



**2011**

CHINA NATIONAL BUILDING MATERIALS GROUP CORPORATION

**Social Responsibility Report**





# Preparation Notes

## About this Report

This is the third social responsibility report and the first social responsibility report prepared in English language released by China National Building Materials Group Corporation ("CNBM"). This Report gives a true picture of CNBM's commitment to sustainable development.

## Period Covered by the Report

1 January 2011 to 31 December 2011; given the progressing continuity of certain businesses or projects, some contents relate to the "11th Five Year Plan" period and the first quarter of 2012, 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 controlling) members of CNBM. For the purpose of concise description, the terms "CNBM", "the Group" and "We" are used in the Report to refer to China National Building Materials Group Corporation.

## Referential Guidelines

Sustainable Development Report (2006) published by the Global Reporting Initiatives (GRI); Social Responsibility Guide (ISO26000) issued by the International Organization for Standardization (ISO) ; Guide on Performance of Social Responsibilities by Central Government-owned Companies issued by the Stated-owned Assets Supervision and Administration Commission of the State Council; and China CSR Reporting Guidelines (CASS-CSR2.0) issued by the Chinese Academy of Social Sciences.

## Data Sources

All information and data used herein are from the headquarters of CNBM and its member companies. Unless otherwise stated, all monetary amounts are expressed in RMB.

## Assurances

The financial data in the Report are derived from the 2011 annual financial statements which have been audited by Baker Tilly China; other key performance data have been verified by Bureau Veritas, an independent third party, who issued an independent verification statement in respect thereof.

## How to Get this Report

Please log onto <http://www.cnbm.com.cn/EN/> to download the electronic version of this Report.









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Sales revenue for 2011  
**194.09**  
 billion yuan

Total profit for 2011  
**15.85**  
 billion yuan

Tax paid in 2011  
**15.07**  
 billion yuan

## Science & Tech Innovation



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Expenditures on science and technology in 2011  
**4.67**  
 billion yuan

Income from sales of new products in 2011  
**24.03**  
 billion yuan

Number of valid patents possessed cumulatively as of 2011  
**1,606**

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In 2011, the comprehensive energy consumption per ten thousand yuan output value over the previous year decreased by

**8%**

In 2011, the SO<sub>2</sub> emission load per ten thousand yuan output value over the previous year decreased by

**31%**

In 2011, we treated and reused solid wastes of approximately

**6.5**  
million tonnes

## Employee Care



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Total number of employees at the end of 2011 about

**126,000**

In 2011, we invested in occupational health and safety

**120**  
million yuan

In 2011, our employees attended training of

**1.081**  
million hours

## Corporate Citizen



|   |    |
|---|----|
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Total amount of donation in 2011

**17,371**  
million yuan

Number of projects of donation in 2011

**209**

Hours of volunteer services provided by our employees in 2011 approximately

**11,000**





## Chairman's Message

Being the inaugural year of the State's "Twelfth Five-Year Plan", 2011 also marked an extraordinary year in the development history of CNBM. With the concern and support of stakeholders, we became the first building materials enterprise to rank among the world's top 500 firms, indicating an important step on our way to build a world-leading building materials enterprise with international competitiveness. In 2011, our sales revenue and total profit increased by 43% and 100% respectively, and total assets amounted to over RMB 200 billion, making us rank 365th among the world's largest 500 firms.

The building materials industry, which is associated with the national economy and people's livelihood, is a fully competitive industry. As a leading enterprise in the industry, we need to achieve good results, not only for the purposes of preservation and appreciation of the value of the state-owned assets and fulfilment our responsibilities towards shareholders, but also for safeguarding minority shareholders' interests with our best endeavours, offering safer, more reliable and comfortable products to our clients and driving the common development of up-and-downstream enterprises. Furthermore, we also bear a responsibility to lead the transformation and upgrading of the industry and promote the healthy development of the industry.

We were the first to raise the idea of industrial value overweighs corporate value while corporate value comes from industrial value in 2008. Over the years, we have played a sound and self-disciplinary role in practicing what we advocated in the industry to promote value rationality in the industry, thus gaining more and more acknowledgement of and support from our peers. With the concerted efforts of industry peers, profits of the whole cement industry exceeded 100 billion in 2011 for the first time, with all cement enterprises realizing reasonable returns.

We creatively put forward and promoted the mode of "market-oriented operation of central SOEs", implemented diversified ownership structure in the shareholding of central state-owned enterprise, standard governance structure, professional managers system and market-oriented internal systems and operated according to market practices. Much to our delight, under the mode of "market-oriented operation of central SOEs", more and more local state-owned, private and mixed-ownership enterprises are willing to join us. Entrepreneurs wish to give

full play to their talents on the platform of CNBM and create more value for the society. In 2011, "CNBM: Driving the Development of Chinese Cement Industry" was listed in the case base of Harvard Business School.

In 2011, we continued to stick to the guidance of science & tech innovation and promoted the progress of industry technologies, academic exchanges and application of achievements. Together with experts and scholars of the industry, we successfully won the battle to host the 14th International Congress on Cement Chemistry (ICCC), which is known as the "International Olympics of Cement Academic Circles", realizing the wish cherished by cement technicians for more than 20 years.

We made great efforts to implement the "Going-out" strategy, building large cement and glass production lines in such countries as Mongolia, Tajikistan and Botswana, and a cement plant in Ethiopia, which is the biggest cement plant in Africa. By this way, we brought our advanced technologies to these countries and provided support for their infrastructure construction, winning acknowledgement from the governments and our partners.

In face of an increasingly complex and volatile economic landscape, we shall continue to adhere to the scientific development, and build a first-class building materials enterprise in the world by transforming our growth mode, quickening business restructuring, sticking to science & tech innovation and raising development quality. As a trustworthy partner, we shall cooperate with industry partners, communities and non-governmental organizations with more sincere, open, inclusive and progressive attitude, to contribute to our long-term sustainable development.



## Company Profile

Ranking **365**<sup>th</sup> among the Fortune 500 companies

Ranking **66**<sup>th</sup> among the top 500 Chinese enterprises

Ranking **1**<sup>st</sup> among the top 100 enterprises of the Chinese building materials industry

As a leader in the Chinese building materials industry, CNBM is the largest comprehensive building materials industry group in China that integrates four major business segments - manufacturing, scientific research, logistics and set of equipment. CNBM has been ranked first among the top 100 enterprises of the Chinese building materials industry for years, and ranked 66th among the top 500 Chinese enterprises in 2011 and 365th among the Fortune 500 companies in 2012. As at the end of 2011, our total assets amounted to RMB 207.51 billion and the total number of our employees amounted to 126 thousand. We have over 280 key member companies and have controlling stake in 6 listed companies, including two overseas listed companies. In 2011, we achieved revenue of RMB194.09 billion with total profit amounting to RMB15.85 billion and taxes paid amounting to RMB15.07 billion.



### Comments from Mr. Wang Yong, Director and Party Secretary of SASAC :

During the "11th Five Year Plan" period, CNBM thoroughly implemented the idea of scientific development and earnestly implemented the plans of SASAC, forging ahead with determination and down-to-earth attitude. As a result, its economic indicators saw an upsurge, corporate strengths and comprehensive competitiveness were considerably enhanced. By achieving a leapfrog development and outperforming its goals, CNBM became a leader in the Chinese building materials industry, demonstrating the fantastic strength and spirit of a central state-owned enterprise in the era.

|                        |   |
|------------------------|---|
| Strategic goals        | To be a world-class comprehensive building materials industry group with sustainable innovation capabilities and strong and outstanding international competitiveness |
| Corporate mission      | Making best use of resources to serve construction  |
| Core values            | Innovation, performance, harmony and responsibility   |
| Attainments of cadres  | Reverence, gratitude, humility and decency  |
| Humanistic environment | lenience, tolerance and ease; unity, affinity and cohesion  |

## Strategy, Philosophy and Culture



We are committed to becoming a world-class comprehensive building materials industry group with sustainable innovation capabilities and strong and outstanding international competitiveness. We take “making best use of resources to serve construction” as our mission, adhere to our core values of “innovation, performance, harmony and responsibility” and create a humanistic environment of “San Kuan San Li” (being lenience, tolerance and ease; and unity, affinity and cohesion) to exist in harmony with our partners.

As a central state-owned enterprise, we strive to serve national key projects, and urban and rural construction. We play a leading role in the restructuring, transformation and upgrading of the industry by seeking corporate value from industry value and achieving win-win

outcomes with industrial partners. We build the “central research institute” of materials industry to research the industrial features and critical technologies and promote the commercialization of achievements, so as to propel the transformation of building materials industry towards being resource-saving and eco-friendly. We put forward and practise the idea of “market-oriented operation of central SOEs”, aiming to create maximum value for our country and people and drive the socialist modernization course of our country with great enthusiasm and endeavours.

In 2011, our total assets amounted to **207.51** billion yuan

In 2011, our revenue amounted to **194.09** billion yuan

In 2011, our total profit amounted to **15.85** billion yuan

In 2011, our net profit amounted to **11.87** billion yuan

In 2011, our taxes paid amounted to **15.07** billion yuan

## Corporate Governance Structure

Being a solely-owned enterprise of SASAC that experimentally established its board of directors since 2005, CNBM has set up its board of directors ("Board") with the majority being external directors, and four board committees, namely Strategy and Investment Committee, Remuneration and Appraisal Committee, Nomination Committee and Audit and Risk Management Committee, of which all the members of the Remuneration and Appraisal Committee and the Audit and Risk Management Committee are external directors.

Our Board is responsible for corporate strategies, important decisions and material events and development direction. It determines important issues such as strategic planning, reorganization, capital operation, performance seeking and sustainable development, guides and motivates the management to maximize

our corporate value and leads our Company to achieve prosperity and sustainable growth. In 2011, the Board held 11 meetings to deliberate such issues as the Group's rolling development strategy, investment plan for setting up Southwest Cement Plant and financial statements, and made 35 significant resolutions.

In September 2011, as the term of office of external directors Cao Desheng and Zhang Ji-ang expired, Zhuang Laiyou and Lu Xiaoqiang were appointed by SASAC as external directors of the Group. Both Zhuang Laiyou and Lu Xiaoqiang used to work as corporate senior executives for years. Zhuang Laiyou used to work as the chief economist of China Development Bank and Lu Xiaoqiang used to work as the director of Citibank Asia and as vice president of Deutsche Bank Greater China.

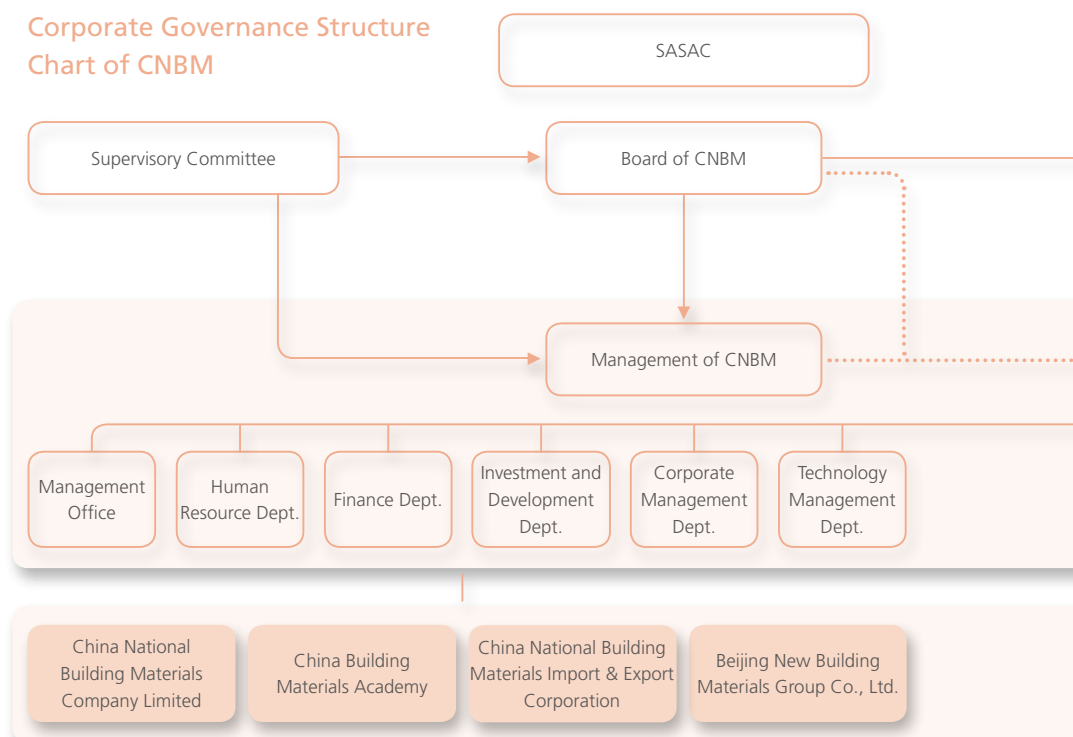
We have set up a mechanism of "normative decision-making and reasonable authorization" to ensure good communications between the Board and the management, combine internal counterbalance with market efficiency and improve the quality of decision-making and the implementation efficiency. Meanwhile, we also actively explore the approaches that would allow the Party Committee to play a core political role. Our directors earnestly and diligently performed their duties, e.g., carrying out on-site investigation at our member companies and doing market survey, actively guiding our management in expanding businesses and creating outstanding performance.

**55%** of the Board members are external directors

**11** Board meetings were held in 2011

**35** Board resolutions were made in 2011

Corporate Governance Structure Chart of CNBM



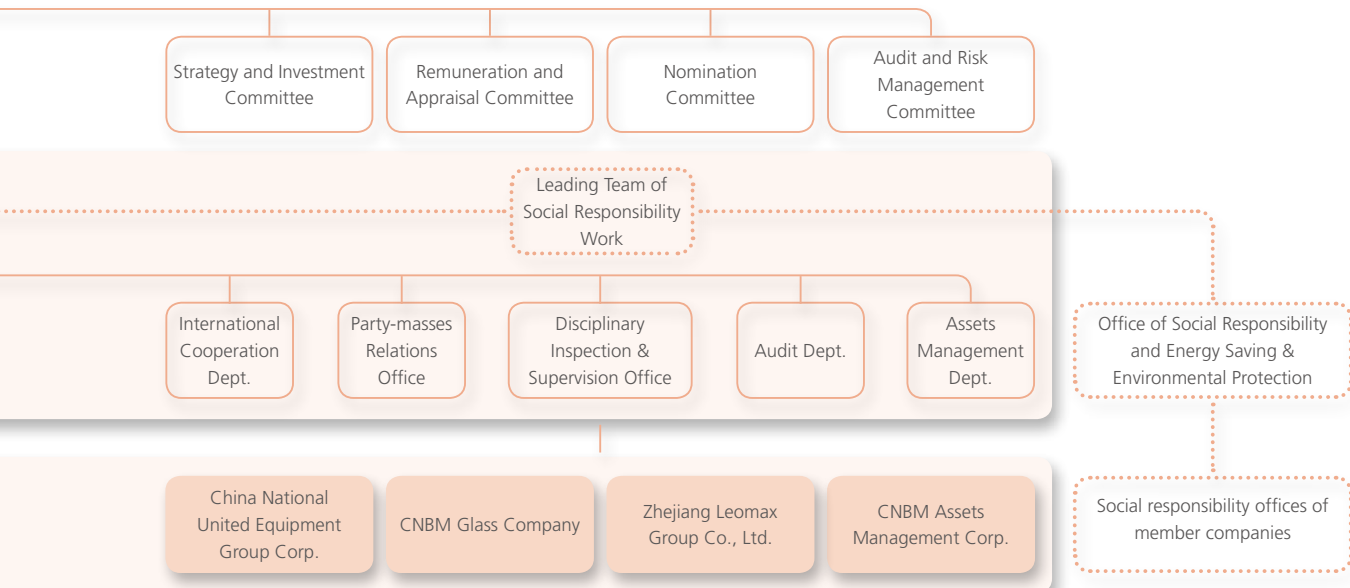


## Board of Directors

|   |   |   |   |   |  |
|---|---|---|---|---|--|
| <b>Song Zhiping</b><br>Chairman<br>Party Committee Secretary                      |   |   |   |   |  |
| <b>Jiang Junlu</b><br>External Director   | <b>Lin Xizhong</b><br>External Director   | <b>Wang Zhenhou</b><br>External Director  | <b>Guo Jiantang</b><br>External Director                                | <b>Zhuang Laiyou</b><br>External Director | <b>Lu Xiaoqiang</b><br>External Director |
| <b>Yao Yan</b><br>Director<br>General Manager<br>Deputy Party Committee Secretary | <b>Cao Jianglin</b><br>Director<br>Standing committee member of the Party Committee | <b>Hao Zhenhua</b><br>Director<br>Deputy Party Committee Secretary<br>Secretary of the Discipline Committee | <b>Xiong Jiwen</b><br>Employee Director<br>Chairman of the Labour Union |   |  |

## Management

|  |   |   |  |  |                                     |
|--|---|---|--|--|-------------------------------------|
| <b>Yao Yan</b><br>Director<br>General Manager<br>Deputy Party Committee Secretary                |   |   |  |  |                                     |
| <b>Guo Chaomin</b><br>Deputy General Manager<br>Standing committee member of the Party Committee | <b>Xu Jinhua</b><br>Deputy General Manager<br>Standing committee member of the Party Committee<br>General Counsel | <b>Ma Jianguo</b><br>Deputy General Manager<br>Standing committee member of the Party Committee | <b>Liu Baoying</b><br>Deputy General Manager<br>Standing committee member of the Party Committee | <b>Huang Anzhong</b><br>Deputy General Manager<br>Standing committee member of the Party Committee | <b>Wu Jiwei</b><br>Chief Accountant |



## Overall Risk Management

In 2011, the revenues of enterprises that prepared reports on overall risk management accounted for

**100%** of our total revenues

In 2011, efficiency supervision was carried out for about

**350** items

As one of the enterprises selected by SASAC to implement experimental overall risk management, we have been committed to establishing an independent, comprehensive, vertical and professional risk management system. Under the guidance of the Audit and Risk Management Committee of the Board, the departments and offices of our headquarters and our key member companies have set up a leading team for overall risk management, with the risk management office responsible for its daily affairs. The team checks and examines the implementation of overall risk management tasks and its effectiveness on a regular basis, provides guidance to the Group's functional departments and member companies in enhancing their information col-

lection and risk identification and prevention, and checks the control and handling of each category of risks.

Since we prepared our first report on overall risk management in 2008, we have formed a set of programs for information collection, risk identification, risk response and prevention, risk alert and effect evaluation. In 2011, each of second-tier member companies of the Group prepared an annual report on overall risk management, with a rate of 100% in terms of report preparation. All risk management measures have been effectively implemented, thereby further enhancing our sustainable development capabilities.

## Internal Controls

In 2011, internal audit was carried out for

**256** projects

Our internal audit adheres to the principles of independence, objectiveness and fairness, helping to improve the efficiency of our operation. Our headquarters and each of our key member companies have set up an independent internal audit unit equipped with professional auditing personnel. Our internal audit focuses on our strategic development objective and management needs. While promoting steady construction of internal audit system, we attach importance to innovative audit means and effectively raise the value of internal audit. Through launching audit activities for economic responsibility, R&D projects, specific internal control tasks, construction projects and special funds, we give full play to the supervision, service, evaluation and consultant functions of internal audit, thus providing an effective guarantee for enhancing internal controls, avoiding operating risks, improving economic efficiency and achieving sustainable development. In 2011, our member companies carried out internal audit for 256 items.

We make the best of the roles of our discipline committee and supervisory bodies and regard efficiency supervision as an important action to enhance internal control and incorporate it into corporate management by conducting supervision in such aspects as safety production, construction projects and internal resources consolidation, thus making efficiency supervision an integral part of our daily operation. In 2011, we promoted the construction of systems across the Group. Our member companies performed efficiency supervision over about 350 items and made 152 recommendations in respect thereof.

## Business Ethics

### Compliance with laws and regulations

We carry out our work in strict compliance with relevant PRC laws and regulations and policies. We insist on integrating legal literacy campaigns with legal affairs management to create synergy. We promote the idea of “compliance creating value” through launching legal campaigns on the national legal publicity day, holding legal training lectures and law knowledge competitions, etc.

### Operating with Integrity

Integrity is part of our fundamental principles and a precious spiritual treasure; it comes from our endeavours over the past 30 years and is reflected in the trust and support from our clients, suppliers and partners. It is the value orientation and the code of conduct which we will always hold fast to. Our member companies have gained wide acknowledgement and respect for operating with integrity. Our honest operation also helped us win recognition from various financial and insurance institutions, thus enabling us to enter into cooperation agreements with a number of banks for

comprehensive credit lines. In 2011, China Lianhe Credit Rating Co., Ltd., one of most professional credit rating firms generally accepted in the market, assigned its top ‘AAA’ long-term credit rating to us, with a stable outlook.

### Anti-corruption

We strive to boost fairness and transparency in business transactions, firmly oppose corruption and incorporate the punishment and corruption prevention system into our daily corporate operation management.

In 2011, we put more efforts in building a corruption-free culture, raising the awareness of integrity and creating an honest and corruption-free development environment. We also enhanced the construction of our disciplinary and regulatory team to further raise their duty-performance capability.



In 2011, employees taking part in the legal publicity and education campaigns amounted to around

**42,000** person-times

In 2011, around

**12** thousand hours of honest operation and fair competition trainings were provided to employees

In 2011, the contract execution rate of our manufacturing member companies amounted to approximately

**98%**

In 2011, employees attending the anti-corruption trainings amounted to around

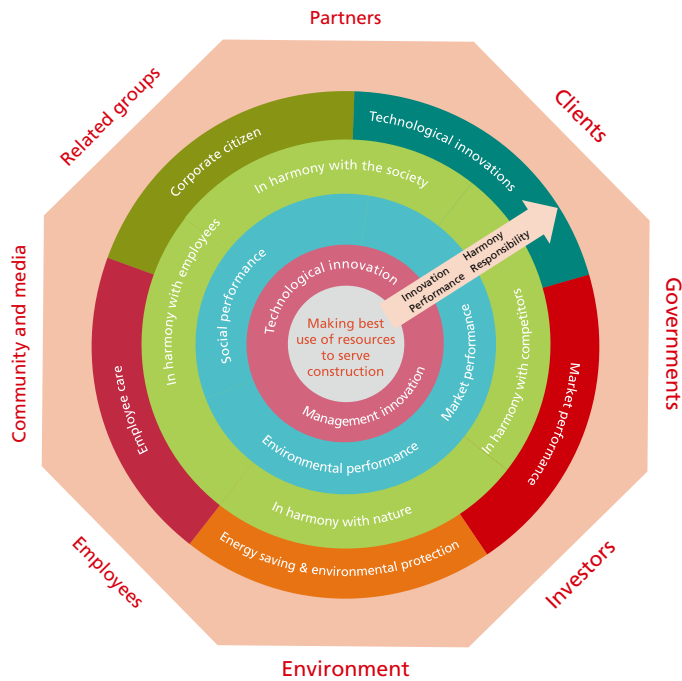
**11,000** person-times

Comments from the SASAC inspection team for the five systems for improving the Party's style of work and upholding integrity, including the responsibility system:

The leaders of CNBM placed high importance to the implementation of the responsibility system. They earnestly arranged a team to guide its subordinate units, improved the supporting systems of the punishment and prevention system and enhanced their efforts in basic work against corruption, thus providing a guarantee for a rapid and sound development of the Group.

# Responsibility Principle

As a leader of the building materials industry of China, we're fully aware of the impact of our development on the economy, the society and the environment and fully understand the demand of our stakeholders. We have set five core topics, namely market performance, science & tech innovation, energy saving & environmental protection, employee care, corporate citizen.



|   |   |
|---|---|
| <p>Market Performance</p>                            | <p>We reward our shareholders and investors with excellent operating results, serve clients with quality products and services, grow together with our suppliers and industrial partners, and try to become a platform for all the stakeholders to create values. Meanwhile, upholding the philosophy of "industry interest overtopping corporate interest", we are dedicated to promoting the industry restructuring, transformation and upgrading and seek to achieve mutual development and create win-win scenarios with the industry and peers along the same industrial chain.</p>                        |
| <p>Science &amp; Tech Innovation</p>                 | <p>We take up the task of industrial innovation with our strong scientific prowess, advance industry transformation and upgrading with our forward-looking vision and state-of-the-art technology, disseminate and share information, devote ourselves to creating greener, more comfortable and intelligent living environment and building a sustainable development future.</p>  |
| <p>Energy Saving &amp; Environmental Protection</p>  | <p>We make a comprehensive use of industrial and urban wastes, produce low-carbon products while minimizing consumption and emission; we are committed to providing the society with reliable and green building materials, and rendering products and service support to the new energy industry; we are pleased to share effective technology in energy efficiency and environmental protection as well as management experience, explore development modes for the harmonious coexistence of industries and nature, and advocate sustainable development of the whole industry and the society at large.</p> |
| <p>Employee Care</p>                                 | <p>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 to our employees. We try to build a sustainable development and better future together with all our employees and deliver happiness in the society.</p>  |
| <p>Corporate Citizen</p>                             | <p>In the production and operation process, we seek to achieve mutual development and growth with the region where we operate; as we can not get such results and awards without the support and help of the stakeholders and all walks of the society, we reward the society through particular public undertakings; our employees are happy to contribute to the society, actively participate in volunteer activities and exercise the responsibilities of a corporate citizen with practical actions.</p>   |



# Responsibility Management

We integrate the idea of social responsibility into our day-to-day operation. We not only established a leading group for social responsibility and an office for social responsibility, energy saving & environmental protection, but promoted the engagement of all departments, all member enterprises and employees, and improved the social responsibility management systems of member enterprises in 2011. 69 enterprises, including all second-tier enterprises, have set up social responsibility departments; we have gradually standardized the processes requirements for collection, submission, examination and publication of data and information incorporated in social responsibility reports, specified work goals and formulated the plan for advancing the social responsibility work.

In 2011, we established the Indicator System for Management of Social Responsibility and, by reference to domestic and international guiding documents on social responsibility, based on the principles of comprehensiveness, substantiality and comparability, in light of the Group's development of social responsibility as well as internal and external demand and around the five topics of responsibility, developed 304 quantitative indicators which have universal coverage of core topics of social responsibility management.

We focus on and promote the corporate social responsibility work of member enterprises by advocating ideas, deepening understanding, extending the scope and frequency of training, and raise specific requirements for

development of organizational structures and systems, preparation and publication of independent social responsibility reports as well as holding of special campaigns by member enterprises to improve the quality and management of managers on an ongoing basis.

In 2011, **69** key member enterprises set up social responsibility departments.

| Focus                                  | Contents                               | 2010   | 2011   | 2012 (planned)  |
|--|--|--|--|---|
| Improve responsibility management      | Reports publication                    | Chinese reports  | Chinese reports  | Chinese reports & English reports   |
|  | System establishment                   | Establishment of leading organ<br>Establishment of preparation and submission department | Establishment of organ and department<br>Information collection system                         | Establishment of organ and department<br>Information collection system<br>Guidance for grassroots work            |
|  | Way of information collection          | Extraction of headquarters data  | Collection of information of member enterprises  | Direct submission online  |
| Promote the work of member enterprises | Department and system improvement      | Specify the supporting staff for preparation and submission of reports                   | Specify responsible departments  | Establish leading groups for promotion in key enterprises<br>Specify responsible departments                      |
|  | Preparation and publication of reports |  | Listed companies: trial preparation  | Pilot companies: preparation<br>Encourage enterprises to publish if feasible                                      |
|  | Training                               | Staff for preparation and submission   | Person-in-charge of key enterprises  | Person-in-charge and staff of key enterprises   |
|  | Special campaigns                      | Collection of pictures   | Collection of pictures<br>Collection and selection of cases                                    | Collection of pictures<br>Collection and selection of cases<br>Selection of demonstration enterprises or programs |
| Responsibility communications          | Range of communication                 | Internal communication<br>External communication   | Internal communication<br>External communication   | Internal communication<br>External communication  |
|  | Way of communication                   | Daily communication  | Questionnaire<br>Daily communication<br>Column for social responsibility<br>Special interviews | Questionnaire<br>Daily communication<br>Column for social responsibility<br>Special interviews                    |
| External evaluation                    | Review                                 | International review institution   | International review institution   | International review institution  |
|  | Rating                                 |  | Chinese Academy of Social Sciences: 4 stars  | Chinese Academy of Social Sciences: 4.5 stars   |

## Responsibility Communications

Communication is the best way to enhance understanding and build trust. Effective communication not only enables stakeholders to know whether enterprises live up to their responsibilities, but increases transparency of enterprise operation and allows us to stay updated on the opinions and advice of internal and external stakeholders. We release social responsibility reports, take part in various social responsibility exchanges, participate in the domestic and international research on social responsibility-related topics and standards development and maintain good communication with internal experts. We cherish feedbacks from internal and external related parties, which provide intellectual support for our efforts to improve social responsibility management.

As a member of the world Cement Sustainability Initiative (CSI), we actively attended the CSI annual CEO meetings, annual forums

and events of China region. At the CSI forum 2011, our expert introduced the progress China had made in the development of standards for low-carbon cement and measures to calculate carbon emissions, which attracted great attention from international peers. Li Juan, a senior engineer of China Building Materials Academy, a member enterprise of the Group, is hired as chief liaison officer of CSI's China office. Another 13 of our experts get involved in the work of four working groups relating to climate protection, resources and fuel utilization, health and safety, mine restoration and biodiversity in CSI's China region to help things run smoothly.

In 2011, we continued to maintain communication and exchange with stakeholders, further expanded the scope and channel of communication, timely published information on responsibility fulfillment in the social responsibility column of the Company's web-

site, and solicited opinions and advice with questionnaires. We visited some important stakeholders to understand their demand and improve our work continuously. Stakeholders responded warmly and gave high praise to our efforts to promote responsibility communication. In 2011, based on the daily communication, we set up an internal expert consulting mechanism of the Group and issued over 60 questionnaires to internal experts. According to suggestions of these experts, we modified the structure of the social responsibility report and put the improvement of the management system in the work plans.

### Cement Sustainability Initiative (CSI)

CSI is a sustainable program set up under the framework of the World Business Council on Sustainable Development (WBCSD) of the United Nations. CSI members incorporate the sustainable development concept into their corporate development strategies and are committed to social and environmental responsibility while seeking profit.

### Second consecutive social responsibility report



In 2011, we released the second consecutive social responsibility report entitled "For A Sustainable Development Future", which disclosed the principles on, measures for and results of social responsibility fulfillment of CNBM, and summarized its practices in discharging its financial responsibility, social responsibility and environmental responsibility. The report was well received and acclaimed upon publication by all stakeholders and widely reported by famous media.

## Responsibility Performance

Our drive to live up to social responsibility was encouraged and recognised by our stakeholders. China National Building Materials Group Corporation ranked 15th in the CSR Development Index of Top 100 Firms in China (2011) published by the Research Center for Corporate Social Responsibility of the School of Economics of the Chinese Academy of Social Sciences, making it a leading enterprise in China in corporate social responsibility. The “Joint reorganization and management integration of South Cement” we recommended was chosen as one of the 2011 excellent cases of social responsibility practices among central state-owned enterprises. At the 6th International Forum on Corporate Social Responsibility, the Company was awarded the top honor of the forum “2010 Leading Enterprise of China in Golden Bee Corporate Social Responsibility”. The case of China United Cement Zaozhuang Co., Ltd. (a member enterprise of the Group) - “Create an ecological park, work for the harmonious development of the community and the ecological environment” was included in the 2010 Golden Bee Portfolio on Responsibility Competitiveness. At the 2011 (3rd) Annual Conference of China on Corporate Social Responsibility, the Group won

the highest honor - “Special Award for Social Responsibility”. The 2010 Social Responsibility Report of China National Building Materials Group Corporation was awarded a four-star ranking by the Research Center for Corporate Social Responsibility of the Chinese Academy of Social Sciences, which is the highest ranking ever given to domestic enterprises in the building materials sector. We know there is plenty of room for improvement in our work and these results will spur us to keep making progress, promote innovation and pursue continuous improvement in social responsibility.

In 2011, the Research Center for Corporate Social Responsibility of the School of Economics of the Chinese Academy of Social Sciences released the White Paper on Chinese Corporate Social Responsibility Report (2011). In the 688 social responsibility reports it evaluated, the 2010 Social Responsibility Report of China National Building Materials Group Corporation ranked 20th with a score of 75.

### CSR Development Index

CSR Development Index is developed by the Research Center for Corporate Social Responsibility of the School of Economics of the Chinese Academy of Social Sciences based on the comprehensive assessment of the enterprises' fulfillment of social responsibility, taking account of four factors, i.e. responsibility management, market responsibility, social responsibility and environmental responsibility. The Research Center for Corporate Social Responsibility is the only national research institution and the highest intellectual platform in the field of social responsibility in China. The result of assessment shows that in 2011 one enterprise was at the stage of "excellent player", 23 at the stage of "leading player", 36 "growing player", 35 "starter", and 205 "bystander".

| Factor         | Ranking | Score | Star |
|----------------|---------|-------|------|
| Completeness   | 18      | 78.6  | 4    |
| Substantiality | 5       | 89    | 4.5  |
| Balance        | 40      | 60    | 3.5  |
| Comparability  | 61      | 60.5  | 3.5  |
| Readability    | 45      | 88    | 4.5  |
| Innovativeness | 36      | 79    | 4    |
| Total score    | 20      | 75    | 4    |





# Market Performance




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

- 
- 20** Rewarding Investors with Excellent Financial Results
  - 24** Serving Clients with Quality Products and Services
  - 25** Mutual Development with Strategic Partners
  - 26** Implementation of Industry Rebuilding Strategies
  - 27** Promotion of “Market-oriented Operation of Central SOEs”







Sales revenue for 2011

**194.09**

billion yuan

Total profit for 2011

**15.85**

billion yuan

Tax paid in 2011

**15.07**

billion yuan

窑炉区  
FURNACE AREA

## Rewarding Investors with Excellent Financial Results

### Making into the Fortune Global 500 List



Based on its 2010 financial results, CNBM made its way, for the first time, onto the charts of the Fortune Global 500 2011 issued by the Fortune magazine in the United States, at the 485th place, and ranked the fifth in the global building materials industry. Also on the 2011 Fortune Global 500 charts were 69 Chinese companies and Taiwanese companies, including 38 central state-owned enterprises.

### Overview of Operating Results

In 2011, the total assets of wholly-owned and controlled enterprises of CNBM amounted to RMB 207.51 billion, up 35% year on year;

realized sales revenue and total profit were RMB 194.09 billion and RMB 15.85 billion, up 43% and 110% respectively; Taxes paid reached RMB 15.07 billion; imports and exports totaled USD 5.65 billion, up 12.8% year on year.

### Congratulatory Letter from China Cement Association:

In the first year of implementing the “Twelfth Five-Year Plan” for development of the Chinese economy, CNBM’s entry into the Fortune Global 500 List represents not only a great feat for China’s building materials industry, but also is a pride for the 1.2 million strong cement workers in our country! It is epoch-making in that China’s building materials industry “has grown from solely scale-based to competitive and strong through innovation”; and it is also a milestone marking a great stride by CNBM towards becoming a world-class building materials enterprise with global competitiveness!

### The world's top 5 enterprises of building materials

| 2011 ranking | 2010 ranking | Company name | Business income (US \$million) | Profit (US \$million) | Country     |
|--------------|--------------|--------------|--------------------------------|-----------------------|-------------|
| 155          | 132          | Saint-Gobain | 531,36                         | 149,5                 | France      |
| 427          | 349          | CRH          | 227,45                         | 572                   | Ireland     |
| 454          | 390          | Larfarg      | 214,15                         | 109,5                 | France      |
| 470          | 446          | Holcim       | 207,74                         | 113,4                 | Switzerland |
| 485          | -            | CNBM         | 199,96                         | 313                   | China       |

Source: fortunechina.com





## Market Performance

### Investor Relations

In offering us material resources and prompting us to optimize management procedures and enhance operational efficiency, investors are one of our most important stakeholders. Through ample information disclosure and exchange, we reinforce our communication with shareholders, analysts and potential investors, and promote investors' understanding and acknowledgement of us; by continuously improving corporate governance, we go all out to safeguard the legitimate rights and interests of all the investors, including minority investors.

Since its listing, China National Building Materials Company Limited ("CNBMCL") has kept at least two global roadshows per year. Ever since 2011, the European and American debt crises have triggered a worldwide slowdown in economic growth and acute turbulence in the capital markets, severely battered investors' confidence, and cast uncertainty over China's macroeconomic conditions, future demands, and the prospect for industry

development. CNBMCL's management has sincerely and genuinely addressed investors' doubts and questions with timely disclosure of material information and detailed data. The year of 2011 witnessed CNBMCL launch two 31-day-long global roadshows, hold 105 sessions, and conduct in-depth exchange and communication with over 50 media agencies and 530 investors and analysts. In the same year, CNBMCL received 210 visitors in total from 85 institutions during its routine course of business, participated in 7 large investors summits, and exchanged views on-site with nearly 200 investors and analysts, addressing and analyzing in detail investors' concerns and winning their broad acclaims.

The outstanding performance and good growth potential of CNBMCL have won extensive recognition from the capital markets. Subsequent to its inclusion into the MSCI and Hang Seng China Enterprises Index constituents, the company became a constituent of the Dow Jones China Offshore 50 Index in March 2011.

In 2011, the sales revenue

**194.09** billion yuan

In 2011, a total profit

**15.85** billion yuan

In 2011, paid taxes

**15.07** billion yuan

Import and export volume in 2011

**5.65** billion yuan

In 2011, the rate of return on net assets

**31%**

### Winning the Golden Bauhinia Award



**2011**  
**中國證券金紫荊獎**  
**Golden Bauhinia Awards**

In 2011, CNBMCL was honored with the China Securities Golden Bauhinia Awards, and Song Zhiping, the Chairman of its Board, received the Most Influential Leader Award. The China Securities Golden Bauhinia Awards is, for the first time so far in 2 decades, the most credible event where the best-performing listed companies from Hong Kong and Mainland China are selected jointly through appraisal by prestigious agencies and experts at both places. During this event, Beijing New Building Materials Public Limited Company and China Fiberglass Company Limited, both with A share listings and affiliated with CNBMCL, obtained the Highest Growth Potential Enterprises award and the Highest Social Responsibility Enterprises award respectively.

### Comments from Morgan Stanley Dean Witter Asia Limited:

CNBM, being transparent, accountable and professional to regulatory authorities, is an outstanding listed company pursuing full compliance with regulatory requirements and self-discipline. As for intermediaries, it is a trustworthy, cooperative, and responsible true partner with team spirit and win-win perspectives.

## Industrial Capacity and Distribution

### Cement Business

In 2011, with its cement sector focused on strategic deployment and core profit area construction, the Group steadily promoted joint reorganization and industrial chain extension, coordinated and strengthened project construction and planning, and shaped a cement business strategic framework composed of Huaihai, southeast, north and southwest by carrying out large-scale joint reorganizations in Sichuan, Yunnan, Guizhou and Chongqing, while consolidating and advancing the existing strategic reorganizations in the three major areas. As at the end of 2011, our cement production capacity exceeded 260 million tonnes.

Time of establishment: 2011  
Strategic target areas: Three provinces and one city, i.e. Sichuan, Yunnan, Guizhou, and Chongqing  
Cement production capacity: 25 million tonnes

Southwest Cement  
Company Limited

### Lightweight Building Materials Business

Beijing New Building Materials Public Limited Company ("BNBM") is the largest gypsum board producer in Asia. Aimed at "a future constructed on greens", BNBM is committed to providing "low-carbon, energy-saving and environment-friendly" green building materials and green building solutions, and being an all-time leader in shaping the future for new building materials and homes in China. Its strategic target is, by 2015, to develop into a world-class neotype building materials industrial corporation with the world's number one core business, proprietary brands and intellectual property rights, and global competitiveness. In 2011, BNBM continuously optimized its production lines distribution nationwide, and proactively proceeded with the construction of the 2-billion-sqm national gypsum board industrial base, which is in smooth progress. As at the end of 2011, its gypsum board capacity reached 1.2 billion square meters.

### Glass Fiber Business

Jushi Group Company Limited, a core member of China Fiberglass Company Limited, is the world's biggest glass fiber manufacturer, with three production bases in Tongxiang of Zhejiang, Jiujiang of Jiangxi and Chengdu of Sichuan and a capacity of over 900,000 tonnes. It possesses world-leading proprietary core technologies and over 50% of its products are for export purposes. Its main products have obtained certifications of DNV from Norway, LR from Britain, and GL from Germany. In 2011, China Fiberglass completed the major reorganization project in respect of Jushi Group, which further optimized its corporate governance structure, unified shareholder interests, and enhanced risk resistance capability, profitability and management capability.

### Composite Materials Business

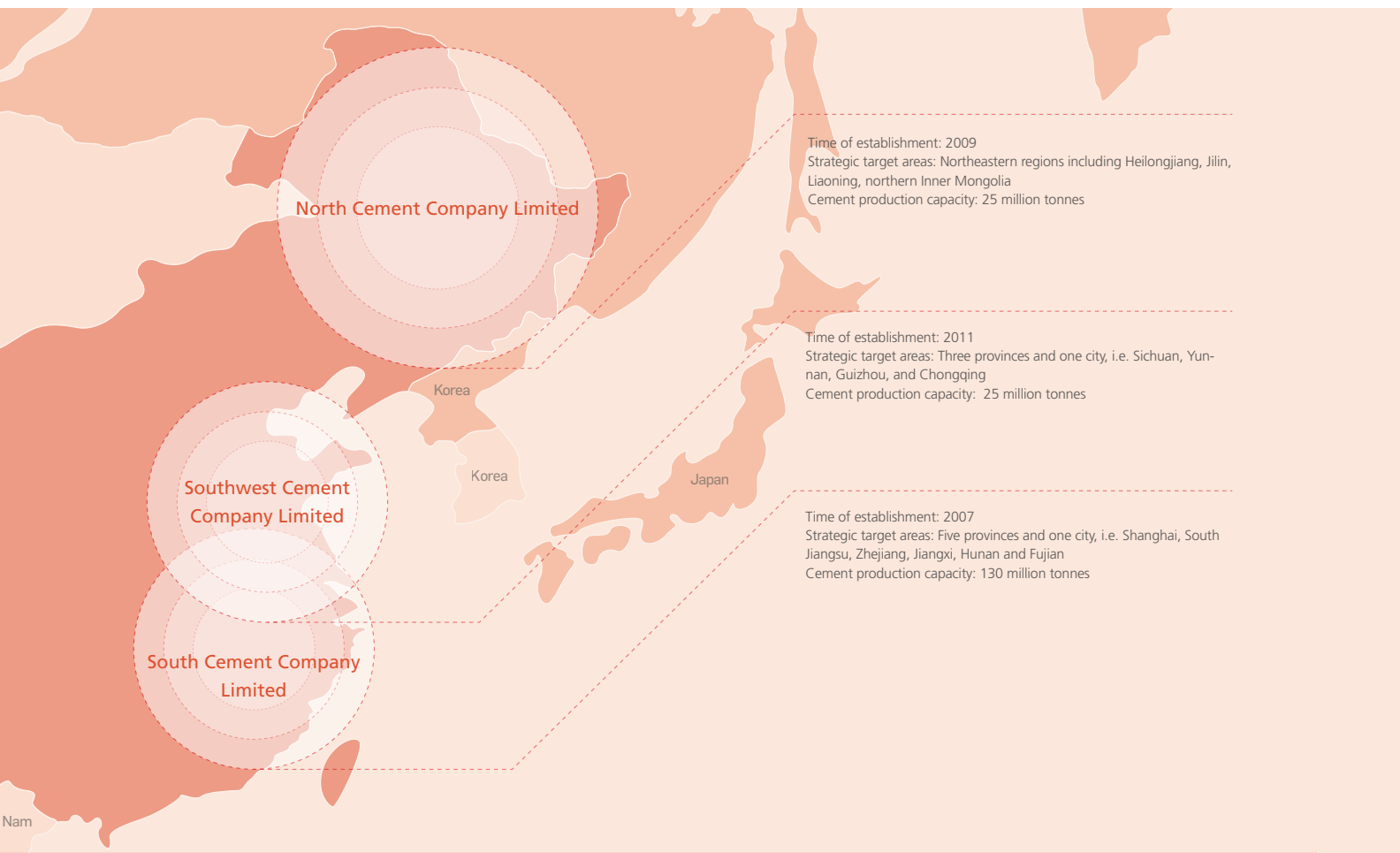
China Composites Group Corporation Ltd. is the largest producer of rotor blades in the PRC, having set up production bases in Lianyungang, Shenyang, Jiuquan, Baotou and Kumul and wholly-owned R&D center in Thuringia, Germany. In 2011, leveraging the abundant regional resources and the cutting edge in research and development, China Composites accelerated pace in research and development of high-end products, in a bid to realize differentiated product positioning. The self-developed 6MW rotor blade, which was the first single rotor blade with such installed capacity in China, was successfully connected and mounted at the end of October 2011. Meanwhile, China Composites launched low-wind-speed rotor blades and low-weight high-strength rotor blades, thus extending the operation life of the generating units.

In 2011, the 1,000-tonne T300 carbon fiber project of Zhongfu Shenyang under China Composites was approved by the State and commenced full-scale production, whilst its 2,000-tonne carbon fiber project was progressing smoothly.





## Market Performance



### Pre-fab Housing Business

Philippines

BNBM Integrated Homes Company Limited started its new homes business in the 1990s, has formed its proprietary intellectual property rights and core specialties, as well as special operating capacity with environment-friendly and energy-saving homes as its main products, and the development and design of lightweight steel construction, building envelope, interior and exterior decorative materials, and ancillary construction facilities as its core technologies. It has completed construction of the Beijing base and Sichuan base, with those in Hainan, Jiangsu and Heilongjiang currently in the pipeline. Having undertaken post-disaster reconstruction projects for many times, its products and services now cover more than twenty provinces in China. Its overseas markets extend from North America, East Europe, Middle East to South Asia, South America, South Pacific and African countries and regions.

### Refractory Materials Business

Ruitai Materials Technology Co., Ltd. is the only enterprise in the PRC with the patent and proprietary intellectual property rights on cast alumina products and mass production capacity. It has completed the construction of the biggest cast refractory materials production base in China and set up production bases in Sichuan, Anhui, Henan, Hunan and Zhejiang.

### International Trade Business

The Group is a major iron ore and timber importer and photovoltaic module exporter. In 2011, China National Building Materials Import & Export Corporation imported around 14 million tonnes iron ore and became one of the 14 initiators of the "China Iron Ore Spot Trading Platform", exported 380MW photovoltaic products, up 42% year on year, and was the biggest solar module exporter in the PRC. In 2011, the total amount of the Group's imported timber reached USD 450 million, up 11.9% year on year, making it one of the top timber traders in the PRC. In addition, the Group was also a leader in the trade of such products as thermal coal, coke, steel products for construction purposes. In 2011, the Group realized total import & export volume of USD 5.65 billion, up 12.8% year on year.

## Serving Clients with Quality Products and Services

We are committed to providing clients with safe, reliable, energy-saving and environmental friendly building materials products and convenient services, as well as systematic building materials solutions to key national projects, urban infrastructure construction and residential construction. We have established a sound client relationship management system and made plenty of practical progress in respect of after-sales service, client information protection and client complaints settlement. By continuously strengthening product and service innovation, further transforming the operation model, and advancing construction of informatized systems and channels, we've provided clients with convenient services and reliable building materials products and constantly created value for them. In 2011, we launched the first spot trading electronic platform in the building materials foreign trade industry – okorder.com. By setting up an internationalized, professional and comprehensive open online trading platform, we've developed favorable online/offline interactions with clients and improved their shopping experiences.

### Quality Management and Brand Building

Through many years of practice in production, we have formed a sound quality management system and process, implementing quality management throughout the whole process from procurement of raw materials to delivery of products. In 2011, the Group and its 25 member enterprises took part in the first trustworthy quality commitment campaign of the building materials industry, solemnly signed the Trustworthy Quality Commitment Initiative of China's Building Materials Industry, earnestly undertaking to continuously improving product quality and quality management, pursue operational excellence, accelerate transformation and upgrading, and enhance corporate competitiveness and consumer confidence in the market.

### Brand Building and Integration

By staying market-oriented, relying on technological progress and quality control, continuously expanding brand influence and consumer recognition, we've received extensive acknowledgement of our product quality and services from the markets and consumers. In 2011, BNBM became one of the first batch of first-choice brands for quality social welfare housing projects and its brand management won the first prize of national management modernization innovation in the building materials industry 2011. The CUCC brand of China United Cement Corporation enjoys fair market reputation in the Huaihai Economic Zone. South Cement successfully launched the "South" brand in 2011 and completed integration of over 50 brands under it, thus significantly boosting its market influence.

#### Integration of the "South" Brand

Since its establishment, South Cement has started to steadily promote brand building, regulating the names of over 100 enterprises under joint reorganization, uniformly designing the office system, environmental system and staff uniforms with reference to the Group's visual identity system (VIS), finalizing the uniform external poster board for its product brand, smoothly completing design and registration of the "南方" and "SOUTH" (in English) trademark.

### Comments from Chen Shuguang, General Manager of China Energy Conservation Investment Corporation:

CNBM facilitates green development of all society by focusing on the alternative energy industry, works assiduously on industrial energy conservation by vigorously pushing forward energy saving and emission reduction, and exercises integrity and practicality in an open and transparent manner, which makes it a reliable business partner. As a strategic partner, China Energy Conservation Investment Corporation would like to join hands with CNBM by exerting our mutual advantages and strictly performing our duties so as to build ourselves into world-leading enterprises that reassure investors, have the trust of employees, satisfy clients, win social acclaims, and enjoy global competitiveness, and make more contributions to our country's sustainable development and energy conservation and environmental protection cause.





## Mutual Development with Strategic Partners

In 2011, major production enterprises passed ISO9001 certifications

228

Owned famous-brand products in the PRC

8

Owned well-known trademarks in the PRC

2

### Social Responsibility in Procurement and Promotion of Supply Chain Responsibility

Procurement and supply chain management is deemed not only as a key part of our day-to-day operation, we also see our suppliers as reliable strategic partners and assist in their development as a way to cultivate external strategic resources. Performance of social responsibility is one of our standards for selecting suppliers, and we appraise our suppliers in such aspects as compliance with laws and regulations, environmental protection, protection of workers' rights and interests, and business integrity, forbidding any form of commercial bribes. We have urged our suppliers to constantly improve product quality, supervise and prompt them to care about employees' physical and mental health, and evaluate the operating conditions of supplier responsi-

bilities on an irregular basis. During tender for construction of production lines, safety, energy saving and environmental protection are included in the tender documents. During the process of construction, we're constantly concerned about occupational health, production safety and the protection of employees' basic rights and interests.

### Mechanism and Performance of Strategic Cooperation Sharing

We seek to forge long-term strategic cooperative partnership with our partners and deepen mutual understanding and cooperation through regular high-level reciprocal visits. By fully leveraging proprietary resources on the business platform, complementing with each other's advantages, practicing mutual benefits with a win-win perspective, we've optimized resources allocation and production structure, and reinforced our corporate sustainable competitiveness. We are of the opinion that, a productive cooperative relationship based on free will and equality not only provides shareable competitive advantages to both parties, satisfies their coordinated long-term strategic development demands, but also is of great importance to break technological barriers, allocate global resources, tackle environmental challenges and enhance sustained development capability.

In 2011, we continued to carry out business exchanges and cooperation with our strategic partners, formally entered into strategic cooperation agreements with Guangdong Materials Group Corporation, China National Gold Group Corporation, and China Guangdong Nuclear Power Group. Our cooperation covers a wide range of sectors, including the R&D and promotion of alternative energy products, comprehensive utilization of industrial wastes, promotion of energy-saving and environmental protection technologies and products, and etc.



## Implementation of Industry Rebuilding Strategies

“With focus on such industries as automobile, iron and steel, shipbuilding and cement, through control of incremental capacity and optimization of existing capacity, pushing forward enterprises mergers and acquisitions so as to enhance industrial concentration and economies of scale.”

—— Government Work Report made by Premier Wen Jiabao at the 5th meeting of the 11th National People’s Congress

Over the years, the building materials industry has developed and prospered, but is also faced with prominent problems, including large size with weak strength, great industrial scale but obsessed with overcapacity, scattered distribution of enterprises, low concentration, and fierce market competition. Since the State promulgated the Several Opinions Concerning Containing Overcapacity and Repetitive Construction of Certain Industries and Guiding Healthy Industrial Development in 2009, a total of 463 production lines were built nationwide as at the end of 2011, with added capacity of cement clinker at 547 million tonnes. As evidenced by facts, the aggregate production capacity of cement has gone definitely and fully redundant. Therefore, we’ve practically transformed the development model by taking the approach of scale expansion through aggregating existing capacity, technological renovation and upgrade through incremental capacity investment, and profit creation through management consolidation, implemented the industry reinvention strategy, and raised industrial concentration in a bid to build a new industrial ecosystem, optimize resources allocation, and share the value with enterprises inside the industry and on the industrial chain.

Rebuilding the philosophy. At the 2008 International Cement Market Summit, we were the first to put forward the idea of “industrial value overweighs corporate value while corporate value comes from industrial value” and actively advocated “giving priority to industrial value”. By converting the operational model from Volume-Cost-Profit to Price-Cost-Profit, and painstakingly turning malicious

competition among peer enterprises into a cooperation-and-competition relationship, we have established a new industrial ecosystem and jointly created the maximum value with our partners in the industry.

Rebuilding the platform. Through joint reorganization and capital operation, we’ve established four large cement corporations (China United Cement, South Cement, North Cement, and Southwest Cement), set a region-based distribution, and used regional companies as a platform to cooperate with industry partners by adopting “five centralizations” (namely, centralized procurement, finance, technology, investment, and marketing), jointly assume risks and share values with local enterprises and build core profit areas.

Rebuilding the assets. We’ve attracted lots of social capital with a certain amount of state capital, and several hundred local state-owned and private enterprises with regional advantages, by breaking up the bounds of the ownership system and reorganizing existing assets in the industry for maximum synergy effect, and formed our unique competitiveness.

Rebuilding the behavior. We’ve exercised total capacity control over areas with centralized cement production lines, actively weeded out obsolete capacity, restricted or prohibited investment in new production lines to achieve self-betterment in capacity distribution; adhered to self-discipline by holding hearings on capacity distribution and carrying out market competition in an open and fair manner in the industry. As a constant robust force in the sector, we’ve promoted continuous optimization

and allocation of industry resources, especially in difficult times when demands drop, taken the lead in maintaining stable prices while restricting production, and ensured a virtuous operational model in the industry.

Rebuilding the resources. We’ve integrated 12 national converted scientific research institutes of grade-A qualifications and 1 high-tech company, built a “central research institute” in the sector by organically integrating scientific research resources with industrial resources, supported a number of major national scientific research projects and technical research on the generality, criticalness and potential of the industry, while accelerating the combination of production with research and application of technological achievements, addressing key technical issues with the enterprises, and greatly enhancing the industry’s technological level at the same time.





## Promotion of “Market-oriented Operation of Central SOEs”

We creatively put forth and implemented the “market-oriented operation of central SOEs” model, which means while maintaining the nature of a central state-owned enterprise, we establish a management system and operation mechanism adaptive to the market economy, which makes it possible for central SOEs and those of different ownership systems to co-grow. The public ownership nature of central state determines that they are dominated by the state, while “market-oriented operation” determines operational model and methods based on the rules of the market economy. “Market-oriented operation of central SOEs” has five connotations: diversified equity structure in the shareholding of central SOEs, standardized governance structure, professional manager system, market-oriented internal mechanism and business operation based on market rules.

The driving mechanism of “market-oriented operation of central SOEs” has triggered industrywide restructuring and upgrad-

ing, achieved co-existence and win-win for enterprises of varied ownership systems, and served as a sample of sustained development for overcapacity-haunted industries. We proposed that “the strength of central SOEs plus the vigor of private enterprises equals corporate competitiveness”, and such an enterprise integration model with Chinese characteristics has been universally recognized and accepted by this industry and all walks of society. In 2011, the case of “CNBM: Driving the Development of Chinese Cement Industry” was included in the case library of Harvard Business School.

### Comments from Lei Qianzhi, Chairman of China Cement Association:

CNBM made successful experiments with restructuring of the cement industry, as evidenced by its strategic reorganization in East China and South Central China, thus amassing rich experience and becoming a paragon of the whole industry. Meanwhile, by completely breaking up the bounds of theoretical concepts such as “state-owned enterprises”, “private enterprises”, “public ownership”, and “ownership system”, CNBM has created a brand-new interest mechanism and economic operation system, and such positive explorations have offered a new approach to the reform of the economic system in the PRC.

### Comments from Professor Joseph L.Bower, Harvard University of the United States:

The problems faced by CNBM in rapidly expediting the integration of China’s cement industry are rather classical, and the achievement it made serves as significant experience for large enterprises as to how to boost management efficiency and technological level and optimize management during joint reorganization, as well as a practical innovation model for global business leaders and those in business schools.

### Establishment of Southwest Cement



At present, cement industry in southwest China enters into a phase of overcapacity. According to incomplete statistics, the existing cement capacity in the southwest region reaches 0.37 billion tonnes; the capacity under construction and planning is approximately 100 million tonnes; but cement consumption in 2010 only stood at 0.31 billion tonnes. In 2011, CNBM set up Southwest Cement Company Limited, consolidating a number of cement enterprises in Yunnan, Guizhou, Sichuan and Chongqing through joint reorganization, which greatly contributed to the rational and healthy development of the cement industry around this region.



# Science & Tech Innovation



We assume the task of industrial innovation by virtue of our solid scientific research strengthes, push forward industrial transformation and upgrade through forward-looking perspectives and advanced technologies, disseminate and share technological information, and are committed to creating a greener, more comfortable and intelligent residential environment and building a future capable of sustainable development.

- 
- 30** Building Industry R&D Centre
  - 33** New Achievements in Science & Tech Innovation
  - 34** Promotion of Commercialisation of Technological Achievements
  - 35** Setting up Standard Specifications
  - 36** Launching Academic Exchange Activities
  - 37** Provision of Certification and Inspection Services





Expenditures on science and technology in 2011

**4.67**

billion yuan

Revenue from sales of new products in 2011

**24.03**

billion yuan

Number of valid patents possessed cumulatively as of 2011

**1,606**

## Building Industry R&D Center

As a national innovative enterprise, we have always enshrined innovation as the key to enhancing our core competitiveness and achieving sustainable development. We give top priority to science and technology innovation strategy in order to complete the State's major technology breakthrough projects, regard the research over general, critical and forward-looking technologies as our mission, proactively explore the new model for coordinated development between enterprises and research institutes, establish effective platforms for industrialization of scientific research results and independent innovation of enterprises by taking a market-driven approach, effectively integrating science and technology resources and forcefully facilitating combination of production with research, fully exert and maintain the initiative of our research team, and endeavor to become a pioneer and role model in scientific and technological achievements and application of technologies in the building materials industry.

### Building Scientific Research Platforms

Bent on developing an innovation engine in the industry, and by integrating 12 national converted scientific research institutes of grade-A qualifications and 1 high-tech company under the Group, we've established a

science & tech innovation platform centered on China Building Materials Academy ("Building Materials Academy") and become a comprehensive scientific research and development organization of the largest scale and strongest capability in the building materials and inorganic nonmetallic materials sectors in the PRC.

By closely linking scientific research platforms with manufacturers, we've set up the CNBM Enterprise Technology Center which has been certified by the State's five ministries and commissions as a national enterprise technology center, and established an innovation organizational system combining production with research. In 2011, based on the principle of highlighting principal business, combining research institutes with enterprises, complementing mutual advantages, reinforcing application and serving the industry, we adjusted the number of our affiliated institutions to 7, and realized dynamic integration of production and research in three major sectors, i.e. R&D and design, products manufacturing and equipment manufacturing.

In 2011, we continued to support industrial innovation with scientific research resources, with a batch of research platforms receiving acknowledgement from the State and the industry. The technology center of Hefei Shen-

ma Technology Co., Ltd. was jointly certified by the State's five ministries and commissions as a national enterprise technology center; up till then, the Group had owned 5 national enterprise technology centers. The national key laboratory on green building materials set under the Building Materials Academy has commenced operation; construction of the national key laboratory on new float glass technology is in smooth progress; we became one of the first enterprises that were approved by the Ministry of Industry and Information Technology to set up quality control and technical assessment laboratories on green building materials, ceramic sanitary wares, and light industry machinery; the "academician work station" of Building Materials Academy was officially established; we successfully applied for the setup of Beijing key laboratory on solar power and building energy saving glass in the "Future Technology City", and obtained approval to establish an international technological cooperation base on green building materials in Beijing; a State-local united engineering research center on energy saving technologies for the glass industry under the Bengbu Institute was approved for construction.

5 national enterprise technology centers

2 national key laboratories

7 national quality inspection centers

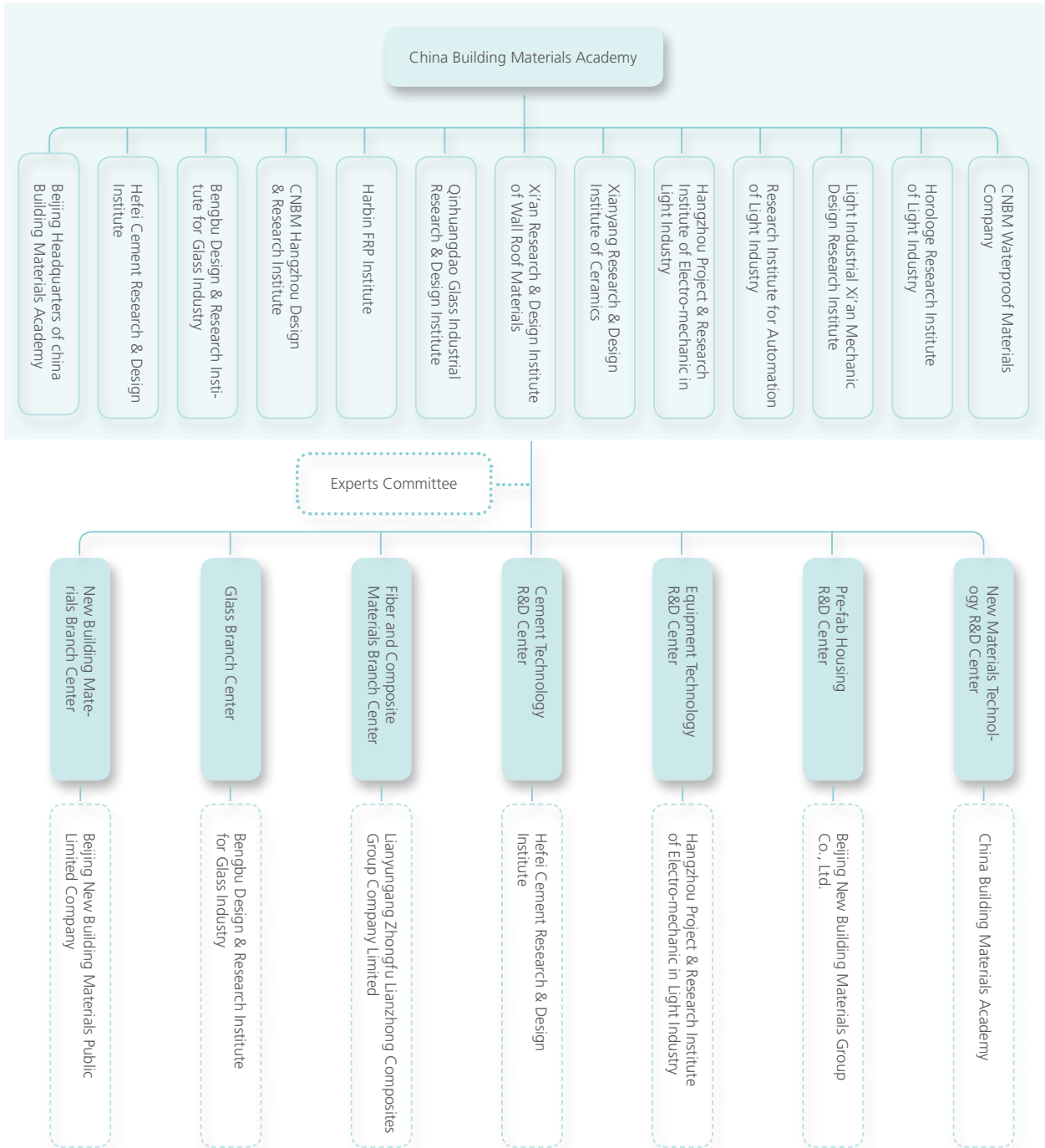
#### Key Laboratory on Green Building Materials

The National Key Laboratory on Green Building Materials is one of the first national key laboratories approved by the Ministry of Science and Technology to be set up within enterprises. The laboratory, focusing on the world's cutting-edge science issues over green building materials, greening of building materials and other fundamental application theories in urgent need of solution during development of our national economy, deals with such key phases as materials extraction, products manufacturing and utilization, and disposal of wastes in the life cycle of green building materials, and the most representative core subjects in this domain.





### Organizational Chart of CNBM's Scientific Research Platform



In 2011, **13** thousand personnel were engaged in scientific and technological activities

**1** center for post-doctoral studies

**1** academician workstation

**8** post-doctoral scientific research workstations

In 2011, the expenditure of scientific and technological activities was

**4.67** billion yuan

increased by **52%** over the same period of last year

## Fostering Scientific Research Personnel

We firmly believe that an excellent scientific research team is critical for building the capacity of sustainable development and core competitiveness of enterprises. We feel proud of possessing a number of highly qualified scientific research teams. Meanwhile, we also provide good growing conditions and cultural environment for technology talents to enable them involved in innovative work wholeheartedly. By 2011, the personnel engaged in scientific and technological activities in the Group totaled 13 thousand.

As a national innovative and venture base for overseas top talents, we attach great importance to the introduction and selection of senior scientific research talents. As of 2011, we'd successfully recruited 24 overseas top talents, three of which were selected in the "Thousand Talents Program".

We encourage scientific research personnel to engage in scientific and technological innovation activities and have set up the Scientific and Technological Progress Award and Technical Innovation Award within the Group to reward the winning projects. We also established the Group Technical Center Project to provide certain financial support for selected research projects. In the open, active and passionate culture of innovation, more scientific research personnel stand out from the crowd. We encourage scientific research personnel to devote themselves to study

intensively with no regrets and to happily accept new challenges, and also to calmly face setbacks and failures.

## Training for industry technical personnel

We utilize our scientific research resources to carry out training activities to provide the forefront knowledge and skills and create an exchange platform for technical personnel in the building materials industry of China. In 2011, we published, wrote and issued scientific and technological information of 370 million words and organized nearly 1,000 technical exchanges, seminars and trainings. In 2011, we trained technical personnel in industry of more than 39 thousand person-times.

## Emphasizing on investment in scientific research

Financial support for science and technology is an important guarantee for scientific and technological progress. We attach importance to the investment in science and technology, especially the study of basic theory and cutting-edge technology in materials science. In 2011, the total expenditure of scientific and technological activities was RMB 4.67 billion, representing 5% of product sales revenue, of which the expenditure of corporate research and experimental development was RMB 3.16 billion, up 52% over the same period of last year.

### Youth Science & Technology Fund of Hefei Cement Research & Design Institute

Hefei Cement Research & Design Institute ("Hefei Institute"), a member enterprise of the Group, set up the Youth Science & Technology Fund to encourage young talents to engage in innovative scientific research and development. The fund is completely used for supporting young scientific research personnel under 30 years old to engage in scientific research and the selected projects may also be instructed by senior experts.



## New Achievements in Science & Tech Innovation

### National scientific and technological projects

We shoulder the mission of industry's major technological research and development. In 2011, we fully completed the "Eleventh Five-Year" National Science and Technology Support Plan Project which successfully passed inspection and acceptance and obtained a number of achievements, some of which reached international advanced level in terms of technological and economic indicators and were affirmed by the Ministry of Science and Technology. We implemented 38 new "Twelfth Five-Year" National Science and Technology Projects, including National Science and Technology Support Plan, National Key Basic Research Development Plan (973 Plan), National High Technology Development Plan (863 Plan), National Natural Science Foundation, International Science and Technology Cooperation and National Defense Science and Technology, etc.

### Achievements of independent intellectual property rights

We accomplished great achievements in scientific and technological innovation in the building materials industry. In 2011, we made 630 patent applications, including 170 invention patents; and obtained 487 approved patents, including 80 invention patents. As of the end of 2011, we possessed up to 1,606 patents, including 288 invention patents and 42 copyrights, and had formed a large number of scientific and technological innovations with intellectual property rights.

In 2011, the Group had 132 provincial and ministerial level and above science and technology awards, including two National Science and Technology Progress Awards. In addition, the Group obtained 46 provincial and ministerial level technical innovation awards and 37 Outstanding Engineering Consulting Achievement Awards.

As at 2011, valid patents amounted to

**1,606**

In 2011, there were **487** new approved patents

In 2011, we are granted a total of

**132** provincial or ministerial level or above science and technology awards

### National Science and Technology Progress Award

National Science and Technology Progress Award is one of the highest awards in the scientific and technological circles of China for Chinese citizens and organizations with creative contributions in technological research, technological development, technological innovation, application promotion of advanced scientific and technological achievements, industrialization promotion of high-tech technologies, and completion of major scientific and technological projects, plans, etc.

### Two projects won National Science and Technology Progress Award



The results of "R&D and application of critical grinding equipment for large NSP cement production line" of Hefei Cement Research & Design Institute play an important role in the wide promotion of NSP cement production technology and in promoting the research and development of large energy-saving grinding technology and equipment and have fundamentally reached international advanced technical level. Enterprises including Bengbu Design & Research Institute for Glass Industry and China Triumph International Engineering Co., Ltd. have achieved important breakthroughs in respect of "development of complete technology and industrialization of micro iron & high transmittance glass for solar cells" led to the emergence and rapid development of PV glass industry in China and satisfied the urgent needs from the high-speed growth of solar industry for critical materials. Both achievements won 2011 National Science and Technology Progress Award.

## Promotion of Commercialisation of Technological Achievements

Our positioning of scientific and technological innovation lies in the research of application technology in the field of base materials. We not only emphasize on the research and development of critical and prospective technologies with common features of the industry, but also endeavor to apply and promote the achievements of scientific research and technological development until new products, new technical processes and new materials are developed.

We obtained a number of significant scientific and technological achievements in new inorganic nonmetallic material and advanced composite material for aerospace and significant national defense projects, new renewable building materials such as high-performance concrete and desulfurization gypsum, and outfit for NSP cement and float glass production lines, etc., which were successfully applied in significant engineering and project construction, e.g. Beijing Olympic Games, World Expo, high-speed rail, the

Three Gorges, nuclear power plants, civilian aircraft, national defense, etc., thus making active contributions to structural upgrading for building materials industry and construction industry and promoting the rapid development of national economy.

In 2011, we continued to adhere to the policy of "independent innovation, focused leapfrog development, supporting development and leading the future" to constantly improve the scientific and technological innovation system, based on the optimized allocation of scientific and technological resources and by way of collaboration of science & technology and industry and obtained a number of significant scientific and technological achievements: the first domestic oxy-fuel combustion ultra clear glass production line of Anhui Fangxing Science & Technology Co., Ltd. was put into operation, exploring a new application model of oxy-fuel combustion technology in float glass production line of our country; the first batch of domestic ultra-thin arsenic-free TFT-

LCD glass substrate products produced by Chengdu China Optoelectronics Technology Co., Ltd. passed users certification in batch, completing the leapfrog development from technological innovation to industrialization and marketization application; the first domestic "real-time dynamic simulation control system for the cold end of float glass production line" created by China New Building Materials Industry Hangzhou Design & Research Institute was successfully applied to the No. 3 float glass production line with melting capacity of 700t/d of Henan Zhonglian Glass Co., Ltd. and in other famous domestic glass enterprises; the first domestic fan blade with the maximum single-unit capacity of 6MW independently developed and manufactured by Lianyungang Zhongfu Lianzhong Composite Materials Group Company Limited was successfully connected and installed.

In 2011, sales revenue of new products amounted to

**24.03** billion yuan

### Comments from Qiao Longde, President of China Building Materials Federation:

CNBM grows and thrives from the word "new". It is good at scientific and technological management and has very strong hard and soft power. It is a leading enterprise of the industry with strong vitality, influence and control power.

### Independently developed technologies were successfully applied in "Tiangong-1" and "Shenzhou Spacecraft"

"Tiangong-1" and "Shenzhou Spacecraft", as an important achievement of aerospace industry of our country, condensed the sweat and hard work of countless S&T researchers. The Group's member companies Harbin FRP Institute, China Building Materials Academy and Horological Research Institute of Light Industry were important supporting research and development units for the task and 10 technological achievements were successfully applied, of which 4

technological achievements were successfully applied to the docking attitude control system, resource cabin propulsion subsystem and application system of "Tiangong-1"; and 6 technological achievements were successfully applied to the propulsion module, orbital module, attitude control system, intermediate and short time control systems in the return process of spacecraft for "Shenzhou" series spacecrafts.





## Setting up Standard Specifications

We actively participate in the formulation of national and industrial standards and contribute to improving the quality and performance of building materials, reducing pollution and safeguarding employees' health.

In 2011, we formulated and amended 1 international standard, 15 national standards and 12 industrial standards, and the applications for 2 international standards obtained approval for project initiation. Fine Ceramics (Advanced Ceramics, Advanced Technical Ceramics) –Test Method for Adhesion Strength of Ceramic Material Interface (ISO 13124-2011) was drafted with China Building Mate-

rials Academy as the applicant and Professor Bao Yiwang as the leader of the working team. This standard is the first international standard in the field of inorganic materials with independent intellectual property rights of our country and the promulgation of this standard marks a milestone in formulation of international standard in the field of inorganic materials for our country.

In 2011, we presided over and participated in the formulation or revision of **15** national standards

Comments from Yang Xueshan, Deputy Minister and Member of Party Leadership Group of the Ministry of Industry and Information Technology:

It marks the significant breakthrough in participation in the formulation of international standards that Fine Ceramics (Advanced Ceramics, Advanced Technical Ceramics) –Test Method for Adhesion Strength of Ceramic Material Interface (ISO 13124-2011), etc. proposed by our country become international standards.

## Completing the first international standard for the building materials industry of our country

|                  |  |
|------------------|--|
| In 2007          | China Building Materials Academy, as the applicant, made application to the secretariat of ISO Technical Committee on Fine Ceramics (ISO/TC 206) in Japan on the formulation of international standard of Fine Ceramics (Advanced Ceramics, Advanced Technical Ceramics) –Test Method for Adhesion Strength of Ceramic Material Interface.             |
| In October 2008  | The above draft proposal was discussed and voted at the 15th annual conference of ISO Technical Committee on Fine Ceramics (ISO/TC 206) held in Seoul, Korea. The standard was officially approved for project initiation by the ISO Technical Committee on Fine Ceramics (ISO/TC 206). A new working team was established and China was the convener. |
| In November 2008 | The standard draft was considered by experts of the working team and the modified standard draft was determined.   |
| In June 2009     | The technological scheme and work progress in respect of the standard was reported at the annual conference of ISO Technical Committee on Ceramics convened in London, England.  |
| In December 2009 | The draft stage of international standard came after referring to experts' opinions and revisions.   |
| In December 2010 | At the 17th annual conference of ISO Technical Committee on Ceramics held in Malaysia, experts from member countries conducted voting and review, bringing it to the stage of final version of international standard.   |
| In May 2011      | The international organization for standardization officially released the international standard Fine Ceramics (Advanced Ceramics, Advanced Technical Ceramics) –Test Method for Adhesion Strength of Ceramic Material Interface (ISO 13124-2011).  |

## Launching Academic Exchange Activities

In 2011, approximately  
**240** academic exchanges  
were held and organized

We've established extensive cooperative relationships in various fields including joint tackling, technological cooperation, academic exchanges, talents training, incubation and transformation of results, etc., with over 10 scientific research institutions and key higher education institutions including Chinese Academy of Sciences, China Academy of Building Research, Tsinghua University, Tongji University, Wuhan University of Technology and Nanjing University of Technology, composed industry-academy-research alliance with higher education institutions and formed technological innovation system integrating industry, academy and research, to provide organizational guarantee for innovation.

We attach importance to the communication and exchange of industrial scientific research

information and utilize our own influence to regularly organize domestic and international experts to explore the ideas and direction of industrial scientific and technological development, to build a platform for enterprises to expand visual field and learn and understand international scientific research achievement and to provide help for the sustainable development of building materials industry. In 2011, we successfully obtained the right to host the 14th International Conference on Cement Chemistry in 2015. It's the first time for such an international academic conference known as the "Olympics" in the international academia of cement that has the longest history, the highest academic level and the most participant countries and individuals in the field of global cement science and technology. The convening of international cement chemistry conference in China will show the world the scientific and technological achievements of our county in the field of cement and concrete, promote the international status of our country's cement science and technology and will also introduce international advanced theoretical and technological achievements into China to promote international cooperation in this field.

In 2011, the new technical committee applied by us was approved at the annual conference of RILEM (French acronym of "International Union of Testing and Research Laboratories for Materials and Structures"). In 2011, we held GPD China for the ninth consecutive times and jointly discussed with over 300 domestic and overseas experts on new technologies of architectural glass and solar glass.

### Obtaining the right to host the 14th International Conference on Cement Chemistry

At the 13th International Conference on the Chemistry of Cement (ICCC) held at Castillio Castle, Madrid, Spain, on July 7, 2011, Angel Palomo, Chairman of the Conference, announced that: "The 14th International Conference on the Chemistry of Cement will be held in Beijing in 2015" I Yao Yan, President of China Building Materials Academy, accepted the ICCC hosting certificate granted by the Chairman of the Conference on behalf of the Chinese Bidding Delegation. The Chinese Bidding Delegation cheered and international friends expressed their congratulations. The aspiration of several generations of cement scientists for decades was realized at this moment. The first International Conference on the Chemistry of Cement was held in London, England in 1918. Up to now, it has been held for 13 times. The conference's authority and influence has been recognized by counterparts in all countries around the world. Nearly one thousand experts, scholars, engineers and technicians participated in the recent conferences. About 900 representatives from 68 countries attended the 13th International Conference on the Chemistry of Cement and 434 reports and papers were discussed at the conference.

Over the years, China's cement science and technology workers have always hoped to hold the International Conference on the Chemistry of Cement in China and have paid two decades of hard work. China participated in the bidding successively at the conferences held in India, Brazil, South Africa and Canada and failed in the end. This was the fifth bidding. The bidding delegation was co-organized by The Chinese Ceramic Society and China Building Materials Academy and nearly 40 scholars from more than a dozen of universities and research institutes participated in the bidding and conference. After fierce competition, China became the winner among 4 bidding countries with absolute advantages and successfully obtained the right to host the conference.



## Provision of Certification and Inspection Services

We not only promote independently researched and developed advanced technologies, but also utilize our rich scientific research resources to provide accurate and effective technical information for enterprises in the industry to provide help for them in seeking direction of development, developing technical cooperation, and enhancing competitiveness. We give full play to the advantages of collaborative operation, and in association with websites and publications in the industry, provide multiple channels of information exchange and technical communication through the establishment of resource libraries, e.g. institutional repository of technological innovation, database of scientific and technological achievements, etc. and information inquiry platform.

As a support unit for 7 National Quality Supervision and Testing Centers, our forward-looking scientific and technological research and development, advanced inspection technology, sound management system and efficient service processes enable us to offer high quality test and certification services, which provides quality guarantee for the national key projects, protects the interests of users and consumers and promotes the improvement of product quality and management level of building materials enterprises.

In 2005, we established China Building Materials Test & Certification Center based on nearly three decades of experience in quality inspection and certification and through integration of nearly 20 national and industry-level inspection and certification facilities. The center adheres to the core concept of “justice-based and serve the society” with focus on the field of building materials and construction engineering to provide high quality services for major projects, e.g. Beijing-Shanghai high-speed rail, the Three Gorges Project, the Olympic venues, the South-to-North water diversion, etc., and has developed into the largest comprehensive independent third-party test and certification service provider in the field of building materials in China, making contributions to the promotion of quality technological level of building materials and the sound industrial development. In 2011, China Building Materials Test & Certification Group Co., Ltd. (the “CTC”) was officially established and served as the platform for further promoting product certification including CTC quality, safety, energy saving, water saving, environmental protection and health, and for creating greater value for the society.

### Comments from Gan Yong, Vice-president of Chinese Academy of Engineering:

China Building Materials Academy, as the birthplace of test and certification in Chinese building materials industry, has long endeavored to the scientific and technological innovation in respect of test and certification in Chinese building materials industry and the promotion of technological progress of building materials industry. The establishment and development of China Building Materials Test & Certification Center enhanced the international status of China’s building materials industry and made a significant contribution to the take-off of building materials industry and social and economic development.

### CTC serves the construction of social welfare housings



In 2011, CTC was selected to be the national certification institution for procurement information platform in respect of building materials and components for social welfare housings designated by the Ministry of Housing and Urban-Rural Development. As at the end of 2011, it had completed certification for products of over 20 coating enterprises to enter the procurement information platform in respect of building materials and components for social welfare housings, which strictly controlled the quality of components and materials for social welfare housings that are safe, reliable and in line with energy-saving and environment protection requirements and made contributions to the improvement of construction quality and performance of social welfare housings and the reduction of construction costs.

# Energy Saving & Environmental Protection



We comprehensively utilize industrial and urban waste resources and manufacture low carbon products at minimized 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 happy to share effective energy saving technology and management experience, explore the development mode with industry in harmony with nature, and advocate sustainable development of the whole industry and society as a whole.

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In 2011, the comprehensive energy consumption per ten thousand yuan output value decreased by

**8%** over the previous year

In 2011, the SO<sub>2</sub> emission load per ten thousand yuan output value decreased by

**31%** over the previous year

In 2011, we treated and reused solid wastes of approximately

**65** million tonnes

## Concepts and Principles of Energy Saving & Environmental Protection

We try to reduce resource and energy consumption in the manufacturing process and reduce the emissions of various pollutants to the natural world; continuously expand ways to achieve safe and efficient utilization of industrial waste resources in the building materials industry, and provide service support for efficient and hazard-free disposal of urban wastes; we maintain a clean production environment and protect the ecological environment, to achieve a harmonious coexistence with the nature.

We utilize reliable techniques and production processes to produce and manufacture green and environmental-friendly building materials, promote pre-fab housing system, advocate green consumption of building materials and provide materials to protect energy conservation for buildings; we provide new energy products and services including wind turbine blades and solar PV modules to help the wide and efficient application of clean energy.

We initiatively share low-carbon product manufacturing processes, energy saving tech-

nology and management experience, provide detection, diagnosis, and system optimization solutions in respect of energy efficiency and environment protection, and constantly strive to achieve sustainable development jointly with our industrial partners through our efforts and professional services.

## Overview of Resources Use and Environmental Impact

In 2011, the comprehensive energy consumption per ten thousand yuan output value decreased by

**8%**

over the previous year

In 2011, coal consumption represented

**86%**

of comprehensive energy consumption

Our raw materials are from mineral resources and industrial and urban waste resources and are made into final products through grinding, calcination, etc. Coal, electricity and some oil, gas and other energy are consumed in production. The residue heat can be recycled from waste gas for power generation to replace part of purchased electricity.

The natural mineral resources in our raw materials include limestone, clay, iron powder, silica sand, gypsum, etc. Other industrial waste resources available for comprehensive utilization include slag, steel slag, coal ash, desulfurization gypsum, etc. The vast majority of self-produced solid wastes, such as waste glass fibers, glass fragments, light weight board pieces, etc., can be comprehensively utilized in production.

The water resources used in cement manufacturing process are mainly used for cooling the circulatory system and the water resources in other manufacturing segments are used for

flushing, spraying or other purposes. Effective recycling of water resources can be basically achieved through the recycling system, settlement system, sewage disposal system, etc.

The major pollutants discharged to the environment in the manufacturing process vary with industrial segments. The major emissions of cement segment include nitrogen oxides, carbon dioxide, dust, sulfur dioxide, etc.; the glass segment mainly discharges sulfur dioxide; the major emission of gypsum board, fiberglass, and composite materials segments is COD in wastewater. The self-produced solid wastes of each segment can be fundamentally recycled. The construction of effective emission reduction devices and systems and implementation of strict operation maintenance and control ensure our compliance with emission standards for various pollutants.



## Improvement of Organizational Structure and Management Practices

In 2011, staff participated in training on energy saving and emission reduction for approximately

**42** thousand hours

### Sound Organizational Structure

We've set up a leaders group responsible for energy saving and emission reduction and established a social responsibility and energy saving and emission reduction office to coordinate, guide, and promote energy saving and emission reduction of our member enterprises. Member enterprises have established energy saving and emission reduction functional organizations of different categories and levels, thus achieving an overall system coverage for the Group's energy saving and emission reduction management.

We attach importance to the construction of energy saving and emission reduction team. Our industrial enterprises assigned personnel in charge of energy saving and emission reduction in accordance with relevant national laws and regulations. Management personnel on key positions have obtained professional certificates. We stress on the continuous promotion of the quality of energy saving and emission reduction management personnel and make full use of internal and external educational resources to constantly enrich staff's stock of knowledge on energy saving and emission reduction and improve the management level of energy saving and emission reduction.

### Sound institutional system

We implement category-based management for the Group's member enterprises and have, based on the characteristics of member enterprises, formulated classified objectives and assessment schemes and energy saving and emission reduction strategies, policies, planning and systems. Through the three systems, i.e. measurement and statistics, monitoring and analysis and evaluation and assessment, we promote the continuous improvement of our work. We strictly implement relevant national laws and regulations and standards and carry out "three simultaneous" policy for energy saving and environmental protection on fixed assets investment projects, to let energy consumption and pollutant emission levels meet national standards. We actively promote standardization management, promote member enterprises to commence the construction of standardization system of environment and energy management and pass relevant certification. We encourage member enterprises to consciously carry out clean production audit and energy audit and seek for systematic solutions for technological transformation and management improvement of energy saving and emission reduction. We support enterprises to use such financing ways as energy performance contracting, clean development mechanism, etc., to ensure investment in energy-saving technological transformation. Through the joint efforts of all member enterprises, we achieved the Group's basic objective of creating the resource-saving and environment-friendly enterprises.

### Strong cultural atmosphere

We strive to create a strong cultural atmosphere of energy saving and emission reduction through a variety of ways and in various forms. We encourage employees to independently carry out technological innovation, organize appraisal and selection of small innovations, renovations, transformations, designs and suggestions on energy saving and emission reduction and set up a platform for sharing innovative achievements in respect of energy saving and emission reduction management. Relevant achievements have been affirmed by the Ministry of Industry and Information Technology and All China Federation of Trade Unions. In 2011, Jushi Group Co., Ltd., a member enterprise of the Group, was awarded the "National Labor Award" due to its outstanding performance in the activity "I make a suggestion on energy saving and emission reduction".

We advocate green office. All member enterprises have formulated detailed green procurement system of office supplies and specific measures for green office. We share technological achievements and management experience and spread the knowledge of low-carbon life through various information dissemination channels, to act together and contribute to the sustainable development of society as a whole.



## Reduction in Consumption and Emissions

In 2011, the installed capacity of existing residue heat power generation systems and those under construction reached

**1,210.5** MW

In 2011, investment in energy saving and emission reduction amounted to

**0.72** billion yuan

In 2011, the recycling rate of self-produced solid wastes was approximately **100%**

### Continuously improving energy efficiency through technological transformation

We strive to improve energy efficiency and level. Through ensuring investment in energy saving and environmental protection, we actively implement effective technological transformation of energy-saving and environmental protection, with an aim to achieve continuous reduction in consumption and emission levels per unit of products. We eliminate backward production equipment in a timely manner and continuously improve the combustion efficiency and power consuming efficiency. We strive to reduce use of fossil energy in the production process and make full use of low-grade energy and resources to produce building materials of reliable quality. We make comprehensive utilization of coal gangue, sludge, urban wastes and other combustible wastes to replace fossil energy including coal at our production lines. In addition, we construct supporting residue heat power generation systems at all our qualified cement and glass production lines to recycle and convert the residue heat in the production process into electricity for production use, which reduces the amount of purchased electricity.

### Recycling of water resources

We attach importance to the recycling of water resources. The water for residue heat system and cooling system is recycled. Other water resources for flushing and other auxiliary processes are recycled through the settlement and sewage systems.

### Environmental governance and emission reduction of pollutants

We attach importance to environmental governance, strictly implement relevant national laws and regulations, policies and standards on environmental protection, and strive to reduce the emissions of wastewater, waste gas and waste residue in the production process. The pollutant monitoring indicators of most member enterprises of the Group are far below national emission limits, basically realizing 100% recycling of self-produced solid wastes. We reduce the formation and emission of pollutants such as SO<sub>2</sub> and NO<sub>x</sub> in waste gas through the procurement of clean energy and increase of oxygen content in combustion system. The dust in waste gas is effectively reduced through dust removal technologies, e.g. bag type dust removal, etc. We strive to achieve "zero" discharge of wastewater through the construction of sewage treatment and recycling system.

### Zhonglian Glass Co., Ltd's technological transformation of power generation with the residue heat in glass production



Henan Zhonglian Glass Co., Ltd., a member enterprise of the Group, constructed a residue heat power generation system for its production line. The residue heat of waste gas discharged from the melting furnaces in the float glass production line will be recycled and converted into electricity to be used for its glass production. The system's installed capacity is 7.5MW. After completion, its annual electricity production and annual power supply will be approximately 52.17 million KWH and 44.01 million KWH respectively, which can reduce emission of carbon dioxide of approximately 54 thousand tonnes and save standard coal of approximately 23 thousand tonnes each year.





## Harmonious Coexistence with Nature and Community



### Efficient and Harmless Disposal of Municipal and Industrial Waste

We make full use of our edges over techniques to recycle industrial waste resources. Through technology innovation and under the precondition of guaranteeing quality and safety, we continuously increase the proportion of industrial waste resources used as raw materials, enhance the consumption and utilisation of desulphuric gypsum, slag and steel slag, and assist other industries in reducing environmental impacts. In 2011, the Group's cement and light weight board manufacturing sectors consumed approximately 65 million tonnes of industrial by-products and solid waste such as desulphuric gypsum, slag, steel slag and fly ash.

We adopted the technology of using cement kiln to dispose municipal waste, sludge and contaminated soil. Numerous cement subsidiaries within the group actively participate in resources analysis and technical verification, and explore effective operating

mechanism and operational mode by carrying forward pilot projects. We also cooperate with the government to increase effective channels disposing municipal waste and sludge, reducing the land resources waste and environmental pollution.

### Ecological Protection

We strive to explore an effective mode for the industry to coexist with the nature and the society harmoniously. We conduct strict verification for site selection and layout planning of our plants, aspiring to minimize the adverse impact of our production on the ecological environment and residents in the periphery. We pay great attention to the greening of plants and neighboring areas as well as land restoration at our mines, endeavoring for a natural blend of the industry with its surrounding ecological environment. Mines of our member companies such as Fuyang Shanya South Cement Company Limited have been rated by the Ministry of Land and Resources as national green mines.

Consumption of approximately

**65** million tonnes  
of solid waste in 2011

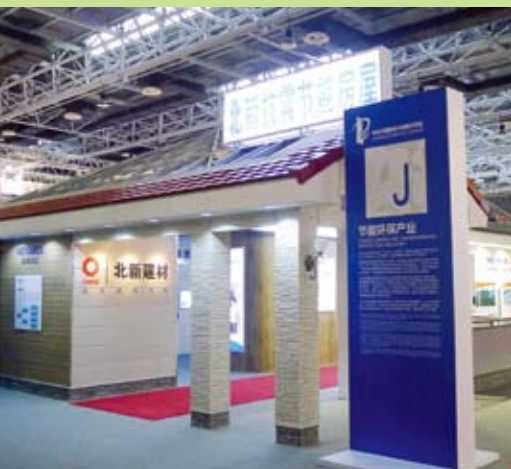
## Promotion of Green Building Materials and Pre-fab Housing

We are committed to providing new low-carbon building materials for our clients. The production and use of the products are environmentally pollution-free and pose no harm towards people's health. The energy consumption generated in the production of products and usage is lower than that in the traditional building materials. The raw materials of our products are mainly from industrial and municipal waste resources, which can be recycled after the end of the product lifecycle.

Our enterprises which manufacture basic construction materials such as cement and glass have all passed the quality system certification. Most of them have passed environmental management system certification, which ensures the quality of products and low-carbon and environmental protection in the manufacturing process. We dedicate ourselves to promoting green packaging for basic building materials in bulk, and insist on promoting bulk packaging for cement products and bare packaging for glass products, all serving the purpose of reducing package waste.

We provide our clients with green building materials products, including the wall and suspended ceiling system composed of gypsum board, metal frames, acoustical panels and ancillary products, the architectural energy conservation and environment protection system which consists of housing components such as doors and windows, radiators, "Dragon"-branded paints, sound-absorbing pipelines, as well as pre-fab housing with lightweight steel structures, pre-fab housing with timber structure and exterior building envelope system decorated with fiber-cement wall board and fiber-cement tile. Most of our products have acquired China Environmental Labeling Scheme certification.

### BNBM Science and Technology Museum of Energy Conservation for Buildings --- promotion and demonstration base of green building materials



BNBM Science and Technology Museum of Energy Conservation for Buildings demonstrates a collection of new products, new technology and new applications of green building materials of BNBM, a member company of the Group, through exhibition of new energy-saving buildings. The demonstration stresses on five major technologies, namely "integrated solution for energy-efficient buildings, 'Dragon'-branded phase transition energy-saving gypsum board, level A non-ignitable exterior wall outer insulation technology,

integration of photovoltaic systems and architecture, as well as full set technology for pre-fab housing". The intuitive insight given by the format of presentation, the focused exhibition system and professional introduction of technologies have made the museum a systematic demonstration center of green building materials products and an important platform and model base for industry practitioners to communicate and display technology, stimulating clients' consumption of green products and promoting green energy saving knowledge.



We aspire to provide the construction industry and residents with systematic construction product solutions and building schemes and actively develop and promote pre-fab housing products. Through years of exploration and development, we have gradually established our proprietary intellectual property rights and core competence. We have already possessed the professional operation capability to construct environmental-friendly and energy-saving buildings as our main products, and to take the development and design of light-weight-steel structure, building envelopes, interior and exterior decoration components and materials, thermal insulation, water, heating and electricity systems, as well as equipment and amenities as our core technology.

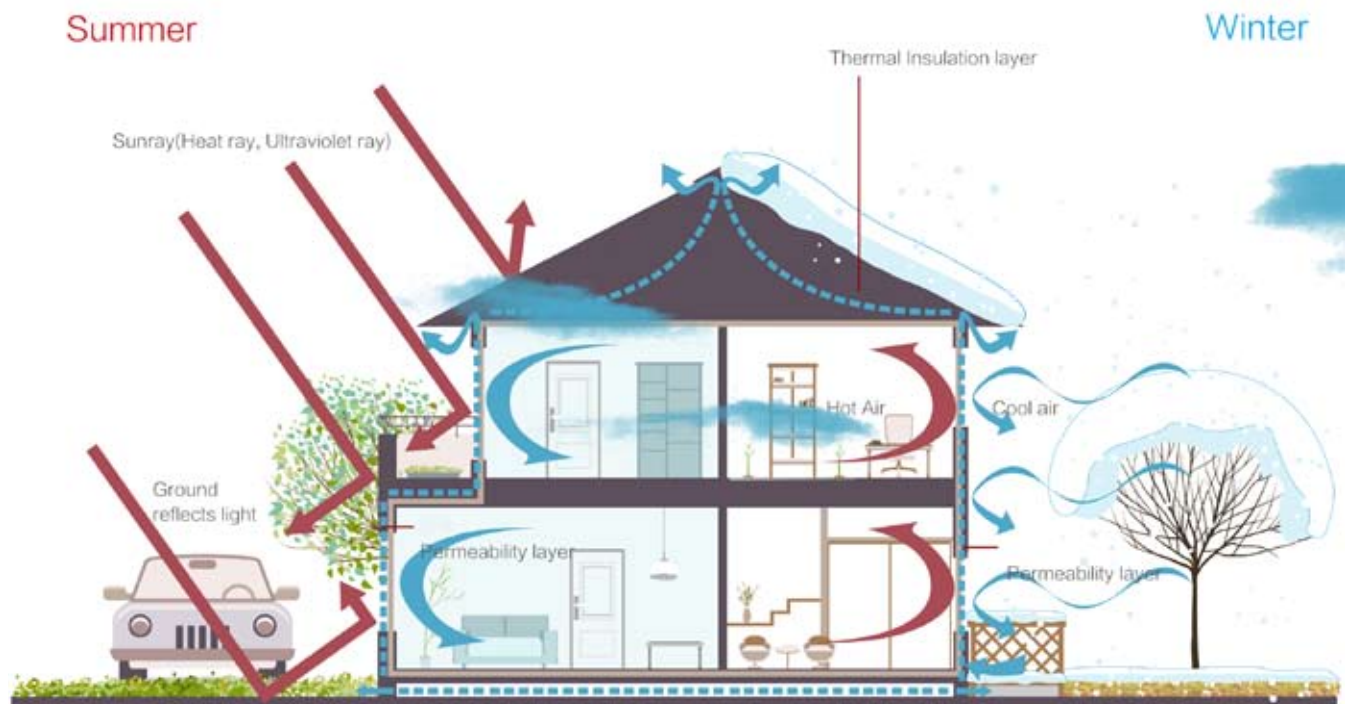
Our pre-fab housing includes three main structural systems, which satisfy various needs at

different levels, ranging from new farmhouses to high-end villas and from office buildings to industrial plants. Through an industrialized operation mode featuring industrial design, production, and field-assembly, the energy and time consumption during housing construction has been reduced. The building products integrate the environmental protection and energy conservation products in the green construction material system, which presents no harm to the environment and human body and lowers energy consumption. The design of houses is scientific and reasonable, occupies less land and features higher space utilisation. The houses so constructed are extremely safe and enjoy long service life. Even after the life cycle, about 90% of the materials can be recycled. Combined with the application of solar thermal and photovoltaic, ground source heat pump, rain water collec-

tion, eco-roof, automatic sewage purification devices and other new energy and ecological regulating systems, the housing can reach the energy-saving standard of 90%.

We have successively undertaken and completed various substantial projects in both domestic and overseas markets. Our products and services span across more than twenty provinces in China and we took on the tasks of helping post-disaster reconstruction. Our overseas market spans across countries and regions in North America, Eastern Europe, the Middle East, South Asia, South America, South Pacific, and Africa.

### Diagram of the Principles Underlying the Pre-fab Housing Insulation Cycling System



## Supporting the Development of New Energy Industry



Developing clean energy is one of the effective ways to reduce the use of fossil energy and the emission of greenhouse gas. Currently, wind energy and solar energy are the clean energy extensively in use. We research and manufacture new energy materials and energy utilisation technology and product system, in order to provide high quality products and technology support in large scale for the new energy industry development.

China Composites Group Corporation Limited, a subsidiary of the Group, is the largest megawatt-class wind turbine blades manu-

facturer in the country and has reached the world-class level in the field of wind turbine blades manufacturing. Its products are already in use in hundreds of wind farms in the country.

We spare no effort in the thin film solar cell industry chain integrating scientific research and development, equipment manufacturing, product sales and application as a whole. Bengbu Design & Research Institute for Glass Industry, a subsidiary of the Group, dedicates itself to the research and development and manufacture of thin film solar cell modules.

established an overseas research and development center through acquiring a German company, CTF Solar GmbH. The world's largest single solar photovoltaic glass production line which is designed and constructed by the company has been officially put into operation. The transparent conductive oxide glass (TCO) products specific for solar cells developed by the company have passed inspection and are up to standard.

### Constructing Photovoltaic Power Station and Solar Power Charging Stations for Electric Vehicles

Bengbu Institute and Anhui Tianzhu Green Energy Science & Technology Co., Ltd. have jointly designed and constructed the "Pilot Grid-connected Solar Photovoltaic Power Station with BIPV Sunroof and Single Crystalline Silicon Solar Cells" which can transmit 5,000 kwh to the grid per annum, reducing about 50 tonnes of carbon dioxide emissions. In 2011, Bengbu Institute and Sunlogics Inc of the United States jointly constructed a 10-kilowatt Solar Power Charging Station for Electric Vehicles for the headquarters of General Motors in China, being the first conceptual solar power charging station for electric vehicles in China.





## Provision of Energy-saving and Environmentally Friendly Technologies and Services

### Promoting Energy-saving and Environmental-friendly Technologies and Equipments

We capitalize on the advantages of technology innovation, strictly adhere to the main trend of low-carbon economic development and commit ourselves to independent innovation and serving the community, with a view to enhancing energy efficiency and environmental protection standards of the building materials industry. We actively carry out research and development of energy-saving and environmental-friendly equipments and products, whilst providing production techniques and technologies which are highly effective and environmental-friendly. Those efficient and environmental-friendly technologies, including the residue heat power generation, desulfurisation and DeNOx, oxygen-fuel combustion and integrated utilisation technology of solid waste are extensively in use. These technologies facilitate the provision of services including system testing and diagnosis, technology transformation for emission reduction for building materials and relevant industries. By formulating systematic and professional

solutions, we provide integrated services to enterprises for energy saving and emission reduction.

### Providing Energy-saving and Environmental-friendly Testing, Inspection and Certification Services

We set foot in the field of building materials and construction engineering. Leveraging on our testing and certification resources, we prioritize low-carbon and environmental-friendly practices when providing professional, standardized and international services by leveraging our resourceful testing, inspection and certification resources. We strive to provide testing, certification, research and development of test equipment, technical research and evaluation, trainings and other high-tech services. We provide services including testing and inspection of the energy-saving functions of buildings, energy efficiency of buildings, identification and evaluation of energy conservation of doors and windows and integrated testing and certification of solar architecture, as well as certification for energy-saving products.

We promote energy-saving construction by strengthening the build-up of technological capability. We initiate the research of evaluation system in respect of green building materials, ecological building materials, green and healthy building materials and provide testing, inspection and certification services. We engage in ecological city construction by developing green building materials selection techniques. We participate in and direct the formulation of industry standards, and set standards for energy efficiency as well as the impact on the environment, thus guiding low-carbon production development of building materials.

### CTC Energy-saving Products Certification



By undertaking the research and standardisation project of building materials testing methods of the country, China Building Materials Test & Certification Group Co., Ltd. (CTC), a subsidiary of the Group, developed the "CTC Products Certification", established a voluntary products certification system which complemented the management system certification of China Compulsory Certification (CCC), thus building up comprehensive technical capability and a service platform for building materials products certification and building materials enterprise management system certification. The Group has consecutively developed implementation rules and technological requirements for more than 60 kinds of products such as quality certification, energy-saving certification and environmental friendly certification of CTC Products, all of which were reported to and approved by the CNCA. Products under energy saving certification of CTC products range from insulating glass, coating, heat-insulating paint, thermal insulating materials, external thermal insulation system to building plates and etc.

# Employee Care



We make the best endeavor to safeguard the rights of employees and respect their diversities, making the enterprise a reliable partner and a happy and comfortable home for employees. Acting in concert with all our staff, we create a better future with sustainability, and deliver our inner happiness to the society.

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Total number of employees at the end of 2011 reached about

**126,000**

In 2011, we invested in occupational health and safety

**121.91**

million yuan

In 2011, our employees attended training of

**1.081**

million hours

## Summary of Employee Policies

At the end of 2011, the total number of employees reached about **126,000**



We offer valuable and competitive job positions to talents in the society. We respect human rights, adhere to equal employment and resolutely prohibit child labor and forced labor. We value the protection of employees' interests and have respect for employees' rights. We conduct democratic management through effective communication channels established between the employees and the Company. Given the top priority to ensure the employees' health and safety, we strive to build a safe and comfortable working environment. Based on the growth platform built for employees, we insist on developing together with our employees, in pursuit of a better future where employees of different genders, ethics, countries, cultural backgrounds and religions can enjoy their working and living in our enterprise. In 2011, we had 594 employees from other countries, Hong Kong, Macao and Taiwan, 1,023 disabled employees and 3,516 employees of ethnic minorities.

We put forward the strategy of vitalizing enterprise through talents, one of our three major strategies, in full swing through a series of measures: establishing, perfecting and continuously innovating the mechanism for talents' cultivation, introduction, management and development; building a strategy-oriented human resource management system and a competence-based human resource development platform as well as an established incentive and restraint mechanism based on corporate governance; optimizing the talent team structure in an all-round manner with focus on the establishment of the "Five Talent Teams" ; strengthening efforts in talent training through construction of corporate training centers and field training bases. As such, we aim to further improve the competence and quality of the talent teams and secure a reliable talent pool for the Group's rapid development.





## Protection of Employees' Basic Rights and Interests

### Protecting Employees' Rights and Interests

We respect and support the international covenants on human rights and labor standards. We prohibit and reject the use of child labor in any form. We respect and equally treat employees of different nationalities, ethnics, genders, ages, religions and cultural backgrounds. Employees are recruited and employed in an open, fair and impartial manner. Forced labor and discrimination are strictly forbidden. Employees are guaranteed with a decent working environment of freedom, fairness and dignity.

In strict compliance with the Labor Contract Law and relevant laws and regulations, we sign labor contracts with our employees and standardize the labor contract management. The collective contracts signed with employees through labor unions include terms such as labor employment, labor compensation, working hours, rest and leave, labor safety and health, social insurance and welfare and special protection for female employees.

We pay our employees basic pension insurance, basic medical insurance, unemployment insurance, work injury insurance, maternity insurance and other social insurances in accordance with laws. We encourage our member companies to purchase accident comprehensive insurance and other supplementary insurances for employees in line with their actual conditions.

We insist on equal pay for equal work, adopt a paid leave system and carry forward the corporate pension scheme, in a bid to provide a complete remuneration and welfare security system.

### Implementing Democratic Management

We implement an employee representative meeting system based on which employees can participate in corporate management, express reasonable demands and safeguard their rights and interests. The major decisions of the Group's member companies and the material matters concerning employees' vital interests will be lawfully submitted to the employee representative meeting for consideration and can be implemented only with the approval at the meeting. We have established and perfected the labor union network and the chairman of the labor union may participate in the supreme decision-making of the enterprise as an employee director.

We value and leverage the strong influence of labor union among the employees to collect proposals and reasonable recommendations from employees, thus fueling the enterprise's sustainable development with employees' wisdom. In order to help the labor union perform its supervision duties we have held activities such as the comprehensive evaluation of the "Four-merits" teams, which expand the scope of employees' rights to participate, know and supervise.

Under the state's requirements for the disclosure of corporate affairs, we continuously consolidate, deepen and perfect the disclosure mechanism of corporate affairs and set the hot, tough and key issues of concern to the employees as the priorities in disclosure of corporate affairs. We share the corporate operation information with the employees through channels such as the disclosure board of corporate affairs, employee discussion meetings, manager's mailbox and the Company's website. We also established effective channels through which the opinions expressed by the employees can be heard by the senior management of the Company.

In 2011, our signature rate of labor contracts was approximately

94%

In 2011, our social insurance coverage rate was approximately

91%

In 2011, approximately 73% of our employees were members of the labor union

## Mutual Growth with Employees

In 2011, employees attended

**1.081** million hours  
of training

In 2011, we supported our exist-  
ing employees to obtain about

**1,580**  
diplomas or degrees

### Employee Incentives

We established a scientific evaluation system and formed an incentive mechanism that dynamically integrated with the remuneration system, pegging the employees' personal qualities, work performance, contributions to the company and their development potential directly to remuneration and promotion as well as the enterprise's development. By bonding the employees' development to the enterprise's growth, we have bolstered the employees' sense of achievement and belonging.

We set two career paths for employees' promotion, leading to management positions and professional positions respectively, through which we manage to meet the development needs of different kinds of talents. In 2011, grounded on the mechanism of intra-group communication and on-position learning for employees, we effectively allocated the human resources within the Group, provided a broad platform for the employees to develop their careers and ensured the human resources for the enterprise's sustainable development.

### Employee Training

We spare no efforts in the construction of learning groups. Driven by the needs to adapt to and expedite the development of the Group, we aim to build a multi-channel, multi-form, multi-level and differentiated employee cultivating and training platform, having fully taking account of employees' career paths and their personal needs as well as the objectives of promoting employees' occupational abilities and overall qualities as a whole and building salubrious and harmonious corporate culture which values mutual growth with employees. Following the training approach "based on internal training and supplemented by external training", we established three talent training centers and two field training bases. We cooperate with universities and colleges as well as training institutions to share the education resources, aspiring to build a comprehensive training system for the Group.

**Huang Danhua, Deputy  
Director of State-owned Assets  
Supervision and Administration  
Commission of the State Council,  
Member of CPC Committee:**

"CNBM has effectively aligned the establishment of a learning enterprise with a learning party organisation. It is a "benchmark first-rate enterprise" externally and an enterprise with "optimized management and integration" internally, through which it successfully discovered a new mode of market-oriented operation."

### China New Building Materials Business School

China National Building Materials Import & Export Corporation, a member company of the Group, has launched the training project of "CNBM Business School" which is founded on the philosophy of "education oriented towards the world, the future, the youngsters and the talents", in the principle of improving professional skills and performance, and with a view to facilitating career development and building a learning organisation. To this end, the business school invites senior executives in enterprises, professors from first-class business schools and professional trainers to be the instructors and, through effective education methods such as simulation, case study and interactive teaching, cultivates innovative talents in line with the development of the time.

The business school provides a good mutual study and development platform for employees. It also facilitates communication between domestic employees and foreign employees. In 2011, 437 employees attended the business school training courses.



## Protection of Employees' Safety and Health

### Establishing a Comprehensive Safety Management System

We formulate and strictly comply with the occupational health and safety management system based on Safe Production Accountability System. A production safety organisation was put in place in the principle of compliance with the law, comprehensive coverage and practicability. The key production safety enterprises within the Group have full-time occupational health safety management personnel, whose excellent professionalism and occupational ethics safeguard employees' health and safety. We strictly execute the safety training system to guarantee the spread of safety knowledge and improve employees' safety awareness and safety management.

We always advocate standardized management on safe production. As the pilot enterprise of national safe production, we are full steam ahead to prepare for the kick-start of standardized construction compliance within the Group.

We adopt information technology in production safety management. The safety

management information system developed independently by us was awarded the First Prize of Modern and Innovative Management Achievement in the National Building Materials Industry in 2010 and the Second Prize of the National Modern and Innovative Business Management Achievement. It was also included as one of the "Integration of Informatization and Industrialisation" key projects by the Ministry of Industry and Information Technology Hazard Investigation.

### Hazard Investigation at Multi-levels

We have begun multi-level safety inspections, with self inspection by manufacturing enterprises by large, peer review among secondary enterprises and random review at the group headquarters. We also set May as the "Month of Hazard Investigation" and launched hazard investigation and resolution activities, especially on key sections, important positions and high-risk operation. In 2011, we organized "May Day" and "National Day" safety inspection, winter safety inspection and a series of other inspection activities, with satisfactory results.

In 2011, **151** safety management personnel obtained certified safety engineer qualifications

In 2011, there was no death liability accident

In 2011, the recordable disabling injuries incident rate was

**1.4‰**

**Ma Rui, Deputy Director of Supervision Department IV, State Administration of Work Safety:**

"CNBMG did an impressive job in production safety standardisation. The Group has a good grasp of the underlying meaning and nature of production safety standardisation and has presented what a model enterprise should possess."

### Undertakings of the Preparation and Promotion of Safety Standardisation



We undertake or participate in compiling safety standards that has a demonstrative effect in the industry. Besides achieving breakthrough in our own safety management, we provide guidance for positive development of safe production of the industry. In 2011, we progressively implemented four industry production safety standards (AQ project) drafted by us, among which the testing standards and grading rules of safety standardisation for flat glass and buildings' sanitary ceramics have been approved by experts. In 2011, we promoted safety standardisation and organized 18 training conferences or sessions. We are the sole enterprise to be awarded the qualification of "First-class Assessment Entity for Safety Standardisation of Cement Enterprise Safety Standardisation" in the building materials industry.

**100%** of our employees received health testing for occupational disease in 2011

Approximately **70%** of our manufacturing enterprises were accredited with OHSAS at 2011

**121.91** million yuan was spent on occupational health and safety in 2011



### Focus on Occupational Health

Having carried out in-depth study and analysis of the characteristics of the production of the building materials sector, we built and improved supporting facilities at the production sites such as dust-resistance, poison-prevention and noise-reduction equipment, emergency and alarm devices as well as first-aid kits. We furnished, in strict accordance with the requirements on labor protection, labor protective articles such as quality overalls, helmets, protective shoes, gloves, noise-reducing earmuffs and dust masks, and made every effort to ensure that employees were fully equipped, such articles were timely replaced and the protection was effective.

We arrange regular medical examinations for employees over years and provide extra check-up items for employees working on special positions exposed to dust and radioactive substances. We create individual health records for employees with follow-up and review

actions. We vigorously promote the Occupational Health and Safety Management System Certification (OHSAS18000), and approximately 70% of our manufacturing enterprises passed this accreditation by the end of 2011.

### Ensure financial and technological investment in safety

We attach great importance to investment in production safety. To improve and maintain safety equipment and facilities, we spent RMB120 million on occupational health and safety in 2011, up 31% year on year. We made full use of the research resources to develop advanced and practical equipment for safe production. 2011 saw a successful trial run of the cement bunker cleaning equipment independently developed by the Company. The operation of such equipment will essentially lead to intrinsically safe cement bunker cleaning.





## Safety management of overseas construction projects

As overseas construction projects involve complicated safety and risk factors, we printed and issued in 2008 the Guidance for Production Safety of Overseas Construction Projects of China National Building Materials Group Corporation and held seminars to consider the establishment of a system for safety management of overseas projects based on the practical production and operation of the enterprises. In 2011, the Group sent young key production safety employees from its headquarter to Ethiopia as permanent representatives to help with the production safety work of the country's first project of cement production lines with a daily output of 5,600 tonnes of cement clinker. They are also supposed to summarize the first-hand experience in production safety of overseas projects to further perfect the system for safety management of overseas projects.

## Safety culture

Our safety culture is "people-oriented, safety first, life foremost" with "people-oriented" as its core. The development of safety culture means to infiltrate the understanding of and respect for life into the spirit of enterprises. We encourage employees to voice their views and suggestions for the continuous improvement of the standards of safety management. We actively organized various campaigns on safety such as "Month of Safe Production" and "Year of Safe Production" to promote good safety culture, which, with employees' active participation and acclamation, enhanced their safety awareness. China United Cement Corporation, a member enterprise of the Group, was awarded the title of "Excellent Entity of the 2011 National Campaign of Safe Production Month" by the Safe Production Commission under the State Council.

## Improve the Emergency Management System

We continuously improve the emergency management system and have established an emergency management system covering all levels which, with specific arrangement made by the leading groups for emergency management of all member enterprises, is under the unified leadership of the Group's leading group for emergency management. We've established a system for contingency plans based on a comprehensive contingency plan and supplemented by special contingency plans and on-the-spot settlement plans; contingency divisions, supporting teams, emergency equipment and materials are also in place, providing solid guarantees for the proper settlement of emergencies.

### Safely evacuated from Libya

When the crisis broke out in Libya in 2011, China National Building Materials Import & Export Corporation (the "CNBM Import & Export Corporation"), a member enterprise of the Group, had two projects under construction in four regions of Libya, hiring a total of 347 employees. After the crisis erupted, the Group and the CNBM Import & Export Corporation started the contingency plan and actively studied evacuation plans. After 7 days' intense work, all the staff in Libya were safely evacuated in four batches. An employee of the Group was awarded the title of "Excellent Youth of Central Enterprises in the Evacuation from Libya" by the SASAC for his outstanding performance. Thanks to the cooperation with China Export & Credit Insurance Corporation, the assets of the CNBM Import & Export Corporation in Libya were properly housed and protected.

## Creating Happy Life for Employees

Zhou Liyou, an employee of BNBM Suzhou Mineral Fiber Ceiling Co., Ltd. said:

The sincere care and financial support given by the leaders, trade union and colleagues of the Company warmed the hearts of my families like the bright sunshine in winter. Your kindness greatly encouraged me in my struggle against disease and made me feel the precious life, true love under heaven and the warmth of our company.

### Help employees in need

We continuously improve the employee support and relief system, and help employees by various ways to overcome difficulties met in their life. We do practical things, solve tricky problems and do good deeds for employees in difficulty, and make such actions regular, institutionalized and standardized. We create, maintain and improve the records of poorest employees to keep track of the accurate conditions of poor households and give them timely assistance through many channels and in various forms. We help employees suffering serious and severe illness by setting up a mutual fund for combating serious illness; we help the employees' children in need to finish school with the "Golden-autumn Grant-in-aid" program; we implement the "Sunny Employment Project" and give assistance to the "households with nobody working" to help the employees' children in need to complete education and find jobs and help their laid-off family members to find new jobs; we stick to the system of visiting, in winter and the two major festivals, groups in need, mainly including childless and widowed elderly people, families of martyrs and poor retired employees.

### Care about special group of employees

We care for the health and life of female employees, value their professional growth and treat them equally with male counterparts in salary, management position, vocational training and professional development opportunities. We are concerned about the work, life and mental needs of young employees. We bring together young people through the communist youth league and provide a platform for them to demonstrate their talent and exchange ideas. We care for the work and life of expatriates, especially those who are permanently stationed abroad or in the communities of minority ethnic groups, offering regular home leave, holding special after-work activities and providing mental health



counseling to relieve their pressure and add to their happiness.

### Enrich the life of staff

In an effort to make the Company a reliable partner and a happy and comfortable home of the staff, we establish the gymnasium, recreation room, reading room and psychological counseling room to provide the staff with places for recreation activities; we organize colorful cultural activities and sport competitions to offer a big stage for the staff to show the full extent of their gifts; we arrange various types of visits and trips and pay attention to the development of the staff's abilities in self-improvement, family care and giving back to society as well as enhancement of such ideas.

We involved approximately

# 128,000

employees in various cultural and sports activities in 2011



### Evaluation of employee care performance

We always adhere to the "people-oriented" management concept, advocate the human environment of "San Kuan San Li" (being lenience, tolerance and ease; and unity, affinity and cohesion), vigorously implement the strategy of "talents helping the enterprise grow stronger" and strive to create a "one-CNBM-family" corporate environment. We safeguard the staff's legal rights, implement democratic management, ensure the staff's vocational health and safety, value the common growth of the staff and the enterprise, and support

the staff in pursuit of a happy life. Our efforts were recognized and appreciated by the staff and the community. In 2011, the Group and member enterprises won nearly 100 awards for efforts in employee care and HR management; our employees were named role models in their respective fields and approximately 680 employees of the Group won various awards.

Sun Yeping, an employee of the legal department of China National Building Materials Group Corporation said:

Our team never lacks the vigor or ambition to build a great career in the building materials sector. What's all the more remarkable is that every employee focuses on actions and has a sense of responsibility which permeates the enterprise, embedded like culture, with no need to purposely pursue. You will be influenced after you fit into the team.



# Corporate Citizen



In the production and operation process, we seek to achieve mutual development and growth with the regions where we operate; as we can not accomplish such results and awards without the support and help of the stakeholders and all walks of the society, we reward the society through particular public undertakings; our employees are happy to give, actively participate in volunteer activities and exercise the responsibilities of a corporate citizen with practical actions.

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Total amount of donation in 2011

**17.371**

million yuan

Number of projects of donation in 2011

**209**

Hours of volunteer services provided  
by our employees in 2011 approxi-  
mately

**11,000**



## Driving the Development of Developing Countries



We've been proactively expanding our international business, and contributed to local economic prosperity and development through our local activities during implementation of our internationalization strategy. By building cement and glass production lines for developing countries and regions with advanced technology, quality services and reasonable prices, we've fully supported local construction, created job opportunities, trained local employees, promoted new products, new technologies and management philosophies, realizing co-growth and healthy development with the local society and environment and winning the recognition of local governments for many times. We've actively promoted new building materials and home products systems, advocated green consumption, and provided effective guarantee and channels for building energy-saving products. We've been active in community charities and done our best to contribute to local public welfare.

Having taken root in Papua New Guinea for 19 years, we are lauded by its prime minister Michael Somare as the "'company ambassador' between China and Papua New Guinea." We built a 1 million-tonne per annum cement project for Mongolia, which favorably promoted bilateral friendship between our two countries. CNBM International Engineering Co, Ltd. has built a cement grinding station in Iraq for the purpose of serving local construction and development.



We've been concerned about the development of Africa. Overcoming various kinds of difficulties in respect of geography, climate and economy, CNBM Import & Export Corporation completed the largest African cement factory project in Ethiopia, and thus ensured large-scale local infrastructure construction. BNBM Integrated Homes Company Limited plans to build new energy-saving and quakeproof houses with a total area of 600,000 square meters for the Zambian government for the purpose of improving living conditions for the local people, China New Building Materials Industry Hangzhou Design & Research Institute designed a float glass production line with daily capacity of 450 tonnes for Botswana; this project is the first large industrial production project for the country and of epoch-making significance for its industrial and economic development. Beijing New Building Materials Group Co., Ltd. built a building materials logistics center in Tanzania to provide high-quality building materials products to major local engineering projects. Hefei Cement Research & Design Institute ("Hefei Institute") built a cement clinker production line with daily capacity of 3,000 tonnes in Ethiopia, which commenced production in 2011. The Ethiopian premier Meles Zenawi attended the project completion ceremony and conferred the outstanding contribution award to Hefei Institute as a reward for the close cooperation and international friendship it showed during implementation of the project.

### Completing construction of the largest cement factory in Africa

China National Building Materials Import & Export Corporation, a member of the Group, entered into a contract to construct the DMC cement factory project (the "DMC Project") in Ethiopia. Total investment for the project was around 140 million Euros, with designed daily clinker capacity of 5,600 tonnes and cement capacity of 7,000 tonnes. It is the largest cement factory project ever completed in Africa as well as the largest industrial project completed in Ethiopia. After two years of intense construction, the project was finally officially put into production in early 2012.

During the construction of the DMC Project, more than 1,000 local jobs were created successively. We respected the human rights of local employees as well as their faith and national customs, provided them remuneration, benefits, occupational health and safety insurance as well as technical training and management training. In 2011, approximately 400 technicians of different types received training under the DMC Project.

As full consideration was given to the rational utilization of local natural resources and effective protection of the ecological environment for the DMC Project, we ensured all indicators satisfied and complied with relevant policies, regulations, standards and requirements in terms of design, construction, later-stage operation and maintenance. By proactively promoting our clean production and harmonious industrial construction experience locally, we ensured harmonious co-existence between the cement factory project and local communities and environment.

The theme for the first "Five-Year Plan" of Ethiopia is "economic development and riddance of poverty", with great investments in such infrastructure construction as roads and electricity. By 2015, the cement demand in Ethiopia will reach 18 million tonnes, with enormous capacity gaps. The smooth commencement of production of the DMC Project has not only provided materials for local construction, but also served as a model and guide for the local basic industries.



## Mutual Development with the Areas Where We Locate

New jobs created in 2011

21 thousand

By means of localized operation, we've always been devoted to integrating enterprise growth and development with local economic and social construction and prosperity. By creating revenue, driving the development of supply chain enterprises and small- and medium-sized enterprises, providing jobs, supporting local infrastructure construction, actively participating in public welfare activities, we have continuously contributed to the harmonious development of the areas where we are located.

We've vigorously advanced localization of human resources, especially for enterprises producing bulk building materials products (such as cement, glass and gypsum boards) and offering relatively lots of jobs, over 90% front-line workers are local employees. We've relentlessly promoted the procurement localization strategy, the implementation of which has driven co-growth of supply-chain enterprises and fostered a great number of good suppliers and retailers. The taxes we paid and prosperity brought to local economy have won us extensive recognition from local governments and all walks of life, and we

have established long-term strategic win-win cooperation mechanism with nearly one hundred local governments.

With great concern for regional public welfare, we've innovated the poverty relief and assistance mechanism, and actively implemented technology- and industry-based poverty relief by effectively combining poverty relief to specified assistance recipients with strategic corporate distribution, and combining local resource advantages with corporate premium resources. In 2011, Bengbu Design & Research Institute for Glass Industry and Hefei Cement Research & Design Institute, both members of the Group, were selected as "National Advanced Corporation for Poverty Relief and Development".







## Supporting Delivery of Building Materials to Rural Areas and New Rural Construction

In active response to the call of the State for delivery of building materials to rural areas, we've offered strong products support to the construction of a new countryside. Through the "delivery of building materials to rural areas", we've promoted low-carbon, energy-saving and environment friendly building materials products. Based on the pricing level, usage habits and folk customs for the construction of rural houses, we've carried out the R&D and plan design for a series of products and provided systematic solutions of new building materials and pre-fab housing products.

BNBM was honored the advanced organization for "Delivery of Building Materials to Rural Areas" for the Benefit of the People Competition



Beijing New Building Materials Public Limited Company ("BNBM"), a member of the Group, has been proactively promoting "delivery of building materials to rural areas" all the time, and was selected as an advanced pilot organization for delivery of building materials to rural areas at the end of 2010. Having developed high-quality and reasonably priced building materials products and new energy-saving and quakeproof housing systems, BNBM has delivered environmental-friendly, energy-saving and low-carbon building materials, especially new building materials, to rural areas, which helps improve the living conditions of rural residents and reduce living costs. At the end of 2011, BNBM was honored the advanced organization for "Delivery of Building Materials to Rural Areas" for the Benefit of the People Competition by China Mechanical Metallurgy and Building Materials Trade Union and China Building Materials Circulation Association.



## Commitment to Public Welfare

In 2011, the total amount of donation was

**17.371** million yuan

In 2011, **209**

donation projects were conducted

Subscribing to the principle of making donations on a voluntary basis, with clearly defined responsibility and subject to our resource capability, 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. We put our best efforts in supporting social development by facilitating mutual development in areas where we run our business. In 2011, the Group and its member companies carried out 209 donation projects, with an amount of donations up to RMB17.371 million, 34% of which was donated for construction of public utilities, 17% for public welfare relief and public welfare, 14% for education and 12% for aid of construction and development in Xinjiang region.

We believe that a comprehensive donation management system is not only beneficial for us to play a better role in national disas-

ter relief, help the distressed, promote social equality and fulfill the social responsibility as a centrally-administrated state-owned enterprise, but also important for safeguarding contributor's interests and national assets. We have formulated measures for donation management which facilitate unified management of our member companies. The donation outlay has been incorporated into the budget management system to keep donation budget strictly under control. On the other hand, limits and authorities relating to donation expenditure are specified, while a donation approval process has also been established. We carry through the filing system of donation approval and report periodically the project progress, and evaluate effects and conduct return visits when the project ends. We provide statistical analysis of donations made in each quarter, and strengthen internal control to guarantee that donation projects serve public welfare purposes as expected and are effectively implemented.

### Part of the donation projects in 2011

| Donor(s)  | Targets for donations and details   | Amount of donation(RMB) |
|---|---|-------------------------|
| China National Building Materials Group Corporation           | Aid construction and development of Xinjiang region   | 2,000,000               |
| Taishan Gypsum Company Limited                                | Support the economic and social development in minority regions   | 2,000,000               |
| Hunan Pingtang South Cement Co., Ltd.                         | Donation to social infrastructure construction (road traffic)   | 1,500,000               |
| Beijing New Building Materials Public Limited Company         | Wuhan University of Technology Fellowship   | 1,000,000               |
| Jushi Group Company Limited                                   | Tongxiang Charity Federation  | 500,000                 |
| China National Building Materials Import & Export Corporation | Education development of targeted poverty-relief units in Shitai County, Anhui province   | 500,000                 |
| China Building Materials Academy                              | Support China Guanghua Foundation "Chang'e 2" lunar probe non-profit program  | 300,000                 |
| Hunan Hengnan South Cement Company Limited                    | Support local drinking water projects' construction   | 300,000                 |
| Hunan Lechang South Cement Company Limited                    | Capacity building and upgrade and renovation of the public service platform for Guangdong Association of Resource Comprehensive Utilization | 300,000                 |



## Incentives to Young Students



We cooperated closely with famous universities and colleges, and have consecutively entered into strategic cooperation agreements with Wuhan University of Technology, Tongji University, Nanjing University of Technology, Xi'an University of Architecture and Technology, Anhui Science and Technology University, pursuant to which fellowship and scholarship are founded to help poor students finish their studies and for brilliant students to make their dream come true. In 2011, we provided 27 special scholarships which subsidized 727 students.

We take advantage of our best-in-class production, experiment and application platform and provide opportunities for young students to practise or even start their own business by establishing an experimental teaching base for teenage students and an internship base for the employment and business making of universities or colleges graduates, through which teenage students get access to combine their knowledge with production and corporate management.

In 2011, we provided internship for **88** thousand students at school per day

Liu Wuyu, Intern in Jushi Group Co., Ltd. said:

Time flies in one week's internship, but the things I learned beyond books will not fade as time goes by. Jushi's culture stresses that everything is for people, relies on people, belongs to people, and shapes people. This culture has made Jushi attained such great achievement and glory and now become the unrivalled leader in the glass fibre industry. I am deeply touched by Jushi's staff, Jushi's rich cultural foundation, and success. The experience will be a valuable spiritual treasure for me in my future life, study and work.



## Employees' Voluntary Services



We advocate a harmonious social atmosphere. To this end, we encourage and support our employees to participate in social welfare activities and provide voluntary services. We have established an extensive platform to guarantee and support the launch of voluntary activities, in terms of organization, work mechanism, time arrangement, capital support and communications. Various member enterprises within the Group rely on the communist youth league organizations to kick-start and promote voluntary services, as part of our efforts to spread love to the whole society.

In 2011, our employees provided voluntary services for approximately

**11,000** hours

### Set up a "home" for "love"

China National Building Materials Import & Export Corporation, a subsidiary of the Group, has established a youth volunteer association to advocate the volunteering spirit of "Love, Devotion, Tolerance and Fraternity" and encourage young employees to serve the community. The association holds the principle of "Serve the society, Spread civilization" and has gradually carried out various public welfare activities since its establishment. For instance, it donated mosquito nets for the disaster-hit area in Yingjiang, Yunnan which prevented the spread of disease caused by insect bites; donated books for poor children in Qinghai province which helped provide a communication channel for the local children to know the outside world. In addition, it visited and expressed its care to children with special needs in Bethel: an organization dedicated to supporting blind children and orphans, Sun Village in Shunyi and Beijing second welfare center. It also visited Qianhe Senior care center in Xiangshan, delivered daily necessities and spent a quality time with the elderly. Various activities were well received and widely participated by young employees. Up till now, more than 500 people have taken part in different activities. In 2011, "Plant Green, Harvest Hope" tree planting activity held by the association was awarded the 1st "gold-medal volunteer service project of state-owned enterprises" by the SASAC of the State Council.





## Actively Undertaking Social Duties

We actively undertake social duties by trying our best to take on duties in social groups that undertake social responsibilities and focus on sustainable development in terms of cutting-edge industry technology, occupational health and safety, energy conservation and environmental protection as well as green building materials. We provide support for these social groups and aim to step up our efforts together with other members within the Group.

As the vice-president unit of the China Building Materials Federation, we advocate self-discipline in the industry, promote industry transformation and upgrade, and maintain a healthy development of the industry. Acting as the supporting institution for the cement committee under the Chinese Ceramic Society and other 23 academies, we fully tap into our scientific and research resources, serve the industry's scientific development and promote the use of special technological achievements. As the vice-president unit of China Industrial Energy Conservation and Clean Production Association, we supervise and encourage member companies to save energy, reduce consumption, produce in a cleaner way and use resources comprehensively, striving to

become the leader of energy conservation and cleaner production in the industry. On the other hand, we promote the philosophy of cleaner production, contributing our wisdom and strength to energy saving cause in the society. To fulfill our duty as the vice-president unit of China Association of Work Safety, we have consecutively organized and completed the formulation of more than ten national-level building materials industry safety standards, assisted the China Association of Work Safety to train assessors for the standardized production safety in metallurgy and other industrial and trading sectors nationwide, discussed our experience in exchange meetings, and our diligent work won us the title of "Outstanding Member Unit". Under the guide of national committee of the Machinery, Metallurgy and Building Material Industry Labor Union, we managed to well perform all work assigned by the union and gave full play to the union's democratic management and supervisory role. With a focus on building a harmonious relationship with our labor, we constantly make progress in constructing the workers representative meeting and other systems. A number of units won the title of "National Workers Pioneers" and other honors.

We are the think tank of relevant national authorities in the formulation of industry policies and development plans. Drawing on our experience and expertise accumulated over the past decades, we assist the industry to develop in a healthy and sustainable way. In 2011, we had participated in the formulation and revision of the following documents: , "The Twelfth Five-Year Plan for Building Materials Industry", "The Twelfth Five-Year Plan for New Materials Industry", "The Twelfth Five-Year Plan for the Raw Materials Industry" issued by the Ministry of Industry and Information Technology, "The Twelfth Five-Year Plan for the Construction Industry" issued by the Ministry of Housing and Urban-Rural Development; as well as the "Outline of The Twelfth Five-Year Plan for State-owned Enterprises" issued by State-owned Assets Supervision and Administration Committee. We hope to create a better development environment for our peers in the industry and contribute to the society's scientific development, transformation and upgrading as a whole.

### Successful application for a new international technical committee



On 4 September 2011, RILEM (The French abbreviation for "The International Union of Testing and Research Laboratories for Materials and Structures") held its annual meeting in Hong Kong University of Science and Technology and approved "the test method for concrete durability under the coupling effects of environment and load" of the new technical committee, whose application was led by China Building Materials Academy, a member company of the Group. RILEM was established in June 1947, an institution which aims at promoting the scientific development relevant to the spectrums of building materials and structures whilst encouraging the transmission and application of advanced technology worldwide. At present, more than 1,200 world-renowned experts in the cement concrete industry and 700 members participate in RILEM's work. China Building Materials Academy will play a more important role within the RILEM and contribute to the promotion of science and technology exchanges in and technological progress of the building materials industry.





In 2012, in face of a more complicated and volatile international economic landscape, and the multiple challenges posed by the slowdown in economic growth and higher requirements for energy conservation and environment protection in China, we still firmly believe that from the medium and long term perspective, industrialization, urbanization and upgrading of the consumption structure are in progress. The fundamentals that serve as the pillars of our economy's rapid development have not changed in essence. The domestic building materials industry is still at a time abound of strategic opportunities arising from restructuring, transformation and upgrading as well as rapid development. The structure and overall layout of the building materials industry will be continuously optimized, while low-carbon building materials and new energy materials will remain the benchmarks that lead building materials industry and technology development. The influence, leadership and capability of allocating global resources of large enterprises will be strengthened continuously.

In 2012, we will further optimize our development, improve our management and strive for five enhancements in the aspects of standardized management, lean management, information management, financial management and risk management, aspiring to boost our basic management, enhance our modernised management, refine our management innovation system, increase consolidated performance and efficiency significantly and create a culture of being the pioneers. We will insist on introducing reforms whilst maintaining stability, to outperform in all aspects, and become a world class comprehensive building materials industry group which possess strong, remarkable and yet sustainable innovation ability and international competitiveness.

We will persist in putting social responsibility top on the agenda of our corporate development, and strive to promote social harmony and sound development by aligning our internal growth with social progress, thus promoting win-win cooperation to give back to the public. We will continue to create wealth for the nation and people through a more outstanding business performance and preservation and appreciation of our assets. We will insist on taking scientific innovation as the key of driving industry transformation and upgrading. Through the optimal allocation of science and technology resources, we aim to become the leader in industry innovation by creating synergy between technology and the industry. We will adhere to the "people-oriented" principle, taking employee value's realization and concerted efforts in creating happiness as our major objectives and ultimate goals of our corporate development. We spare no efforts to become a world-class corporate citizen, dedicating to public welfare activities, driving mutual development in regions where we operate and serving as a trust-worthy enterprise of the nation and the people.

Looking into the future, with a more open perspective and refined mechanism, we are set to build a platform for co-creation of value. We will share responsibilities with interested parties and create a future that is mutually beneficial. We will make greater contributions to building synergy and the sustainable development of the economy, the society and the environment.

# Key Performance Index

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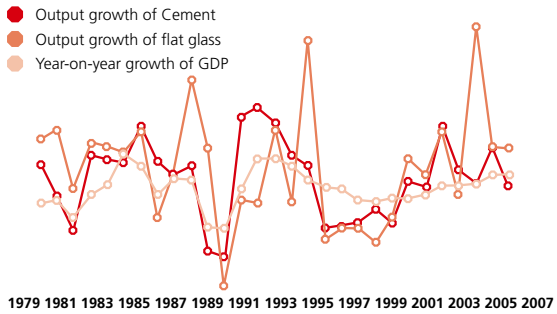
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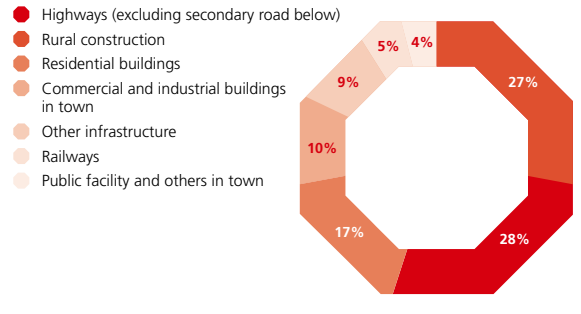
# Industry Overview

Chart Showing the Relationship between Growth Rates of Main Output of Building Materials and GDP



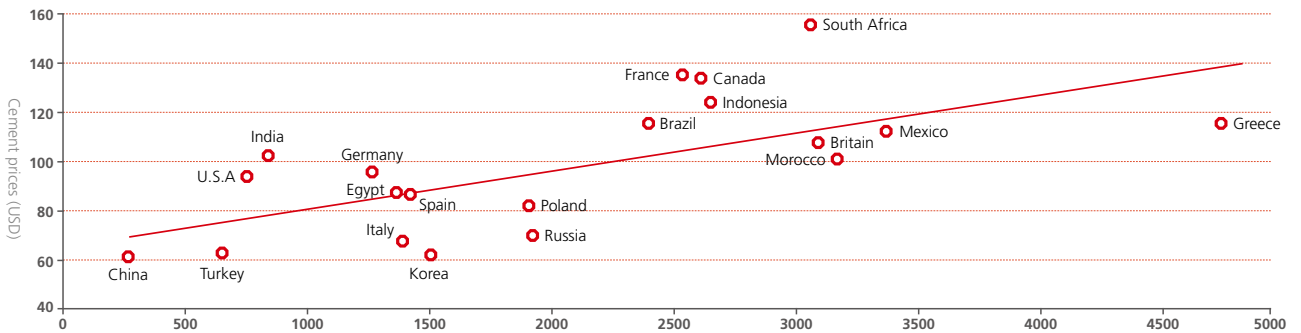
**Illustration:** the high correlation between the trend of the building materials industry and GDP growth, taking the cement industry and flat glass industry as an example.  
**Source:** WIND information.

Distribution Chart of Demand in the Downstream of the Cement Industry



**Illustration:** The downstream building materials industry covers the construction industry, the real estate industry, infrastructure construction and some other pillar industries in the national economy. The GDP of the relevant downstream industries account for more than 12% of the total GDP and over 25% of the secondary industries.  
**Source:** National Statistic Bureau, CBMIA.

Chart Showing the Relationship between Cement Prices in the World's Main Cement Market and HHI



**Illustration:** Of the 20 markets which constitute 80% of the total global demand for cement, the Chinese cement industry is at the lowest level both in terms of industry concentration and cement prices. HHI (Herfindahl-Hirschman Index) is used to measure industry market concentration and its value is between 0-10000. A smaller value indicates a lower concentration while a higher value indicates a higher concentration.  
**Sources:** "Cement industry: Integration and Price Flexibility" issued by UBS (June, 2011)

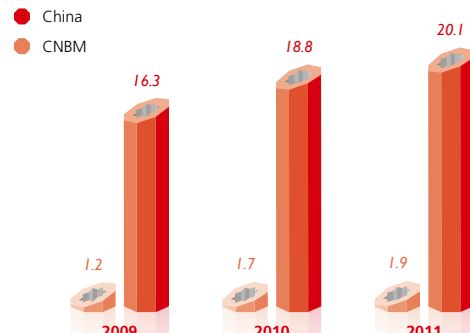
2009-2011 Ranking in Main Ranking List

Unit: ranking

|  | 2009 | 2010 | 2011 |
|--|------|------|------|
| Top 100 China Building Materials Enterprises | 1    | 1    | 1    |
| Top 500 China Enterprises                    | 85   | 71   | 66   |
| Fortune 500                                  | -    | -    | 485  |

2009-2011 Cement Output

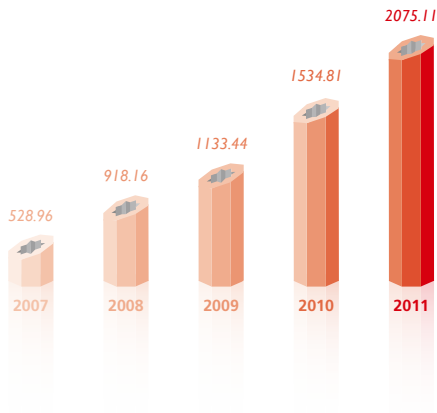
Unit: 00'million ton



# Market Performance

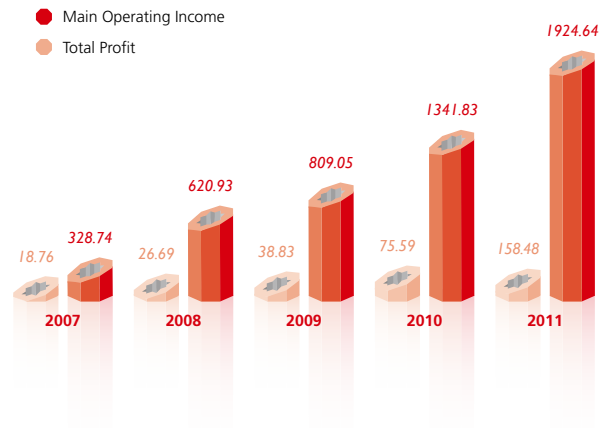
2007-2011 Total Assets

Unit: 00'million yuan

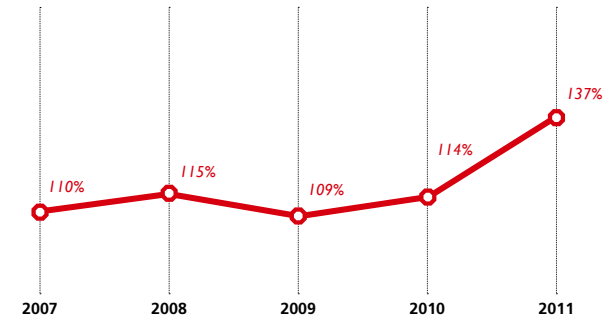


2007-2011 Revenue from Main Operations and Total Profit

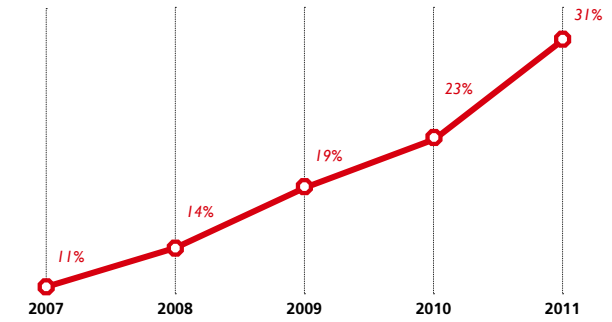
Unit: 00'million yuan



2007-2011 Rate on Return of Net Assets



2007-2011 Return on Equity



2011 Performance of the Listed Companies Held by the Group

| Stock Name            | Stock Exchange                  | Stock Code | Dividends Per Share<br>(Unit: yuan) | Earnings Per Share<br>(RMB) |
|-----------------------|---------------------------------|------------|-------------------------------------|-----------------------------|
| CNBM                  | The Stock Exchange of Hong Kong | 3323.HK    | 0.215                               | 1.4800                      |
| BNBM                  | Shenzhen Stock Exchange         | 000786.SZ  | 0.290                               | 0.9090                      |
| CFGCL                 | Shanghai Stock Exchange         | 600176.SH  | 0.138                               | 0.6104                      |
| Fangxing Technology   | Shanghai Stock Exchange         | 600552.SH  | -                                   | 0.5500                      |
| Luoyang Glass Company | Shanghai Stock Exchange         | 600876.SH  | -                                   | 0.0247                      |
| Luoyang Glass Company | The Stock Exchange of Hong Kong | 1108.HK    | -                                   | 0.0800                      |
| Ruitai Technology     | Shenzhen Stock Exchange         | 002066.SZ  | 0.150                               | 0.5000                      |

# Science and Technology Innovation Performance

## Resources of Scientific Institutions in China National Building Materials Group Corporation

| National-level research platforms  |  | Academies and Associations   |  |
|--|--|--|--|
| <p><b>National-level research centers</b></p> <p>National Glass Deep Processing Engineering Research Center</p> <p>National Resin Matrix Composite Engineering Research Center</p> <p>Glass Industry Energy Saving Technology National and Local Jointly-build Engineering Research Center</p> <p><b>National-level laboratories</b></p> <p>State Key Laboratory of Float Glass New Technology</p> <p>State Key Laboratory of Green Building Materials</p> <p>National Engineering Laboratory of Pulp and Papermaking</p> <p>Industry (building materials) Product Quality Control and Technology Assessment (CTC) Laboratory</p> <p>Industry (building &amp; sanitary ceramics and bathroom accessories) Product Quality Control and Technology Assessment Laboratory</p> <p>Industry (light industrial machinery) Product Quality Control and Technology Assessment Laboratory</p> <p><b>Post-doctoral research center</b></p> <p>China Building Materials Academy Post-doctoral Research Center</p> <p><b>Academician workstation</b></p> <p>China Building Materials Academy Academician Workstation</p> <p><b>Post-doctoral research workstations</b></p> <p>China Building Materials Academy Post-doctoral Research Workstation</p> <p>Jushi Group Post-doctoral Research Workstation</p> <p>BNBM Sub-station, Zhongguancun Haidian Science Park Post-doctoral Workstation</p> <p>Harbin FRP Institute Post-doctoral Research Workstation</p> <p>Zhongfu Lianzhong Composites Group Co., Ltd. Post-doctoral Research Workstation</p> <p>Bengbu Design &amp; Research Institute for Glass Industry Post-doctoral Research Workstation</p> <p>Zhongfu Shenying Carbon Fiber Co., Ltd. Post-doctoral Research Workstation</p> <p>China Luoyang Float Glass Group Co., Ltd. Post-doctoral Research Workstation</p> |  | <p>National Building &amp; Sanitary Ceramics Quality Supervision and Inspection Center</p> <p>National Clock and Watch Quality Supervision and Inspection Center</p> <p><b>Academies and Associations affiliated to Group's research institutions</b></p> <p>Building &amp; Sanitary Ceramics Committee, Ceramics Sub-committee, CCS</p> <p>Cement sub-committee, CCS</p> <p>Glass Sub-committee, CCS</p> <p>Concrete and Cement Products Sub-committee, CCS</p> <p>Building Materials Sub-committee, CCS</p> <p>Testing Technology Sub-committee, CCS</p> <p>Beijing Ceramic Society</p> <p>Refractory Materials Sub-committee, CCS</p> <p>Automation Sub-committee, CCS</p> <p>China Association of Decorative Building Materials</p> <p>Glassfiber Reinforced Cement Branch, CBM Federation</p> <p>Concrete Additives Branch, CBM COUNCIL</p> <p>Refractory Materials Branch, CBM COUNCIL</p> <p>Aluminum Composites Branch, CBM COUNCIL</p> <p>Floor Materials Branch, CBM COUNCIL</p> <p>Shower Room Branch, China Building Ceramics &amp; Sanitary Ware Association</p> <p>Ecological Building Materials Branch, CBM COUNCIL</p> <p>Crystal Glass Branch, CBM COUNCIL</p> <p>China Concrete &amp; Cement Products Association</p> <p>Safety Glass Committee, CAIGA</p> <p>Silicate Materials Committee, CNMIA</p> <p><b>Standardization technical committees affiliated to group's research institutions</b></p> <p>National Wall Roof and Road Building Materials Standardization Technical Committee</p> <p>National Light and Decorative Building Materials Standardization Technical Committee</p> <p>Safety Glass Sub Technical Committee, National Automobile Standardization Technical Committee</p> <p>National Garment Washing Machinery Standardization Technical Committee</p> <p>National Cement Standardization Technical Committee</p> <p>National Architectural Glass Standardization Technical Committee</p> <p>National Building &amp; Sanitary Ceramics Standardization Technical Committee</p> <p>National Technical Committee on Horology of Standardization Administration of China</p> <p>National Technical Committee on Light Industrial Machinery of Standardization Administration of China</p> <p>National Technical Committee on Fiber Reinforced Plastic of Standardization Administration of China</p> <p>National Technical Committee on Industrial Glass and Special Glass of Standardization Administration of China</p> <p>Technical Committee on Environment-Friendly and Healthy Buildings Materials of Standardization Administration of Building Materials Industry</p> <p>Technical Committee on Environmental Conditions and Environmental Test for Building Elements and Materials of Standardization Administration of Building Materials Industry</p> <p>Professional Working Group on Standard Building Material Samples of National Technical Committee on Standard Sample of Standardization Administration of China</p> <p>Working Group on Cement Chemistry Analysis of National Technical Committee on Cements of Standardization Administration of China</p> |  |
| <p><b>National-recognized enterprise technology center</b></p> <p>China National Building Materials Group Corporation Technology Center</p> <p>Beijing New Building Materials Group Co., Ltd. Technology Center</p> <p>China Luoyang Float Glass Group Co., Ltd. Technology Center</p> <p>Lianyungang Zhongfu Lianzhong Composites Group Co., Ltd. Technology Center</p> <p>Hefei Smarter Technology Group Corp. Technology Center</p> <p><b>The United Nations technology development and promotion centers</b></p> <p>International Materials Technology Promotion Center</p> <p>China Glass Development Center</p> <p>China Wall and Roof Materials Development Center</p> <p>China Building &amp; Sanitary Ceramics Development Center</p> <p>China Light Building Materials Research and Development Center</p> <p>Information Center of China Horologe Association</p> <p><b>National level</b></p> <p>China Building Materials Quality Supervision and Inspection Center</p> <p>China Building Materials Test Center</p> <p>National Cement Quality Supervision and Inspection Center</p> <p>National Safety Glass and Quartz Glass Quality Supervision and Inspection Center</p> <p>National Glass Quality Supervision and Inspection Center</p>   |  | <p><b>Standardization committees</b></p>   |  |
| <p><b>National-level centers</b></p>   |  |  |  |

### 2009-2011 Technology Awards at Provincial and Ministerial Levels

Number of Awards

|   | 2009 | 2010 | 2011 |
|---|------|------|------|
| Provincial level or above scientific and technological awards | 90   | 63   | 132  |
| Of which: National level                                      | 1    | 0    | 2    |
| Technical innovation awards                                   | 21   | 17   | 46   |

### 2008-2011 Awards Regarding Engineering Design or Consultancy

Number of Awards

|   | 2008 | 2009 | 2010 | 2011 |
|---|------|------|------|------|
| Outstanding engineering consulting achievement award        | 21   | 22   | 14   | 14   |
| Outstanding engineering design award                        | -    | 30   | -    | 37   |
| Outstanding engineering exploration computer software award | 6    | -    | 3    | -    |

Note: Outstanding engineering design award and outstanding engineering exploration computer software award are selected every other year.

### 2007-2011 The Standards of Presiding or Participating in Preparation or Amendment

Number of Standards

|                           | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------------------|------|------|------|------|------|
| Total number of standards | 146  | 161  | 100  | 79   | 28   |
| International             | 0    | 0    | 0    | 0    | 1    |
| National                  | 43   | 90   | 62   | 30   | 15   |
| Industrial                | 103  | 71   | 38   | 49   | 12   |

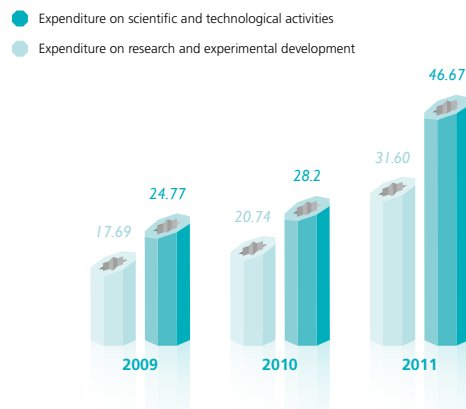
### 2009-2011 Patents and Copyrights

Number of patents and copyrights

|                                 | 2009 | 2010 | 2011 |
|---------------------------------|------|------|------|
| Number of newly applied patents | 430  | 514  | 630  |
| Of which: invention patent      | 144  | 173  | 170  |
| Number of newly granted patents | 202  | 420  | 487  |
| Of which: invention patents     | 34   | 54   | 80   |
| Accumulative patents owned      | 971  | 1232 | 1606 |
| Of which: invention patents     | 207  | 227  | 288  |
| Accumulative copyrights owned   | 30   | 37   | 42   |

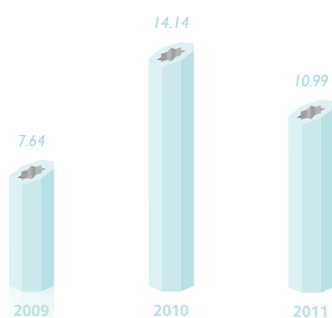
### 2009-2011 Expense on Research and Development Activities

Unit: RMB100 Million



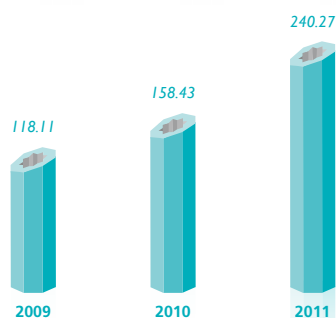
### 2009-2011 Income of Technological Innovation

Unit: 100 Million yuan



### 2009-2011 Sales Revenue of New Products

Unit: 100 Million yuan



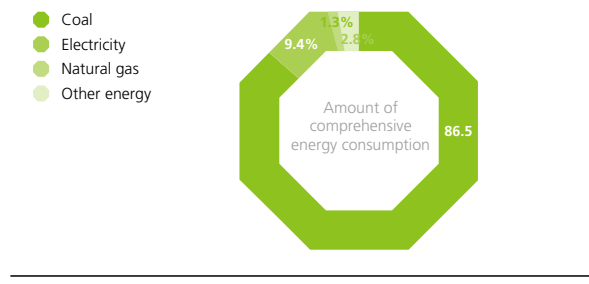


# Performance of Energy Saving and Environmental Protection

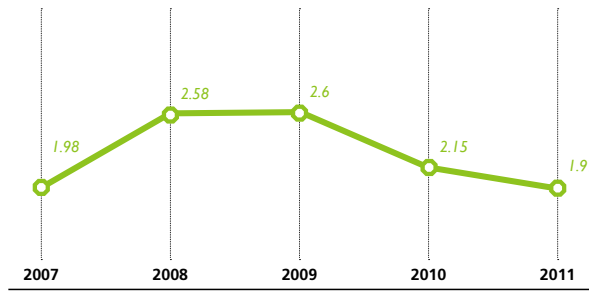
## 2011 Energy Consumption

| Indicator                          | Unit                         | Amount     |
|------------------------------------|------------------------------|------------|
| Total amount of energy consumption | 10,000t standard coal        | 1685.31    |
| Of which: Coal                     | 10,000t standard coal        | 1454.49    |
| Electricity                        | 10,000 KWH                   | 1289167.05 |
| Natural gas                        | 10,000 standard cubic meters | 19966.43   |
| Other energy                       | 10,000t standard coal        | 45.83      |

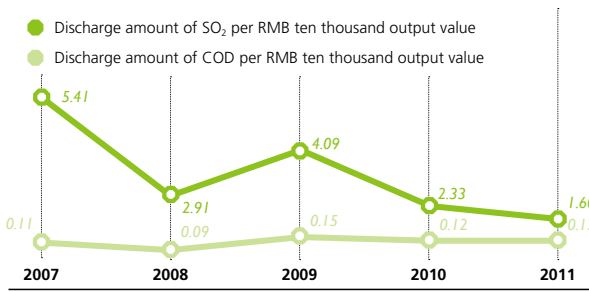
## 2011 Energy Consumption Structure



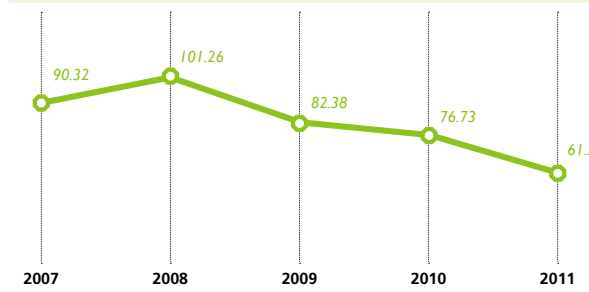
## 2007-2011 Comprehensive Energy Consumption per 10,000 yuan Turnovers



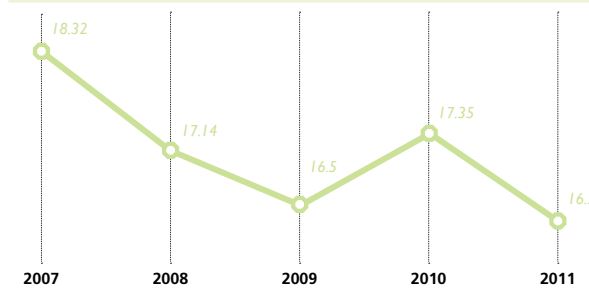
## 2007-2011 Emission Levels of SO<sub>2</sub> and COD per 10,000 yuan Turnover



## 2007-2011 Cement Product unit Consumption



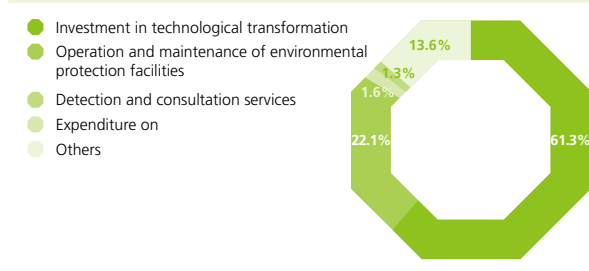
## 2007-2011 Glass Product unit Consumption



## Year 2011 Performance of Solid Waste Disposal and Resources Recycling

| Indicator  | Unit    | Numerical value |
|--|---------|-----------------|
| Approximate disposal rate of self-produced solid waste | %       | 100             |
| Approximate disposal amount of solid waste             | 10,000t | 6500            |
| Installed capacity of residue heat power generation    | MW      | 1211            |

## Year 2011 Structure of Equity Contribution to Energy Conservation and Emission Reduction of Pollutants



# Employee Care Performance

## 2010-2011 Staff Overviews

Unit: Number

|   | 2010   | 2011   |
|---|--------|--------|
| Total number of employees                                     | 112676 | 126385 |
| Employees from foreign countries, Hong Kong, Macau and Taiwan | 397    | 594    |
| Employees of ethnic minorities                                | 1566   | 3516   |
| Employees with disabilities                                   | 599    | 1023   |

## Year 2011 Staff Training

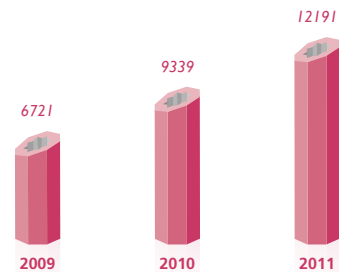
| Indicator  | Unit    | Numerical value |
|--|---------|-----------------|
| Training programs held for and participated in by employees                                    | number  | 11975           |
| Time of training received by employees   | 10,000h | 108             |
| Approximate number of diplomas or degrees obtained by in-service employees with our assistance | number  | 1580            |

## 2010-2011 Progress of Enterprise Annuity

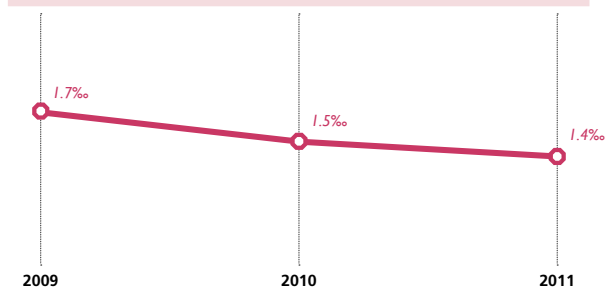
|   | Unit   | 2010  | 2011  |
|---|--------|-------|-------|
| Number of member enterprises participated in enterprise annuity | Number | 38    | 53    |
| Number of employees participated in enterprise annuity          | Number | 12811 | 13368 |

## 2009-2011 Equity Contribution to Safe Production

Unit: 10,000 yuan

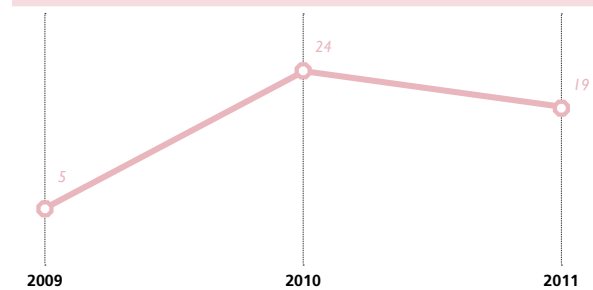


## 2009-2011 Recordable Accident Rate per 1,000 Employees



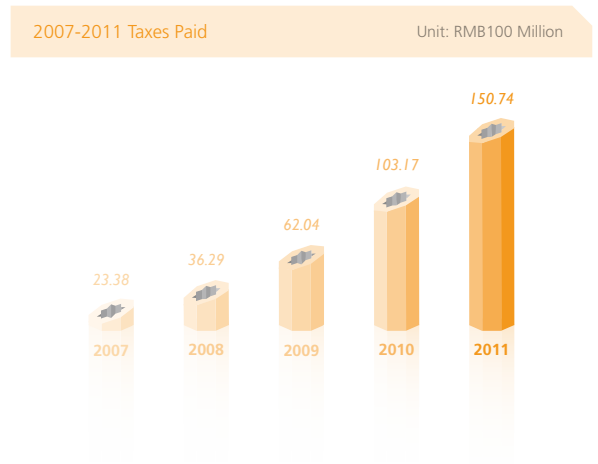
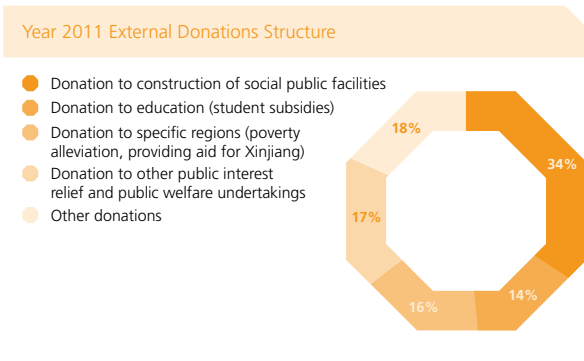
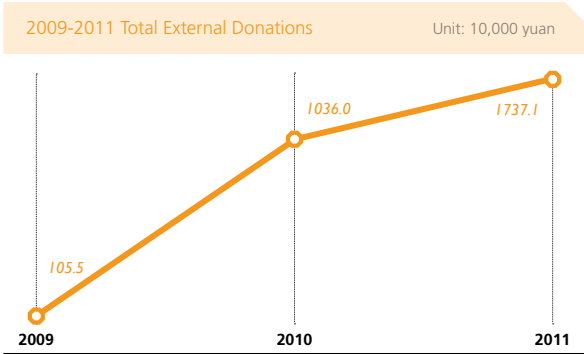
## 2009-2011 Number of New Occupational Disease Cases

Unit: Number



Note: new occupational disease cases of the year mainly represent the existing occupational disease cases attributable to new member enterprises which are incorporated into the Group's summary system.

# Corporate Citizen Performance



Year 2011 New Jobs Unit: Number

|  | Amount |
|--|--------|
| New jobs                                     | 21182  |
| Of which: Recruitment of graduating students | 4276   |
| Placement of demobilized soldiers            | 241    |



# Indicator Index of the Academy of Social Sciences

| No.  | Content of Indicator   | Position in Report | Nature of Indicator |
|--|--|--------------------|---------------------|
| <b>Part 1 Preface of Report (P Series)</b>         |  |                    |                     |
| (P1)   | Report scope   |                    |                     |
| P1.1   | Time range of report   | P1                 | Core                |
| P1.2   | Organization range of report   | P1                 | Core                |
| P1.3   | Release cycle of report  | P1                 | Core                |
| P1.4   | Interpretation of data in report   | P1                 | Core                |
| P1.5   | Reference standard of report   | P1                 | Core                |
| P1.6   | Reliability assurance of report  | P1                 | Core                |
| P1.7   | Contact person in charge of answering problems regarding the report and its contents and contact content     | Back Cover         | Core                |
| P1.8   | Way of obtaining the report and extended reading   | P1                 | Core                |
| (P2)   | Address by executives  |                    |                     |
| P2.1   | Statement of relationship between enterprise and social responsibility                                       | P7                 | Core                |
| P2.2   | Summary of achievements and deficiencies of annual corporate social responsibility                           | P7                 | Core                |
| (P3)   | Model of responsibility  |                    |                     |
| P3.1   | Model of enterprise responsibility   | P14                | Core                |
| (P4)   | Company profile  |                    |                     |
| P4.1   | Company name, nature of ownership, and location of headquarters  | P8                 | Core                |
| P4.2   | Major products and services of enterprise  | P8                 | Core                |
| P4.3   | Region and structure of enterprise's operation   | P8/P22-23          | Core                |
| P4.4   | Enterprise scale   | P8/20              | Core                |
| P4.5   | Corporate governance body  | P10-11             | Core                |
| P4.6   | Structure of the board of directors of enterprise  | P10-11             | Core                |
| (P5)   | Table of critical performance  |                    |                     |
| P5.1   | Comparison table of social responsibility work performance   | P15                | Core                |
| P5.2   | Table of critical performance data   | P70-77             | Core                |
| P5.3   | Table of corporate honours during the reporting period   | P17/21/33/41/43/55 | Core                |
| <b>Part 2 Responsibility Management (G Series)</b> |  |                    |                     |
| (G1)   | Responsibility strategy  |                    |                     |
| G1.1   | Philosophy of corporate social responsibility  | P14                | Core                |
| G1.2   | Topic of core social responsibility  | P14                | Core                |
| G1.3   | Planning of corporate social responsibility  | P15                | Core                |
| (G2)   | Responsibility governance  |                    |                     |
| G2.1   | Leadership organization of social responsibility   | P10/11/15          | Core                |
| G2.2   | Organizational system of social responsibility   | P10/11/15          | Core                |
| G2.3   | Management system of social responsibility   | P15                | Core                |
| G2.4   | Training of social responsibility  | P15                | Extended            |
| (G3)   | Responsibility fusion  |                    |                     |
| G3.1   | Promoting transformation of specific work  | P17                | Extended            |
| G3.2   | Promoting social responsibility work of subsidiaries   | P15                | Extended            |
| G3.3   | Promoting the performance of social responsibility by partners of supply chain                               | P25                | Core                |
| (G4)   | Responsibility performance   |                    |                     |
| G4.1   | Constructing indicator system of corporate social responsibility   | P15                | Core                |
| G4.2   | Conducting performance assessment based on the indicators of corporate social responsibility                 | P15                | Extended            |
| G4.3   | Excellence selection of corporate social responsibility  | P17                | Extended            |
| (G5)   | Responsibility communication   |                    |                     |
| G5.1   | Expectations of relevant interested parties on enterprise and response measures of enterprise                | P16                | Core                |
| G5.2   | Communication mechanism of corporate internal social responsibility  | P16                | Extended            |
| G5.3   | Participation of corporate senior management in communication and exchange of internal social responsibility | P16                | Core                |

|   |  |        |          |
|---|--|--------|----------|
| G5.4  | Communication mechanism of corporate external social responsibility  | P16    | Extended |
| G5.5  | Participation of corporate senior management in communication and exchange of external social responsibility | -      | Core     |
| (G6)  | Responsibility investigation   |        | Core     |
| G6.1  | Conducting CSR subject research  | P16    | Extended |
| G6.2  | Cooperating with education and research institutions in conducting social responsibility                     | -      | Extended |
| G6.3  | Participating in the formulation of domestic and foreign social responsibility standards                     | -      |          |
| <b>Part 3 Market Performance (M Series)</b> |  |        |          |
| (M1)  | Responsibilities in respect of shareholders  |        |          |
| M1.1  | Investor relations management system   | P21    | Core     |
| M1.2  | Growth   | P20/72 | Core     |
| M1.3  | Profitability  | P20/72 | Core     |
| M1.4  | Safety   | P13    | Core     |
| M1.5  | Negative information on responsibilities in respect of shareholders  | N/A    | Extended |
| (M2)  | Responsibilities in respect of customers   |        |          |
| M2.1  | Customer relations management system   | P24    | Core     |
| M2.2  | System supporting product and service innovation   | P24    | Core     |
| M2.3  | R&D investment   | P32/74 | Core     |
| M2.4  | Number and proportion of R&D personnel   | P32    | Core     |
| M2.5  | Number of patents  | P33/74 | Core     |
| M2.6  | Sales of new products  | P34/74 | Extended |
| M2.7  | Significant innovation awards  | P33/74 | Core     |
| M2.8  | Product quality management system  | P24    | Core     |
| M2.9  | Product pass rate  | -      | Extended |
| M2.10                                       | Negative information on responsibilities in respect of customers   | N/A    | Extended |
| (M3)  | Responsibilities in respect of Partners  |        |          |
| M3.1  | Assessment and investigation on social responsibility of supply chain  | P25    | Core     |
| M3.2  | Strategic sharing mechanism and platform   | P25    | Core     |
| M3.3  | System and (or) policy of responsible procurement  | P25    | Core     |
| M3.4  | Ratio of responsibility procurement  | -      | Extended |
| M3.5  | Philosophy of and system guarantee for honest operation  | P13    | Core     |
| M3.6  | Philosophy of and system guarantee for fair competition  | P13    | Core     |
| M3.7  | Training of honest operation and fair competition  | P13    | Extended |
| M3.8  | Credit assessment level  | P13    | Core     |
| M3.9  | Contract performance rate  | P13    | Extended |
| M3.10                                       | Negative information on responsibilities in respect of partners  | N/A    | Extended |
| <b>Part 4 Social Performance (S Series)</b> |  |        |          |
| (S1)  | Responsibilities in respect of government  |        |          |
| S1.1  | Legal compliance system of enterprise  | P13    | Core     |
| S1.2  | Legal compliance measures  | P13    | Core     |
| S1.3  | Training of legal compliance   | P13    | Core     |
| S1.4  | Negative information on material legal compliance  | N/A    | Core     |
| S1.5  | Responding to national policies  | P26/27 | Core     |
| S1.6  | Total tax payment  | P20/77 | Core     |
| S1.7  | Negative information on tax evasion  | N/A    | Extended |
| S1.8  | Policies or measures for guaranteeing and (or) facilitating employment                                       | P50/62 | Extended |
| S1.9  | New employment during the reporting period   | P50/77 | Extended |
| (S2)  | Responsibilities in respect of employees   |        |          |
| S2.1  | Compliance with national labour laws and regulations   | P50/51 | Core     |
| S2.2  | Signing rate of labour contract/ coverage rate of collective contract  | P51    | Core     |
| S2.3  | Coverage rate of social insurance  | P51    | Core     |
| S2.4  | Proportion of employees joining the trade union  | P51    | Core     |



|       |   |        |          |
|-------|---|--------|----------|
| S2.5  | Forbidding forced labour  | P51    | Core     |
| S2.6  | Protecting personal information and privacy of employees  | -      | Extended |
| S2.7  | System and measures for guaranteeing decent work  | P51    | Extended |
| S2.8  | Social dialogue mechanism and collective bargaining mechanism                                     | P51    | Extended |
| S2.9  | Rights and interests protection for part-timers, temporary workers and employees of subcontractor | P25    | Extended |
| S2.10 | Providing competitive remuneration for employees  | P52    | Extended |
| S2.11 | Number of annual per capita paid vacation   | -      | Core     |
| S2.12 | Equal employment system   | P51    | Core     |
| S2.13 | Ratio of salary of male employees to that of female employees                                     | -      | Core     |
| S2.14 | Proportion of female managers   | -      | Core     |
| S2.15 | Ratio or number of employment of the disabled   | P50    | Core     |
| S2.16 | Occupational disease prevention and treatment system  | P54    | Core     |
| S2.17 | Training of occupational safety and health  | P53    | Core     |
| S2.18 | Proportion of new occupational disease cases  | P76    | Core     |
| S2.19 | Mental health system/measures for employees   | P56    | Core     |
| S2.20 | Coverage rate of physical examination and health records  | P54    | Core     |
| S2.21 | Employee training system  | P52    | Core     |
| S2.22 | Employee training efforts   | P52    | Core     |
| S2.23 | Career development channel for employees  | P52    | Core     |
| S2.24 | Democratic management and making public the affairs of enterprise                                 | P51    | Core     |
| S2.25 | Channel for conveying employee opinions to senior management                                      | P51    | Core     |
| S2.26 | Investment in aiding and supporting employees in difficulties                                     | P56    | Core     |
| S2.27 | Providing special protection for special populations (pregnant woman, nursing woman)              | P56    | Extended |
| S2.28 | Ensuring work and life balance  | P56-57 | Core     |
| S2.29 | Employee satisfaction   | -      | Core     |
| S2.30 | Employee Turnover Rate  | -      | Core     |
| S2.31 | Negative information on responsibilities in respect of employees                                  | N/A    | Extended |
| (S3)  | Safety production   |        |          |
| S3.1  | Safety production management system   | P53    | Core     |
| S3.2  | Safety emergency management mechanism   | P55    | Core     |
| S3.3  | Safety education and training   | P53    | Core     |
| S3.4  | Safety training performance   | P53    | Core     |
| S3.5  | Investment in safety production   | P53    | Core     |
| S3.6  | Number of employee casualties   | P53    | Core     |
| S3.7  | Negative information on safety production   | N/A    | Extended |
| (S4)  | Responsibilities in respect of community  |        |          |
| S4.1  | Assessment of impact of corporate operation on local place  | P62    | Core     |
| S4.2  | Supporting education and learning of community members (particularly vulnerable groups)           | P65    | Extended |
| S4.3  | Employee localization policy  | P62    | Core     |
| S4.4  | Proportion of local employment  | P62    | Extended |
| S4.5  | Local procurement policy  | P62    | Core     |
| S4.6  | Proportion of local procurement   | -      | Extended |
| S4.7  | Donation policy or system   | P64    | Core     |
| S4.8  | Corporate public welfare fund/foundation  | -      | Extended |
| S4.9  | Total donation  | P64/77 | Core     |
| S4.10 | Policy and measures supporting volunteer activities   | P66    | Core     |
| S4.11 | Data of volunteer activities of employees   | P66-77 | Core     |
| S4.12 | Overseas public welfare   | -      | Extended |
| S4.13 | Negative information on responsibilities in respect of community                                  | N/A    | Extended |

Part 5 Environmental Performance (E Series)

|                                     |  |           |          |
|-------------------------------------|--|-----------|----------|
| (E1)                                | Environmental management   |           |          |
| E1.1                                | Environmental management system  | P40-41    | Core     |
| E1.2                                | Green procurement  | P41       | Core     |
| E1.3                                | Environmental protection training  | P41       | Core     |
| E1.4                                | Environmental protection training performance  | P41       | Core     |
| E1.5                                | Total investment in environmental protection   | P42       | Core     |
| E1.6                                | R&D and application of environment protection technology and equipment   | P47       | Core     |
| E1.7                                | Environmental assessment system for new projects   | P41       | Core     |
| E1.8                                | Environmental protection commonweal  | P64       | Core     |
| E1.9                                | R&D and sales system of environmental protection products  | P44-45    | Core     |
| NME1.10                             | Protecting natural habitats, wet lands, forests, wildlife corridors and agricultural lands in engineering construction   | P43       | Extended |
| NME1.11                             | Management of Hazardous Chemical Substances  | -         | Core     |
| E1.12                               | Negative information on violation of environmental protection regulations  | N/A       | Extended |
| (E2)                                | Resources and energy conservation  |           |          |
| E2.1                                | Energy conservation policy and measures  | P40       | Core     |
| E2.2                                | Energy consumption and conservation per unit output value  | P40/75    | Core     |
| E2.3                                | Water conservation system / measures   | P42       | Core     |
| E2.4                                | Water consumption and conservation per unit output value   | -         | Core     |
| NME2.5                              | Utilization amount of fresh water per unit product   | -         | Core     |
| NME2.6                              | Policy and measures for utilization of renewable energy  | P42-43/75 | Core     |
| NME2.7                              | Utilization ratio or amount of renewable energy  | P42-43/75 | Extended |
| E2.8                                | Policy and measures for waste water recycling  | P42       | Core     |
| E2.9                                | Utilization rate of recycled water   | -         | Core     |
| NME2.10                             | Policy and measures for product and package recycling  | P44       | Core     |
| NME2.11                             | Policy and measures for solid wastes and waste residue recycling   | P42-43/75 | Extended |
| NME2.12                             | Policy and measures for waste energy and heat recycling  | P42/75    | Core     |
| E2.13                               | Utilization rate of residue heat of waste gas  | P42       | Extended |
| E2.14                               | Policy and measures for green office   | P41       | Extended |
| E2.15                               | Green office performance   | -         | Extended |
| (E3)                                | Pollution and emission reduction   |           |          |
| E3.1                                | Policy, measures or technologies for reducing waste gas emission   | P40       | Core     |
| NME3.2                              | Emission and emission reduction of sulfur dioxide  | P75       | Core     |
| NME3.3                              | Emission and emission reduction of nitric oxides   | -         | Core     |
| NME3.4                              | Emission and emission reduction of dust and fume   | -         | Core     |
| E3.5                                | Policy and measures for reducing waste water discharge   | P42       | Core     |
| NME3.6                              | Emission and emission reduction of COD   | P75       | Core     |
| E3.7                                | Policy and measures for reducing waste residue   | P42       | Core     |
| E3.8                                | Emission amount/unit emission reduction of waste residue   | P75       | Core     |
| E3.9                                | Actively coping with climate changes   | P42-47    | Core     |
| E3.10                               | Emission and emission reduction of greenhouse gases  | -         | Core     |
| NME3.11                             | Production noise governance  | P54       | Core     |
| E3.12                               | Governance of ecological environment in factory site and surrounding areas   | P43       | Core     |
| Part 6 Report Postscript (A Series) |  |           |          |
| (A1)                                | Prospect: Corporate planning on social responsibility work   | P68-69    | Core     |
| (A2)                                | Report Evaluation: Evaluation of experts in social responsibility or industry experts, relevant interested parties or professional organizations on the report | P80-81    | Core     |
| (A3)                                | Reference Index: Application of indicators as required to be disclosed by the guide  | P78-79    | Core     |
| (A4)                                | Feedback: questionnaire of readers' opinions and feedback channel for readers' opinions  | P82-83    | Core     |



# Independent Assurance Statement

## Introduction and objectives of work

BUREAU VERITAS has been engaged by CHINA NATIONAL BUILDING MATERIALS GROUP CORPORATION (hereafter referred to as "CNBM" to conduct an independent assurance to 2011 SOCIAL RESPONSIBILITY REPORT (hereafter referred to as "the Report") of CNBM. This Assurance Statement applies to the related information included within the scope of work described below. It is the third time for CNBM to publish CSR report and apply for independent verification.

This information and its presentation in the report are the sole responsibility of the management of CNBM. Bureau Veritas was not involved in the drafting of the Report. Our sole responsibility was to provide independent assurance on its content.

## Scope of work

Data and information included in the report for the report period from 2011.1.1 to 2011.12.31;

The assessment team visited CNBM head-office in Beijing and China United Cement Xuzhou Co., Ltd, BV did not visit external stakeholders.

Appropriateness and robustness of underlying reporting systems and processes, used to collect, analyse and review the information reported.

Excluded from the scope of our work is any assurance of information relating to:

- Activities outside the defined assurance period;
- Positional statements ( future intention by the company and statements of future commitment);
- Much of the operating financial data in this Report is taken from CNBM Annual Reporting and accounts, which is separately audited by an external auditor and therefore excluded from the scope of the Bureau Veritas assurance.

## Methodology

As part of its independent assurance, Bureau Veritas undertook the following activities:

Interviews with relevant personnel of CNBM ;

- Review of documentary evidence produced by CNBM;
- Visit sites including CNBM head-office in Beijing and China United Cement Xuzhou Co., Ltd.
- Audit of sampled performance data;
- Review of data and information systems for collection, aggregation, analysis and review.

Our work was conducted against Bureau Veritas' standard procedures and guidelines for external Assurance of Sustainability Reports, based on current best practice in independent assurance. For this assignment, we have used the verification rules and instructions IASE3000, AA1000 and GRI G3.

The work was planned and carried out to provide reasonable, rather than absolute assurance and we believe it provides a reasonable basis for our conclusions.

## Our findings

On the basis of our methodology and the activities described above, it is our opinion that:

- The information included in the report is objective, reliable and free from material mistake or misstatement;

During the process of assurance engagement, BV also identified some improvement opportunities to be included in the "Key areas for ongoing development".

**Objectivity** : The information and data presented in the report is objective, reliable and traceable. CNBM has established and implemented CSR indicator management system to collect, analyse, check and compile information in all domains covered by the report.

**Completeness**: The Report describes CNBM social responsibility strategy, underlying management systems, actions and performance in six areas of corporate governance, economic performance, technical innovation, environment protection, employee care and corporate citizenship with a more reasonable framework and more complete content. Especially CNBM uses CSR indicator system to collect information and disclose many quantized data of CSR key issues. So it is easy for stakeholders to compare and evaluate objectively.

**Materiality**: CNBM identifies and discloses many core issues of environment, society and economy as per GRI G3 requirements. The report gives prominence to the key issues which stakeholder concerned and shows good materiality.

**Responsiveness**: By way of stakeholder surveying and communication, CNBM identified its stakeholders and key issues which stakeholders concerned, These key issues were generally disclosed and responded objectively in the report.

**Sustainability**: The report describes various aspects of CNBM sustainability and relative management, such as corporate internal controls and risk management, technical innovation ability, obsolete equipment elimination, R&D of new building materials, increase of operational data etc. CNBM has better sustainability.

## Key areas for ongoing development

Based on the assurance work conducted, the following opportunities for improvement have been identified for CNBM:

- It is better for CNBM to improve CSR statistical skills and CSR awareness training of employees on the basis of the existing CSR quantitative indicators system, in order to reduce CSR data's uncertainty and to improve CSR management level.

CNBM shall consider to farther integrate existing management system with CSR principle, procedure and KPI data to improve management efficiency according to ISO26000 requirements.

## Statement of independence, impartiality and competence

Bureau Veritas is an independent professional services company that specialises in Quality, Health, Safety, Society and Environmental management with almost 180 years history in providing independent assurance services. No member of the assurance team has a business relationship with CNBM. We have conducted this verification independently, and there has been no conflict of interest.

Fabien JOLY DE BRESILLON  
Director for Greater China Region  
Bureau Veritas Certification  
2012-7-20

May Huang  
Assurance Team Leader  
Bureau Veritas Certification  
2012-7-20

# Rating Report

## Rating Report on CNBM CSR Report 2011

Upon the request of CNBM, the Research Center for Corporate Social Responsibility of School of Economics of Chinese Academy of Social Sciences ("CSR Center") selected experts from Chinese Expert Committee on CSR Report Rating to form CNBM CSR Report 2011 ("Report") Rating Team.

### Basis of rating

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 2.0) published jointly by the CSR Center, the China Enterprise Confederation, the China Petroleum and Chemical Industry Association, the China Light Industry Federation, the Sino-German Corporate Social Responsibility Project, the China WTO Tribune and the China Committee of Corporate Citizenship.

### Conclusions

#### Completeness (★★★★☆)

The Report discloses the key indicators of "Market Performance", "Technology Innovations", "Energy-saving and Environmental Protection" and "Corporate Citizen", covering 74.5% core indicators of non-metallic mineral products industry, and can be regarded as fairly complete.

#### Materiality (★★★★☆)

The Report gives sufficient disclosures on the substantive issues like "Product Quality Management", "Product Innovation", "Occupational Health Management" "Safety Production" and "Conservation of Energy and Water Resources", with active responses to the expectations and requests of stakeholders.

#### Balance (★★★☆☆)

The Report discloses negative information on "Fatal Accidents", "Recordable Casualty Rate per Thousand people" and "New Cases of Occupational Diseases", and is considered to be fairly balanced.

#### Comparability (★★★★☆)

The Report discloses a number of the key performance indicators for the past several consecutive years and gives comparisons with industry peers in terms of cement output for 2009 to 2011; therefore, it shows a very good comparability.

#### Readability (★★★★☆)

The Report is well-structured and well-written, with varied presentations and in-depth case elaboration. Besides, it highlights key performance indicators and has a beautiful layout design, thereby making it quite readable.

#### Creativity (★★★★☆)

The Report quotes the words of relevant persons to support the representations of issues, thereby enhancing its credibility; meanwhile, it discloses the responsibility management processes for the past three consecutive years. As such, the Report can be regarded as creative.

#### Overall rating (★★★★☆)

Based on its evaluation the rating team considered CNBM CSR Report 2011 a leading CSR Report by giving it a four-and-half-star rating.

### Recommendations for improvement

Give further disclosure of negative information with reasons and improvement measures to improve balance of the Report.  
Disclose more information on current and future CSR plans to raise the prospectiveness of the Report.

### Rating team

**Team leader:** Peng Huagang, Vice President of Executive Council of the CSR Center and Director General of the Research Bureau of SASAC

**Team members:** Cheng Duosheng, Director of the Employer Work Department of China Enterprise Confederation

Yin Gefei, Vice President of China WTO Tribune

Wei Xiuli, Associate Professor at the School of Economics and Management, Northern China University of Technology

Zhong Hongwu, Director of the CSR Research Center, School of Economics, Chinese Academy of Social Sciences

**Chen Jiagui**  
President of Executive Council of the CSR Center  
Member of the Standing Committee of the NPC  
Director of the School of Economics, Chinese Academy  
of Social Sciences

陈佳贵

**Peng Huagang**  
Head of the rating team  
Vice President of Executive  
Council of the CSR Center  
Director General of the Research  
Bureau of SASAC

彭华岗



## Feedback

Dear Stakeholders,

Being the inaugural year of the State's "Twelfth Five-Year Plan", the year of 2011 earmarked an extraordinary year in the development history of CNBM. In the year, under the support and assistance of you and other interested parties, CNBM focused on its strategic goal of creating a world-class, strong and outstanding comprehensive building materials industry group with sustainable innovation capabilities and international competitiveness, firmly seized opportunities and strived to achieve top standards in all respects, thus obtaining new growth at its fresh starting point and becoming the largest cement manufacturer in the World and the first Chinese building materials enterprise to rank among the Fortune 500. Thank you for your constant support and assistance to the growth of CNBM!

In 2011, we adhered to scientific development by promoting consolidation and restructuring and structural adjustment and actively coped with the complicated domestic and international economic situations. In the year, we achieved revenue of RMB194.09 billion with profit amounting to RMB15.85 billion and taxes paid amounting to RMB15.07 billion. We endeavoured to create reasonable returns for investors and three of our listed companies won the "Golden Bauhinia Awards". By sticking to the technological innovation strategy and promoting the collaboration between industrial enterprises and research institutes, we became the propellant of technical advance in the industry with a number of our technologies being successfully applied to the national key projects like "Tiangong-1" and "Shenzhou-8". We propel industrial upgrading through innovation in energy-saving technologies, promote energy-saving and eco-friendly equipment and products, develop and produce new energy materials and explore the harmonious coexistence between industry and nature, aiming at creating an energy-saving society with industrial energy-saving. We safeguard our employees' rights and interests, care about their health and safety and create a platform for their growth to become their reliable companion. We seek for mutual development with developing countries and poverty-stricken areas, support post-disaster reconstruction and award scholarship to young students, striving to become a trustworthy corporate citizen.

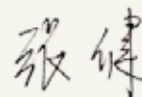
We released in succession our 2009 and 2010 CSR reports, which gave systematic coverage of our social responsibility performance practices and gained wide attention from all circles of the society. In order to better perform our social responsibilities and create more value for stakeholders, we sincerely expect your precious opinions and advice on our social responsibility efforts.

Please inform us of your opinions and suggestions on the Report and of what information you wish to get from our CSR reports. We shall keep improving to meet your expectations and give responses to your suggestions in our next CSR report.

We would like to thank you once again for your support and concern to CNBM and you are welcome to contact us at any time.

Zhang Jian

Director of the Office of Social  
Responsibility and Energy Saving  
and Environmental Protection  
China National Building Materials  
Group Corporation





For the purpose of better performing our social responsibilities, we would love to hear your comments and advice and earnestly invite you to put forward your opinions on our work and report. If the blank space is insufficient for your response, please use the reverse side or attach an additional page; if you want to reply by electronic means, please log onto our website at [www.cnbm.com.cn](http://www.cnbm.com.cn), click on "Social Responsibility" and then click on "Social Responsibility Communications - Feedback":

1. Your overall evaluation of CNBM CSR Report 2011:

- Very good       Good       Average       Poor       Very poor

2. Your views on CNBM CSR Report 2011:

- Contents:       Adequate       Fairly adequate       Average       Inadequate       Very inadequate  
Number of Pages:       Appropriate       Fairly appropriate       Average       Few       Very few  
Design:       Very Good       Good       Average       Poor       Very poor  
Comprehensibility:       Very easy to understand       Fairly easy to understand       Understandable  
    Hard to understand       Very hard to understand

3. What information would you like to get from CNBM CSR Report 2012?

- Company profile       Responsibility governance       Business performance       Technology innovation  
 Energy saving & environmental protection       Employee care       Corporate citizen       Others

4. Your opinions and suggestions on our work:

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Please provide your contact information so that we can timely respond to your opinions and suggestions. We will keep your information in confidence.

Name: \_\_\_\_\_  
Age: \_\_\_\_\_ Sex:  Male  Female  
Department / position: \_\_\_\_\_ Occupation / employer: \_\_\_\_\_  
E-mail: \_\_\_\_\_ Telephone: \_\_\_\_\_  
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Haidian District, Beijing**



Office of Social Responsibility and Energy Saving and Environmental Protection  
China National Building Materials Group Corporation

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