

華潤水泥控股有限公司 China Resources Cement Holdings Limited

(incorporated in the Cayman Islands with limited liability)

(Stock Code: 1313)



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I. Overview

1. Statements of the Board

In 2015, the downward pressure of the China's economy had been increasing. To cope with complex macro-economic situation and downward pressure of cement demand, China Resources Cement Holdings Limited ("CR Cement" or the "Company") has been constantly strengthening internal management and intensifying research and analysis on supply and demand of external market in order to consolidate and increase its market share. Amid the declining trend of profitability across the cement industry, the Company strived for assets appreciation and sound operation momentum, which laid a solid foundation for its international expansion plan following the national policy of "One Belt One Road" Initiative.

Meanwhile, CR Cement had been actively responding to the national policies of energy saving and emission reduction. The Company is one of the few cement producers in China which had equipped all the clinker production lines with the advanced New Suspension Preheater ("NSP") technology and residual heat recovery generators. On this basis, the Company continues to optimize and raise its standards of energy saving and environmental protection, and actively promotes co-processing projects in the cement industry to lead the transformation and upgrade of the cement industry. The Company is committed to social responsibility work, including energy saving and environment protection, safety production, community building and care for employees, thereby enhancing its corporate brand value and promoting green, healthy and sustainable development of the cement industry.

In the future, whilst promoting lean management, cost reduction and efficiency enhancement, the Company will strengthen product research and innovation, promote green development and contribute to the healthy development of the cement industry in China.





2. About the Company

China Resources Cement Holdings Limited (SEHK stock code: 1313.HK) was incorporated in 2003. The Company is one of the large-scale cement enterprise groups with strong support from the Chinese government. Relying on its advantages of unique resources distribution and vertical integration business model for cement and ready-mix concrete, the Company adopts the "3+2" development strategy through control, conversion and distribution of resources, making us the producer with the lowest total cost and leading market position in the region. Making use of the well-established brand "Runfeng Cement", the Company has become a competitive supplier of cement and ready-mix concrete in Southern China, with an important position in the cement industry in China.

As of 31 December 2015, the operation of the Company has covered various regions including Guangdong, Guangxi, Fujian, Hainan, Shanxi, Yunnan, Guizhou, Inner Mongolia, Hong Kong and Macau etc. The annual production capacities of cement, clinker and concrete of our subsidiaries have reached 79.3 million tons, 56.3 million tons and 34.5 million cubic meters respectively. In addition, the annual production capacities of cement, clinker and concrete of our associates and joint ventures have reached 58.1 million tons, 40.4 million tons and 7.4 million cubic meters respectively in total. The respective annual production capacities attributable to the Company according to our equity interests in these associates and joint ventures were 19.2 million tons of cement, 13.4 million tons of clinker and 3.4 million cubic meters of concrete. Our production capacities of cement and ready-mix concrete are at a top-tier position in China.

3. Significant Events of the Company in 2015

- 1. On 21 October, China Resources Cement Investments Limited ("CRC Investments") completed the capital contribution of RMB1,514,604,267 in cash to Yunnan Cement & Building Materials Group Co., Ltd. (formerly known as Yunnan Kunming Iron & Steel Building Materials Group Co., Ltd.), upon which the aforesaid company was held as to 40% by CRC Investments and 60% by Kunming Iron & Steel Holding Co., Ltd.
- 2. On 15 November, the first cement grinding line with annual production capacity of approximately 1.0 million tons in Lianjiang City, Guangdong commenced operation.
- 3. On 15 December, CRC Investments completed an additional capital contribution of RMB757,302,133 in cash to Yunnan Cement & Building Materials Group Co., Ltd., upon which the aforesaid company has been held as to 50% (up from 40%) by CRC Investments and 50% by Kunming Iron & Steel Holding Co., Ltd.
- 4. On 18 December, the fifth NSP clinker production line with annual production capacity of approximately 1.6 million tons in Fengkai County, Guangdong commenced operation.



II. Key Performance Table

Indicators	2013	2014	2015
Turnover (million RMB)	23,436.11	26,011.67	21,645.90
Profit before tax (million RMB)	3,446.23	4,557.88	790.71
Total assets (million RMB)	42,597.68	45,389.28	45,421.71
Taxation (million RMB)	2,513.51	3,506.08	2,382.25
Return on total assets (%)	9.4	11.5	2.7
Number of employees	23,889	23,669	23,663
Labour contract signing rate (%)	100	100	100
Social insurance coverage rate (%)	100	100	100
Medical examination coverage rate (%)	100	100	100
Number of employees having medical examination	23,889	23,669	23,663
Number of occupational disease occurrences	0	0	0
Proportion of female managerial staff (%)	13	13	11
Number of employees with disabilities	13	13	43
Number of annual leave per employee (days)	8	8	10
Employee training coverage rate (%)	100	100	100
Hours of training per employee	65	58	63
Employee job satisfaction level (%)	69	78	85
Employee turnover rate (%)	11.4	9.8	7.1
Contract compliance rate (%)	98.9	98.9	98.7
Customer satisfaction level (%)	84	87.8	87
Customer complaint handling rate (%)	100	100	100
Passing rate of product quality (%)	100	100	100
R&D investment (million RMB)	0.12	0.24	4.30
Number of R&D staff	14	18	36
Number of international, national or industry standards contributed	2	3	5
Number of new patents	7	5	43



Indicators	2013	2014	2015
Responsible procurement rate (%)	100	100	100
Percentage of suppliers passing the quality, environmental and occupational health and	400	400	400
safety certifications	100	100	100
Number of new recruitments	4,337	3,747	2,418
Number of local employees	22,695	22,486	22,480
Charitable donations (million RMB)	3.34	4.02	3.07
Proportion of local procurement	21	24	25
Number of industrial accidents	20	22	13
Fatalities	2	2	1
Number of participants of safety training	91,952	99,478	125,169
Investment on safety production (million RMB)	106.68	72.93	109.04
Safety training coverage rate (%)	100	100	100
Number of safety emergency drills	302	512	373
Fatalities rate per 1,000 persons (‰)	0.086	0.0827	0.043
Serious injury rate per 1,000 persons (‰)	0.043	0	0
Number of licensed safety management staff	591	760	832
Consolidated energy consumption (thousand tons)	6,436.6	7,213.1	7,295.6
Consolidated energy consumption per RMB10,000 output	2.71	2.52	2.81
Consolidated energy consumption per RMB10,000 value addition	8.44	7.27	9.37
Investment on energy-saving and emission-reduction technology (million RMB)	223.67	270.14	363.46
Total investment on environmental protection (million RMB)	574.64	569.62	520.65



III. Value Creation

In 2015, facing multiple challenges of continuously sluggish macroeconomic growth, slowdown in growth of fixed-asset and real estate investments, slump in cement market demand and worsening imbalance of supply and demand in the industry, CR Cement persistently promoted innovative development on products, technology and management. The Company also worked hard on improving internal capabilities, reducing costs and raising efficiency by various means such as lean management, technological reform and business model innovation. The Company strived to achieve assets appreciation and value creation for the shareholders amid the declining trend of profitability across the industry.

1. Business Performance

	2013	2014	2015
Total assets (billion RMB)	42.6	45.4	45.4
Turnover (billion RMB)	23.4	26.0	21.6
Taxation (billion RMB)	2.5	3.5	2.4





2. Product and Technology Innovation

In 2015, the Company's Guangzhou Research & Development Center and Guangxi Research & Development Center were merged as China Resources Cement Research & Development Center. RMB4.3 million has been invested on research and development of new products and new patents and application of new technology. Encouraging results have been achieved.

(1) Product Research & Development

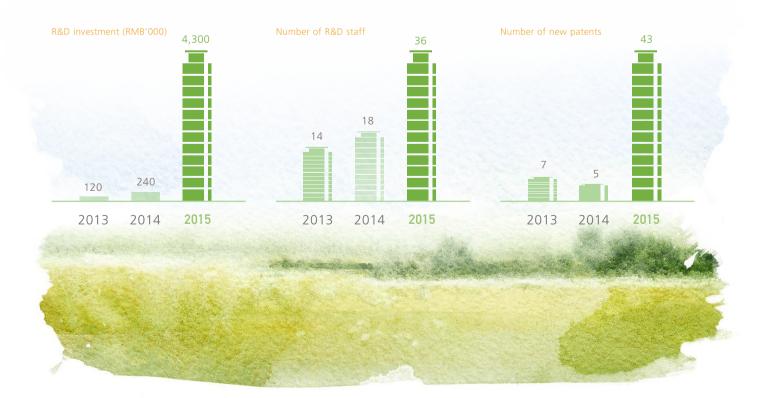
China Resources Cement Research & Development Center, in co-operation with a number of research institutes including China Building Materials Academy, conducted market demand-oriented research and development of new products, in particular, special cement such as marine cement and decoration cement. Currently, the pilot tests on our marine cement product have been completed and all its indicators have met the requirements of national standard.

(2) Development and Implementation of Environmental Protection Projects

A wholly-owned subsidiary, China Resources Environmental Protection Engineering Investments Limited, was incorporated with a focus on green environmental projects including co-processing of urban and rural waste, urban sludge and hazardous waste by using cement kilns.

(3) Patented Invention

China Resources Cement Research & Development Center made 63 patent applications during the year, among which, 43 patents were authorized, representing an increase of approximately eight-fold compared to 2014.





IV. Safety Production

1. Promoting Safety Culture



2. Implementing the Safety Accountability System

Since 2014, the Company had implemented an innovative safety accountability system whereby assessment results of safety responsibilities would be converted into a safety factor for performance appraisals of regions at which we have operations and their respective general managers. Safety has improved since then. In 2015, the Company continued to perform the safety accountability assessment introduced in 2014, refined the contents of safety assessment in the safe production accountability statement and extended the application of safety factor assessment to other key staff.



Signing ceremony of safe production accountability statement in 2015



Innovative Safety Training Management

The Company innovated on safety training management. Animated training videos were produced based on the standards of safe behaviours and typical accident cases of the industry, and were distributed to all regional offices and production plants for training and learning purposes. All the production plants initiated training by broadcasting the videos. Some production plants broadcast the training videos at shuttle buses and canteens. Other subsidiaries uploaded the videos on the online learning section of the Company's online platform for the employees to study online at their convenient time.

In 2015, the Company's relevant staff participated in safety management training organized by professional organizations including the State Administration of Work Safety and CTC. Meanwhile, incorporating the actual circumstances at work, China Resources Cement College launched multi-phase professional training on safety management for safety management officers of production plants, mine managers, mine safety officers, and safety officers of concrete production plants. The venues of these safety management training were located at the factories and production lines of each regional office. Such step-by-step training has comprehensively improved the overall safety management level of the Company.

Case Study:

Safety Training at Factories

In 2015, the Guangxi regional office launched the training programme of "Safety Training at Factories". Such programme provided annual safety training for safety officers at each production plant. Meanwhile, selection and training of internal lecturers, courseware development, rehearsal teaching, teaching review, perfecting contents of courseware and teaching skills of internal lecturers were performed.



Up to now, the programme has trained up 16 internal lecturers, developed 14 sets of courseware, and delivered 110 training sessions to about 6,000 participants, which has effectively promoted safety management training and improved levels of safety management of regional offices and production plants.





4. Improving Capabilities of Identification, Prevention and Control of Risks

(1) Mechanism for Identification, Prevention and Control of Risks

In 2015, the Company commenced identification, review, prevention and control of mining risks at three pilot subsidiaries, namely, China Resources Cement (Fengkai) Limited, China Resources Cement (Pingnan) Limited and China Resources Cement (Zhangping) Limited. Currently, based on the situation of the pilot subsidiaries, the Company has completed the formulation of "Manual for Identification, Prevention and Control of Safety Risks of Mining", and it is expected to be fully promulgated in 2016.

(2) Drills for Identification, Prevention and Control of Risks

The Company was proactive in innovating new modes of activities and conscientious in organizing various drilling activities for risk identification in order to raise employees' safety awareness. The Company organized a wide variety of content-rich promotional activities including the "Safety Open Day" and safety knowledge contests with about 60,000 participants, and 178 safety drills with about 6,000 participants.

Case Study:





Wishes from a family member of an employee:



Safety Open Day of Shanxi China Resources Fulong Cement Limited – heartfelt words of an employee's father

CR Cement has used its best endeavors in creating a safe and stable workplace for employees. I genuinely hope that my son will work hard in this big family of China Resources, cherish his hard-won job, go to work happily and return home safely. Everyone has only one life and safety is the cornerstone of a complete and blissful family. My son should be equipped with strong safety awareness for self-protection as bliss is secured by safety.

——— Yang Fuyuan, father of an employee of Shanxi China Resources Fulong Cement Limited

Case Study:

Safety drills for emergent disasters

The site of accident emergency drill at the mining caves of China Resources Cement (Guigang) Limited





The site of landslide accident drill of China Resources Cement (Yangchun) Limited





The site of fire emergency drill of China Resources Cement (Zhangping) Limited







V. Responsibilities to Employees

The Company views its employees as the most valuable resources for its corporate survival and development, and is committed to creating peace and bliss for its employees and their families. The Company creates and provides a broad career development platform for the employees to display their individual talents.

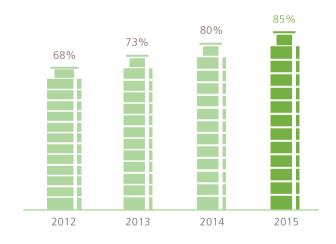
1. Employees' Dedication Level

According to the survey conducted by Aon plc, a well-recognized agency, the dedication level of the Company's employees was 85% in 2015, which was much higher than the average level of foreign-owned manufacturing industry (53%) and the market average level (63%). It was the fourth consecutive year of achieving the zone of the best employers.

Employees' dedication level



Dedication level of CR Cement's employees



2. Growth of Employees

(1) Dual-Path Development for Employees

Promotion and development paths through series of management and profession have been opened to broaden the employees' promotion paths and capacity.

(2) Building a Three-tier Talent Development System

Based on business strategies of the Company, competency in the roles and talent development needs, the Company formulated the CR Cement Talent Development System which specified the contents, platform, methods and responsibilities of the three tiers of the headquarters, regional offices and branch offices for talent development.





Formulation and Implementation of the Talent Appointment and Development Programme

In 2015, the Company commenced the development of model leadership for key roles and middle-level staff. The human resources check had been completed, which revealed that the Company had 970 middle-level staff and 374 key roles. The talent appointment and development programme had been formulated and implemented to build up a strong reserve talent pool.

Wide Coverage of Personnel Professional Training

- In 2015, China Resources Cement College launched 48 training classes. The completion rate of training programmes reached 129.73% and the training satisfaction rate was 92.8 points.
- i-Learning, an online learning platform of the Company, was introduced to junior employees. In 2015, a total of 5,836 persons logged in and studied at the system, each person spent 2.6 hours on average for online learning and 46,081 questions from the online question bank were completed in total.

4. Care for Employees

The Company has adopted a series of measures to care for its employees. We are concerned with the employees' occupational health and organized medical check-up for employees on an annual basis. Commercial insurances are taken out for every employee and two of his immediate family members. Career development paths in terms of management, profession and skills have been built for employees to broaden their career development platform. Employees in need have been provided with love and support.

In order to promote mutual help and fraternity, the Company established the "China Resources Cement Thanksgiving Fund" to help resolving substantial crises of employees in their personal lives by taking advantage of team efforts. It is encouraged to form a long-term mechanism of mutual help and love in times of distress. In 2015, the China Resources Cement Thanksqiving Fund subsidized 20 employees in need with a total amount of over RMB610,000.





VI. Responsibilities to Customers

With the principle of customers first and abiding by business ethics, the Company continuously improves customer satisfaction level, meticulously protects the rights and interests of our customers and consumers, enhances self-innovation capability to provide customers with better services which meet or even exceed customers' expectations, and achieves mutual growth with customers.

1. Listen Carefully to the Voices of Customers

The Company implements a three-tier customer feedback system consisting of salespersons, customer services officers and the management. Through regular visits of customers, the Company seeks to understand customers' needs better and constantly improve products and services. At the same time, the Company regularly organizes activities such as meetings with customers, visits to production plants, sharing meetings on technology and themed promotion events. These help customers to have a more in-depth understanding of CR Cement's corporate culture and thus strengthen the confidence on working with the Company in the long term.

Case Study:

Voice from Customers

"Voice from Customers"

"The voice from each customer can only represent his individual opinion but not necessarily all. Our responsibility is to truly reflect the customers' feedback without modification." This is the work objective of Customer Services Department of the Guangdong regional office. In order to encourage every department of the Company to listen to our customers, the Customer Services Department of Guangdong and Shanxi Regions publish a monthly issue of the periodical "Voice from Customers" which reports customers' requests, achieves interaction between departments and constantly improves product quality for better customer services.



Case Study:

Monthly meetings with distributors

Each sales region of the Company convenes meetings with distributors on a monthly basis in order to explore strategies for market development and customer protection with the distributors jointly, to promote the Company's recent policies and systems, to convey relevant requirements and to maintain long-term effective communications with the distributors.





Monthly meetings with distributors at sales regions

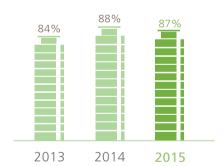
2. Dedicated to Enhancing Customer Satisfaction Level

In 2015, the Company engaged Beijing Broad Consulting & Intelligence Co., Ltd. to conduct a third-party survey on customer satisfaction level, aiming to perform a more objective assessment of the products and services provided by the Company to customers and identify its shortcomings for business improvement. Maintaining customer satisfaction level of over 84% for three consecutive years, the Company enjoys good reputation among customers and serves as a role model among other local peers in the cement industry.

3. Improving Customers' Experience with Information Technology

In 2015, the Company continued to implement the construction of digital logistics platform and accelerated the promotion of truck transportation GPS scheduling management system, shipping GPS scheduling management system and the "Smart Card" system. Relying on the digital logistics platform for scheduling and delivery, the Company has greatly enhanced its logistics efficiency and improved customers' experience. At the same time, the Company implements the mechanism of 7x24 round-the-clock logistics scheduling services, efficiently accepts complaints about logistics services and establishes a complete contingency supply supplementing system to guarantee supply with efficient, fast and economical freightage and related services.

Customer Satisfaction Level of China Resources Cement in 2013-2015





Integrated Scheduling Center in Guangdong Region



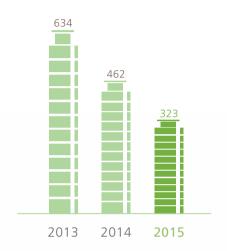
4. Acceptance and Efficient Handling of Customers' Complaints through Multiple Channels

The Company accepts customers' complaints through the complaint hotline and the complaint contact form. Our specific complaint handling team responds to customers' complaints within 24 hours and achieves a handling rate of 100%. After handling the complaints, we would regularly follow up with customers on the use of our products and form a closed-loop management of customer complaints. In 2015, the Company received a total of 323 customers' complaints, representing a substantial decline over three consecutive years.

5. Fighting Against Unfair Competition and Protecting the Rights and Interests of Customers

The Company strictly complies with competition law and regulations and well-recognized business ethics, competes fairly in the market, fully respects the intellectual property rights of others, emphasizes on construction of our own intellectual property rights and encourages innovation. At the same time of maintaining market order and ensuring that customers can buy and use safe and authentic products, the Company fights against manufacture and sale of low-priced counterfeit products. The Company co-operated with local public security bureau in the Pearl River Delta region in 9 special operations, leading to seizure of huge amount of counterfeit packaging bags of CR Cement and cement products. 3 counterfeiters were arrested. The local market order was effectively maintained for protection of the rights and interests of customers.

Number of Customers' Complaints in 2013-2015







VII. Responsibilities to Business Partners

Upholding the philosophy of mutual development for long-term win-win cooperation with partners, the Company has built up long-term and stable partnerships through strategic cooperation which effectively avoids disorderly competition behaviours in the building materials market.

1. Cooperation with Businesses

The Company officially entered into a strategic cooperation agreement with Guangxi Xijiang Development & Investment Group Co., Ltd., pursuant to which the parties would work together to build a digital logistics platform, create a logistics ecosystem in Xijiang and on that basis construct a public information platform for commercial logistics in Xijiang so as to achieve win-win outcomes for multiple parties including locals and corporates.

2. Cooperation with Educational Institutions

The Company established a production-academia-research cooperation platform with Guangxi University to conduct research on composite utilization of industrial solid waste, energy saving and emission reduction in cement production, and development of alternative fuels for cement rotary kilns. The specific research project currently underway is the "Research, development and industrialization of limestone – water quenched manganese slag composite mineral admixture", which was named as a technological innovation project of Binyang County, Nanning City, Guangxi Zhuang Autonomous Region in 2015.

Cooperation with Suppliers

Through the long-term and close business partnership with suppliers, the Company consolidates the resources with each other and explores markets with mutual competitive advantages, thus helping the suppliers to grow and achieving mutual benefit and win-win outcomes. The Company also urges suppliers to fulfill their social responsibilities of promoting sustainable development of the society and the environment.

Case Study:

Working with coal suppliers to conduct experiments on combustion characteristics of coal

In 2015, the Company worked with coal suppliers to study the combustion characteristics of 66 types of coal in total including coal mined from sea and land. Combinations of different coal types with similar combustion characteristics were formulated. Based on the experiment results, the Company entered into annual contracts with each strategic supplier. During the period, the Company and the suppliers learned the advanced practical knowledge on combustion characteristics of coal through experiments together. The suppliers were advised to play an active role in participation in and application of the experiments, in order to prevent the suppliers from aimlessly participating in the low-priced adverse competition and to help them grow as innovative and competitive corporates.

Moreover, incorporating the experiment results of combustion characteristics, the Company formulated an admission system for prospective coal suppliers and they were required to deliver coal samples and conduct experiments in strict compliance with our required standards of coal combustion characteristics. The suppliers were then screened and admitted based on the experiment results. This avoids supply of too many different types of coal of fluctuating quality, increases the productivity of our production plants, reduces coal consumption and substantially helps in prevention of environmental pollution.





4. Protecting the Rights and Interests of Shareholders and Investors

(1) Regulating the Behaviours of Major Shareholders

Being a Hong Kong listed company, the Company strictly regulates all connected transactions and the relevant arrangements between the Company and its connected persons in accordance with the requirements of the Listing Rules of The Stock Exchange of Hong Kong Limited. This ensures that the connected transactions are fair and reasonable and in compliance with the disclosure and other applicable requirements under the Listing Rules. This also ensures independent and standard operations of the Company, and safeguards the rights and interests of the Company, the shareholders and other stakeholders.

The Company possesses the capability of running the business independently and operating autonomously. Human resources, assets, finance, organization and business of the Company are all independent of the controlling shareholder. The Board and internal organizations of the Company are operating independently. The controlling shareholder and the indirect controlling shareholders exercise their rights at general meetings and did not directly or indirectly intervene with the decision making and operations of the Company.

Case Study:

Annual General Meeting of the Company



About 90 shareholders attended the Annual General Meeting of the Company

In May 2015, the Company held its annual general meeting with about 90 shareholders in attendance. Chairman of the general meeting explained to the shareholders the detailed procedures of voting by poll and answered questions from shareholders concerning voting by poll. The Company monitors and regularly reviews the procedures of general meetings, and will make amendments if needed to ensure that the procedures meet the needs of the shareholders.

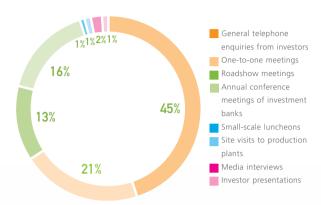


(2) Building an Investor Communication Mechanism

The Company is committed to protecting the rights and interests of investors and shareholders. The Board is accountable to shareholders for creating value through effective corporate governance. The Company has formulated a shareholders' communication policy to ensure that the shareholders can obtain information of the Company that is comprehensive, consistent and easy to understand, including financial performance, strategic objectives and plans, major development, governance and risk overview etc. As the core principle of corporate governance, the Board of Directors endeavors to maintain stable and constructive communications with shareholders and investors and promote mutual understanding through direct communications.

(3) Standard Information Disclosure for Protection of the Rights and Interests of Investors

The Company has established a shareholders' communication policy to actively respond to daily inquiries from shareholders and investors, and to publish important information about the Company through the Company's official website. The Company also organizes investor presentations after the release of interim and annual results, which are broadcast via the internet in order to improve transparency of corporate governance of the Company. For standard information disclosure, we disclose all necessary information in a timely and accurate manner according to the principles of truthfulness and reliability so as to protect the rights and interests of medium and minority shareholders.



Breakdown of investor activities of the Company in 2015

Case Study:

Reverse Roadshow of the Company

In November 2015, the Company organized a reverse roadshow. A total of 22 participants (including analysts and bankers) visited the Guangxi Hezhou China Resources Circular Economy Industrial Demonstration Zone and had constructive discussions and interactions with the representatives of the Guangxi Building Materials Association about the investment environment of Guangxi and the local development opportunities for the Company and the industry.



The 2015 Interim Results Presentation with 71 analysts and fund managers in attendence



A snapshot of the reverse roadshow held by the Company in Guangxi Hezhou China Resources Circular Economy Industrial Demonstration Zone in November 2015 with 22 analysts and bankers in participation



Recognitions and Awards:

On 8 July 2015, China Resources Cement Holdings Limited was granted the Award of the Best Asian Corporate in Investor Relations in the 2015 All-Asia Executive Team organized by "Institutional Investors".

On 13 November 2015, China Resources Cement Holdings Limited won the award of the "Best Listed Company in Investor Relations Management" at the China Securities Golden Bauhinia Awards Ceremony organized by Ta Kung Pao.



The Company won the award of the "Best Listed Company in Investor Relations Management" at the China Securities Golden Bauhinia Awards Ceremony on 13 November 2015



VIII. Green Development

"The Company proactively promotes green production, pays keen attention to research and innovation of environmental protection technology, and actively participates in the big cycle of the society. To fulfill its corporate social responsibility on green development, the Company also emphasizes on composite utilization of resources and commits to building an energy-efficient, "environment-friendly and green enterprise."

On 8 December 2015, the Company's first urban and rural waste co-processing project by use of cement kilns at Binyang County, Guangxi commenced trial operations. The Company is now negotiating with relevant government departments in the regions at which the Company has operations for further promotion of plans of urban waste co-processing projects. At the same time, the Company is actively studying and promoting the operational model and technology application of co-processing sludge and hazardous waste by use of cement kilns.

1. Participation in Domestic and International Environmental Protection Activities for Cooperation and Mutual Sharing of Advanced Technologies

In 2010, the Company joined the "Cement Sustainability Initiative" (CSI) and acted as the Co-Chairman of CSI in China. We actively promoted sustainable development of domestic cement industry in terms of environmental protection, safety, occupational health and green procurement. This demonstrates the increasingly important standing and influence of the China's cement industry in the global cement industry.

Case Study:

Endorsing the "Low Carbon Technology Partnership Initiative for the Cement Industry"



"Action 2020" Climate Dialogue

As the Co-Chairman of the "Cement Sustainability Initiative (CSI)" in China, in November 2015, the Company took part in the "Action 2020" Climate Dialogue co-hosted by the World Business Council for Sustainable Development (WBCSD) and China Business Council for Sustainable Development (CBCSD) and declared our support for the "Low Carbon Technology Partnership initiative (LCTPi)". We collaborated with international cement companies to formulate the action plans for the development and deployment of low-carbon technologies in the cement industry, in order to achieve the targets of carbon dioxide emission reduction and make practical contributions to relieving climate change.





Case Study:

Participation in the 16th IE Expo 2015



Participation in the 16th IE expo 2015

In May 2015, the Company participated in the 16th IE expo in Shanghai and had in-depth exchanges and discussions with Messe Müenchen International (MMI), Chinese Society for Environmental Science, China Environment Chamber of Commerce, MMI-ZM Trade Fairs (Shanghai) Co., Ltd. and relevant experts and scholars with respect to the advanced technologies and latest solutions to the fields of solid waste disposal, air pollution and sewage treatment.

2. Acceleration of Technological Upgrade of Production Lines for Promotion of Energy Saving and Emission Reduction

In order to meet the national requirements for energy saving and emission reduction and to put our objectives of green and environmentally friendly operation into practice, the Company has been making more investments on environmental protection and accelerating technological upgrade of production lines. In 2015, the Company made investments in the sum of over RMB330 million on environmental protection projects such as the "bag filter system" project, denitrogenation project, desulfurization project and the project of urban and rural waste co-processing by use of cement kilns.

Currently, all the 42 clinker production lines of the Company are NSP kilns equipped with residual heat recovery generators. In 2015, the Company generated 1,917 million kWh of grid-connected power, which was equivalent to a saving of 661,400 tons of standard coal and a reduction of 1,818,800 tons of carbon dioxide emission.

Case Study:

Replacing the static electricity dust collection systems with bag filter systems for particulates emission reduction



The bag filter system at the 3# kiln front of China Resources Cement (Pingnan) Limited

By the end of 2015, the Company has completed installation and technological upgrade of the dust collection systems at the front and rear of a total of 48 kilns in 31 clinker production lines by replacing the existing static electricity dust collection systems with bag filter systems which effected emission of lower concentrations and higher operational stability. Upon the upgrade, the dust collection efficiency reached 99.99% and the concentration of particulate matters emitted was better than the GB4915-2013 standard, which has effectively reduced emission of particulate matters in exhaust.



Case Study:

Construction of desulfurization systems for reduction of sulphur dioxide emission



Control of sulphur dioxide emission by China Resources Cement (Changjiang) Limited: The project commenced construction in January 2015 and was put into operation in July. The desulfurization rate of the system reached up to 97% and the concentration of SO_2 emitted was controlled under 50mg/Nm³, which was far better than the requirements of the national emission standards.

The 3# desulfurization system of China Resources Cement (Changjiang) Limited

Case Study:

Construction of an online pollutant monitoring platform for real-time monitor of pollutants

To ensure compliance of national standards of pollutant emission, an online pollutant monitoring platform was constructed at the headquarters of the Company in 2015 for real-time monitor and control of each subsidiaries and strengthening internal management of pollutant emission.



3. Initiating Co-processing for Co-existence with Cities

The Company has been persistent on pursuing "Innovation and Changes", and achieved new breakthroughs and innovations in the business and technological cooperation models of urban waste co-processing by taking advantage of the Company's existing technologies, public resources obtained from the local governments by the production plants, third-party advanced technology and resources.

At present, the Company has developed a brand new and unique technological roadmap in the fields of urban waste and sludge as an effective solution to the problems of land occupation and secondary pollution caused by urban waste landfills. This expands the scope of the Company's environmental protection business and achieves a beneficial trial on transformation and development of cement enterprises.

Case Study:

Urban Waste Co-processing Project

In December 2015, the demonstration project of urban waste co-processing of China Resources Environmental Protection Engineering (Binyang) Company Limited, a subsidiary of the Company, completed construction and commenced operation with a handling capacity of 300 tons per day. This marked the beginning of the Company to co-process urban waste by using cement kilns.



The demonstration project of urban waste coprocessing of China Resources Environmental Protection Engineering (Binyang) Company Limited with a handling capacity of 300 tons per day

The "mechanical biological pretreatment + HOTDISC incineration" technology adopted by the project for co-processing of untreated urban waste was unprecedented in China, which could fully decompose dioxins and solid heavy metals for compliance of the stricter clean emission standards of European Union, Japan and other countries. With such technology, "mass-reducing, recyclable and hazard-free" waste co-processing could be achieved, which has effectively solved the problems of land occupation and secondary pollution caused by urban waste. It is a major technological breakthrough in developing a circular economy and creating green development in the cement industry.

Case Study:

Co-processing Treatment of Urban Sludge

Guangzhou Zhujiang Cement Co., Ltd., a joint venture of the Company and HeidelbergCement AG, has adopted NSP technology in cement production. In October 2014, that company started trial incineration of dried sludge from sewage treatment plants in Guangzhou to explore the new model of urban sludge co-processing treatment by use of cement kilns. With a planned investment of RMB30 million, the project can handle the treatment of 300 tons of urban sludge with 40% moisture content per day (equivalent to 700 tons of untreated sludge per day). It is expected to commence operation in December 2016. Upon completion of the project, urban sludge in Guangzhou will be disposed of in a hazard-free and recyclable manner.



Case Study:

Co-processing Disposal of Hazardous Waste

The petrochemical sludge co-processing project of China Resources Cement (Changjiang) Limited using 2# kiln was planned to co-process the PTA wastewater sludge from Hainan Yisheng Petrochemical Co., Ltd. with a estimated treatment capacity of 16,000 tons per year (60% moisture content). The project officially commenced trial industrial combustion in October 2015. Co-processing of hazardous waste by cement kilns is not only a vital technical approach to achieve hazard-free, mass-reducing and recyclable disposal of hazardous waste but also an important measure for cost reduction and large-scale disposal of hazardous waste.

Case Study:

Participation in Circular Economy to "Turn Waste into Treasure" in the Industry

The circular economy demonstration zone is a new environmental-friendly industrial development model. The recycling model of "turning waste into treasure" is achieved among pan-industry clusters, which brings about great environmental and social benefits.

The Company has been actively participating in the construction of the circular economy demonstration zone. The Hezhou Circular Economy Demonstration Zone comprising cement plants, power plants and breweries has commenced operation. Through mutual share of resources and recycling of wastes, the demonstration zone reduces annual emission of carbon dioxide by 730,000 tons and sulphur dioxide by 60,000 tons respectively. Furthermore,



The schematic diagram of China Resources Hezhou Circular Economy Demonstration Zone

1.02 million tons of ash, 440,000 tons of gypsum and 400 tons of waste diatomite have been put in composite use. 780,000 tons of water has been saved, and 2.63 million tons of waste water has been recycled. The project has made tremendous achievements in energy saving and emission reduction.

Leveraging on the close upstream-downstream relationship in the industrial chain between coal, power and real estate businesses under the China Resources Group, the Company is now actively involved in the construction of circular economy projects.



4. Comprehensive Water and Soil Conservation for Biodiversity Protection

The Company places strong emphasis on implementing ecological restoration to the mines and building "green mines". The Company advocates scientific mining approaches, efficient resources utilization, enterprise management standardization, environmental-friendly production technology and ecological mining environment as the basic requirements. Restoration of mines would be included in the medium and long term production development plans of the Company. This provides a realistic solution to development and exploitation at the expense of simply consuming resources and destroying the ecology.

For the mining area, through reutilization of water resources in the mines, there was zero discharge of waste water. In order to reduce the impact of production activities on ecological environment and ensuring existence and continuity of species in the region, waste oil was recycled in time and measures for application of shock reduction and weak shock blasting technologies were taken.

Case Study:

Comprehensive Water and Soil Conservation by China Resources Cement (Jinsha) Limited ("Jinsha Company")

Jinsha Company is located in the upstream and midstream area of Wujiang River & Chishui River which is a key national control zone against soil erosion designated by the People's Government of Guizhou Province. Taking into account the unique geographical circumstances, Jinsha Company has adopted various comprehensive measures to prevent and control soil erosion, including construction and repair of blocking facilities, slope protection, flood drainage, casing soil and afforestation. Vacant lands at the plant were also hardened, flattened, having the soil cased or afforested. Through the implementation of water and soil conservation initiatives, Jinsha Company has effectively prevented and controlled every kind of soil erosion within the area under its responsibility. The goals of significant reduction of land surface erosion and coordinated development of project construction and ecology had been achieved. In August 2015, Jinsha

Company obtained the acceptance and approval from Water Resources Department of Guizhou Province upon an inspection of its water and soil conservation project.



Afforestation of Jinsha Company's plant



Slope and ditch of the road towards the mine of Jinsha Company



The side slope of the main road leading to Jinsha Company's plant



5. Social Recognitions

- 1. China Resources Cement (Pingnan) Limited and China Resources Cement (Tianyang) Limited were awarded "One Hundred Energy-Saving Model Enterprises" by China Building Materials Federation among the building materials industry.
- 2. China Resources Cement (Tianyang) Limited was honored the "Hong Kong Green Awards 2015 Environmental, Health and Safety Award (Large Corporation)" Gold Award by Green Council of Hong Kong.





🌞 The "Hong Kong Green Awards 2015 – Environmental, Health and Safety Award (Large Corporation)" – Gold Award

3. China Resources Cement (Fengkai) Limited was awarded the medal and certificate of "Environmental Protection Model Enterprise of Large-Scale Cement Group in China" by China Cement Association.





🏶 The medal and certificate of "Environmental Protection Model Enterprise of Large-Scale Cement Group in China"



IX. Community Building

"Abiding by the principle of "balance of responsibilities and benefits", the Company has proactively participated in charity. To fully take corporate advantages, its subsidiary production plants donated cement products in order to help the neighboring towns and villages in the construction and repairs of roads and bridges and infrastructure improvement. Sustainability of charitable conducts and performance has been achieved. At the same time, the Company also makes donations in cash or in kind to poor areas and families in financial hardship, thereby solving their practical difficulties and creating a healthy, stable and harmonious community environment.

In 2015, the total external donations made by the Company amounted to RMB3.07 million. Through multiple measures such as partnering with village enterprises and performing community service by our volunteer teams, the Company actively initiates mutual community building and promotes harmonious relationship between the Company and the community.

Case study:

China Resources Cement (Nanning)
Co., Ltd. organized the "Love
Watermelon" activity to help some
villagers living near our factories to
solve the problems of overstocking
watermelons.

China Resources Cement (Pingnan) Limited made donations to fund the education of some poverty-stricken students in Danzhu Town and Shangdu Town in Pingnan County.

China Resources Concrete (Jiedong) Limited paid a visit to the elderly living in Guhu Village and gave them rice, cooking oil, couplets and donations.













Room 4606-08, China Resources Building, 26 Harbour Road, Wanchai, Hong Kong Website: www.crcement.com Website for Corporate Communications: www.irasia.com/listco/hk/crcement/index.htm

