local culture, made good use of local resources and served for regional construction, safeguarded the rights and interests of shareholders and the safety of employees through effective risk management and control system, spread the

concept of responsibility through sunshine procurement and sharing cooperation, considered environmental protection and the quality of life in a comprehensive manner based on the regional civil interests. The responsible and sustainable business philosophy makes us highly recognized and fully accredited in local areas as we engage in "going out". When practicing "the Belt and Road Initiative" in the future, we should strengthen the cooperation in such technical

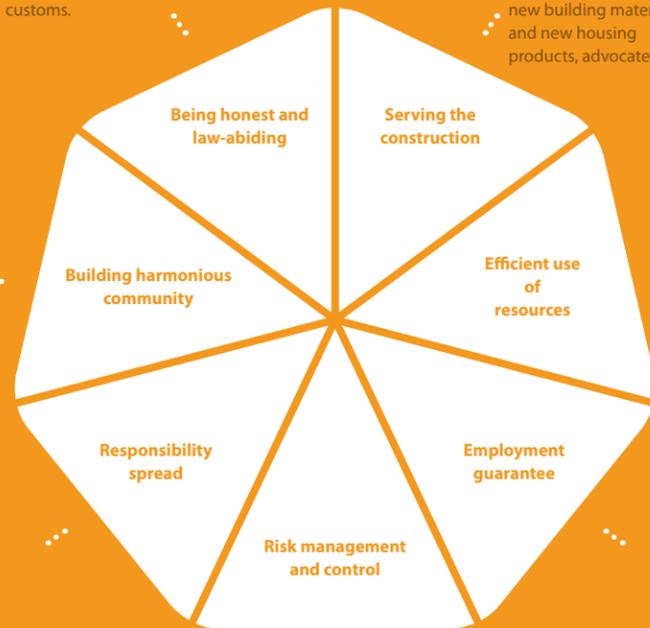
fields as the Internet, informatization and intelligentization, improve the industrial chain integrated with investment, construction, operation and follow-up services based on set of equipment and technical services and practice social responsibilities in overseas operation.



## CNBM Overseas Responsibility Operation System

- We strictly carry out the impact assessment of new projects, reconstruction ones and expansion ones, fully solicit the views of interested parties on the economic and environmental benefits, and minimize the negative impact of business operations on the environment and society; we actively participate in local public welfare and community activities to create a favorable image.

- We strictly comply with international conventions and local laws and regulations, pay due taxes, and protect environment; we respect local religious beliefs and customs.



- We build for developing countries and areas advanced cement and glass production lines to meet local construction needs; we popularize systematic solutions of new building materials and new housing products, advocate

green consumption ideas and provide support for energy saving construction products; we construct large logistics parks and selling networks, providing systematic trading service to promote optimum distribution of regional resources.

- We make good use of local superior resources, combine them with enterprise technologies and management advantages to create a value chain with a competitive edge, provide value-added space for the raw material suppliers and product vendors in the local economy, and create tax revenue.

- We advocate localized operating management for overseas enterprises, providing employment opportunities to local areas, training local employees and popularizing advanced management philosophy, with a view to improve the quality of local talent.

- We strengthen the management of overseas enterprises and projects, All-round risk management system covering risk factors the overseas companies face is established, including political risk, country risk, financial risk, legal risk, risk concerned

with bidding, tax risk, labor service risk, and industrial risk, as well as an early warning system with risk analysis and emergency mechanism to guarantee safety of staff and assets.

**56.1%**

In 2015, the hiring rate of local employees reached 56.1%

**54.0%**

In 2015, the hiring rate of local senior management reached 54.0%

**90.5%**

In 2015, the rate of responsibility-based procurement was 90.5%

**12**

In 2015, 12 new projects along the Belt and Road were signed

**1.19 billion**

In 2015, the amount of contracts of new signed projects along the Belt and Road reached USD 1.19 billion

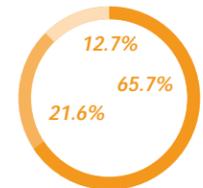
Up to the end of 2015, the total overseas assets reached about USD **2.22 billion**

- Asia
- Africa
- Oceania

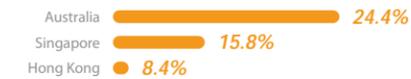


Up to the end of 2015, we have **102** overseas companies/agencies

- Logistics and trading companies/agencies
- Manufacturing companies/agencies
- Project contracting companies/agencies



In 2015, the total volume of imports reached USD **4.47 billion**



In 2015, the total volume of exports reached USD **1.66 billion**



## "Green town" overseas

"Everyone is talking about green buildings, but no one knows how to build them." 58-year-old Spanish entrepreneur Caesar Mattinal said in an interview. Mattinal's grandfather established the family construction company in Barcelona in 1916. About 10 years ago, Mattinal started to try to combine green solutions with the planning of economically affordable housing. His dream has not come true until he cooperated with CNBM lately.

The Copiap new housing project in Chile constructed by CNBM in cooperation with Barcelona Housing System Company is the first residential building of light steel structure and "new-type house + new energy" mode in Chile with such features as "anti-seismic, environment-friendly, energy conservation and comfort" which is particularly suitable for countries with many seismic zones as Chile. CNBM has promoted the products of "green town" all over the world and been committed to providing the global citizens with Energy Plus 5.0 House to make them enjoy energy-saving, environment-friendly, comfortable and safe houses and at the same time, to realize the good wish of sustainable development

together. CNBM has been working with Barcelona Housing System Company to build 8,000 green houses in the UK.



# Sunshine Welfare

We firmly believe that a responsible social welfare system is the basis for promoting social justice and for central enterprises to fulfill social responsibility, and more importantly, it is an important measure to protect the interests of investors and the safety of state-owned assets. In the principle of being accountable for beneficiaries and shareholders, we carefully assess invitations for social welfare support prior to implementing any donation and cautiously

select projects to support in order to guarantee the public rights and interests by evaluating importance of projects, reliability of executing units of projects, and public benefits of projects as well as our annual business performance; we reject apportioned, duplicated, ineffective, poorly run public welfare projects as well as ones that are beyond the enterprise's capacity to ensure public interests. We respond to national calls to seriously promote poverty reduction work

in specific areas, give special attention to the development of environmental protection and education; at the same time relying on the support from Communist Youth League organizations, we continue to promote volunteer activities, and have achieved positive results.

## Donation Standardization

- We establish emergency response mechanisms, to provide first-time disaster relief, civil defense and other public safety matters.
- We provide support for disaster affected areas, poverty-stricken areas, science, education, culture, and hygiene causes, welfare projects, and environmental protection causes in kind and capital, so as to support the development of society.
- We standardize donation management regulatory. We establish and improve the donation organization and management system, and strictly implement the annual budget and procedure for examination and approval of process; we have established a mechanism for periodically analyzing and reporting the donation project progress, evaluating effects and conducting return visits when the project ends, and reject apportioned, duplicated, ineffective, poorly run public welfare projects as well as ones that are beyond the enterprise's capacity, so as to focus on the donation's effect and guarantee the interests of investors.

**672,000**

In 2015, the total amount of input in environmental protection and public welfare reached RMB 672,000

**18.03 million**

Total foreign donations in 2015 reached RMB 18.03 million

**332**

In 2015, the number of foreign donation projects was 332



## Innovative Poverty Alleviation

- We always focus on poverty reduction to fulfill our social responsibilities as an enterprise. Since 2002, CNBM has established site-specific poverty-reduction relationships with Shitai County of Anhui Province, Jingyuan County of Ningxia and Zhaoyang District of Zhaotong City, Yunnan Province. By donating poverty alleviation funds, we help local areas to withstand natural disasters, improve educational environment, solve housing difficult, repair roads and build electricity and water conservancy facilities. Meanwhile, in order to help poor areas to rid themselves of poverty completely, the Group actively transforms poverty reduction thinking

and creates new modes to reduce

## Voluntary Activities

- We advocate a harmonious social atmosphere, and encourage our employees to provide voluntary services and participate in social welfare activities. We provide guarantee and support for voluntary activities in such aspects as organizational structure, work mechanism, scheduling, financial support, communication and liaison, etc. Under

the volunteer service system with the Communist Youth League at the core, companies at different levels establish several volunteer activity groups, carry out varied volunteer activities, which demonstrate participants' enthusiasm and spread happiness.

**1.91 million**

In 2015, the input in voluntary activities reached about RMB 1.91 million

**15,000 hours**

15,000 hours of volunteer services were provided by our employees in 2015

## Fires are ruthless while people are not, and enterprises are all in the family

At 10:00 on June 9, 2015, not far away from the southeast of China United Cement Dongping Co., Ltd, a member company of CNBM, waves of smoke went straight to the sky suddenly. The situation was grim on site for over ten acres of wheat field were burned and the all-year harvest of villagers went up in smoke. Once new wheat fields were swallowed, the village across the path was bound to be in danger and if the fire continued to spread without control, the consequences would be unthinkable. China United Cement Dongping Co., Ltd started the fire emergency plan immediately. Hundreds of trained and adequately-protected fire-fighting volunteers gathered quickly and rushed to the site. Volunteers helped the panic-stricken villagers to evacuate in an orderly manner while devoting themselves to the fire fighting by drawing water to put out the fire and setting isolation belts to control the fire. At around 11:00, through nearly one-hour fighting, the fire was put out. Volunteers of China United Cement Dongping Co., Ltd investigated the scene of fire carefully in order to make sure everything's alright and prevent re-burning.

As a member of Taian City, China United Cement Dongping Co., Ltd has both the market environment of survival matter as well as the cultural environment of production and living matter.



China United Cement Dongping Co., Ltd has always adhered to the concept of "cooperation, mutual assistance and harmonious coexistence", held fast to the selfless and fearless humanistic care of difficulty from one direction, support from all direction, and regarded it as a kind of consciousness, responsibility and mission to return to the society, contribute to the local and make the residents united. Three bright red banners saying "true love shows in time of danger and true heroes are righteous and courageous", "brave fire-fighting makes residents safe and assistance in danger favors weighty as a mountain" and "fires are ruthless while people are not, enterprises are all in the

family" have expressed villagers' simple but sincere feelings for China United Cement Dongping. Sang Peng, the deputy secretary of party committee of the company in Ditimen Town said movingly, "We have seen Dongping's demeanor as an enterprise to have the courage to fulfill social responsibilities in the fire-fighting emergency event on June 9!"

# Technological Innovation

We shoulder the responsibility of innovation for the industry by leveraging our strong research capabilities. We also promote the transformation and upgrading to the industry withong o the indust013sWradM82267 09, vis industradoncore



# Resources and Input

We integrate scientific research resources, gather scientific research talents, guarantee input in scientific researches, and build a leading company of scientific researches in the industry. We implement the innovation mode which combines independent innovation, joint innovation and integrated innovation; promote technological breakthroughs, the transformation of

achievements, and information sharing; strive to build the largest comprehensive scientific research platform with the strongest power in the building materials and inorganic nonmetallic materials fields of China, and provide service and guarantee for the nationwide innovation.

## Scientific Research and Service Platforms of CNBM

- China Building Materials Academy (Beijing Headquarters)
- Hefei Cement Research & Design Institute
- Bengbu Design & Research Institute for Glass Industry
- CNBM Design & Research Institute
- Harbin FRP Institute

- National Key Laboratory for Green Building Materials

**5.06 billion**

RMB 5.06 billion was spent in scientific and technological activities in 2015

**12,000**

In 2015, the number of personnel engaged in scientific and technological activities in the Group was nearly 12,000

**6.8%**

In 2015, the percentage that the science and technology personnel of the Group accounted for the total number of employees was 6.8%

- Quartz Glass Key Laboratory of Building Materials Industry

- Cement-based Materials Science Key Laboratory of Building Materials Industry

- National Glass Deep Processing Engineering Technology Research Center

- National Resin Matrix Composites Engineering Technology Research Center

- Mobile Post-doctoral Scientific Workstation of China Building Materials Academy

**13 National Scientific Research and Design Institutes**

- Qinhuangdao Glass Industry Research and Design Institution
- Xi'an Research & Design Institute of Wall & Roof Materials
- Xianyang Research & Design Institute of Ceramics
- Hangzhou Mechanical and Electrical Design and Research Institute of Light Industry
- Horological Research Institute of Light Industry
- Light Industrial Xi'an Mechanic Design and Research Institute
- The Research Institute for Automation of Light Industry
- Suzhou Waterproof Research Institute

**2 National Key Laboratories**

- National Key Laboratory for New Technologies of Float Glass

**3 Industrial Key Laboratories**

- High-performance Ceramics and Refined Processes Key Laboratory of Building Materials Industry

**3 National Research Centers**

- National and Local United Engineering Research Center for Glass Industry Energy-saving Technology

**1 Mobile Post-doctoral Scientific Workstation**

- Academician Workstation of China Building Materials Academy

**2 Academician Workstation**

- Academician Workstation of Bengbu Design & Research Institute for Glass Industry

- Industrial (Building Materials) Products Quality Control and Technical Assessment Laboratory

- Industrial (Glass) Products Quality Control and Technical Assessment Laboratory

**7 Products Assessment Laboratories**

- Industrial (Building and Sanitary Ceramics and Products) Products Quality Control and Technical Assessment Laboratory
- Industrial (Decorative Building Materials) Products Quality Control and Technical Assessment Laboratory
- Industrial (Building Materials for Roof, Wall and Road Surface) Products Quality Control and Technical Assessment Laboratory
- Industrial (Light Industrial Machinery) Products Quality Control and Technical Assessment Laboratory
- Industrial (Horologe) Products Quality Control and Technical Assessment Laboratory

- Post-doctoral Scientific Workstation of China Building Materials Academy

- Post-doctoral Scientific Workstation of Jushi Group

- BNBM Substation of Zhongguancun Haidian Science Park

- Post-doctoral Scientific Workstation of Harbin FRP Institute

**10 Post-doctoral Scientific Workstation**

- Post-doctoral Scientific Workstation of Zhongfu Lianzhong Composites Group Co., Ltd.
- Post-doctoral Scientific Workstation of Bengbu Design & Research Institute for Glass Industry
- Post-doctoral Scientific Workstation of Zhongfu Shenyang Carbon Fiber Co., Ltd.
- Post-doctoral Scientific Workstation of China Luoyang Float Glass Group Co., Ltd.
- Post-doctoral Scientific Workstation of Triumph Heavy Industry Co., Ltd.
- Post-doctoral Scientific Workstation of Xianyang Research & Design Institute of Ceramics

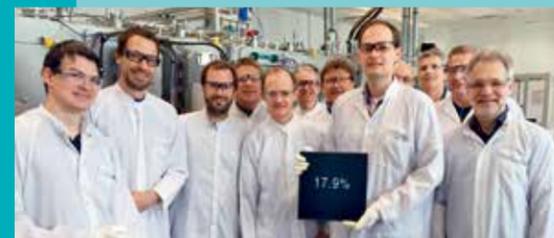
## Attracting talents

We build a strong contingent of scientific researchers by attracting and cultivating scientists and engineers. We set up the academician workstation, post-doctoral research stations and workstations, and implement the "Thousand-talent Program" in order to keep smooth the channels for introducing and exchanging high-caliber talents from overseas and domestic universities and institutes. We make innovations in incentive mechanisms and improve property protection to retain talents.

## Ensuring input

We lay emphasis on science and technology investment. We increase financial support for hardware construction and scientific research rewards, etc. Except for ensuring the needs for researches of the basic theories and cutting-edge technologies of material science, we also particularly boost our investment in the R&D of low-carbon environmental protection technologies and products.

## 17.9%—A new record of green energy



As a core enterprise of thin-film solar technology innovation and manufacturing of China National Building Materials Group Corporation (CNBM), the German company Avancis has outstanding technical advantages in Copper Indium Gallium Selenide (CIGS) and cadmium telluride (CdTe) thin-film solar power. Technical system of Avancis is very

suitable for Building Integrated Photovoltaic (BIPV) applications. With low consumption of resources and no harmful substances during manufacturing process, it has obvious energy saving and environmental advantages when integrated into building facades and roofs.

Avancis R & D center in Munich has developed a 300mm×300mm CIGS thin-film solar cell, which renewed the record of photoelectric conversion rate, reaching 17.9%. Avancis continued to improve the photoelectric conversion rate, which will greatly enhance the competitive advantage of thin-film solar cells in the photovoltaic sector, improve solar-energy development and utilization potential of confined space and provide better product solutions for new green energy industry.

**6 UN Technological Development and Promotion Centers**

- China Building and Sanitary Ceramics Development Center
- China Light Building Materials Research and Development Center
- China Light Industry Horologe Information Center

**1 National and International Scientific Cooperation Demonstration Base**

- China Building Materials Academy

**2 National Demonstration Platforms of Service for SMEs**

- Hangzhou Mechanical and Electrical Design and Research Institute of Light Industry
- Horological Research Institute of Light Industry

**8**

8 State-level Enterprise Technology Centers and Subcenters

**6**

6 State-level Product Quality Testing Organizations

**15**

15 Industrial Product Quality Testing Organizations

## Mechanisms and Guarantees

**5,663**

In 2015, we held 5,663 patents in total

**123**

In 2015, we gained 123 scientific and technological awards at provincial or ministerial level

**18**

In 2015, we undertook 18 national scientific research subjects

### Property Protection ...

- Focusing on such aspects as the protection of intellectual property, and the management of scientific research funds, we have combined the development of internal control system with the requirement of risk management, and formed a scientific research management

system which conforms to national requirements of scientific research management and has the feature of building materials industry, providing the efficient progress of scientific researches with mechanism guarantee.

### Talent Stimulating ...

- We have gradually established the talent development mechanism to promote the development of talents, and the assessment and reward mechanism according to their performance and contribution. Inside the Group, we provide "Scientific and Technological Progress Award", "Technical Improvement Award" and "Group Technical Center Project"

to boost researchers' enthusiasm for innovation. We have established the Youth Science Foundation, and organized youth scientific research competitions to promote fast grow of young backbones of scientific research and inject vigor into the scientific research teams of the Group.

### Collaborative Innovation ...

- We attach great importance to cooperation with famous universities and professional institutions in jointly tackling key problems, technical cooperation, academic exchanges, talent cultivation, incubation and transformation of achievements, etc., establishing an innovation alliance with various levels. We explore the establishment of an open scientific research system. Aiming at research hotspots and challenges which attract attentions from the country and the industry, we mobilize social technological

## Sharing and Services

**507**

507 academic exchange activities were held and organized in 2015

### Leading Spread ...

- We undertake secretariat work of standardization organizations, industrial organizations, professional societies and scientific agencies, and lead technology innovation and industry revolution of the professional sector. We develop extensive science services. Industry websites and professional publications are run to timely publish frontier information

and share technological results and commercial messages. By building resource repositories (technical innovation institutional repository, technological result database, etc.) and information inquiry platforms, we offer multiple channels of information exchange and technical communication to building materials enterprises.

### Open Services ...

- We actively build service platform system of industry open style, have formed a comprehensive technical service platform system of building materials industry integrating industry-wide inspection and certification resources, industrial products quality control and technical evaluation laboratories and national public service demonstration platform for SMEs.

The system provides for SMEs services including inspection and detection, management system certification, standardization, technical product development, intellectual property and brand building, promotes advanced practical technologies and provides entrepreneur services.

### Sharing & Exchange ...

- To give a play to our role as a demonstrating base for international scientific and technical cooperation, we hold overseas and domestic academic meetings, run forums, develop activities of exchange and visits to offer platforms of communication and promotion to specialists and scholars, serve innovation and common progress, accelerate technological upgrading and reform in the industry and related fields, and

motivate technological innovations to faster and more effectively serve sustainable development of the society. We also undertake professional exhibitions to collectively exhibit and recommend new technologies and products, offering platforms and services to the industrialization of technological results, thus pushing technological progress and result sharing in the industry.



### Cement "Olympic" has finally come to China

In October, 2015, China Building Materials Academy undertook 14th International Congress on the Chemistry of Cement (ICCTChemistr(dy)O-ist(t)6a(tionab0 cna)4 ICCTsloplCCCTChemistr

## Achievements and Transformation

### Enterprises as the Main Body

- In recent years, the Group has continuously been approved as a state-level enterprise technical center of composites, equipment manufacturing, glass fiber, cement equipment and special cement and other fields, formed a technological innovation system composed by one national enterprise (Group) technology center (CNBM Technology Center) and seven state-level enterprise technology subcenters, ranking first among central enterprises. The Group has formed six

professional R&D departments, strengthened core traction function of the industrial sector and independency right of R&D, enhanced production-study collaborative innovation and scientific and technological achievements transformation in this sector, and established technology clusters integrating advanced production technology, core technology and equipment and inspection and certification services.

### Market as Guide

- We have scientifically set the research direction based on technology productization, product marketization and market efficiency principles. We give full play to the advantages of integrated production-study-research platform, closely link industry and market to respond to market demand without any delay and scientifically plan R&D direction and technical research focuses. Our R&D achievements have solved the technical problems in the production process, met higher standards of market demand and provided a guarantee for R&D achievement

### Combination of Production, Study and Research

- We accelerate R&D application and benefit transformation. Relying on special cement technology of Key Laboratory of Green Building Materials, we have achieved special cement's industrialization promotion among four cements of the Group, become the largest manufacturer and supplier of special cement, and widely adopted it in power plants, oil and gas fields, harbors, high-speed railways and

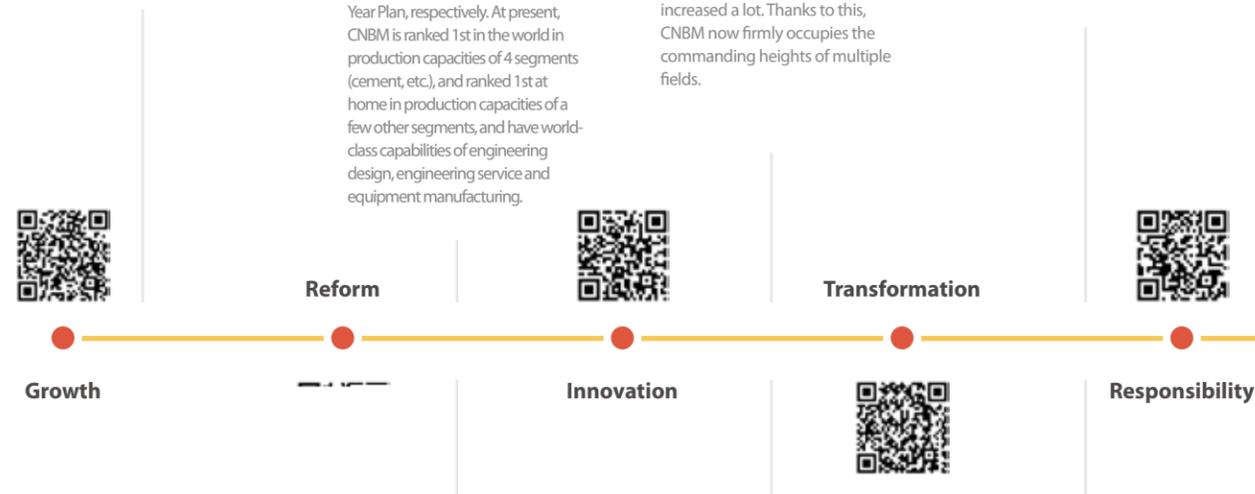
other major construction projects, with direct economic benefits reaching a billion dollars; relying on technological achievements of national science-technology support projects being successfully appraised as capital stock of CNBM Neijiang High-tech Company, we have achieved industrialized production of series Low-E products. Harbin FRP Institute has, through production-study cooperation

with Zhongfu Lianzhong Composites Group Co., Ltd., incubated Zhongfu Carbon Fiber Core Cable Technology Co., Ltd. with carbon core cable technology and become a qualified supplier of State Grid Corporation of China, with accumulative sales of products exceeding 3,000 km.

# Development during the 12th Five-Year Plan

During the 12th Five-Year Plan, to achieve the strategic objective of "to be stronger and better, to be globally top-ranking", CNBM actively transformed the business mode, adjusted the structure, deepened the market-oriented reform, pressed forward with the structural adjustment, combination & restructuring, energy saving and emission reduction in the cement and glass segments, and made great efforts to develop new building materials, new houses and new energy materials. By this, remarkable achievements have been made to lay a firm foundation for the development during the 13th Five-Year Plan.

- In the period, the board of directors played the important role of strategic guidance for rapid and healthy development of CNBM, through strategy developing and regular governance. All the directors worked scrupulously, and racked their brains to give suggestions on operation and development of the group.
- In the period, we made efforts to build CNBM as a top-ranking enterprise by adhering to the concept of "to be stronger and better", which was an extension of the previous concept of "to be bigger and stronger". In the process of growth from a grass-roots enterprise to a Global 500 company, CNBM increased its operating income and total profits by 242% and 252% in comparison to the 11th Five-Year Plan, respectively. At present, CNBM is ranked 1st in the world in production capacities of 4 segments (cement, etc.), and ranked 1st at home in production capacities of a few other segments, and have world-class capabilities of engineering design, engineering service and equipment manufacturing.
- In the period, CNBM made many noteworthy achievements in technological innovation, and built up a world-class technical innovation system. On the basis, breakthroughs were continuously made in key technology, significant achievement and product application, meanwhile the numbers of major topics, rewards for technological progress, patents and standards increased a lot. Thanks to this, CNBM now firmly occupies the commanding heights of multiple fields.
- In the period, we kept improving our influence, driving force, brand awareness and international reputation, and our development concept and growth history attracted extensive attention. CNBM is honored as a flag that guides the industry to healthily develop, a paving stone for enterprise reform and a corporate citizen active in responsibility fulfillment.



For more information about the practice of responsibility fulfillment during the 12th Five-Year Plan, please scan the 2D barcode.

- In the period, we accumulated rich experience in capital operation, combination & restructuring, management integration, reform towards diversified ownership, internationalized development and cultural development, and formed a complete, unique, effective operation management mode that features integration & optimization, marketization of centrally-administered SOE, meshed control, the "8 techniques", the "six-star enterprise" and the "income-increasing, cost-saving, consumption-reducing" methods.
- In the period, we actively and steadily carried out the Go Out policy to boost the implementation of the Belt and Road Initiative. In the process, our service of international engineering project (glass, cement, new building materials, new energy materials, etc.) covers the markets of Europe, Southeast Asia, Middle East, Africa and South America. In particular, the Egyptian glass fiber project, the German wind turbine blade project and the German solar energy project have brought satisfactory benefits, and the modes of "cross-border e-commerce + overseas location", intelligent industry, intelligent port and BNB HOME are being laid out at a higher speed.
- In the period, starting from publishing the first social responsibility report, we built a social responsibility organization system. Besides, we conducted the management of interested parties, regularly published social responsibility reports, built the 5 responsibility framework systems, persistently improved the capability and effects of responsibility fulfillment through continuous practice, conducted responsibility research, and joined responsibility advocating organizations and action plans to promote responsibility communication and sharing. On the basis, CNBM developed into a practitioner, driver and guider of social responsibility.

## Development History of CNBM



# Outlook for the 13th Five-Year Plan

In process of the rapid growth in the recent ten-odd years, CNBM has kept its composure under the guidance of correct strategic objectives by persistently observing the development rules of the industry and the growth logics of enterprise. During the 13th Five-Year Plan, we will continue practicing the 5 development concepts (innovation, coordination, green, opening-up, sharing), and lay emphasis on improving the development quality and benefits and promoting the structural reform to firmly transform the business mode and adjust the structure with a view to the strategic objective of "to be stronger and better", thus realize the "3345" transformation and upgrade in the next 5 years. In addition, we will make efforts to write a new chapter of sustainable development by adhering to the "3 strategies", working in line with the "3 curves" idea, promoting the "4 transformations" and realizing the "5 visions".

## Evolution of CNBM's Strategic Positioning

Made great efforts to develop new building materials, played a demonstrative and guiding role in the field of new building material, supported the development of the China's construction industry in the reform and opening-up.

An industrial company in the field of new building material  
**1984-2002**

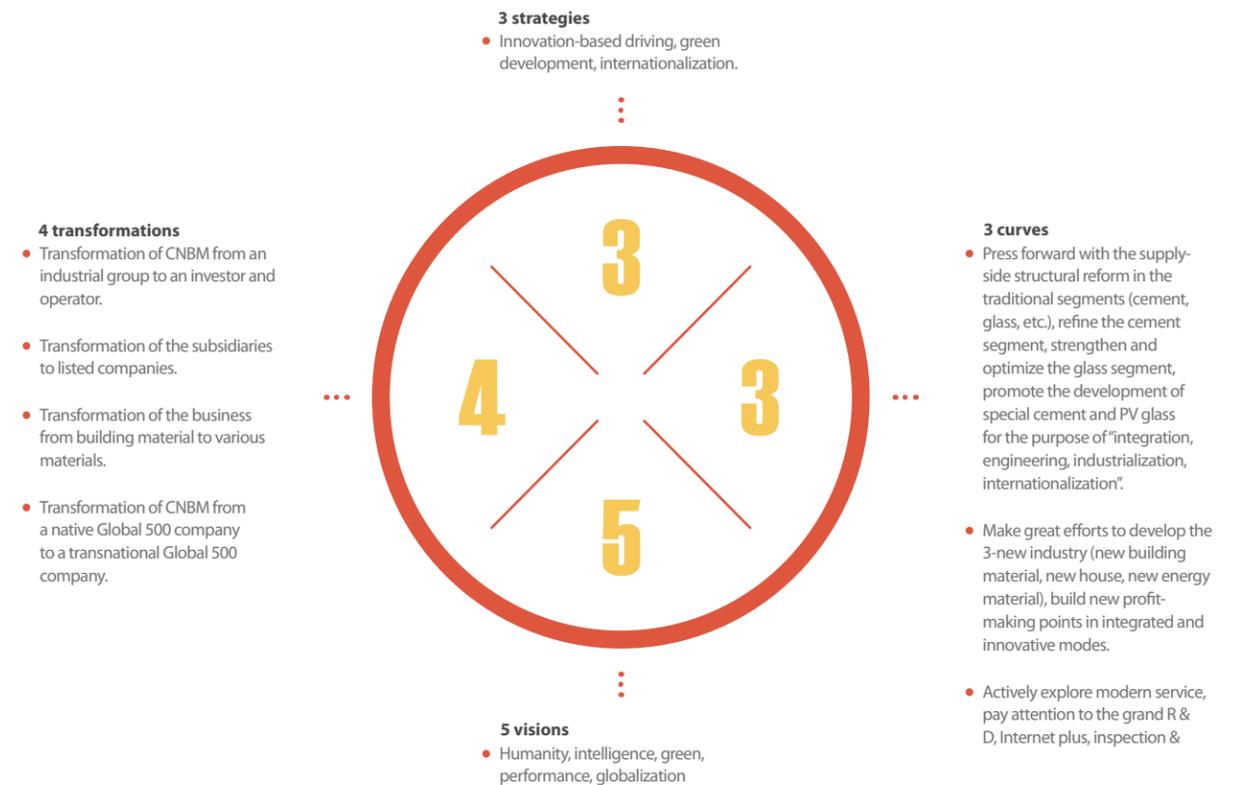
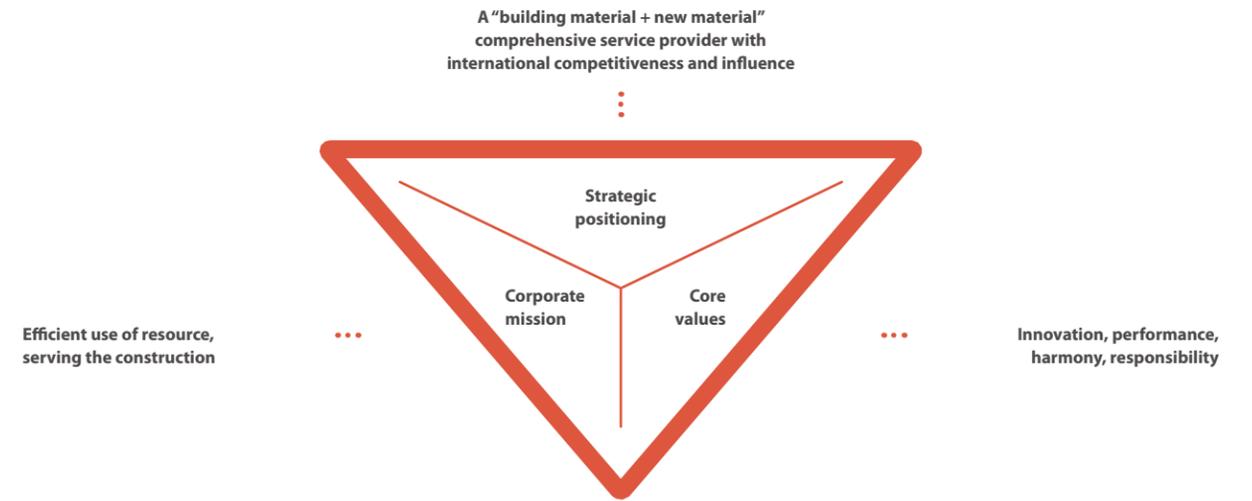
A comprehensive building material group  
**2002-2015**

Pressed forward with the structural adjustment, combination & restructuring, energy saving and emission reduction in the cement and glass segments, made great efforts to develop new building materials, new houses and new energy materials, coordinated the developments of R & D, manufacturing and trade, grew into the China's strongest comprehensive building material group with global leading position, favorable capability of continuous innovation and international competitiveness.

Consolidate the existing advantages of the main business and accelerate product transformation, technical transformation and service transformation in line with the "3 curves" idea based on the building material segment and its associated segments, continuously foster new impetuses for growth, make efforts to be a strong, excellent "building material + new material" comprehensive service provider with international competitiveness and influence.

A "building material + new material" comprehensive service provider  
**2016-2020**

## CNBM's strategic framework for the 13th Five-Year Plan



# 3 Curves

As an extension of the corporate development theory of "second curve", the "3 curves" idea refers to continuously fostering new growth points and promoting industrial upgrade and transformation in process of corporate development. During the 13th Five-Year Plan, CNBM will consolidate the existing advantages of the main business and accelerate product transformation, technical transformation and service transformation in line with the "3 curves" idea based on the building material segment and its associated segments, and continuously foster new impetuses for growth.

## Consolidate and improve "curve 1"

We will reconstruct and improve the traditional segments (cement, glass, etc.), and thoroughly press forward with the supply-side structural reform. In addition, to actively play the leading role of large enterprise, we will make efforts to promote the structural adjustment in the cement and glass segments through market co-opetition, outdated production facility close-down, production limiting, emission reduction, production optimization and product upgrade, and work on improving market health and achieving the goals of quality improvement and efficiency increase.

- **Refine the cement segment**, continue promoting industrial co-opetition, create favorable market environments, solidify the core profit-marking segments; promote the development of high-performance material, special material, commercial concrete and finished product, boost energy saving, emission reduction, cost reduction and efficiency increase by making greater efforts in equipment upgrading and technological transformation.

- **Strengthen and optimize the glass segment**, extend the industry chain through innovation, transform and upgrade the glass segment in the direction of "electronics, PV, intelligence, energy conservation", increase added value of products.



- **New building material**: continue optimizing and perfecting the layout of gypsum board segment, develop and promote high-end products, increase added value of products.
- **New house**: make great efforts to develop the new house system primarily made up of light steel structure and prefabricated steel structure as well as the residence-oriented component system, promote the Energy Plus 5.0 House System and build "green towns" at home and abroad, supply the all-round housing solutions of eco-smart residence and elderly care housing to customers.



- **New energy material**: continue optimizing and perfecting the advantageous segments (wind turbine blade, high-performance glass fiber, electronic glass, high-end refractory material, etc.), improve the manufacturing, application and marketability of high-performance carbon fiber, PV glass, CIGS thin-film solar cell and graphite, make significant breakthroughs in the fields of BIPV and PV agriculture, march into the field of new energy power plant, perfect the new energy industry chain.

## Accelerate "curve 2"

We will make great efforts to develop the 3-new industry (new building material, new house, new energy material), and continuously improve the profitability. In order to meet the industrial demands and requirements for structural adjustment emerging in the new normal, we will expand and strengthen the emerging segments (new building material, new house, new energy material, etc.) through technical innovation and layout optimization, extend the business layout to the key links of the industry chain, and build new profit-making points in integrated and innovative modes.

## Actively foster "curve 3"

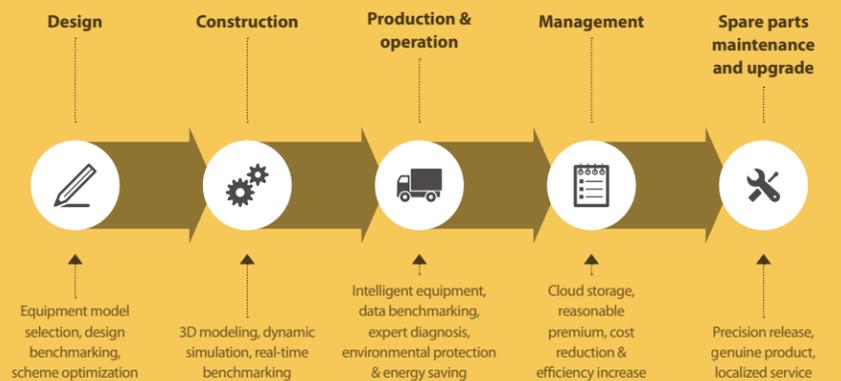
We will foster new economic growth points by strengthening innovation and service, actively explore serve-oriented manufacturing and industrialization-oriented R & D, integrate the existing products and segments by making use of the technologies like Internet, big data and intelligence, conduct the grand R & D, Internet+, inspection & certification, carbon trading, EPC and manufacturing services, and build new growth points with new economic forms, new modes and new types of operation.



- **Grand R & D**: give full play to research resources and researchers, further improve the consciousness, quality and effects of technological service, build an open R & D service platform and a technological achievement incubation platform.
- **Internet+**: devote major efforts to promoting the new foreign trade modes ("cross-board e-commerce + overseas warehouses", "intelligent industry + intelligent port", BNBM HOME, etc.) based on the "Internet+" optimized service, build a global leading comprehensive service system.
- **One stop**: devote major efforts to developing the inspection & certification, carbon trading and consulting services, extend the industry chain to the field of comprehensive service (new material, new energy, energy saving and environmental protection, life science, information technology, etc.), innovate on service modes to supply convenient, networked, localized one-stop service to customers.
- **Integration**: innovate on EPC modes, extend the overseas engineering segment to later maintenance, operation and spare parts, consolidate the advantages of high quality, technical precedence and high-profile brand, supply the services of investment management, remote monitoring, maintenance and matching parts to the customers in the integrated way.



### Intelligent industrial service



# 4 Transformations

In the new normal, transformation and upgrade are the only road for breakthrough and a source of opportunities. During the 13th Five-Year Plan, we will further accelerate the "4 transformations" through technological innovation, business mode innovation and management innovation, based on consolidating the traditional advantages.

## 10 Types of New Materials

<b>Special cement</b>	nuclear power, dam, oil well, cement for port construction
<b>New glass</b>	electronic glass, PV glass, aviation, aerospace, glass for high-speed railway
<b>New building material</b>	green, low-carbon, recyclable
<b>Composite material</b>	aviation, automobile composite material, wind turbine blade, seawater desalination material
<b>Refractory material</b>	high-performance, environment-friendly
<b>High-strength fiber</b>	glass fiber, carbon fiber
<b>New energy material</b>	thin-film cell, storage battery material
<b>Artificial crystal</b>	semiconducting material, high-purity quartz
<b>Purified graphite</b>	isostatic graphite, graphene
<b>Industrial ceramics</b>	high-performance, high-precision

## Transformation of Operation ... Mode

- CNBM will transform from an industrial group to an investor and operator. The headquarter will actively strive to convert the form of state-owned capital at fair prices in capital markets (securities trading market, property transaction market, etc.), and promote the reasonable flow of and maintain and appreciate the value of state-owned capital through equity operation and value management in an orderly way.

## Transformation of Value ... Orientation

- The subsidiaries will transform to listed companies. Accordingly, the emphasis will be converted from income and profit to market value. The securitization rate of the CNBM's assets will be improved with the aim of listing 8~10 professional companies. A management mechanism oriented to market value will be established in the listed subsidiaries for the purpose of dual driving of entity operation and capital operation.

## Transformation of Business ...

- The CNBM's business will transform from building material to various materials. On the principle of proper diversity, CNBM will develop into a comprehensive material industrial group integrating the building material and new material segments, to further strengthen the segment combination and improve the comprehensive strength and international competitiveness.

## Transformation of Market ... Coverage

- CNBM will transform from a native Global 500 company to a transnational Global 500 company. By adhering to the cooperation culture of "genuine, honest, intimate, sincere", we will innovate on the Go Out modes, accelerate the implementation of the Belt and Road Initiative, emphasize the industry-financing combination, enhance branding and promote the win-win cooperation to grow into a transnational Global 500 company.



# 5 Visions

Any country, nation or enterprise should have a vision. As a distinguishing feature of outstanding team, common visions are a strong impetus for organization development and a reflector of the members' pursuits, integrating the personal visions of all the members. The CNBM's visions for the 13th Five-Year Plan are humanity, intelligence, green, performance and globalization.

## Humanity ...

- The so-called "people oriented" refers to "enterprises being people, by the people, for the people and loving the people". The "enterprises being people" means that an enterprise should motivate the staff's enthusiasm and creativity, meanwhile care for the staff to grow simultaneously with the staff and create an environment with safety, warmth and happiness.

that an enterprise essentially operates for persons, including entrepreneurs, investors and social persons. The "loving the people" means that an enterprise should motivate the staff's enthusiasm and creativity, meanwhile care for the staff to grow simultaneously with the staff and create an environment with safety, warmth and happiness.

## Intelligence ...

- We will seize the opportunities arising from the new round of technical revolution, accelerate the industrialization-informatization fusion, make progress in fulfilling the tasks related to Internet+ and the "Made in China 2025", make intelligent key equipment and technological processes, reduce the cost and the energy consumption, and strive to occupy the commanding heights of and make breakthroughs in a few key fields. To

improve the overall value of the upstream and downstream industry chains, we will strengthen structural adjustment and technical innovation, further extend the industry and value chains through synthesis of service-oriented manufacturing, production-research combination and integrated innovation, and continuously scale the high end of the industry chain.

## Green ...

- By adhering to the development concept of "green, cyclic, low-carbon", we will voluntarily reduce the emission of hazardous gases (greenhouse gas,

SO<sub>2</sub>, NO<sub>x</sub>, etc.) and other pollutants, and improve the capability of resource recycling.

## Performance ...

- By adhering to the principle of "benefit first, efficiency first", we will fulfill various tasks in strict accordance with the benefit objective, thoroughly put into practice the performance culture, and digitalize

all steps to continuously create high performance and rank among domestic leading and international top-ranking enterprises.

## Globalization ...

- We will tightly seize the opportunities for internationalization (e.g. the Belt and Road Initiative) in the global perspective, innovate on the Go Out modes by making good use of domestic and

overseas markets and resources, and build a favorable corporate image. On the basis, the capability of internationalized operation, as well as the international influence, will be continuously improved.

# Responsibility Performance

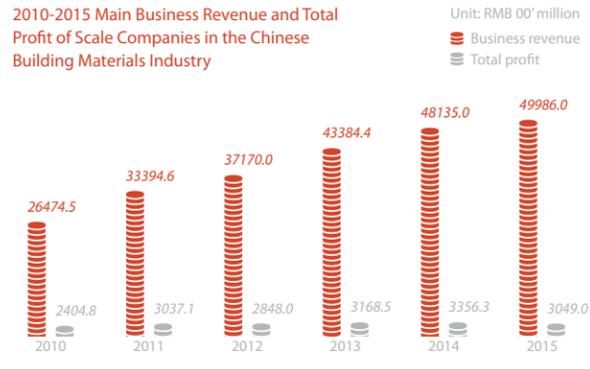
## Market Performance

2015 Fortune Global Top 500 Building Materials Enterprises

2015 Ranking	Company	Operating revenue in 2014 (US\$ million)	Profit in 2014 (US\$ million)	Country
192	Saint-Gobain	54459.4	1264.2	France
270	CNBM	40644.4	477.8	China
475	CRH	25087.3	772.0	Ireland

Source: Fortunechina.com

2010-2015 Main Business Revenue and Total Profit of Scale Companies in the Chinese Building Materials Industry



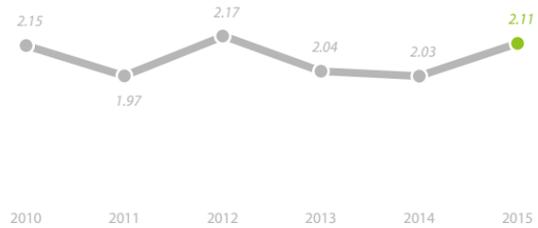
Source: China Building Materials Quantitative Economics Supervision Society

Unit: RMB 00' million

## Energy Saving & Environmental Protection

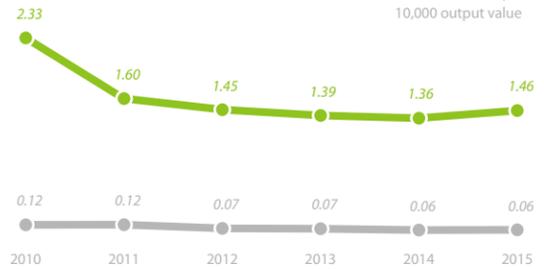
2010-2015 Comprehensive Energy Consumption per RMB 10,000 Output Value

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



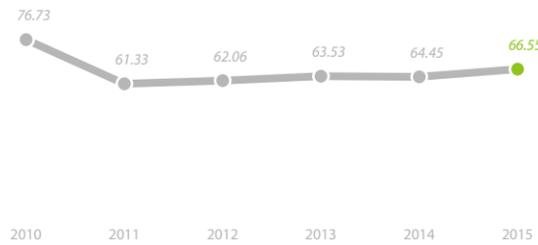
2010-2015 Emission of SO<sub>2</sub> and COD per 10,000 RMB Output Value

Unit: kg/ RMB 10,000  
 ● Emission of SO<sub>2</sub> per RMB 10,000 output value  
 ● Emission of COD per RMB 10,000 output value



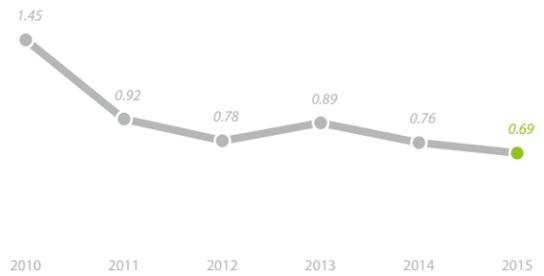
2010-2015 Comprehensive Energy Consumption of Cement

Unit: kg of standard coal / ton



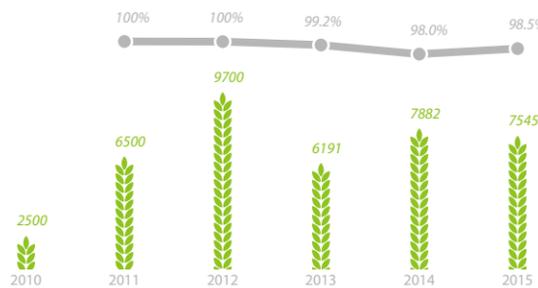
2010-2015 Emission of NO<sub>x</sub> per Cement Clinker Unit

Unit: kg / ton



2015 Treatment and Cyclic Utilization of Solid Waste

● Volume of treated solid waste (0' thousand tons)  
 ● Treatment rate of self-produced solid waste (%)



2015 Performance of Water and Residual Heat Resources Utilization

● Consumption of fresh water per RMB 10,000 of output value (Ton / RMB 10,000)  
 ● Consumption of fresh water per ton of cement clinker (Ton / ton cement clinker)  
 ● Utilization rate of circulating water (%)



## Employee Care

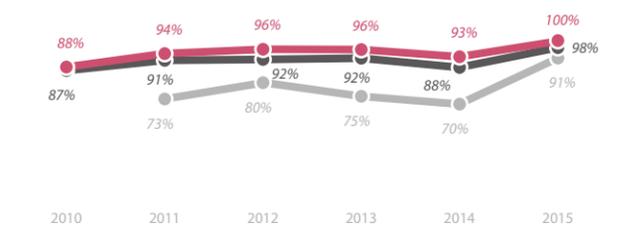
2010-2015 Employee Profile

Unit: Person

	2010	2011	2012	2013	2014	2015
Total number of employees	112676	126385	165652	179421	176854	176610
Employees from foreign countries, Hong Kong, Macau and Taiwan	397	594	1190	1234	892	841
Employees of ethnic minorities	1566	3516	2706	3031	3120	3521
Employees with disabilities	599	1023	1620	1685	2263	1449
Proportion of female employees in the management	24.0%	11.6%	13.5%	18.1%	18.4%	17.2%

2010-2015 Coverage Rates of Labor Contract, Social Insurance and Employees Joining Trade Union

● Coverage rate of labor contract  
 ● Coverage rate of social insurance  
 ● Proportion of employees joining the trade union



2010-2015 Progress of Enterprise Annuity

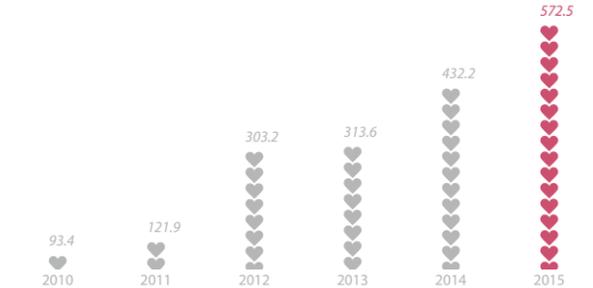
	2010	2011	2012	2013	2014	2015
Number of member enterprises participated in enterprise annuity	38	53	66	67	67	68
Number of employees participated in enterprise annuity	12811	13368	20392	21131	21750	22165

2011-2015 Performance of Staff Training

	2011	2012	2013	2014	2015
Number of employee training programs	11975	21028	37491	43352	32672
Training time (Unit: 0' thousand hours)	108	126	164	91	133
Number of diplomas or degrees obtained by in-service employees with our assistance	1580	1138	2387	3520	2882

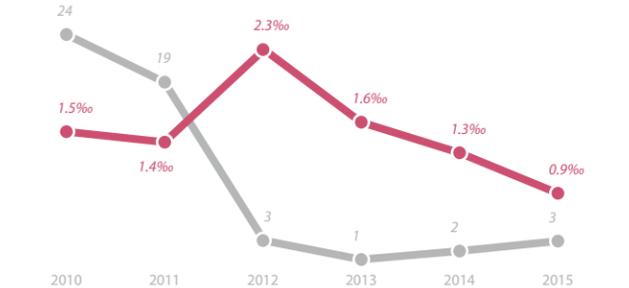
2010-2015 Investment in Occupational Health and Safety

Unit: RMB million



2010-2015 Performance of Production Safety

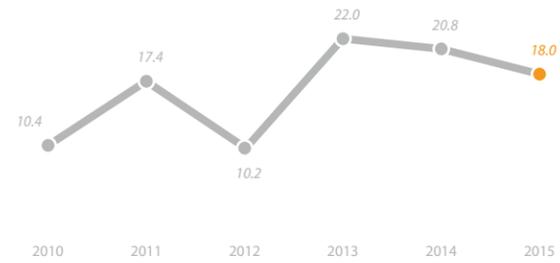
● Recordable injury rate per 1,000 employees  
 ● Number of new occupational disease cases



## Corporate Citizen

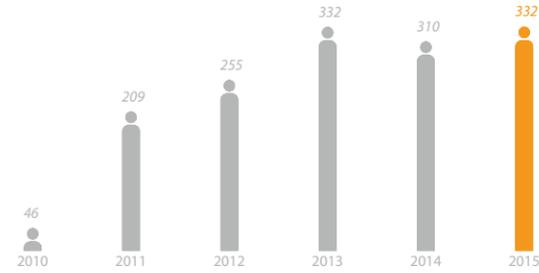
2010-2015 Expenditure on Social Welfare Activities

Unit: RMB Million



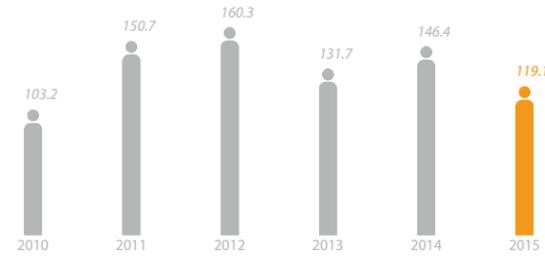
2010-2015 Number of Supported Social Welfare Projects

Unit: Number



2010-2015 Tax Paid

Unit: RMB 00' million



2011-2015 Performance of Creating Employment Opportunities

	2011	2012	2013	2014	2015
New jobs created	21182	15901	16081	23617	16929
Of which: Graduating students recruited	4276	3743	4383	3848	2473
Demobilized soldiers recruited	241	521	158	46	10

2011-2015 Incentives for Students

	2011	2012	2013	2014	2015
Special scholarship (Number)	27	20	18	31	8
Total scholarship (RMB 0' thousand)	-	136	112	53	36
Students awarded or subsidized (Number)	727	466	506	227	159
Probation bases established (Number)	-	98	119	97	47
Intern posts provided to students at school (Number)	-	17815	36530	28619	26586

2011-2015 Volunteer Activities

	2011	2012	2013	2014	2015
Volunteer teams (Number)	-	67	109	65	56
Investment in supporting volunteer activities (RMB 00' million)	157.164	157.164	157.164	157.164	157.164

## Technological Innovation

2010-2015 Technology Awards at Provincial and Ministerial Levels

Unit: Number of Awards

	2010	2011	2012	2013	2014	2015
Scientific and technological awards at Provincial and Ministerial level or above	63	132	152	145	117	123
Of which: National level scientific and technological awards	0	2	0	1	1	0
Technical innovation awards	17	46	89	54	48	48

2010-2015 The Standards of Presiding or Participating in Preparation or Amendment

Unit: Number of Awards

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

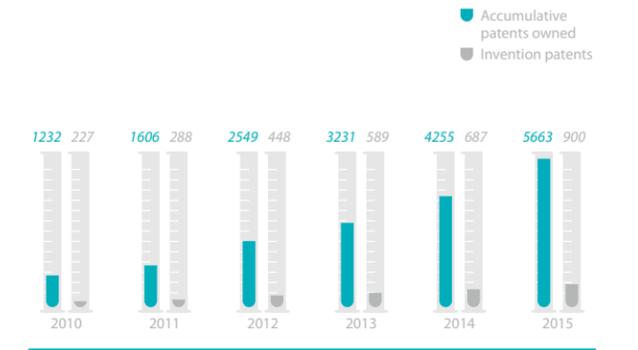
2010-2015 Application and Grant of Patents

Unit: Number of Awards

	2010	2011	2012	2013	2014	2015
New applied patent	514	630	766	1262	1571	1568
Of which: invention patents	173	170	228	373	531	566
Newly granted patents	420	487	729	848	1318	1492
Of which: granted invention patents	54	80	143	128	106	193

2010-2015 Accumulative Patents Owned

Unit: Number of Awards



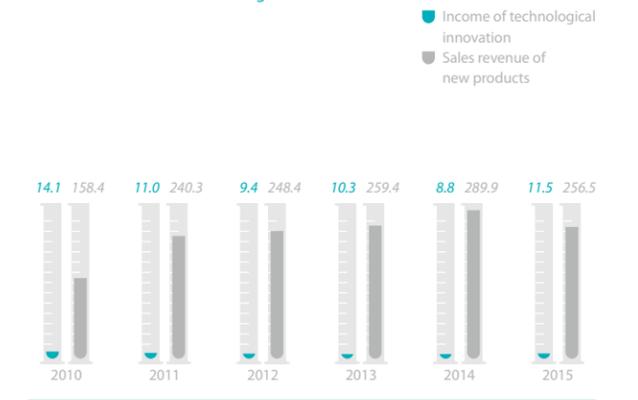
2010-2015 Expenditure on R&D Activities

Unit: RMB 00' million



2010-2015 Income of Technological Innovation

Unit: RMB 00' million



# Indicator Index (CASS-CSR3.0)

Part 1 Preface of Report (P series)				
	No.	Content of Indicator	Page	Nature of Indicator
Scope of report	P1.1	Process of report quality assurance	Cover 2	Extended
	P1.2	Interpretation of data in report	Cover 2	Core
	P1.3	Boundaries of report	Cover 2	Core
	P1.4	Report system	Cover 2	Core
	P1.5	Contact Information	Cover	Core
Report process	P2.1	Preparation process of the report	P1	Extended
	P2.2	Selection process of material aspects in the report	P16	Core
	P2.3	Process and means of stakeholders participating in the preparation of the report	P16-17	Extended
Executives' Address	P3.1	Opportunities and challenges of enterprises in performing social responsibilities	P4-5	Core
	P3.2	Summary of achievements and deficiencies of annual corporate social responsibility	P4-5	Core
	P4.1	Company name, nature of ownership, and location of headquarters	P6	Core
Corporate profile	P4.2	Major brands, products and services of enterprise	P10-11	Core
	P4.3	Region of enterprise's operation, including operational enterprises, subsidiaries, jointly-owned organizations	P6, P10-11	Core
	P4.4	Service markets divided by industries, customer types and regions	P10-11	Core
	P4.5	Number of employees reported according to contracts (formal and informal employees) and genders	P59	Core
	P4.6	List of memberships or other qualifications in associations, national organizations and international organizations	P16	Extended
	P4.7	Major changes in organizational scale, structure, ownership or supply chains in the term of report	N/A	Extended
	P5.1	Annual major work of social responsibility	P17	Core
Annual progress	P5.2	Annual responsibility performance	P56-61	Core
	P5.3	Annual responsibility honors	P17	Core
Part 2 Responsibility Management (G Series)				
Responsibility strategy	G1.1	Philosophy, vision and values of social responsibility	P14-15	Core
	G1.2	External social responsibility proposals signed by the enterprise	P16-17	Extended
	G1.3	Identifying core social responsibility topics of the enterprise	P16-17	Core
	G1.4	CSR planning	P14	Extended
Responsibility governance	G2.1	Leadership organization of social responsibility	P14	Extended
	G2.2	Channel and process of communication between stakeholders and the highest governance organization of the enterprise	P16-17	Extended
	G2.3	Organizational system of social responsibility	P14	Core
	G2.4	Responsibilities and division of work of social responsibilities in the enterprise	P14	Core
	G2.5	Management system of social responsibility	P14	Extended
Responsibility fusion	G3.1	Promoting social responsibility work of subsidiaries	P14-15	Extended
	G3.2	Promoting the performance of social responsibility by partners of supply chain	P16	Extended
Responsibility performance	G4.1	Constructing indicator system of CSR	P14-15	Extended
	G4.2	Conducting performance assessment based on the indicators of CSR	P15	Extended
	G4.3	Excellence selection of CSR	P15	Extended
	G4.4	Major accidents of the enterprise in economy, society and environment, impact and punishment incurred, and corresponding countermeasures of the enterprise	N/A	Core
Responsibility communication	G5.1	List of stakeholders of the enterprise	P17	Core
	G5.2	Process of identifying and choosing stakeholders	P16	Extended
	G5.3	Concerns of stakeholders and response measures of enterprise	P17	Core
	G5.4	Communication mechanism of social responsibility of the enterprise	P16	Core
	G5.5	Communication mechanism of corporate external social responsibility	P16	Core
	G5.6	Participation of corporate senior management in communication and exchange of social responsibility	P16	Core
Responsibility capabilities	G6.1	Conducting CSR subject research	P16	Extended
	G6.2	Participation in study on and exchanges of social responsibility	P16	Extended
	G6.3	Participating in the formulation of domestic and foreign social responsibility standards	P16	Extended
	G6.4	Cultivating corporate culture of responsibility through training and other measures	P15	Core
Part 3 Market Performance (M Series)				
Responsibilities in respect of shareholders	M1.1	Policy and mechanism of shareholders' participation in the management of enterprise	P22	Core
	M1.2	Protecting interests of mid and small investors	P22	Core
	M1.3	Normalizing disclosure of information	P22	Core
	M1.4	Growth	P56-57	Core
	M1.5	Profitability	P56-57	Core
	M1.6	Safety	P56-57	Core

Part 3 Market Performance (M Series)				
	No.	Content of Indicator	Page	Nature of Indicator
Responsibilities in respect of customers	M2.1	Customer relations management system	P23	Core
	M2.2	Popularization of product knowledge and customer training	P23	Core
	M2.3	Protection of customers' information	P23	Core
	M2.4	Stop loss and compensation	P23	Core
	M2.5	Product quality management system	P23	Core
	M2.6	Product pass rate	N/A	Core
	M2.7	System of supporting product and service innovation	P46	Core
	M2.8	Investment in technology or R&D	P44-45	Extended
	M2.9	Number and proportion of technical personnel	P44-45	Extended
	M2.10	Number of new patents	P61	Extended
	M2.11	Sales revenue of new products	P61	Extended
	M2.12	Significant innovation awards	P61	Extended
	M2.13	Survey on satisfaction of customers and satisfaction of customers	N/A	Core
	M2.14	Actively deal with complaints from customers and resolution rate of complaints from customers	P23	Core
Responsibilities in respect of partners	M3.1	Strategic sharing mechanism and platform	P23	Core
	M3.2	Philosophy of and system guarantee for honest operation	P22	Core
	M3.3	Philosophy of and system guarantee for fair competition	P22	Core
	M3.4	Economic contract performance rate	P22	Core
	M3.5	Identifying and describing the value chain and responsibility influence of the enterprise	P16	Extended
	M3.6	Initiative and policies of the enterprise in promoting the social responsibility performance of the value chain	P16	Extended
	M3.7	Social responsibility education and training received by members of the value chain from the enterprise	P16	Extended
	M3.8	System and (or) policy of responsible procurement of the company	P16	Extended
	M3.9	Process and frequency of assessment and survey on social responsibilities of suppliers	P16	Extended
	M3.10	Ratio of suppliers passing quality, environment, and occupational health and safety management system certifications	P16	Core
	M3.11	Number of punishment in such aspects as economy, society and environment against suppliers	Not included in the statistics system	Extended
	M3.12	Ratio of responsible procurement	P39	Extended
Part 4 Social Performance (S Series)				
Responsibilities in respect of government	S1.1	Legal compliance system of enterprise	P22	Core
	S1.2	Training of legal compliance	P22	Core
	S1.3	Prohibition on commercial bribe and corruption	P22	Core
	S1.4	Performance of legal compliance assessment of the enterprise	P22	Extended
	S1.5	Total taxes paid	P19	Core
	S1.6	Responding to national policies	P23	Core
	S1.7	Policies or measures to guarantee and (or) promote employment	P23	Core
	S1.8	New employment during the reporting period	P37	Core
	S2.1	Signing rate of labor contract	P59	Core
	S2.2	Coverage rate of collective negotiation and contract	P59	Extended
	S2.3	Democratic management	P34-35	Core
	S2.4	Proportion of employees joining the trade union	P59	Extended
	S2.5	Number of applied, treated and solved appeals of employees through the appeal mechanism	P35	Extended
	S2.6	Management of employees' privacy	P34	Extended
	S2.7	Rights and interests protection for part-timers, temporary workers and employees of subcontractor	P34	Extended
	S2.8	The ratio of minimum wage of employees according to the operation region to the minimum wage in the region	P34	Core
	S2.9	Coverage rate of social insurance	P59	Core
S2.10	Salary for overtime work	P35	Extended	
S2.11	Number of annual per capita paid vacation	P35	Extended	
S2.12	Welfare systems according to nature of employment (official, unofficial)	P34-35	Core	
S2.13	Proportion of female managers	P59	Core	
S2.14	Proportion of employees of minorities or other races	P59	Extended	
S2.15	Ratio or number of disabled employees	P59	Extended	
S2.16	Proportion of employees in the occupational health and safety committee	N/A	Extended	
S2.17	Occupational disease prevention and treatment system	P32	Core	

Part 4 Social Performance (S Series)				
No.	Content of Indicator	Page	Nature of Indicator	
S2.18	Training of occupational safety and health	P32	Core	
S2.19	New occupational diseases of the year and accumulative occupational diseases of the enterprise	P59	Core	
S2.20	System and measures of prevention against occupational injuries	P32	Extended	
S2.21	Mental health system/measures for employees	P32	Extended	
S2.22	Coverage rate of physical examination and health records	P32	Core	
S2.23	Providing equal health and safety protection to part-timers, temporary workers and employees of subcontractor	P33	Extended	
S2.24	Career development channel for employees	P34	Core	
S2.25	Employee training system	P34	Core	
S2.26	Employee training performance	P59	Core	
S2.27	Investment in aiding and supporting employees in difficulties	P35	Core	
S2.28	Providing special protection for special populations (pregnant woman, nursing woman, etc.)	P35	Extended	
S2.29	Respect for employees' family responsibilities and life in spare time, and keeping balance between work and life	P35	Extended	
S2.30	Employee satisfaction	P31	Extended	
S2.31	Employee turnover rate	P31	Extended	
S3.1	Safety production management system	P32-33	Core	
S3.2	Safety emergency management mechanism	P33	Core	
S3.3	Safety education and training	P32-33	Core	
S3.4	Safety training performance	P33	Core	
S3.5	Investment in safety production	P33	Core	
S3.6	Number of accidents in production	P33	Core	
S3.7	Number of employee casualties	P32	Core	
S4.1	Assessment of impact of enterprise entering or exiting the community on the environment and society of communities	P26	Extended	
S4.2	Rate of assessment on implementation environment and social influence of new projects	P26	Extended	
S4.3	Participation of community representatives in project construction or development	P26	Extended	
S4.4	Enterprise developed or supported project with social benefits in the community of its operation	P38	Extended	
S4.5	Employee localization policy	P38-39	Core	
S4.6	Proportion of local employment	P39	Extended	
S4.7	Proportion of local employees in senior executives according to main operation regions	P39	Extended	
S4.8	Local procurement policy	P38-39	Extended	
S4.9	Corporate public welfare policy or main public welfare fields	P40-41	Core	
S4.10	Corporate public welfare fund/foundation	N/A	Extended	
S4.11	Overseas public welfare	P38	Extended	
S4.12	Total amount of donation	P40	Core	
S4.13	Policy and measures supporting voluntary service	P41	Core	
S4.14	Performance of voluntary service of employees	P41	Core	
Part 5 Environmental Performance (E Series)				
E1.1	Establishing organizational system and mechanism system of environment management	P27	Core	
E1.2	Environment warning and response system	P26	Extended	
E1.3	Participation in environmental organizations or proposals	P28	Extended	
E1.4	Assessment on impact of enterprise on environment	P26	Core	
E1.5	Total investment in environmental protection	P25	Core	
E1.6	Training and publicity of environmental protection	P26-27	Core	
E1.7	Environmental protection training performance	P26-27	Core	
E1.8	Disclosure of environment information	P28	Extended	
E1.9	Process and frequency of communication with communities on environment	P28	Extended	
E1.10	Measures for green office	P27	Core	
E1.11	Green office performance	P27	Extended	
E1.12	Saving energy by reducing business trips	P27	Extended	
E1.13	Green buildings and sales network	N/A	Extended	
E2.1	Establishing energy management system	P26-29	Extended	
E2.2	Energy conservation policy and measures	P26-27	Core	
E2.3	Total annual energy consumption	P26	Core	

# Rating Report

## Rating Report of 2015 CNBM Social Responsibility Report

Upon the request of CNBM, Chinese Expert Committee on CSR Report Rating selected experts to form CNBM CSR Report 2015 (hereinafter referred to as the Report) Rating Team.

### I. Basis of rating

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 3.0) and Rating Standards of Corporate Social Responsibility Reporting for Chinese Enterprises (2014).

### II. Rating process

1. Process Assessment Team interviewed main members of the Preparation Group of the Report, and reviewed the materials related to the preparation process;
2. The Rating Team evaluated the preparation process and disclosure of the Report, and drew up the Rating Report.
3. The Rating Report was submitted to the Vice Chairman of the Chinese Expert Committee on CSR Report Rating and the head of the Rating Team for their signatures.

### III. Conclusions

#### Process ( )

Enterprise Management Department of the Group takes the lead to establish the Report Preparation Group. The Chairman of the Group acts as the head of the Report Preparation Group and is responsible for the framework of the Report and the approval for the final draft. The Preparation Group identifies stakeholders, and collects their suggestions by questionnaire survey and emails. Substantial topics are defined according to the company's development strategy, related state policies, industrial benchmarking analyses, results of survey on stakeholders, etc. It is planned to release the Report on the "2016 Press Conference of Chinese Industrial Corporate Social Responsibility Report", and the Report will be presented in printed edition, electronic edition and Chinese-English version, etc, which reflects a leading process.

#### Materiality ( )

The Report gives detailed and sufficient disclosures on the substantive issues of non-metallic mineral products industry like "Product Quality Management", "Technological Innovation", "Occupational Health Management", "Ensuring Production Safety", "Research & Development of Environment-friendly Products", "Conservation of Water Resources", "Reduction of Waste Emission", "Governance of Environment around Factories", with good materiality.

#### Completeness ( )

The Report discloses the key indicators of "Responsibility Management", "Market Performance", "Technological Innovation", "Energy Saving and Environmental Protection", "Employee Care" and "Corporate Citizen", covering 92.0% of core indicators of non-metallic mineral products industry, and can be regarded as fairly complete.

#### Balance ( )

The Report discloses negative data and information on "the employee turnover rate", "the recordable injury rate per 1,000 employees", the number of accidents in production "new cases of occupational diseases", etc., and expounds the corrective measures against accidents in production of member companies in details, which shows a good balance.

### IV. Recommendations for improvement

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

#### Rating team

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

Team members: Wei Xiuli, Associate Professor from the Economics and Management College of North China University of Technology  
Fang Xiaojing, Evaluator of Process

魏紫川 钟宏武

# Feedback

Thank you very much for caring and supporting the social responsibility work of CNBM. Please fill in the questionnaire below, and send it back to us through fax or mail. If the blank space is insufficient for your response, please attach an additional page; if you want to reply by 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 two-dimension code on the right to fill in your feedback via mobile terminal. We will make continuous improvements in our work in the future according to your suggestions and advice.



#### Your overall evaluation of CNBM CSR Report 2015:

Overall evaluation:  very good  Good  Ordinary

Contents

Suitability of page numbers

Design

Language

#### According to your opinion, what's the core of responsibility performance of CNBM?

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

#### Which aspect do you think we need to strengthen our effort in?

Information collection    Development of organizational structure    Talent development    Performance evaluation    External publicity  
Management of stakeholders    Public welfare planning    Preparation of annual report    Study on social responsibilities  
Others \_\_\_\_\_

#### Which means do you want to learn information about our responsibility performance through?

Printed report    "Social responsibility" special column on the official website    Public WeChat account  
Professional media of social responsibility    Others \_\_\_\_\_



