





### Cover Story:

### **Cleaner Energy for Better Life**

The increasingly severe global environmental problems have cast much doubt on the development of the coal industry.

As a trendsetter among the coal-based energy enterprises, China Shenhua pursues a lowcarbon development for high-carbon industries, provides our customers with clean and quality energy, and endeavour to become the forerunner, the role model and the innovator of the transformation and upgrading of the coal industry, aiming to "build a world first-class supplier of clean energy".

Clean mining to ensure coal quality, reduce environmental impact and construct green and ecological mines.

Clean use of coal to accelerate ultra-low emission, lead the transformation and upgrading of the industry and build clean and efficient power plants.

Clean conversion to achieve efficient utilization, optimize energy structure and push forward clean "coal chemical" projects.

Exploring new energies and strengthen development and utilization, establish sustainable industrial systems.

We also make full use of the advantage of technological innovation to provide clean energy technology and intellectual service, develop strong core competency by having our technical standards adopted as industrial standards and national standards, and transform technological advantage into economic benefits through the formulation of an entire technical service chain and the provision of clean energy solutions for customers.

China Shenhua will continue to promote the transformation of energy utilization to better the life of humankind.



### **Company Profile**

China Shenhua Energy Company Limited is a listed company of H shares and A shares controlled by Shenhua Group Corporation Limited ("Shenhua Group"). The Company is a coal-based energy enterprise that has been carrying out an integrated operation of its power, railway, port, shipping and coal chemical businesses. It is primarily engaged in the production and sale of coal and power, the railway, port and fleet transportation of coal and business such as coal-toolefins.

China Shenhua is the largest listed coal supplier both in China and in the world. The Company's coal business has become a role model in China in terms of scale, efficiency and safe production mode. China Shenhua owns large-scale and highly efficient power generation operation, which is complementary to the Company's coal operation

to achieve a synergetic development. The Company owns a large-scale integrated rail, port and marine fleet transportation network which provides the Company with tremendous synergy and the advantage of low transportation costs.



#### **About This Report**

The Social Responsibility Report for 2014 ("2014 CSR Report") is the eighth annual social responsibility report issued by China Shenhua Energy Company Limited ("China Shenhua" or the "Company"). This report mainly discloses information on the work of the Company in aspects of corporate governance, operation in good faith, technological innovation, safe production, employees' interests, environmental protection and public welfare, with an aim to enhance understanding and communication with all stakeholders.

The Board and all the Directors of the Company guarantee the content of this report does not contain any false representation, misleading statement, or material omission, and jointly and severally accept full responsibility for the truthfulness, accuracy and completeness of the content thereof.

#### Main Scope of the Report

China Shenhua Energy Company Limited and its subsidiaries include the companies and assets newly acquired or established in 2014. For details of the main scope of the report, please refer to the section "Equity Structure Diagram".

#### **Reporting Period**

The CSR Report of the Company is issued annually. The reporting period is from 1 January to 31 December.

#### **Preparation Basis of the Report**

"Notice on Strengthening Listed Companies' Undertaking of Social Responsibilities and Issuance of 'Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange'", "Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange" and "Guidelines on Preparation of 'Corporate Report on Performance of Social Responsibilities'" issued by the Shanghai Stock Exchange;

"Environmental, Social and Governance Reporting Guide" (abbreviated as "ESG") issued by the Hong Kong Stock Exchange;

Sustainability Reporting Guidelines (G4) issued by Global Reporting Initiative ("GRI").

#### **Principles of Data Processing**

The data disclosed and the reporting period stated in this report are consistent with the reporting period adopted for preparing this report. The financial information contained in this report is sourced from the audited financial report of the Company for 2014. Unless otherwise indicated, Renminbi is used as the denomination currency in this report. The major indicators on safety and environmental protection of the Company are calculated or computed in accordance with the State's regulations or industry standards.

The equity interests or assets acquired by the Company from Shenhua Group Corporation Limited, the controlling shareholder of the Company, and its subsidiaries in 2014 have been included into the equity interests or assets in this report according to the principle on the treatment of data from business acquisition under common control of the PRC ASBE. The indicative data on social responsibility such as environmental protection, safety, technology and employees' interests throughout 2014 have been included into this report. Data of the previous years included in the relevant indicators of 2014 have been restated whereas data that have not been restated are indicated with "\*". Other indicating data on social responsibility for the assets acquired from third parties are included in the relevant indicators for 2014 in this report based on the data from operation during the period since the actual delivery.

#### Assurance

This report has been assured independently by our independent auditor, Deloitte Touche Tohmatsu Certified Public Accountants LLP. The proof, scope, methodology and conclusion of the assurance are included in the Appendices.

#### Reporting Language and How to Obtain This Report

This report is published in Simplified Chinese, Traditional Chinese and English. The financial data contained in the Simplified Chinese version are extracted from the A-Share financial report of the Company, whereas the financial data set out in the Traditional Chinese version and English version are extracted from the H-Share financial report of the Company. Other than this, in case of any discrepancies, the Simplified Chinese version shall prevail.

This report is issued to stakeholders and the general public as an electronic document in PDF form, which can be downloaded for perusal from the websites of Shanghai Stock Exchange, Hong Kong Stock Exchange and the official website of China Shenhua (www.csec.com). Please email 1088@csec.com or dial 86-10-5813-3355 to request for a printed copy of this report.

We have taken into consideration the reading interests and requirements of different stakeholders as far as possible in the compilation of this report, and striven to make it plain, clear and easy to read. The compilation of this report may not be entirely satisfactory due to various objective constraints. The Company shall in the future continue to improve and enhance the report. You are welcome to express your opinions and suggestions by filling in and returning the Feedback Sheet attached.

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# **Chairman's Statement**

Zhang Yuzhuo

Dear Friends,

2014 was an unusual year in the history of China Shenhua. Faced with the challenging and complex economic environment and volatile market conditions, China Shenhua took the initiative to adapt to the new normal, accelerated the changes in the concept and mode of development, and actively implemented the "1245" clean energy development strategy through maintaining growth, adjusting structure, advancing reform and expediting transformation, achieving sound development with key production and performance indicators in line with expectation. The Company recorded revenues of RMB248,360 million and profit before income tax of RMB60,945 million.

China Shenhua adheres to the social responsibility philosophy of "Safe and Efficient, Clean and Environment-friendly, as well as Mutual Success in Harmony", and achieves harmonious development among the enterprise, society and the environment in cooperation with all stakeholders. In 2014, focusing on the issues of concern of our stakeholders including shareholders, customers, suppliers, staff and community, the Company enhanced its capability of fulfilling its responsibilities in multiple dimensions, strengthened the communications among stakeholders, and comprehensively pushed forward social responsibility work.

The Company actively adapts to the new normal and enhances its edge in integrated operation. In 2014, the Company optimized its governance structure, reinforced internal control, risk management and anti-corruption, and strengthened integrated operation. Aiming to satisfy the expectations of customers and investors and establish a responsible supply chain, the Company, relying on its highly efficient management, further elaborated its development blueprints, endeavored to strengthen and improve its competitiveness and strived to build itself into a world first-class clean energy supplier with "state-of-the-art technology, advanced management, value creation and innovation-driven approach".

The Company takes the initiative in technological innovation to promote the clean energy development strategy. To fuel sustainable development, the Company establishes an open innovation model bearing the characteristics of Shenhua by building up bases for technological innovations to satisfy business requirements and platforms for nurturing topnotch talents, increasing the investment in technological innovation and strengthening research on major technological projects. In 2014, with a total research investment of RMB1,223 million, the Company accomplished a range of notable achievements in technological and research projects including digital mines, highly efficient tunnel-boring machine, "ultra-low emission" of coal-fired generators and key technologies for heavy-haul railways, and the Company was granted 400 patents for the year.

The Company maintains the stable operation of safe production. Safety is the cornerstone of China Shenhua, and the Company adheres to the leading safety philosophy of "seeking zero fatality rate and aiming at zero injury", constantly pushes forward the establishment of its intrinsic safety system and its production safety continues to take the lead in international arena. In 2014, the fatality rate of the Company in raw coal production was 0.009 per million tonnes, far better than the national average level. The power, port and shipping businesses of the Company achieved the safety target of "zero fatality".

The Company adheres to the people-oriented principle and builds up a platform for the development of employees. Based on the "Happy Employee Project", the Company creates a career development platform for employees, provides them with multi-level and multi-channel training and promotes their professional and specialized development. The Company attaches great importance to occupational health and safety, optimizes the management system and carries out occupational hazard control. In 2014, the Company's investment in training amounted to RMB189 million, with approximately 1.17 million employees attending such training sessions, and its investment in protecting occupational health of employees reached RMB0.4 billion.

The Company insists on the development of clean energy and pushes forward the construction of ecological civilization. To achieve green operation and clean energy provision for society, the Company plays the clustering advantages of integrated multi-industries, proactively establishes a clean energy industrial system and strives to offer clean energy

solutions, contributing to the realization of a beautiful China. In 2014, the Company explored green coal production methods featuring low consumption, less emission and high efficiency; as a result, indicators such as comprehensive energy consumption for raw coal production and unit power consumption for coal selection reached internationally advanced standards. The Company actively implements the "Clean Air Action Plan (2013 – 2017)" and has accomplished the desulfurization renovation for all the generators, with the percentage of denitrification renovation of coal-fired generators among the top in the industry.

The Company dares to shoulder responsibilities, and promotes the harmonious development of society. Upholding its core values of "contributing to society and rewarding the people", China Shenhua installs secure and stable energy supply systems to protect the energy safety of China, creates a new sharing system with local communities to boost local economic development, performs its duties as a global citizen by facilitating harmonious overseas operations, supports charity causes and shares its fruits of development with society. In 2014, the Company made external donations of RMB57 million.

China Shenhua's persistent efforts have been highly recognized by all sectors of society. In 2014, the Company received various awards including Top 100 Market Value of Companies Listed on the Main Board of China, Top 10 Energy Companies in Asia, Award for Sustainable Development and Social Responsibility Report, and Most Profitable Listed Company. In addition, the Company was awarded sovereign rating by the big three credit rating agencies, reflecting the high recognition of China Shenhua's credit worthiness from world-renowned agencies and thus enhancing the international reputation of China Shenhua.

Looking ahead in 2015, China Shenhua will focus on the goal of building a world firstclass supplier of clean energy, accelerate the implementation of the "1245" clean energy development strategy, transform the concept and mode of development, push forward safe development, transitional development, innovative development and harmonious development, enhance its ability to fulfill social responsibilities, and create greater value in cooperation with all stakeholders.

张王

Chairman: Zhang Yuzhuo 20 March 2015



# Social Contribution Value Per Share RMB5.427/Share



## FULL INTEGRATION OF SOCIAL RESPONSIBILITY

# THE ROAD TO BECOME A TOP-NOTCH ENTERPRISE

China Shenhua has consistently attached equal importance to business development and fulfilment of social responsibility. The Company considers creation of value for stakeholders as one of its commitments, and strives to improve the professional standards of its CSR management in an effort to achieve harmony between enterprise development, society and the environment.

### **Full Integration of Social Responsibility** the Road to Become a Top-notch Enterprise

### BACKGROUND FOR SUSTAINABLE DEVELOPMENT

China Shenhua responds proactively to opportunities and challenges in sustainable growth through close integration of sustainable development and the medium- to long-term development strategies. The Company is committed to enhancing its influence and contribution to sustainable economic, social and environmental improvements based on comprehensive understanding of stakeholders' expectations, working together with them to achieve mutual success.



### **Commitments and Practices**

Analysis of the background for sustainable development of China Shenhua

### CSR MANAGEMENT

At China Shenhua, social responsibility activities with a focus on stronger sustainability are effectively integrated into daily production, operation and management through strengthened responsibility philosophy, governance, integration, communication, practice and study, and have become a major initiative toward the strategic goal of "building itself into a world-class supplier of clean energy".

### • Philosophy in CSR

In line with the mission, vision and concept of its corporate culture with a culture-oriented mindset, China Shenhua embraces the social responsibility philosophy of "safe and efficient, clean and environmental-friendly, as well as mutual success with harmony " and the social responsibility vision of "cleaner energy for better life ", among a series of responsibility cultures which set forth the guidelines for its social responsibility practices.



### **Full Integration of Social Responsibility** the Road to Become a Top-notch Enterprise

### • CSR Model

In view of its development strategy of "building itself into a worldclass supplier of clean energy", China Shenhua fully heeds the appeals of various stakeholders, organically integrates social responsibilities into its corporate development strategies and business management through proactively fulfilling its social responsibility at five levels, and forms a unique CSR model with the characteristics of Shenhua to guide the smooth progress of CSR activities.



### CSR Governance

China Shenhua has established a well-organized CSR management structure with clear division of responsibilities at various levels ranging from the headquarters to Branches and Subsidiaries. In terms of management and implementation, China Shenhua has standardized its workflows and refined its management and organization systems, clearly specified management responsibilities and departments held accountable for management, thereby effectively improving the professional standard of its CSR management.



#### CSR Promotion

In early 2014, China Shenhua held a work conference on social responsibility according to the roadmap of "plan – implementation – review" respectively at the beginning, middle and end of the year. Annual social responsibility tasks were deployed with emphases on system construction, capacity building, integration with operation and accountability, communication, contributing positively to the fulfillment of responsibilities.

**Integrate social responsibility into corporate strategy.** In 2014, China Shenhua integrated "enhancing the ability to fulfill social responsibilities" into its corporate strategy, which reflects China Shenhua's development concept of guiding its reform and transformation by social responsibility requirements and standards. Meanwhile, the social responsibility sub-plan has been taken as a priority in the Company's 13th Five-year Plan, aiming to bear fulfillment of social responsibilities in mind when organizing and planning all tasks for better integration of social responsibility into corporate strategy.

### **Full Integration of Social Responsibility** the Road to Become a Top-notch Enterprise

**Promote corporate management by the reporting system.** China Shenhua has been publishing CSR reports for eight consecutive years since 2007 and has established a normalized publishing mechanism. The reports led to the breakdown of targets to business units to improve the overall operation and management level. Meanwhile, the Company actively promoted its subsidiaries to prepare independent CSR reports to establish role models. In 2014, second-tier enterprises with profit exceeding RMB1 billion were required to prepare CSR reports.

**Establish a comprehensive training system for social responsibility.** Through systematic and well-structured social responsibility training

across China Shenhua, the awareness of all staff was improved with stronger willingness and skills for fulfillment of social responsibilities. In 2014, the special training on social responsibility management for senior managers helped elevate the awareness of departmental executives at headquarters and heads of branches (subsidiaries). The CSR management training courses also upgraded expertise and competency of business professionals.



CSR management training for senior managers

**Participate in formulation of industry standards on social responsibilities.** In 2014, China Shenhua participated in preparation of the "CSR Guidelines for Chinese Coal Industry" and co-authored the "Guidelines on Preparation of Corporate Social Responsibility Reports for Enterprises in China 3.0 – Coal Mining and Processing Industry" with Chinese Academy of Social Sciences. Leading in CSR report preparation in the coal industry, our efforts have formed a great deal of influence and driving force in the industry.



Guidelines on Preparation of Corporate Social Responsibility Reports for Enterprises in China 3.0 – Coal Mining and Processing Industry

### • Performance Assessment

China Shenhua has built a CSR indicator system integrating key responsibility elements of all business segments in accordance with relevant CSR standards (please refer to Appendix I). The Company has taken the initiative to voluntarily disclose its social responsibility performance since 2013 in accordance with ESG requirements, and has refined a total of 43 general disclosure and key performance indicators covering 4 areas and 11 levels into 109 Shenhua indicators which are put into practice and implemented by business departments one by one, and the key indicators have been included into business performance assessment and various special evaluations gradually, demonstrating that the Company has basically achieved the implementation of key CSR tasks through management of indicators.

### **Full Integration of Social Responsibility** the Road to Become a Top-notch Enterprise

### COMMUNICATION WITH STAKEHOLDERS

China Shenhua attaches great importance to communication with stakeholders. Through establishing channels accessible to stakeholders for engagement, and taking heed of the views of various parties in the full process covering decision-making, implementation, assessment and feedback regarding important issues of the Company, the Company strives to form a closer partnership with stakeholders.



### MATERIALITY ANALYSIS

China Shenhua attaches great importance to the identification and management of important issues in sustainable development. Based on the principles of stakeholder inclusiveness, materiality and completeness, and through the four steps of "identification of relevant issues, determination of priority, approval of contents to be reported, and review", the Company closely intertwines sustainable development with the long-term strategic development and current status of the operation and management of the Company and identifies material aspects dynamically, so as to provide a basis for achieving sustainable development of the Company. In 2014, the Company carried out relevant CSR work with a focus on these aspects, details of which are set out in the subsequent section of this report.



the Road to Become a Top-notch Enterprise

### SOCIAL CONTRIBUTION VALUE PER SHARE

In 2014, the social contribution value per share<sup>Note</sup> of China Shenhua amounted to RMB5.332/Share (Accounting Standard for Business Enterprises) and RMB5.427/Share (International Financial Reporting Standards) respectively.

### CSR HONOURS

The Company's vigorous efforts in fulfillment of social responsibility have been highly recognized by stakeholders. In 2014, China Shenhua and its Branches and Subsidiaries reaped numerous honours in social responsibility.

- China Shenhua's 2012 CSR Report was rated "AA" by Rankins CSR Ratings (RKS) in the CSR report review on listed companies for 2013 jointly by Ernst & Young (China) and RKS.
- China Shenhua was included in the "Top 100 Companies Listed on the Main Board of China in terms of Market Capitalisation for 2013", in recognition of its business performance, in the 8th session of evaluation for Chinese listed companies.

Note Social contribution value per share is calculated on the basis of the Company's basic earnings per share created for shareholders, adding the value of tax paid to the country, salary paid to its employee, interests on borrowings paid to creditors such as banks and value created for other stakeholders such as external donations, and deducting other social costs due to environmental pollution and other factors. Other social costs due to environmental pollution and other factors. Other social costs due to environmental pollution and fees payable and funds provided in accordance with the relevant requirements of the State, including pollutant discharge fee, coal sustainable development fund, compensation for water and soil losses, compensation for land acquisition, security deposits for mine environment control and restoration and provision of reclamation expenses.

- China Shenhua was named "Top 10 Asian Energy Companies" in the Platts Global Energy Review 2014.
- In the 16th session of Golden Bull Award review hosted by China Securities Journal, China Shenhua was named the "Most Profitable Listed Company", a special prize of the Golden Bull Award 2013.
- China Shenhua was granted the "Sustainable Development and CSR Report Award" in the review of "Best Corporate Governance Disclosure Awards 2014" by the Hong Kong Institute of Certified Public Accountants.
- Shendong Coal Group, Shuohuang Railway Company and Shenbao Energy Company were each named as one of the "Outstanding CSR Report Issuers in China's Coal Industry" by China National Coal Association.



# HIGH QUALITY AND EFFICIENCY

### THE ROAD TO GROW STRONGER AND HEALTHIER

China Shenhua adheres to deepening its development blueprint and seeking to grow stronger and healthier through strengthening integrated operation and business segment synergy as backed by efficient management, with an aim to meet expectation of customers and investors and establish a responsible supply chain. We are committed to building ourselves into a world-class supplier of clean energy with the state-of-the-art technology, advanced management, value creation and innovation-driven approach.

### High Quality and Efficiency the Road to Grow Stronger and Healthier

Expectations of stakeholders	<ul> <li>Fit in industry trends to create value upside</li> <li>Stable business growth and value return</li> <li>Attractive development opportunities; open and transparent selection process of suppliers; mutual benefit</li> <li>Supply of quality coal, electricity and coal chemical products; convenient and considerate services</li> <li>Effective and consistent risk prevention; compliance and incorruptibility</li> </ul>
Our efforts	<ul> <li>Strengthen segment synergy to fully explore the coal-based value chain</li> <li>Adhere to modern corporate governance structure for healthy operations and compliance</li> <li>Support business growth by efficient management and base profitability upon refined management</li> <li>Provide consistent product quality and convenient and worry-free services</li> </ul>
Achievements of actions	<ul> <li>Profit before income tax for 2014: RMB60,945 million</li> <li>Achieved higher efficiency and lower cost through the SH217 Program and refined management</li> <li>Stabilized coal product supply; gained customer trust by adjusting services in full consideration of their demands</li> <li>Adhered to accountable procurement and promoted mutual benefit on supply chain</li> </ul>
Plans for 2015	<ul> <li>Respond to market with seamless business collaboration and promote efficiency of integration</li> <li>Continue to provide customers with quality products and satisfactory services</li> <li>Ensure consistent dividends to investors</li> <li>Continue to optimize management to support business development</li> <li>Ensure business integrity and compliance; strengthen risk management</li> </ul>

### **CORPORATE GOVERNANCE**

With a well-established modern corporate governance structure in place, the Company continues to introduce management innovations, strengthen internal control, risk management and anti-corruption, and optimize the governance mechanism with clearly-defined terms of reference and comprehensive systems for accountability and effective check and balance. These efforts led to continuous improvements in our corporate governance practices.

#### High Quality and Efficiency: the Road to Grow Stronger and Healthier



As at the end of 2014, the Board comprised 8 directors, including 1 female director. In 2014, the Board held 8 face-to-face meetings, where more than 50 proposals on annual report, remuneration of directors and supervisors, reappointment of auditors and other matters were considered. The Group convened 1 annual general meeting, 1 A-share class meeting and 1 H-share class meeting, and 1 extraordinary general meeting.



Please refer to page 22 of the 2013 CSR Report and Sections VII, VIII, IX and X of the 2014 Annual Report of China Shenhua for detailed information in respect of general meetings, Board of Directors, Supervisory Committee, senior management and corporate governance of the Company.

### High Quality and Efficiency the Road to Grow Stronger and Healthier

### **COMPLIANCE IN OPERATION**

China Shenhua strictly observes Chinese laws and regulations, international conventions and business ethics. We improve internal control and risk management system based on compliance operation, strictly prohibit the bribery and corruption in business, and constantly improve our corporate management in compliance with laws.

### • Internal Control and Risk Management

To minimize operational risk, the Company focuses on core businesses and management requirements to strengthen internal control system and supervision of audit. A linkage and feedback mechanism between the mobile data master platform and IT application systems/platforms has been established to boost internal control efficiency.

Addressing risk compliance management on overseas operations, the Company proactively improved its compliance management system on economic intrinsic safety and comprehensive risks. Through ex ante, in-progress and ex post risk management from the mechanism, risk compliance is well integrated with day-to-day operations and management. Meanwhile, to cope with legal instability of certain countries where our projects are operated, we strengthened consultation to local experts to timely provide opinions on legal risk disposal for our project units.

The internal control system of the Company operated well in 2014, with no material flaw identified in connection with its design or execution.

Please refer to Section XI of 2014 Annual Report of China Shenhua for the third party audit report on internal control in connection with the Company's financial report.

Please refer to page 25 of the 2013 CSR Report of China Shenhua for detailed information in respect of internal control mechanism.

### Anti-corruption

The Company continuously pushes forward the establishment of corruption punishment and prevention system under the integrity concept of "having right attitude towards fame and wealth, being prudent in exercising power and devoted to responsibilities". Disciplinary inspection, audit function and delegation to Supervisory Committee are coordinated to reinforce a range of anti-corruption measures including responsibility for anti-embezzlement, supervision and inspection, integrity education, integrity risk control assessment system, and smooth whistleblowing and verification channels.

### High Quality and Efficiency: the Road to Grow Stronger and Healthier



### Integrity education

The Company insists on a "zero tolerance" attitude<sup>Note</sup> on corruption to ensure smooth whistleblowing channels. In 2014, the Company accepted 204 cases reported by petitions, verified 125 cases, imposed punishment on 41 individuals, and recovered economic losses of RMB446.2 thousand. All whistleblowing clues were handled by the Supervision Department in strict confidentiality, and there was no retaliation to whistleblower in respect of corruption cases during the year. The Company continued to enhance post-specific integrity training and self-discipline education. In 2014, the Company held a total of 1,239 anti-corruption education activities with 67,851 person-times attending.

Note On 6 December 2014, China Shenhua published the Announcement on Resignation of a Non-Executive Director, disclosing that Mr. Wu Ruosi, a non-executive director of the third session of the board of directors of the Company appointed on 22 August 2014, resigned from his office on 24 November 2014. For details of the resignation of Mr. Wu Ruosi, please refer to Section VI of the Company's 2014 Annual Report and the relevant announcement.

### High Quality and Efficiency the Road to Grow Stronger and Healthier

The Company continued to conduct internal performance inspection. In 2014, the Company launched 229 performance inspection programs, adopted 550 supervision-based recommendations, and implemented 68 supervision-based decisions with a focus on safe production, materials procurement, fund management, construction, bid invitation and tendering and other key areas and links.

With a corporate vision to becoming a world-class supplier of clean energy, China Shenhua requires its executives preserving their moral integrity and contributing positively to the integrity and anti-corruption cause.

### Zhang Yuzhuo, Chairman and executive director of China Shenhua Energy Company Limited

The Company continued to improve its power governance system. For bid invitation and tendering, financial management, materials procurement, construction, hospitality management, post-related consumption and other key areas and links, we optimized the anti-corruption system and procedures and extended the requirements to our suppliers and business partners. Anti-bribery in business and anti-corruption requirements are expressly set out in agreements including the Agreement on Business Ethics to ensure their performance in a transparent and standard manner. The Company expressly prohibits accepting, either directly or disguisedly, any properties from others for their benefit.

### Case study: Foreign materials procurement center of Shenhua Materials Group focused on anti-corruption to fuel its development

The foreign materials procurement center of Shenhua Materials Group (the "Center") took initiatives to carry forward anti-corruption activities, seeking to establish a clean, transparent, green and safe procurement atmosphere. In early 2014, executives of the Center took the lead to sign the Undertakings on Integrity, fulfilled the procurement duty in strict accordance with such undertakings, and carried out self-inspections regularly. Integrity risk prevention and management are included into the Center's overall risk management. Bid invitation management and contract management measures are strictly followed in the procurement course. In accordance with the Guides on Strengthening Integrity Risk Prevention and Management of Central Enterprises and the 21 Rules of Shenhua, the Center formulated the Code of Ethics for Foreign Materials Procurement Center of Shenhua Materials Group, aiming to continuously improve its integrity culture through system construction and standard management.

### SYNERGISTIC DEVELOPMENT

Based on synergistic development of its coal mining, power, transportation and coal chemical operations, the Company seeks to explore and capture profit from each link of the coal-based industry chain. The business collaboration and low-cost operations helped to boost the overall production and operating efficiency while enhancing the resistance capability to market risks.

#### Integrated Operations

With a commitment to upgrading business and product mix, the Company continues to advance its modern integrated operation system which covers coal, power, transportation and coal chemical operations with efficient structure, rational layout, advanced technologies and clean and safe performance, to improve support and coordination among its business segments.



# High Quality and Efficiency

### the Road to Grow Stronger and Healthier

Segment	Performance in 2014	Efficiency-boosting initiatives for integrated operations
Coal	Commercial coal production of 306.6 million tonnes Coal sales of 451.1 million tonnes	<ul> <li>Construct first-class safe and efficient mines under the requirements of "Five-high" and "Four Directions"</li> <li>Actively adapt to market by producing marketable products</li> <li>Press forward process re-engineering to upgrade quality and profitability of the coal segment through benchmarking in advance, equipment and system optimizations and ancillary renovations</li> </ul>
Power	Total power output dispatch of 199.44 billion kwh	<ul> <li>Optimize generator performance to ensure stable and efficient equipment operation</li> <li>Strengthen environmental upgrade of coal-fired generators</li> </ul>
Transportation	Transportation turnover of self-owned railways of 223.8 billion tonne km Seaborne coal of self-owned ports of 174 million tonnes Shipment turnover of 72.2 billion tonne nautical miles	<ul> <li>Develop heavy-haul railways and employ digital technology</li> <li>Continue to construct, extend and spread new networks based on the existing road, port and shipping network</li> <li>Improve handling efficiency and strengthen yard management to ensure smooth integrated operations</li> <li>Increase turnover efficiency of vessels by actively developing new markets, customers and freight sources while improving service quality and level</li> </ul>
Coal chemical	Sales of Polyethylene of 265.5 thousand tonnes Sales of Polypropylene of 268.1 thousand tonnes	<ul> <li>Establish large-scale and integrated production bases in proximity to resources</li> <li>Proactively develop modern and large-scale technologies for grading/co-generation, product refinement, and clean and efficient conversion</li> </ul>

Please refer to page 27 of the 2013 CSR Report and "Analysis On Core Competitiveness" of Section V of the 2014 Annual Report of China Shenhua for detailed information on integrated operation.

### Globalization

The Company seized energy cooperation opportunities from the call of "One Belt + One Road" to steadily extend its global presence. Based on rational investments in overseas resources, the Company took efforts to establish effective risk management, foster compound talents and improve the foreign investment information network. A strategic globalization pattern focusing on investments in Australia, Indonesia, the United States and Mongolia is taking shape.

### Case study: Sino-Mongolia energy partnership linked by a railway

Tavan Tolgoi Mine in Mongolia is the world's largest unexploited coal mine with proved recoverable reserves of approximately 6.4 billion tonnes. However, it used to rely on road transportation due to weak infrastructure, with logistics cost accounting for 60% in its coal price. In 2014, China Shenhua and Mongolia jointly developed a cross-border railway connecting Ganquan Railway (from Ganqimaodu to Wanshuiquan South station of Baoshen Railway). Upon completion of construction of the cross-border railway between China and Mongolia, the cross-border energy artery will help to expand bilateral coal trading and reduce coal transportation cost, thus facilitating energy development and cooperation between China and Mongolia.

### EFFICIENT MANAGEMENT

The Company attaches much importance to improving management standards and promoting value creation through efficient management. Through the SH217 Program, solid progress was made in business competency improvement, quality and efficiency-driven development through improving cost effectiveness, consolidation of management fundamentals and management efficiency boosting.

#### Informatization of Management

The SH217 Information Engineering Program started in 2010, with an aim at "strengthened management, optimized process and simplified operation", is designed to promote informatization of management by stage under a longstanding mechanism, to contribute to management enhancement and strategy implementation.

## **High Quality and Efficiency**

### the Road to Grow Stronger and Healthier



The Company's informatization progress in 2014 mainly included:

1	Centralized procurement	
2	Further implementation of the "mega sales" strategy and customer-centric marketing that covered a number of sales units	
3	A strengthened top-down management model with information sharing from headquarters to subsidiaries	
4	Better fund management efficiency across budget management and utilization of special funds	
5	China's first mine reserve graphic system developed to support reserve management featuring "graphic and numeral illustration, unified standards and information sharing"	
6	An information technology-based, unified and standard technology management model that is taking shape	

### Refined Management

China Shenhua aims at profit maximization by attaining superior operational quality. In 2014, the Company and its Branches and Subsidiaries carried out refined management in full swing. A series of initiatives including enhancing fixed assets and materials management, financial competency and team building were adopted to promote quality improvement and cost reduction.

# Case study: Shenbao Energy Company enhanced management on obsolete assets to create value

To reduce maintenance costs and increase management efficiency, the equipment maintenance center of Shenbao Energy Company enhanced management on obsolete assets in the principle of "prioritizing repair over replacement to turn waste into wealth". At work group level, scrap boxes are in place for classification and recycling of obsolete parts as a result of maintenance process. Components with parts in good condition and reusable are re-assembled for continued service, while those beyond repair or without repair value are disassembled for recycling. In repairing a used bucket of WK-35 electric shovel, only welding rod of RMB15.8 thousand was consumed, which standalone led to cost reduction of more than RMB3.4 million.

### COOPERATION FOR MUTUAL SUCCESS

Mutual success in harmony and sustainable development are the ultimate objectives of China Shenhua's performance of social responsibility. Operation in good faith is our solemn commitment to each of the stakeholders. Through division of responsibilities and collaboration with partners, the Company is committed to creating mutual value and sharing the achievements in order to achieve development in harmony.

### •We Care About Our Investors

### Information disclosure

The Company sticks to improving its information disclosure system by continually increasing information disclosure quality, including information comprehensiveness, authenticity, timeliness, easy to access and understand and compliance. The enhanced information communication provides investors a thorough picture of the Company's operation highlights and business plans. In 2014, China Shenhua was named the Excellent Team of Information Disclosure (Class A) 2013 by the SSE.

### High Quality and Efficiency the Road to Grow Stronger and Healthier

### Investor Communications

In response to the lingering coal market recession and capital market volatilities in 2014, the Company communicated extensively and candidly with investors and analysts. We met analysts and fund managers for over 850 person-times through results presentations, small and medium shareholders meetings, online meetings, teleconferences, investment forums and roadshows.

#### **Investor Returns**

The Company is committed to improving profitability and safeguarding investor interests on the basis of sound business results. The Company adopts a consistent and stable cash dividend distribution policy with high payout ratio, and seeks to steadily improve the dividend yield. In 2014, the Board proposed to distribute a final dividend for the year of RMB0.74 per share (inclusive of tax), representing 40% of its basic earnings per share under the Accounting Standards for Business Enterprises, totaling RMB14.718 billion (inclusive of tax). The Company's total cash dividends amounted to RMB139.0 billion from 2005 to 2014.

# Accumulated cash dividends of China Shenhua (RMB billion)



### Historical final dividends of China Shenhua (RMB/share)



Please refer to page 36 of the 2013 CSR Report and Section XII of the 2014 Annual Report of China Shenhua for detailed information of investor affairs.

### •Services to our Customers

The Company closely monitors and seeks to bring the value demand of customers to each link of its production and operation, and creates more value for them through offering quality, efficient, safe and green products and services.

#### **Customer Service Management**

Upholding the concept of "delivering customer-focused and customeroriented services", the Company has established a customer service management system based on the Management Methods on Coal Customers, supplemented by implementation rules such as the Management Rules on Coal Customer Services, the Management Rules on Long-term Contracted Coal Customers and the Management Rules on Review of Coal Customers. We attach importance to protection of customer information. Customer data are centrally managed in accordance with requirements of CRM, ERP and other systems, leveraging upon information technology platform to protect customer privacy. During the year, there was no indecent of violation of customer privacy or loss of customer data.

We listen to customer appeals through sales order meetings, customer services, customized development, customer satisfaction surveys and other means, and have developed mechanisms to protect their basic rights and improve their satisfaction in order to enhance the soft power of our brand. In 2014, the Company organized 4 expert visits to 15 customers in the power, metallurgy and chemical industries in eastern, southern and northeastern China, to provide onsite solutions to the issues arising from procurement and use of our coal products.

### High Quality and Efficiency the Road to Grow Stronger and Healthier

### Supply of Quality Products

The Company advocates the business philosophies of honesty and trustworthiness, carrying out product quality management in strict compliance with national laws and regulations and relevant standards to closely align coal, power, coal chemical and other products with customer needs. In 2014, total revenue from the sales to top five customers of the Company amounted to RMB39,960 million, representing 16.1% of its total revenues.



Train loaded with Shenhua coal heading for users with direct railway access

### **Coal Products**

To ensure coal quality and provide customers with high quality products, the Company formulated the Management Methods on Coal Quality in accordance with relevant international, national and industrial standards, and established a dedicated unit for coal quality management. With wellestablished internal coal quality management systems across subsidiaries, mines, plants, stations and ports, China Shenhua strictly implements post-specific quality rules, accountability and relevant assessment, reward and punishment measures. In 2014, the Company had one legal dispute relating to coal quality and there was no case of product recall due to quality reasons.
Customer demands	Our solutions		
Staying closer to market prices	According to customer requests, the Company changed the quarterly pricing as agreed in annual contracts to a monthly-based pricing mechanism that is subject to flexible adjustments according to market updates, thus realizing the essential market-oriented coal pricing		
Stable coal quality, to avoid significant fluctuations	Coal quality monitoring and testing units are required to enhance management to ensure stable coal quality		
Adjustable off-take coal volume and types according to market changes	Off-take coal volume and types may be adjusted rationally in case of substantial changes due to production and operation changes, or otherwise should be discussed with customers if merely impacted by market change		
Flexible credit term and payment terms including bank acceptance bills	Qualified bank acceptance bills were accepted temporarily by the Company in March to September when coal market plunge led to liquidity difficulty for most of customers		

## Solutions to address difficulties and issues of customers in 2014

Please refer to page 40 of the 2013 CSR Report of China Shenhua for detailed information in respect of our coal quality management system, units and customer service system.

## High Quality and Efficiency the Road to Grow Stronger and Healthier

#### **Power Products**

The Company's efficient integration of coal and power supply system has underpinned its reliable and stable power supply. Through a variety of means including company visit, correspondence, meeting, news briefing and power transaction negotiation, the Company takes initiatives to communicate with State Grid Corporation of China, China Southern Power Grid Co., Ltd., provincial and local power companies and direct power supply users, to listen to their needs and collect their feedback in a timely manner. With an aim at energy-efficient and environmentally friendly enterprise, the Company stepped up the desulfurization and denitrification renovations of generators to reduce pollutant emission in order to provide green power supply. In addition to a new domestic record in clean soot emission of coal-fired generators, we further improved the quality of our power products.

#### **Coal Chemical**

As the only super-large coal-to-olefins industrialization model project authorized by the national Eleventh Five-Year Plan, our Baotou Coalto-Olefins Project solved the world-class difficulties in the world's first engineering of coal to low-carbon olefins technologies and longtime operational stability. Methanol conversion rate reached above 99.95% and olefins (ethylene + propylene) selectivity was above 78%, ensuring stable quality of coal chemical products.

#### •A Responsible Supply Chain

Responsibility has been embedded throughout our partnership with suppliers. On the basis of the Green Procurement Approach, key considerations are defined in supplier selection including financial position, equipment status, energy saving and environmental measures, supply chain management and occupational safety. Under the same conditions, suppliers with sound management and active fulfillment of social responsibility will be given preference. Life cycle management of material suppliers is achieved through a common information system. As at the end of 2014, the system had 23,323 registered suppliers, including 9,571 suppliers newly added in the year. The Company's top five suppliers in 2014 were domestic suppliers, to whom the Company paid a total of RMB19,647 million for purchases, representing 16.0% of its total annual purchase.

In 2014, the Company enhanced communications with suppliers through forums, visits by business units of corresponding segments and onsite meetings. A business information communication platform for collaboration with suppliers is taking shape, allowing suppliers to understand China Shenhua to promote partnership and mutual benefit. In 2014, the Company selected 130 material suppliers by environmental criteria and evaluated 130 material suppliers.



Material suppliers by geographical region<sup>note</sup>

Please refer to page 43 of the 2013 CSR Report of China Shenhua for detailed information of supplier management and the responsible supply chain.

Definitions of geographical regions are as below: Northern China (Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia); Northeastern China (Heilongjiang, Jilin, Liaoning); Eastern China (Shanghai, Shandong, Jiangsu, Anhui, Jiangxi, Zhejiang, Fujian); Central Southern China (Henan, Hubei, Hunan, Guangdong, Guangxi, Hainan); Southwestern China (Chongqing, Sichuan, Guizhou, Yunnan, Tibet); Northwestern China (Shaanxi, Gansu, Ningxia, Xinjiang, Qinghai); Others (HK, Macau, Taiwan & overseas).



# DRIVING REFORM

## THE ROAD TO INNOVATIVE UPGRADE

China Shenhua remains committed to choosing an innovation-driven development path, and continues to improve the technological innovation system, raise independent R&D capabilities as well as promote the commercialization and application of achievements in science and technology through the integration of science and technology resources as well as the regeneration of innovation vitality for pushing the Company to achieve sustainability using science and technology innovation as the engine.

## **Driving Reform**

## the Road to Innovative Upgrade



## MOTIVATING INNOVATION VITALITY

The Company is transforming innovation ideas and making a breakthrough in traditional innovation models by introducing external innovation forces to gradually establish a sound scientific and technological innovation system so that an open innovation model with Shenhua characteristics has begun to take shape for motivating its innovation vitality.

#### • Scientific and technological innovation system

The Company has set an innovation strategy aimed at "supporting Shenhua in scientific and technological development, leading the industry in technological progress, enhancing scientific and technological strength for China and being a leading player in global coal technology", for establishing a four-tier technological innovation system comprising decision-making, management, R&D and execution, using system, management and technological innovation as the points of entry for enhancing the overall independent innovation capability and core competitiveness.

Institutional innovation	<ul> <li>Establish a sound innovation system by restructuring offices</li> <li>Establish an assurance system that covers the entire cycle of project examination and approval, research and development, and acceptance and evaluation</li> </ul>
Management innovation	<ul> <li>Project evaluation management: set scientific assessment standards based on achievements in science and technology at different stages</li> <li>Management and evaluation of the contributions of project staff: a direct incentive mechanism adopted for achievements in science and technology that produce benefits; a mixed ownership model for science and technology pilot projects</li> <li>A sound check-and-balance mechanism for projects: establish a restructuring mechanism, a termination mechanism and an elimination mechanism for projects</li> </ul>
Technological innovation	<ul> <li>Expand advantages and carry out independent innovation to achieve a major breakthrough in key core technology</li> <li>Continue to try solving major scientific and technological problems and implement the Company's green development philosophy, building itself into a world first-class supplier of clean energy</li> <li>Establish as soon as possible a complete technical service chain to support the Company's value creation philosophy and provide customers with clean energy solutions</li> </ul>

China Shenhua's overall scientific and technological innovation

## **Driving Reform**

## the Road to Innovative Upgrade

#### Schematic diagram of the structure of China Shenhua's technological innovation system



#### • An open innovation model

The Company made a breakthrough in closed innovation model in its concept by proactively introducing external innovation forces and combining its independent R&D platform with the strategic cooperation with institutions of higher education, research institutes and peers in the industry to enable it to grow into an entity with innovation needs, technology input, R&D institutes and of achievements to gradually form an open innovation model with Shenhua characteristics.



- Establish strategic cooperation mechanism with peer enterprises such as China Coal Technology & Engineering Group
- Science and Technology Corporation

#### China Shenhua's open innovation and its present status

## **Driving Reform** the Road to Innovative Upgrade

# Case Study: Shendong Coal Group launched "five smalls" value creation campaign

Shendong Coal Group regards technological innovation as the foundation of an enterprise. It has established a management system that governs innovation by employees and an incentive mechanism that motivates employees' enthusiasm for innovation, proactively launching the "five smalls" (small invention, small creation, small reform, small design and small suggestion) innovation campaign. It has formulated more than 30 management policies and 15 work business processes specifically for the "five smalls" campaign to help employees apply for national patents; given ample rewards for projects which received patents and taken a number of initiatives to launch the "five smalls" campaign on a regular basis. Shendong Coal Group has made a total of more than 4,000 achievements for the "five smalls" campaign over the years, creating more than RMB1 billion worth of direct economic benefits upon conversion to productivity.



## STRENGTHENING INNOVATION CAPABILITY

China Shenhua strengthens its corporate innovation capability in terms of capital, personnel, assessment and other aspects; increases its input in scientific and technological innovation; builds an attractive personnel platform; places emphasis on the protection of intellectual property rights; is proactive in undertaking national and industrial innovation tasks; and promotes enterprise technological advancement, transformation and upgrade.

#### Assuring input in science and technology

Financial support for research and development is a major assurance for scientific and technological progress. The Company focuses on stepping up science research investment in the field of low-carbon environmentally friendly technologies and products such as the research and manufacturing of major excavation equipment, key technology in green coal mining, ultra-low emission technology for coal-fired power plants, key technology in large axle-load heavy-haul railway as well as research and manufacturing of core equipment. In 2014, the Company's investment in R&D amounted to RMB1,223 million.



#### China Shenhua's input in R&D

#### Pooling together science and technology professionals

The Company places emphasis on the buildup of a science research team by establishing an open innovation platform which creates an attractive special area for a group of high caliber personnel. High-end technicians are brought into the Company by establishing an "academician expert workstation". In 2014, 16 new academicians were recruited into the Company, bringing the total number of workstation academicians to 29. Moreover, internally a career development path was opened up for technical and skilled personnel, staff development strategic planning and chief expert policy were carried out and an effective incentive mechanism was set up.

## **Driving Reform** the Road to Innovative Upgrade

## Protecting intellectual property rights

The Company places emphasis on and is proactively carrying out the protection of intellectual property rights which forms an integral part of scientific and technological innovation. It continued to step up patent applications and strengthen the protection of core technology by means of intellectual property control, risk identification and raising employees' awareness of patent protection. In 2014, the Company received 400 patent licences and 78 new invention patents, and hosted 15 various training programmes on intellectual property rights with more than 600 employee attendances. As at the end of 2014, China Shenhua received a total of 1,711 patent licences which included 295 invention patent licences. The patents for "A method for extracting gallium from fly ash" and "A method for preparing metallurgical-grade alumina by means of CFB fly ash" were granted by the US and Russia respectively.



Measures for protecting and managing intellectual property rights

#### Acting as an innovation engine

China Shenhua is undertaking major technological breakthroughs and research tasks in the relevant fields, and taking up a mission for technological innovation and upgrade in the industry to promote the low-carbon development of the high-carbon industry and build a scientific and technological innovation demonstration platform to push for innovation development in the industry. In 2014, the Company took the lead in organizing the application for national science and technology planned projects such as the "Key technologies and demonstration project for ultra-low emission control in large-scale coal-fired power plants", the feasibility deliberations of which have been completed, and a total of RMB10 million in state funding was applied. "Shendong's world-class demonstration of mine construction at Daliuta" was rated by the National Development and Reform Commission as a low-carbon technological innovation and commercialization demonstration project, receiving a state subsidy of RMB10 million.



# COMMERCIALIZING ACHIEVEMENTS IN SCIENCE AND TECHNOLOGY

The Company continues to optimize and integrate technology resources, assures the tackling of major science research projects and pushes forward science and technology output steadily. The Company promotes the industrial upgrade and strategic transformation of the enterprise through the application of achievements in science and technology so as to realise the clean development of the industry.

## **Driving Reform** the Road to Innovative Upgrade

In 2014, the Company set up 119 new science R&D projects, and its Branches and Subsidiaries had 398 self-financing projects under study. A series of achievements were made in key technological innovation projects such as key technology and demonstration project for green coal mining, technology research and demonstration project for ultra low emission of air pollutants from coal-fired power plants as well as key technology and core equipment research and manufacturing for coal transport on heavy-haul railways with an axle load of over 30 tonnes. A number of major projects commenced in full swing, such as key mobile block technology and equipment research for Shenhua heavy-haul railways.

# Case Study: The world's first heavy-haul train with a TD-LTE communication network operated on Shuohuang Railway

In September 2014, a heavy-haul composite train with an axle load of 30 tonnes and tracking mass of 25,000 tonnes pulled out of the Shenchi South Station of Shuohuang Railway, marking the world's first application of the fourth generation mobile communication technology on a heavy-haul railway.

The state-of-the-art TD-LTE technology applied to Shuohuang Railway provided 4G dedicated network signal coverage along a nearly 600 km railway from Shenchi South Station to Huanghuagang Station, serving as a reliable transmission platform for various heavy-haul train integrated services such as dispatching voice calling and video surveillance, increasing the transportation capacity of Shenhua's railways significantly. With independent intellectual property rights, the project promoted the application of LTE-R technology in China's railway industry and strengthened the core competitiveness of China's railway heavy-haul technology in the international arena.



China Shenhua places emphasis on the commercialization and application of achievements in science and technology. In 2014, the Company continued to strengthen the R&D for applied scientific and technological projects as well as the promotion and application of new technology achievements, having created good economic, environmental and social benefits.

Business area	Patent achievement	Benefit
Coal	Gas drainage system	Through the application and study of a gas drainage system, the increased drainage capacity of pumping stations was equivalent to that of an additional pumping station. A cost of about RMB10 million was saved.
	ANFO explosives and their manufacturing process	Since oil phase materials with independent intellectual property rights were used, RMB8.4 million was saved annually.
Power	Technology for piston rod for LPSV control pedestal	A maintenance cost of RMB20,000 was saved annually.
	Cooler for load- end bearings in low- pressure horizontal machines	It effectively reduced the temperature of machine bearings in high-temperature harsh conditions during summer, improved machine operating conditions, substantially reduced the failure rate of machines, extended the maintenance cycle of machines, increased machine running time and raised the re-utilization rate of the equipment, thus valuable for promotion and use widely.
Transpor- tation	Silo	It replaced open yard to prevent leakage of coal dusts. Compared with the existing handling technology, it reduced 30% of the water for production purposes and 10% of the energy consumption, making unattended automation of technology systems possible at yards.
	Software V1.0 for integrated control system for port management and control	The research achievement was applied to Gaolan Port in Zhuhai. During its application for more than a year, the continuity of the business operations at the pier was assured to meet $7 \times 24$ -hour mode of operation. New output amounted to 9.86 million tonnes, and new profit and tax amounted to RMB5.9085 million.

### Achievements in the application of some of the Company's patents in 2014

# PRODUCTION SAFETY

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## MOVING TOWARDS ZERO INCIDENT THE ROAD TO PRODUCTION SAFETY

Production safety is the foundation for the sustainability of an enterprise. China Shenhua regards the life safety of its employees as having the highest value. Based on the production safety target of "resolutely preventing relatively major accidents, seeking zero fatality rate and aiming at zero injury rate", the Company continued to launch a campaign on enhancing safety performance, deepened the setup and implementation of the "five ones" project for experience in production safety to tackle difficulties, and consolidated the foundation for maintaining production safety at internationally advanced standards.

**BREES** 

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## **Moving towards Zero Incident**

## the Road to Production Safety



## CONCEPT OF PRODUCTION SAFETY

China Shenhua is fulfilling its commitment to be accountable to the life of general employees by putting safety as a top priority. It continues to uphold the policy of putting safety first, preventing accidents as a focus and carrying out control; constantly improves the system governing production safety; consolidates the safety management foundation; promotes continuous improvement of safety performance; and keeps moving towards the target of becoming an intrinsically safe corporation.

# The concept of production safety "No accident is unavoidable and no risk is uncontrollable" "Zero injury in coal mines is possible" "No excuses for excessive methane gas emission during production" "No excuses for abnormal shutdown in power plants" "No excuses for railway and port equipment failures"

In 2014, China Shenhua committed RMB4.838 billion to production safety. No major or extraordinarily serious production safety-related accidents happened throughout the year. The number of work-related fatalities was seven, representing a fatality rate per million tonnes of raw coal output at 0.009, 19 coal mines experienced a production safety period of over 1,000 days and 1 underground mine experienced a safety production period of over ten years. The power, port and shipping segments achieved the "zero fatality" target, continuing to remain at internationally advanced standards.

# Financial input into each segment for production safety in 2014 (RMB10,000)

# or Fatality rate per million tonnes of raw coal 00) production 0.749 Domestic coal mi 0.564 China Shenhua



## **Moving towards Zero Incident** the Road to Production Safety

## MANAGEMENT OF RISK PREVENTION AND CONTROL

China Shenhua upholds the management concept of putting safety first and preventing accidents as a focus. By using risk prevention and control as the core and control of unsafe behaviour as the focus, and with the help of management methods based on information technology, it established a database on sources of danger, optimized the risk management and control mechanism, and reinforced the foundation for production safety.



## Case Study: Strengthening the control of hazardous factors and pushing forward the management of risk prevention and control

To keep improving the Company's performance in production safety, Bayannur Energy Company further pushed forward its management of risk prevention and control by strengthening the control of hazardous factors to ensure that countermeasures for accidents were in place.

Bayannur Energy Company set up a risk management team to identify and assess the sources of hazards in a scientific and rational manner, and sorted out 864 risk factors to give employees a deeper understanding of the dangers in the work they were engaged in and the consequences, to strengthen their risk prevention awareness and to regulate the procedures for identifying sources of hazards and behaviour at work.

The Company continued to strengthen safety supervision and inspection, and pushed forward the setup of an intrinsically safe system steadily. The intrinsically safe system becomes the main tool for the management personnel at all levels to grasp safety management, and was basically implemented in each segment so that process control and management review become regular safety management. In 2014, the Company examined and evaluated the setup of an intrinsically safe system in 128 third-tier entities of 21 Branches and Subsidiaries, with 28 entities attaining first class, 53 entities attaining second class, 34 entities attaining third class and 8 entities attaining fourth class in intrinsic safety. The rate of attaining first class and second class in intrinsic safety was 63.28%.

# Distribution of third-tier enterprises in terms of intrinsic safety rating (number of enterprises)



## **Moving towards Zero Incident** the Road to Production Safety

## SAFETY TECHNOLOGY INNOVATIONS

China Shenhua continued to proceed with the strategy of "promoting safety with science and technology" by carrying out R&D of key technology and equipment for production safety. In 2014, the Company stepped up the tackling of safety technical problems in key areas so that a breakthrough was made in a number of key and core safety technologies, and safe production management standards were raised considerably by the achievements in safety technology innovations.

Major achievements in safety technology innovation during the year

- Achievements in China Shenhua's "Key equipment research and manufacturing as well as demonstration project for the construction of digital mines" were promoted at the "On-site meeting on deep integration of information technology and industrialization for intelligent mines in the national coal industry" organized and held by the China National Coal Association, marking Shenhua's digital mine construction being at the forefront of China's coal industry.
- China Shenhua succeeded in carrying out R&D of the world's first set of swift and efficient tunnel boring system, and in completing the fine-tuning of the system in Shendong Coal Group. The efficiency of mining and the standard for production safety were raised considerably as a result.
- The compilation of the national "Technical Manual for Operating Procedures at Mines", led by China Shenhua, was completed to promote progress in industry operating procedures.
- The completion of the "Research on Mining Technology and Equipment Standards System for Continuous Miners and Formulation of Important Standards" and the "Design and Development of a Standard Symbol Library for Mine Plans", led by China Shenhua, filled the gaps in the industry in terms of technical standards.

China Shenhua implemented information technology in safety management steadily. It was the first company in China to set up an integrated information technology system for intrinsic safety management and to apply the system to its three management levels covering the headquarters, Branches and Subsidiaries and production units, enabling information technology management in the entire business process ranging from the identification of the sources of hazards, risk assessment and standards execution to the management and control of potential hazards as well as supervision and evaluation, providing a major technical support for the total implementation of the intrinsic safety system.

## Case Study: China's first efficient tunnel boring machine (TBM) successfully developed

Safety on coal mine roadways, efficient tunneling and support are major scientific and technological needs of the industry to promote the high efficiency and high output of mines as well as to enhance the safety standards for mines. Supported by the construction of a world-class pit at the Daliuta Mine in Shendong mining area, China Shenhua developed a new and efficient TBM as well as its auxiliary support equipment and a self-moving belt conveyor, and was actively carrying out a compatibility, adaptability and reliability study on rapid tunnel boring techniques and tunnel boring equipment. In April 2014, China's first efficient TBM was successfully developed. In June, an underground mining industrial test run was conducted, which marked the complete setup of the world's first efficient TBM process system. This new system can reduce more than 1/3 of the number of workers, and substantially raise the mining efficiency and the standards for production safety.



## SAFETY AWARENESS OF EMPLOYEES

Production safety serves employees, who form a core element of production safety. Committed to a people-oriented concept, China Shenhua launched various types of production safety training courses, continued to enhance the quality of its employees in terms of safety and built a workforce with excellent quality. In 2014, China Shenhua held 1,036 safety training sessions of various types, with 106,172 employee attendances and a total length of 66,546.5 hours of training for effectively strengthening employees' safety awareness and enhancing their quality in terms of safety.

## **Moving towards Zero Incident** the Road to Production Safety

## Case Study: Safety supermarket activities at Shendong Cuncaota Coal Mine

To mobilize the enthusiasm of general employees in learning safety knowledge, mastering safety skills and carrying out safety operations at work sites, safety supermarket activities were organized and launched at Shendong Cuncaota Coal Mine, during which employees were rewarded shopping coupons of different face values based on the degree of difficulty of the questions about safety knowledge they answered. They could redeem daily necessities of an equivalent value at the supermarket with these shopping coupons.



## FEATURED SAFETY CULTURE

Committed to the principle of "safety culture depending heavily on establishment", China Shenhua launched a variety of activities for building a safety culture to regulate employees' production safety behaviour, create a strong atmosphere of production safety and cultivate a safety culture with Shenhua characteristics to let the blessings of production safety blossom among employees.

In 2014, China Shenhua conducted a statistical analysis of coal mine accidents over the recent ten years, summed up the control focuses, and selected typical cases of accidents for producing educational videos and carrying out safety education and training activities with contents principally comprising cases of accidents for warning purposes. These activities gave an early warning and truly enabled employees to learn a lesson from these accidents and fully comprehend its meaning so as to prevent recurrence of similar accidents.

## Moving towards Zero Incident: the Road to Production Safety





## PEOPLE-ORIENTED STRATEGY THE ROAD TO HAPPINESS

The Company upholds the concept of "inclusive recruitment for nurturing Shenhua talents", and has established a mechanism to recruit, nurture and make full use of its talents and their capabilities for creating an open, fair and just environment and developing for its employees a channel for growth and a platform for development.

## **People-oriented Strategy**

## the Road to Happiness



## **PROTECTION OF RIGHTS AND INTERESTS**

The Company complies with national labour laws and regulations, and focuses on protecting the legitimate rights and interests of employees. It adheres to fair, just and open recruitment policies, and provides employees with competitive salaries and welfare. To protect employees' right to information, right to speak, and right to appeal, it develops transparent and open communication channels. In 2014, the Company had no serious incidents of violation of the national labour laws and regulations and relevant standards.

#### • Composition of employees

As at the end of 2014, the Company had a total of 92,738 employees. The proportion of female employees was 20.9%, the proportion of employees with education at undergraduate level or above was 31.5%. The age mix and specialty mix of employees became more reasonable. In 2014, the Company recruited a total of 3,599 new employees, and staff turnover rate was 2.8%.

#### Employees by age



#### Employees by specialty

Category of Professional	As at the end of 2014 (persons)	As at the end of 2013 (persons)		on-year change (%)
Operation and maintenance	61,599	60,762	•	1
Management and administration	13,252	12,769	•	4
Finance and accounting	1,562	1,531	•	2
Research and development and technical support	10,083	9,587	~	5
Sales and marketing	2,282	2,302	$\mathbf{v}$	1
Others	3,960	4,536	$\mathbf{v}$	13
Total	92,738	91,487	•	1

## **People-oriented Strategy** the Road to Happiness

### Employees by education background

Type of education	As at the end of 2014 (persons)	As at the end of 2013 (persons)		on-year hanges (%)
Postgraduate or above	2,887	2,440	~	15
University graduate	26,350	24,155	~	8
College graduate	24,577	24,201	~	2
Vocational school graduate	14,715	15,330	×	4
Technical school and high school graduate or below	24,209	25,361	~	5
Total	92,738	91,487	•	1

#### Staff turnover rate by age and by sex

Age/Sex	Male (%)	Female (%)	Total (%)
Aged 29 or below	0.48	0.07	0.55
Aged 30-39	0.61	0.11	0.72
Aged 40-49	0.57	0.2	0.77
Aged 50-54	0.13	0.06	0.19
Aged 55 or above	0.34	0.2	0.54

#### • Basic rights and interests

The Company strictly complies with relevant laws and regulations including the Labor Law and the Labor Contract Law to foster a fair and lawful employment environment and a healthy and safe working environment, with reasonable working hours and holiday arrangements in accordance with national requirements. The Company prevents any discrimination due to gender, race, religion, political affiliation, age or other differences, objects to forced labour and prohibits child labour. All employees signed labour contracts in compliance with the law to enhance labour contract management, with labour contract signing ratio reaching 100%. In case of any violation, the Company will carry out investigation and impose necessary punishment on the employing unit and demand rectification within a specified period. In 2014, the Company had no serious breach of any standards, rules or regulations on child labour and forced labour.

To respect and value female employees, the Company endeavours to arrange positions for female workers according to industry characteristics to ensure their enjoyment of equal and competitive remunerations and welfare as well as equal opportunities in career development. Female worker committees have been established in the headquarters and Branches and Subsidiaries of the Company, primarily responsible for the matters relating to female workers. Special Collective Contract for Female Workers was implemented in order to effectively safeguard their legitimate rights and special interests.

## **Case study:** "Golden Idea Campaign" — a new platform for the development of female workers

To demonstrate the talent and skills of female workers and stimulate their development, Zhunchi Railway Company Limited organized the "Golden Idea Campaign" for all female workers regarding company infrastructure, operation and daily management. They put forward suggestions for improving work methods, enhancing work efficiency and upgrading position skills with reference to their personal work experience. The activity was well received with 16 female workers submitting nearly 30 ideas. The Company displayed the suggestions in the staff activity room and QQ groups for all staff to appreciate the wisdom and enchantment of female workers.

The Company seeks to protect the interests of ethnic minority employees and employees with disabilities. By taking into account the characteristics of the posts, the Company arranges positions for employees with disabilities according to their competencies. The Company fully respects the customs and habits of ethnic minority employees, and takes the initiatives to meet their special needs in diets, religious belief and other aspects. As at the end of 2014, the Company had 344 employees with disabilities and 4,980 ethnic minority employees in its establishment.

#### Remunerations and welfare packages

The Company provides employees with competitive remuneration packages and personalized benefits in compliance with the remuneration philosophy of "setting levels according to position, introducing differences according to ability, and paying remuneration according to contribution". The Company's remuneration system focuses on scalability and continuity, where total salary is linked to and reasonably adjusted based on total profit, per capita efficiency, labour and employment and performance assessment through establishing an interactive mechanism involving these elements. Based on annual performance assessment, the Company paid salary, bonus, allowance and subsidy totaling RMB12,561 million to employees in 2014.

The Company contributes to statutory social insurance programs and the housing fund in accordance with the law. The Company also maintains supplementary pension insurance, supplementary medical insurance and accidental insurance for its employees. The Company's employee social insurance coverage ratio was 100%. Employees are entitled to paid leave, maternity leave, paternity leave and other statutory leave in accordance with the law. In 2014, no employee failed to resume employment following maternity leave or paternity leave.

## **People-oriented Strategy** the Road to Happiness

#### • Democratic Management

The Company established the employee representative committee system and the labour union in accordance with the law. On the basis of equality, mutual benefit and mutual agreement, collective contracts are entered into with the Company by the labour union on behalf of employees to safeguard the legitimate rights and interests of employees. The formulation and implementation of systems closely involving employees' interests are subject to consideration at meetings of the employee representative committee in accordance with statutory procedures to provide adequate protection to employees' right to know, express, participate and supervise. The labour union of the Company has dedicated officers, and 80% of the second-tier enterprises had labour unions formed, with 99% of the employees having joined as members.

The platform and mechanism for communication between employees and the management are one of the Company's focuses. Through channels such as chairman's mailbox and mine manager's hotline, the Company gathers opinions and suggestions of employees and solves the problems in their work and life in a timely manner. Through the internal website, periodicals and newspapers, announcements and notices, employees are kept informed of the Company's major operations and updates. In 2014, Shendong Coal Group carried out an employee satisfaction survey to better understand the Company's objective situation and employees' genuine comments, which demonstrated that the level of employee satisfaction reached 70%.

## **OCCUPATIONAL HEALTH**

The Company attaches great importance to occupational health and safety. The occupational hazard control bodies, management rules, archives, operational procedures and assessment systems at various levels constitute a well-established occupational safety and health management framework.



A heart-warming corner for physical examination

In strict compliance with the Law of the People's Republic of China on Prevention and Control of Occupational Diseases (中華人民共和國職業 病防治法) and Coal Mine Safety Rules (煤礦安全規程), the Company enhanced its occupational health management by providing employees with sufficient labour protective gear and necessary protection measures to ensure the safety and health of employees and arranging regular physical examination for employees to strengthen the prevention and treatment of occupational diseases. During the reporting period, the Company had no serious breach of any standards, rules or regulations on health and safety of employees.

The Company increased its investment in the prevention and treatment of occupational diseases in traditional workplaces and cooperated with academic institutions on the research and development of relevant technology and equipment replacement for the comprehensive treatment of dust, noise, heat and toxic and hazardous substances. In 2014, the Company invested RMB0.4 billion in occupational health and the number of additional occupational disease patients was 14 (cases) <sup>Note</sup>. The Company took timely measures, including reassigning positions, making compensation for work-related injury and arrangements for recovery and treatment, for patients diagnosed with occupational diseases to ensure proper measures are in place.

## CAREER DEVELOPMENT

Adhering to the philosophy of "investment in talents is the most beneficial investment" and taking the development of employees as the basis of corporate development, the Company provides clear career paths for employees and strengthens employee training to maximize the vitality and value creation of talents.

#### • Development path

The Company provides three career paths, namely business management, professional expertise and skilled operation, for which rank promotion mechanisms linked to performance assessment are established. The human resources control system has been reinforced by the establishment of the employee innovation platform and optimization of the talent development mechanism to increase development opportunities for employees, inspire employees' enthusiasm and promote their specialized and professional career development.

To carry forward its skilled operation team building campaign, the Company further promotes the career development of skilled talents. In 2014, the Company appointed over 600 skilled talents at various levels. The Company endeavoured to develop skill masters and senior skilled workers with mastery of the tricks of the trade through international skill competition, training session and contest, rational proposals for technological upgrades and innovation activities, so as to build up more post adepts and skill models. As at the end of 2014, 5 chief skill masters, 24 skill masters and 14,000 technological and skilled workers at various levels were selected.

The annual body checks arranged by the Company are usually conducted in April and May and the reports are received in June. As a result, the number disclosed in this report is for 2013, and the number for 2014 will be disclosed in the 2015 report.

## **People-oriented Strategy** the Road to Happiness

#### • Training System

The establishment of the talent training system is further enhanced under a multi-level and multi-channel mega training system based on Shenhua Training Center Co., Ltd. and the training centres of various business segments. The Company provides training sessions specific to employees at different levels and of different categories to meet the training needs of employees and enhance professional competence of employees. In 2014, the Company invested RMB189 million in training, and provided training sessions to employees with a total of 1.1745 million attendances and 3.9406 million training hours, with an average of 3.36 training hours per person-time.

## CARING ABOUT EMPLOYEES

In order to make the miners of Shenhua the happiest among their peers and improve the well-being of employees, the Company cares about the work and life of every employee and strives to enhance their sense of security, realize their sense of accomplishment and improve their sense of happiness.

#### • Caring for Employee Life

The Company is committed to improving the life quality of employees through solving practical problems for them, including the availability of clean overalls before work and hot meals under the shaft, the establishment of dating platform for young workers, the renovation of staff quarters and shanty towns, the improvement of medical conditions and caring for female employees.



Rich and delicious meals for employees

## Case Study: "Like" the "IOm<sup>2</sup> room for Motherhood"

To facilitate breastfeeding by our female employees, the labour union of the headquarters and departments including the Administrative and Logistics Department of the Company jointly made preparations for the establishment of a dedicated room called the "10m<sup>2</sup> room for Motherhood" housing chairs, tables, refrigerator, lockers and sterilizer purchased. Every effort was made to create a warm environment, gaining "likes" across the board.

"Mothers like me feel especially warm on seeing the colourful posters and the softly partitioned private space. We used to do breastfeeding in toilets as there were no suitable venues, and it is unhygienic and inconvenient to do so. Now, with this facility in place, we need not bother about such problems anymore."



-A confession from a female employee stepping out from the room

#### • Caring for employee families

The Company extends its caring to families of employees, weaving a tie of trust and understanding between employees and their families and seeking to create peacefulness and happiness for them.

During New Year and Chinese New Year in 2014, Shenbao Energy Company and Sichuan Energy Company co-organized the "Sharing Warmth with Junior Staff" campaign to share the achievements of the development of the Company with our employees by giving out "funds for warmth" of RMB1.5 million in total, so that they could enjoy happy and peaceful traditional festive occasions.

#### • Provision of assistance for employees in need

The Company values the provision of assistance for employees in need by improving the assistance system as well as giving a hand to employees in need by launching campaigns like offering financial aid to needy children of employees to support their studies, and providing needy employees with emergency relief to assist them in overcoming challenges under the care of the Shenhua family. In 2014, the Serious Disease Relief Fund for employees in need offered RMB1.2395 million to 28 employees, and the University Education Bursaries for children of employees in need offered RMB80,000 to 16 students.

#### • A great variety of entertainment activities

The Company initiated a great variety of entertainment activities, allowing our employees to showcase their talents and personalities on stage during their leisure time. In 2014, we organized a series of activities like "Shenshuo Cup", a basketball competition for Shenhua employees, "A Tour of Beidian Shengli Energy, a photography event, and "Heroines Making New Accomplishments and Joining Hands in Building a Shenhua Dream", a themed speech competition, so that our employees can strike a balance between work and life and release their stress.

## Case Study: Dating Club for Everyone

To solve the social networking problems of young employees like making friends, dating and marriage and provide them with a joyful life, Shendong Coal Group has established a Youth Dating Club to organize and carry out social networking activities like making friends, dating and marriage for the youth by organizing different kinds of gatherings from time to time.

In 2014, Youth Dating Club held events like "8-minute" speed dating and "Village Nature Walk" and ran the Shendong Dating website to resolve the communication problems among single youths during the processes of making friends, dating and marriage. Warmly received by many young singles, webpage visits reached nearly 0.6 million.



Shendong coal group youth gathering
People-oriented Strategy: the Road to Happiness





# CLEAN AND ENVIRONMENTALLY FRIENDLY THE ROAD TO ECOLOGICAL CIVILIZATION

China Shenhua examines energy conservation and environmental protection issues in the process of infrastructure construction, production and operation based on the high standards required by ecological civilization. Aiming at a "resource-conserving and environmentally-friendly" enterprise, we seek to unleash the clustering advantages of integrated multi-industries. With development and protection, control and restoration as well as conservation and efficiency enhancement taken on board in parallel, we are dedicated to creating a clean energy supply system to contribute to achieving the dream of a beautiful China. **Clean and Environmentally Friendly** 

# the Road to Ecological Civilization

Expectations of stakeholders	<ul> <li>Green development, minimum environmental impact and disturbance</li> <li>Low-carbon development, improving utilization efficiency of resources</li> <li>Circular development, supply of clean energy and technology plan</li> </ul>
Our efforts	<ul> <li>Whole process management, improvement of the three systems on energy conservation and environmental protection as well as risk prevention and control management system</li> <li>Energy conservation and consumption reduction, clean production and building itself into a supplier of clean energy</li> <li>Treatment of pollution and reduction of waste emission, environmental protection and minimum environmental impact</li> <li>Land reclamation, tree planting and ecological improvement for a ecological blueprint</li> </ul>
Achievements of actions	<ul> <li>Comprehensive energy consumption per RMB10,000 turnover of 2.43 tonnes standard coal/RMB10,000</li> <li>Average recovery rate of mining areas amounted to 88.56%</li> <li>Emission of SO<sub>2</sub> in respect of power business decreased by 16.86% year-on-year</li> <li>Emission of NO<sub>x</sub> in respect of power business decreased by 31.58% year-on-year</li> <li>The first "ultra-low emission" coal-fired generator in the Beijing-Tianjin-Hebei region was completed</li> </ul>
Plans for 2015	<ul> <li>Press ahead with the "Energy-saving Action of 10,000 Enterprises"</li> <li>Carry forward the total emission reduction campaign for the Twelfth Five-year period</li> <li>Step up implementation of the Water Pollution Prevention and Control Plan</li> <li>Enhance environmental risk management capability</li> </ul>

# MANAGEMENT OF ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION

Under a circular economy model featuring "resources – products – wastes – renewable resources", the Company, based on its coal business, carries out full-process green operations incorporating coal mining, transportation, utilization and conversion, draws upon the synergistic advantages of the industrial chain and increases products' added value by extending the industrial chain, so as to achieve simultaneous enhancements of economic and environmental efficiency and contribute to clean and diversified energy supply.



Schematic diagram of China Shenhua's circular economy

Note Carbon sink is the short form for carbon credit trading system, which generally refers to the process, activity and mechanism of removing carbon dioxide from the air. It mainly represents the amount of absorption and storage of carbon dioxide by forests, or the capacity of forests to absorb and store carbon dioxide.

**Clean and Environmentally Friendly** the Road to Ecological Civilization

> The Safety, Health and Environment Committee under the Board of the Company continues to improve the three-tier energy conservation and environmental protection management system comprising the headquarters, Branches and Subsidiaries and plants (mines and sections).



### Management system of energy conservation and environmental protection

The Company continues to push forward the establishment of standardization management policies including ISO14001 (environmental management), HSE (health, safety and environment), etc.; and strictly carries out "three simultaneous" management on energy conservation and environmental protection to manage various environmental risks. No major accidents related to energy conservation and environmental protection occurred in 2014.

# Progress of the three energy conservation and environmental protection systems of China Shenhua in 2014

Statistics	Benchmarking spreadsheets were introduced in the "energy and environment statistics reporting system". The development of the Statistical System and Calculation Method for Energy Conservation and Environmental Protection was launched to further standardize statistical and benchmarking activities.
Monitoring	The eco-environmental remote sensing monitoring center completed 4 monitoring reports including Monitoring and Assessment on Land Reclamation of Open-cut Mines. The online monitoring and pre- warning system for main pollutants covered more than 100 discharge outlets of 96 entities, achieving "instant pre-warning, process monitoring and closed-loop management" of pollution sources subject to state-level control.
Assessment	Performance evaluation and administrative accountability were implemented, and Branches and Subsidiaries were urged to further fulfill the "statement of responsibilities for environmental safety objectives".

In 2014, the Company made an investment of RMB4,571 million designated for energy conservation and environmental protection, including RMB3,488 million and RMB1,083 million committed to environmental protection and energy conservation respectively. Such investment was mainly used for energy conservation projects such as boiler renovation, power and heat cogeneration, frequency conversion upgrade, utilization of residual heat and pressure, as well as environmental projects including dedusting, desulfurization, denitrification, comprehensive utilization of water resources, sewage prevention and treatment, ecological construction and treatment of gangue dump sites.

# **Clean and Environmentally Friendly** the Road to Ecological Civilization

# Investment designated for energy conservation and environmental protection – by business (RMB10,000)

Business segment	Total	Investment designated for environmental protection	Investment designated for energy conservation
Coal business	61,957.66	52,474.1	9,483.56
Power business	330,907.61	235,449.14	95,458.47
Coal chemical business	12,533.38	11,133.38	1,400
Transportation business	51,720.7	49,734.57	1,986.13
Total	457,119.35	348,791.19	108,328.16

### Investment in environmental protection – by purpose (RMB10,000)



- Sewage Prevention and Treatment
- Dedusting and Desulfurization Measures
- Denitrification Measures
- Ecological Construction/Reclamation and Greening
- Others

# FEATURE: A SUPPLIER OF CLEAN ENERGY

Clean energy is the green power source for sustainable development. Keeping the concept of "pursuing low-carbon development in a highcarbon industry" in mind, China Shenhua strives to build itself into a world-class supplier of clean energy through clean production, clean utilization and clean conversion as well as provision of clean energy technologies.



### A supplier of clean energy

#### Clean Production

To step up upgrade of clean coal production, the Company continues to optimize coal mining, washing and processing and transportation process in a systematic manner and strives to achieve the transformation and upgrade of the traditional coal production model.

#### Green Mining

China Shenhua proactively builds a "safe, green, smart and efficient" modern coal production system to explore on the green production model featuring low consumption, low emission and high efficiency. In 2014, the Company's comprehensive energy consumption of raw coal production amounted to approximately 2.25 kg of standard coal/tonne, and power consumption for coal selection per unit was approximately 2.34 kwh/tonne, which reached the world's advanced standards for clean production.

# **Clean and Environmentally Friendly**

the Road to Ecological Civilization



Mines of Shenbao Energy Company, grassland, cattle and sheep in harmony

#### Strengthening Coal Washing and Selection

For coordinated and optimized resource utilization, the Company carries out coal washing process for all qualified coal for coal washing. Fine coal with high calorific value is sold through outbound shipping, coupled with comprehensive utilization of coal gangue and coal with low calorific value on the site to minimize unnecessary transportation. In 2014, the Company washed and processed raw coal of 279.17 million tonnes, removed coal gangue of approximately 27.9 million tonnes, and achieved a reduction of approximately 16.74 billion tonne km in railway freight turnover based on the average transportation distance of 600 km by railway.

#### Increasing Recovery Rate of Mining Areas

The Company attaches great importance to rational development and utilization of coal resources. Aiming to "create a resource-conserving enterprise through refined mining to maximize internal potential", the Company continues to improve resource recovery rate. In 2014, the recovery rate of China Shenhua's mining area was 88.56%, representing an increase of nearly 1 percentage point over that of 2013.

# Recovery rate of China Shenhua's mining areas

	2013	2014
Coal mining areas	87.76%	88.56%
Underground mining areas	82.75%	83.81%
Open-cut mining areas	97.79%	97.8%

Simplification of systems	<ul> <li>Change the traditional layout to reduce coal pillar loss</li> <li>Increase the width of working face</li> <li>Explore on fully-mechanized recovering process and cycle operation on working face</li> </ul>
Upgrades of equipment and level	<ul> <li>Increase recovery height for thick coal seam</li> <li>Adopt the fully-mechanized top caving process</li> <li>Reduce the tailing volume at thin coal seams</li> <li>Upgrade equipment and technologies at old mining areas</li> </ul>
Optimized layout of working face	<ul><li>Set up an additional lane for switching rails</li><li>Increase the excavation length of fully-mechanized working face</li></ul>
Strengthened research on technologies	<ul> <li>Introduce prior draining and roof grouting reinforcement technology</li> <li>Optimize preset size of coal pillar</li> </ul>
Flexible mining methods	Convert underground mining to open-cut
Management enhancement	<ul> <li>Include recovery rate into the performance assessment system</li> <li>Integrate dynamic reserves management into the resource information management system</li> </ul>
Maior mea	sures to increase recovery rate in coal mining area

Major measures to increase recovery rate in coal mining area

# **Clean and Environmentally Friendly**

# the Road to Ecological Civilization

### Creating Green Transport Corridors

The Company actively promotes advanced technologies including heavyhaul train and shore-based power supply at ports to establish a railway, port and shipping integrated transport system, building green transport corridors to boost transportation efficiency. In August 2014, our 30-tonne axle weight heavy-haul train commenced operation successfully, leading to an increase of more than 30% in railway transport efficiency and a reduction of 30% in million tonne-kilometers energy consumption. As a breakthrough from the conventional one-way transport mode, the Company introduced reverse full-trip transport at ports. In 2014, our reverse transportation volume reached 3.03 million tonnes, achieving a transportation income of RMB0.179 billion.

### • Clean Utilization

The Company actively carries out technology R&D and upgrade to increase coal combustion efficiency, promote "ultra-low emission" of coal-fired generators and reduce pollutant emission, aiming to supply green coal-fired power to society through clean coal utilization.

"Clean and efficient ultra-low emission project" for newly constructed generators	<ul> <li>Benchmark to air pollutant emission standards on gas-fired power plants</li> <li>Conduct research on ultra-low emission of newly constructed coal-fired generators</li> <li>Combine the advanced emission reduction technologies on thermal power generators at home and abroad</li> <li>Develop overall technology solution on flue gas energy saving and environmental protection</li> </ul>
"High-quality green power generation programme" for the existing generators	<ul> <li>Launch green upgrades for the existing generators to achieve "ultra-low emission" in the next 3 years</li> <li>Earmark RMB12.3 billion to meet the green generator target by stage</li> <li>Achieve the target of the "Energy-saving and Low-Carbon Action of 10,000 Enterprises" by 2015</li> <li>Achieve the domestically leading target of coal consumption for power supply lower than 297 g/kwh by 2017</li> </ul>
Guohua Power Branch	paralleled its two-line efforts in "ultra-low emission"

Guohua Power Branch paralleled its two-line efforts in "ultra-low emission'

### Case study: The first "ultra-low emission" coal-fired generator upgrade project in the Beijing-Tianjin-Hebei region completed and commenced operation

In July 2014, coal-fired generator #1 of Sanhe Power Plant successfully completed trial operation of 168 hours after the upgrade project and became the first project completed under the "quality green power generation plan" of Guohua Power Branch, marking the success of "ultra-low emission" upgrade for the first existing coal-fired generator in the Beijing-Tianjin-Hebei region.

The success of "ultra-low emission" upgrade for coal-fired generators realized the conception of Guohua Power Branch on "better environmental protection and less energy consumption", accomplishing the roadmap of "ultra-low emission" upgrade for the existing generators. The sampling test by Hebei Provincial Environmental Monitoring Center indicated that all emission indicators of generator #1 of Sanhe Power Plant met or outperformed the air pollutant emission limits for gas-fired generators.



Tips: Benchmarked to gas-fired generators, "ultra-low emission" is defined as the emission of major air pollutants of coalfired generators met or outperformed the standard emission limits of gas-fired generators.

### Clean Conversion

Driven by technological innovations, the Company takes initiatives to expand modern coal chemical operations. Through management enhancement, technology upgrades and operation optimization, the circular economy concept is reflected across design, construction and production stages. The maximum recovery of byproducts helps increase utilization rate of coal resources, paving a new way to clean coal conversion.

Note1 The data is extracted from Air Pollutant Emission Monitoring Report published by Hebei Province Environmental Monitoring Center.

Note2 The data is extracted from "Emission standard of air pollutants for thermal power plants" (GB13223-2011).

# **Clean and Environmentally Friendly** the Road to Ecological Civilization

In 2014, Baotou Coal Chemical Company invested RMB794.9514 million in ancillary environmental protection facilities including gasification treatment system for cinder and water, MTO water purification unit, sewage treatment unit, water recycling and sulfur recovery units, boiler flue gas desulfurization facilities and ash landfill. A third party was engaged to operate online automatic waste water and gas monitoring equipment for real-time monitoring of emissions, with the "One Lock" system to ensure authenticity and reliability of monitoring data.



Baotou Coal Chemical sewage treatment system

### • Development of Low-carbon Energy

The Company performed development and utilization of renewable energy along with steady paces of its traditional operations. Hunan Baojing Shale Gas Project completed the preliminary geological exploration, with 3 parameter wells and 1 exploratory well completed. In 2014, 5 gas wells of the U.S. Shale Gas Project commenced operation smoothly.

The Company places emphasis on development and utilization of renewable energy. In 2014, Zhuhai Wind Power with a total installed capacity of 15.75 MW and hydropower generators of Sichuan Energy Company with an installed capacity of 125.2 MW recorded power generation of 687 million kwh in total, equivalent to reducing the consumption of standard coal by 0.2055 million tonnes and the emission of carbon dioxide by 0.5124 million tonnes.

#### • Provision of Solutions

In addition to supplying clean energy products to customers and the society, we are dedicated to providing our customers with technical and advisory services, and clean energy solutions. The Company draws upon its strengths and influence on technological innovations to develop low-carbon, clean coal combustion, clean conversion and other advanced and applicable technologies to lead the technological development direction within the industry. The Company's technical solution on dedusting, desulfurization, denitrification, flue gas energy saving and environmental protection integrated treatment provides a solution and industrialization model for complete set technologies addressing ultra-low emission of air pollutants from coal-fired power plants.

# MINIMIZED ENVIRONMENTAL IMPACT

The Company is highly concerned about environmental impact during its production and operation. In strict compliance with the principle of "conservation-prioritized, prevention-dominated and comprehensive treatment", the Company strictly enforces clean production and seeks to utilize resources more efficiently to strengthen pollution prevention and control through "recycling, neutrification and reduction" of pollutants to minimize environmental impact.

# **Clean and Environmentally Friendly** the Road to Ecological Civilization

## Overview of Major Emissions and Treatment Measures



#### • Increasing Resource Utilization Rate

The Company vigorously taps on the green development model based on resource recycling, strengthening industry chain extension and cross-industry coupling to increase comprehensive utilization ratio of coal resources. In 2014, the Company consumed approximately 4.161 million tonnes of coal gangue, equivalent to reducing the consumption of standard coal by 1.189 million tonnes, and hence achieved onsite conversion and utilization of low-calorific energy.

Based on the local conditions, our coastal power plants employ desalination technology to extract fresh water resources from seawater, and desalinated water is used in production and power generation for saving consumption of fresh water. Currently, Cangdong Power Plant has completed a seawater desalination system with daily capacity of 57,500 tonnes, supplying desalinated water to its own power plants as well as the surrounding enterprises.



Seawater desalination facility of Cangdong Power Plant

#### Reducing Pollutant Emission

With more efforts spent in solid waste control, the Company reduces solid waste emission by increasing the comprehensive utilization efficiency.

# Clean and Environmentally Friendly the Road to Ecological Civilization

# Comprehensive utilization of solid waste in 2014

Item	Volume generated	Comprehensive utilization volume	Comprehensive utilization rate
Unit	10,000 tonnes	10,000 tonnes	%
Coal gangue	2,870.0	200.9	7.0
Coal fly ash and cinder	1,722.1	1,230.5	71.5
Desulfurized gypsum	189.9	161.7	85.2
Other solid waste	45.9	1.1	2.4

Based on the production and living needs in mining areas, the Company develops a comprehensive sewage and waste water control model featuring "3 collection areas, 3-tier treatment, 3 circulations and 3 usages", thus meeting the sewage emission requirements.

### China Shenhua's comprehensive utilisation of water resources

		2013 (million tonnes)	2014 (million tonnes)	Year-o c (million to	hange
Mine water	Volume generated	114.4	104.6	~	9.8
	Volume utilized	63.2	63.1	×	0.1
Industrial sewage	Volume generated	59.9	48.0	~	11.9
	Volume utilized	41.4	40.3	~	1.1
Domestic sewage	Volume generated	15.0	14.7	~	0.3
5	Volume utilized	4.0	4.2	•	0.2

The Company actively implements the "Clean Air Action Plan (2013-2017)" by vigorously promoting flue gas desulfurization, denitrification, dedusting and boiler technological innovations to reduce exhaust emission. In 2014, the Company refitted 15 coal-fired power generation units currently in commission with denitrification technology and modified

35 coal-fired power generation units with desulfurization technology, of which 5 power generation units achieved "ultra-low emission". As at the end of 2014, there were 98 units with desulfurization devices installed, representing 40.61 million kilowatt, accounting for 100%<sup>Note1</sup> of the total installed capacity of thermal power units; sulfur dioxide emission was reduced by 16.86% from that of 2013; there were 73 units with denitrification devices installed, representing 36.20 million kilowatt, accounting for 89.1%<sup>Note1</sup> of the total installed capacity of thermal power units; NOx emission was reduced by 31.58% from that of 2013. All coal-fired generation units are installed with efficient dedusting devices.

business in 2014 (g/kwh)

Air pollutant emissions of coal-fired power

## Ratio of installed capacity of desulfurization units to the total installed capacity of coal-fired units



#### Generation and reduction of other emissions by China Shenhua

Name of indicator	Unit	2014	2013		r-on-year ange (%)
SO <sub>2</sub> emission of power segment	Ten thousand tonnes	14.3	17.2	•	16.86
$\mathrm{NO}_{\mathrm{x}}$ emission of power segment	Ten thousand tonnes	26	38.0	×	31.58
COD emission	Ten thousand tonnes	0.27	0.31	×	12.9

Note1 Excluding EMM Indonesia. The construction and operation of the Company's overseas coal-fired generation units were carried out in accordance with the local standards on environmental protection (below is same).

Note2 The national average of the coal-fired power industry is extracted from China Power Industry Annual Development Report 2014 of China Electricity Council, which shows the industry data for 2013.

#### Water Conservation and Efficiency Enhancement

The Company adheres to the principle of "Needs-based, Supply-driven and Practicality-motivated" in water usage, based on the affordability of water resources, water ecology and water environment to reduce the impact on sources of water, raise the efficiency in the use of water resources and reduce emission of sewage to the maximum extent through strengthening protection on water resources and water conservation, and improving prevention and treatment of water pollution. In 2014, the Company used 161.44 million tonnes of freshwater in total, and 0.69 kg/kwh of water was used for power generation for the thermal power business; and the Company's comprehensive utilization of waste water and desalinated seawater amounted to 107.55 million tonnes and 8.95 million tonnes, respectively.

#### • Prevention and Control of Noise Pollution

The Company takes initiatives to prevent and control noise in its production and operation, including strengthened noise monitoring, employing a variety of silencing and soundproof measures to effectively reduce noise pollution. In 2014, Shuohuang Railway Development Company constructed 15,960 m<sup>2</sup> of sound barriers in densely populated areas, effectively reducing noise impact on the community residents.

#### Green Office

The Company attaches importance to energy conservation and emission reduction starting from scratch, such as advocating the green office concept and promoting paperless office to reduce paper consumption; optimizing and upgrading lighting systems to reduce power consumption; and strengthening management on grey water reclamation equipment for water conservation at offices. Taking our headquarters as an example, a total of 7,832 tonnes of waste water discharged by all systems were collected for treatment by water reclamation equipment in 2014. The Company popularized low-carbon environmental protection knowledge through various channels including official website and internal publications. Themed activities including "Energy Conservation Week", "World Environment Day" and "Conserve every watt of power, every piece of paper, every drop of water" were organized to encourage employees to take part in public activities on environmental protection and low carbon.

# UNROLLING AN ECOLOGICAL BLUEPRINT

The Company coordinates the relationship between resource exploitation and ecological environment properly and strictly observes the rules of ecological protection, and it has an active presence in ecological protection including water and soil conservation, reclamation and greening, control of sand storm, slope protection and ecological construction of mining areas, aiming to unroll a beautiful ecological blueprint for the Company. In 2014, the Company invested RMB329 million in ecological construction and created new green area of 25.073 million m<sup>2</sup>.

### • Ecological Construction in Underground Mining Areas

The Company adopts an ecological management model of "treatment before mining, protection during mining and recuperation after mining" based on the ecological affordability of the mining areas. The Company places emphasis on prevention and treatment in areas of subsidence, management of gangue (earth) dump sites and reclamation and greening of mining areas through measures including interactive communication between surface and underground personnel, large-scale treatment and enhancement of regional ecological capabilities, thereby fostering the restoration and improvement of the ecology in mining areas. In 2014, Shendong Coal Group treated 5 km<sup>2</sup> of land subsidence mining areas planted 3.21 million trees and shrubs, advancing ecological construction in an orderly manner; Shendong Bulianta Mines, Halagou Mines and Bu'ertai Mines were confirmed as among the fourth batch of "national green mine pilot units" by the Ministry of Land and Resources.



Daliuta Dongshan after greening

# **Clean and Environmentally Friendly** the Road to Ecological Civilization

### • Ecological Construction for Open-cut Mining Areas

The Company synchronized the open-cut mining operation plans of opencut mining areas with the reclamation plans, adopted the internal soil disposal technique to minimize land use, and ensured that the geological structure and the landscape of the soil dump sites are coherent with those of the surrounding unmined outskirts. Depending on the geological properties of the land, the Company facilitated the formation of biotic communities with various types and different combinations to increase the species in the mining areas and enhance biodiversity in the land reclamation process and, at the same time, developed commercial crops, tourism and other industries to boost the income of local residents, so as to achieve ecological harmony.



Land reclamation at open-cut mine

# Case study: Ecological agriculture and animal husbandry for achieving two objectives at one go

Placing emphasis both on ecological protection and coal production, Zhunge'er Energy Company innovatively integrates land reclamation with ecological agriculture and animal husbandry, thus attaining benefits economically and environmentally.

Zhunge'er Energy Company appropriates greening fees at a rate of RMB0.45/tonnes of coal, which is earmarked for land reclamation. Based on land resources after reclamation and vegetation system after greening in mining areas, Zhunge'er Energy strives to create a modern agricultural industrial chain incorporating green, energy-saving, intensive operations and leisure business. In 2014, Zhunge'er Energy invested RMB25.0751 million in ecological construction, adding afforestation area of 1.1042 million m<sup>2</sup>, and 1.4796 million trees and vegetation of 44.95 hectares in total. The rate of afforestation and reclamation exceeded 85%. Heidaigou open-cut mine passed the acceptance inspection and was among the "first batch of national green mine pilot units" and Haerwusu open-cut mine obtained approval and was among the "fourth batch of national green mine pilot units".



#### Ecological construction along railways

The railway segment of the Company endeavours to protect and significantly improve the ecology along the railways, employing biological measures to combat desertification with other greening and conservation techniques. In 2014, Shuohuang Railway Company invested RMB44.51 million in ecological construction for landscaping work along the railways and the surrounding environment according to the greening guideline of "expanding afforestation area, upgrading with landscapes, removing obstacles, focusing on fast-growing and high-density vegetation", adding afforestation area of 2,946 m<sup>2</sup> comprising rose hedges of 103 m<sup>2</sup>, gold leaf elm of 93 m<sup>2</sup>, cypress hedges of 105 m<sup>2</sup>, alfalfa of 2,645 m<sup>2</sup>; and planting 640 plants comprising 92 pinus sylvestris, 486 populus alba and 62 cloves.



# EMBRACING A SPIRIT OF COMPASSION THE ROAD TO ACHIEVE MUTUAL SUCCESS IN HARMONY

In light of the core value of "contributing to society and rewarding the people", the Company upholds the sharing of its achievements with society and promotes the economic and social development of the places where it operates. Embracing a Spirit of Compassion

# the Road to Achieve Mutual Success in Harmony



# STABLE ENERGY SUPPLY

Adhering to the mission of "let clean energy change the lifestyle", the Company is committed to establishing a secure and reliable clean energy supply system to ensure the stable supply of coal, electricity and heat so as to facilitate the steady development of the economy and society.

In 2014, in response to the weak demands and decreasing price of coal, the Company strived to guarantee the quality of coal product while reducing coal production. During the peak seasons of summer and winter and the APEC period, the Company devoted great efforts to coal storage and electricity supply and prioritized the supply of quality coal in areas in shortage of energy. The heat generated by power generating units in northern China in the process of production was fully utilized to serve the local residents in winter.

# Case Study: "Warm" Hulunbeier

Hulunbeier Power is located at the Hulunbeier grassland, an alpine region at the northern end of China with the lowest temperature reaching -51.3°C in the past three years. The heating season of the area, starting from mid-to-end of September to mid-May next year, is the longest in China.

In order to ease the severe condition of undersupply of heat from the existing power generating units in Hulunbeier, in addition to upgrading two 600MW power generating units which employ direct air-cooling technology, Hulunbeier Power improved the cold-proof function of heating equipment by covering outdoor equipment with "insulating clothing" and formulating the "Contingency Plan for heat supply interruption". Moreover, Hulunbeier Power adjusted the heating temperature, pressure and flow in time according to the change of air temperature to meet heating demands and to keep the equipment in the best condition during the critical period of extreme cold weather. It achieved stable heat supply in the new urban district of Hulunbeier, new district of Dongshan and central culture district with indoor temperature generally exceeding  $25^{\circ}$ C.

# **Embracing a Spirit of Compassion** the Road to Achieve Mutual Success in Harmony

# PROSPEROUS DEVELOPMENT OF THE COMMUNITY

The Company strives to establish good relationship with the community by actively understanding the community's development needs and supporting local economic and social development and people's livelihood as much as it can so as to facilitate the establishment of a harmonious community.

### • Driving local economic development

In addition to paying tax according to law, the Company attaches importance to cooperating with the local government to promote local economic growth through providing capital and technological support and helping with the establishment of distinctive economic development mode. A priority has been given to local applicants in recruitment, among other efforts of the Company to improve local employment.

The Company attaches importance to the improvement of people's livelihood in the place where it operates and strives to meet demands of local residents by leveraging on its business advantage. In 2014, several Branches and Subsidiaries of the Company helped local communities with the upgrading of water and heat supply equipment, road and bridge construction and establishment of hospitals in mining areas, which effectively improved local residents' life quality.

The Company has been carrying out poverty relief activities, including lending support to local infrastructure construction, culture and education development and launch of distinctive economic projects, in Xinjaing, Qinghai and Xizang, which eased the lack of education facilities and promoted the prosperous development of local economic industries. In 2014, the Company's external donations amounted to RMB57 million, of which RMB5 million was non-charity donations and RMB52 million was charity donation.

# Case Study: Hand-made noodle brings wealth



Huo Hand-made Noodle Cooperative, located at Zhangjiashan Town, Wubao County, Shaanxi Province, with over 30 members, is a leading enterprise engaging in the processing of handmade hollow noodle among its local peers. In 2014, with the support from China Shenhua, the production base of Huo hand-made noodle, with an output capacity of 100 tonnes and an area of 20 mu, replaced and added relevant production equipment. As a result, the annual output and output value can reach 300 tonnes and RMB3.6 million respectively, with 30 additional jobs provided. It became the biggest hand-made noodle production base in Shaanxi to date. The renovated production base can help over 100 needy families shake off poverty every year in a sustainable manner.

#### • Resettlement of immigrants from mining areas

By sticking to the principle of attaching equal importance to development and compensation and in compliance with local laws and regulations and ethnic policies, the Company makes compensation to and resettles the residents affected by land acquisition, village relocation and collapse promptly so as to minimize the impact on the life of local residents. In 2014, Shendong Coal Group paid RMB1.193 billion under the compensation agreement in respect of land acquisition, village relocation and collapse.

# Case Study: Shenhua Village relieves people from worries

Shendong Coal Group gives priority to the comprehensive treatment of collapsed coal mining areas as a livelihood project to improve the living conditions of resettlers. In order to resolve the issues of collective relocation of residents in Shendong well field, the Company invested RMB0.8 billion in the Shenhua New Village project in Yiqi and Shenmu, pursuant to the plans and requirements of the local government on the construction of new villages and in compliance with the mode of integrated planning and construction and early relocation. In 2014, with the strong support of the local governments of surrounding areas, Shendong Coal Group resettled 1,359 farmers and herdsmen to Shenhua New Village in Yiqi and Shenmu in total and was highly acclaimed by the local governments and the public.



# **Embracing a Spirit of Compassion** the Road to Achieve Mutual Success in Harmony

# HARMONIOUS OVERSEAS OPERATIONS

Actively fulfilling its responsibilities as a global overseas corporate citizen, China Shenhua keeps informed of and responds to expectations of stakeholders in the countries or regions where it operates, respects local culture, and enhances communications with local communities to understand the development needs of the communities. The Company also supports local economic growth and establishment of public services and facilities, and strives to protect the local environment and be a responsible overseas corporate citizen of excellency.

### • Promoting cultural integration

In the process of its overseas operations, the Company attaches great importance to multicultural integration, respects the customs and religious beliefs of the community, arranges holidays in strict compliance with community customs and promotes communication with the local community through recreational and sports activities. Through the Watermark Club (沃特馬克文體俱樂部), Australian Pty encourages employees to take an active part in community activities to promote cultural integration and enhance the social influence of the Company. Australian Pty also contributes to the establishment of "sister cities" relationship between adjacent Liverpool Plains Shire and Jimo City, Shandong.



Visiting local residents

#### Operation localization

The Company strives to promote the development philosophy of localization by giving priority to local purchasing and choosing local suppliers. Human resources localization is promoted with an emphasis on selecting and nurturing local employees, which helps solve employment problem. Taking into account the cultural background and work experience of local employees, the Company ensures that employees enjoy appropriate training and development prospects. Out of the 26 employees of Australian Pty, 15 are local employees. The shareholder agreement of Russian Pty stipulates that the proportion of non-Russian employees to Russian employees shall be 2:8.

# Case Study: Promoting local economic growth through rational operations

EMM Indonesia actively promotes human resources localization with an emphasis on training local employees to help solve local employment problem and promote local economic development. The Company directly employs 130 local employees. During project construction and production operation, contractors of power plant projects, open-pit coal mines and property management services provided more than 1,000 jobs, which improved the living standards of villagers in the surrounding areas.

Compared with pure financial assistance, offering job opportunities provides local residents with a development platform to realize their value, which lays a good foundation for local economic development. To date, EMM Indonesia has paid taxes of RMB186 million in total, which boosted the local economy and made a contribution to the development of the surrounding areas and even the entire south Sulawesi region.

#### Supporting community public welfare undertakings

The Company endeavours to support public welfare undertakings and promote the development of local education, culture and medical services in the place where it operates. Australian Pty established the "Watermark Community Foundation"(沃特馬克社區基金) and allocated AUD1 million every year for five years in a row to support and promote the public welfare of local communities, involving the fields of health and welfare, children welfare, elderly care and the environment. Russian Pty attaches great importance to local public welfare through improving infrastructure and the community environment and striving to eliminate poverty. In 2014, Russian Pty sponsored the "Sports for Everyone"(人人享有體育運動) project of the region in the amount of RUB0.3 million to improve the health of local residents.

# **Embracing a Spirit of Compassion** the Road to Achieve Mutual Success in Harmony



"Shenhua Happy Hour"

#### • Protecting the local environment

In its overseas operations, the Company pays attention to protecting the local environment and strives to reduce the impact of its operating activities on the ecological environment. Australian Pty is committed to achieving the solid implementation of the "green mining" project overseas. In the Environmental Impact Assessment Report (EIS) and relevant documents, 27 factors, including the protection of groundwater and endangered ecological forests, ecological compensation, the protection and relocation of archaeological sites and reclamation and restoration plans, were given full consideration to minimize the potential impacts on the surrounding agricultural land, water, social economy, residents and the ecology.

# ENGAGING IN PUBLIC WELFARE UNDERTAKINGS

In addition to self-growth, the Company attaches importance to repay society by actively carrying out charity projects and volunteer activities through the Shenhua Foundation.

#### • Shenhua Foundation

In light of its mission of "Showing the caring side of Shenhua in support of public welfare and harmonious development of society", the Company furthers the implementation of the strategy of "triple jump" from charity to public welfare to social innovation. Shenhua Foundation, underpinned by three public welfare brands namely "Shenhua Loving Care Activities", "Shenhua Loving Care Schools" and "Shenhua Loving Care Libraries", is committed to improving its management, service quality and innovation so as to achieve a standardized and international development through branding. Currently, it has 8 welfare programmes of its own and supports 39 welfare programmes. In 2014, Shenhua Foundation donated a total of RMB0.15 billion. It was rated as a 5A-class foundation by the Ministry of Civil Affairs, and won the award of "Best Charity Organization in China in Information Disclosure Based on Sample Survey Results".

# Shenhua supports entrepreneurship programmes of university-graduate village officers

As at the end of 2014, Shenhua has appropriated RMB38.70 million to support 794 university-graduate village officers to start up their own business, with 794 entrepreneurship projects launched.

# Shenhua Loving Care Schools

As at the end of 2014, the Company supported the construction of 12 Loving Care Schools in Jiangxi, Qinghai, Yunnan, Guangxi and Inner Mongolia, with 8 completed and put into operation and four under construction.

# Shenhua Loving Care Activities

As at the end of 2014, the Company provided relief for 15,123 children patients, 2,141 and 12,982 of whom are suffering from leukemia and congenital heart disease respectively.

# Shenhua Loving Care Libraries

Since the launch of the programme, 15.41 million books worth RMB354.7 million were donated and 7,139 Shenhua Loving Care Libraries were established.

#### Shenhua Foundation Medical Social Services Pilot Programmes Supported by Central Coffers

By directly engaging the services of professional social workers and directly paying social workers for the services rendered, the Company promotes the establishment of social services departments or development of medical social services in some hospitals. As at the end of 2014, A total of RMB1.21 million was paid, with RMB\$1 million from central coffers and RMB0.21 million from Shenhua Foundation.

# **Embracing a Spirit of Compassion**

the Road to Achieve Mutual Success in Harmony



Shenhua Loving Care School

### • A rich variety of volunteer activities

The Company advocates the volunteer spirit of "devotion, friendly affection, mutual aid and progress" and encourages employees to take part in various volunteer activities. As at the end of 2014, the Company had 9,059 registered members, providing volunteer services of 48,239 hours in total.

# Case Study: Communicating with Dongguo students through mails

Dongguo Elementary School of Dongguo Town, Yanhu District, Yuncheng City, Shanxi Province, is located in a remote mountain area with tough living conditions. There is limited communication with the outside world and a high proportion of left-behind children. To broaden the horizons of these children, Materials Group organized volunteers to communicate with primary school students one-to-one. After one year's mail communication, the employees of the Company and the students established thorough understanding and mutual trust and learned from each other, which facilitated the healthy growth of the children both psychologically and intellectually.

# Embracing a Spirit of Compassion: the Road to Achieve Mutual Success in Harmony



In 2015, the Company will continue to uphold its core value of sustainable development by proactively adapting to the new norm of economic development, actively implementing the "1245" clean energy development strategy, and promoting the development of low-carbon technology in high-carbon industries. The Company will adhere to its principle of social responsibility by enhancing its capability in fulfilling social responsibility and incorporating social responsibility into its operations to attain harmonious economic, social and environmental development. The ultimate goal of the Company is to become a world first-class supplier of clean energy.

CSR management	<ul> <li>Integrate social responsibility into corporate mission, values and vision, so as to fulfill social responsibility while optimizing corporate development</li> </ul>
	<ul> <li>Introduce innovative management mechanism to improve the structure and evaluation system of CSR management</li> </ul>
	• Enhance capability in social responsibility by conducting CSR training and research and soliciting cases on CSR activity
	<ul> <li>Establish channels to enhance communications and exchanges among stakeholders</li> </ul>
Operation management	<ul> <li>Enhance and improve the structure of corporate management, promote modernization and internationalization of management and governance capability</li> </ul>
	Continue to promote compliance and integrity
	<ul> <li>Continue to enhance efficiency while reducing costs, promote refined management, and push forward the building of a business with quality and efficiency</li> </ul>
	<ul> <li>Meet customer's demand by offering sufficient and steady product supply and quality service</li> </ul>
	<ul> <li>Adopt new development philosophy and enhance value-creating ability to provide steady on-going rewards for investors</li> </ul>
	<ul> <li>Promote responsible procurement for the benefit of the Company and all suppliers</li> </ul>
Technological innovation	<ul> <li>Improve innovation system and enhance self-initiated innovation capability</li> </ul>
	<ul> <li>Enhance operational management of clean energy technological innovation base, promote construction of technical research and demonstration base</li> </ul>
	• Attract external top-notch talents while nurturing internal talents for the scientific research team
	<ul> <li>Enhance external cooperation mechanism to take full advantage of innovation using public resources</li> </ul>
	• Enhance management on key technological projects, overcome technological obstacles in major areas and convert the outcome into technological achievement
Employees responsibility	<ul> <li>Enhance occupation health management by strengthening the awareness and education of occupational hazard prevention and control</li> <li>Optimize internal allocation mechanism and narrow the internal income difference.</li> <li>Improve training mechanism and provide better promotion path</li> <li>Enhance democratic management level and strengthen team building efforts</li> </ul>
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Intrinsic safety	<ul> <li>Strengthen awareness of observing "rules", insist on "zero fatality", "zero injury" and "zero violation".</li> <li>Promote thoroughly the intrinsic safety management system, establish an intrinsically safe business</li> <li>Specify safety responsibility and enhance safety supervision and inspection</li> <li>Enhance the control and identification of hazardous sources and avoid accidents at source</li> <li>Improve the three-tiered emergency rescue and management mechanism, enhance the setting up of emergency management institutions and teams, improve emergency contingency plans and conduct emergency drills.</li> </ul>
Clean and environment- friendly	<ul> <li>Enhance energy-saving and environment-friendly management, promote green operation during the entire workflow</li> <li>Implement the action plan on prevention and control of air pollution and plan for upgrade and renovation of coal-fired plants to ensure that the energy-saving performance match with the advanced standards of similar generating units.</li> <li>Expedite the implementation of the "Action Plan on Prevention of Water Pollution", focus on renovation of facilities for handling coal mine water</li> <li>Enhance capability in environmental risk management and control</li> </ul>
Harmony in Society	<ul> <li>Continue to enhance the standards of professional public welfare and charity undertakings</li> <li>Take part in social innovation, enhance the medical and educational level of the general public</li> <li>Participate proactively in community and public affairs management, contribute to the development of the culture, economy and education of the place where we operate.</li> </ul>

# Indicator System on Social Responsibility Performance of China Shenhua

## **GENERAL INDICATORS**

First Tier Indicators	Second Tier Indicators	Performance in 2014
	Social contributions in RMB per share (ASBE)	5.332
	Social contributions in RMB per share (IFRS)	5.427
	Cash dividend in aggregate (RMB million) (2005-2014)	138,955
Social Contributions	Final dividend for 2014 (RMB/share) (inclusive of tax) (proposed)	0.74
	Total tax paid (RMB million)	43,826
	Donations to external parties (RMB million)	57
	Volunteer service period (hours)	48,239
	Revenues (RMB million)	248,360
	Total assets (RMB million) (ASBE)	532,596
Financial	Total assets (RMB million) (IFRS)	538,897
	Net profit attributable to equity shareholders of the Company (RMB million) (ASBE)	36,807
	Profit attributable to equity holders of the Company for the year (RMB million) (IFRS)	38,689
	Commercial coal production (million tonnes)	306.6
	Coal sales (million tonnes)	451.1
	Total power output dispatch (billion kwh)	199.44
	Sales of Polyethylene (thousand tonnes)	265.5
Operational	Sales of Polypropylene (thousand tonnes)	268.1
	Turnover of self-owned railway (billion tonne km)	223.8
	Seaborne coal at self-owned ports (million tonnes)	174
	Shipment turnover (billion tonne nautical miles)	72.2
	Number of regular reports and announcements released	235
Stakeholder	Percentage of purchase from top five suppliers to total purchase (%)	16.0
Relations	Percentage of sales revenue from top five customers to total revenue (%)	16.1
	Number of suppliers assessed	130
	Capital investment (RMB100 million)	48.38
Safety Production	Safety production training (person-time)	106,172
	Number of first class intrinsic-safety compliant units	28

#### Appendix I: Indicator System on Social Responsibility Performance of China Shenhua

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Performance in 2014
	Initiations         Second Ter indicators         Inited Ter indicators           Investment in environmental protection (RMB100 million)         Investment in energy conservation (RMB100 million)         Integrated energy consumption (10 thousand tonnes of standard coal)           Utilization of energy         Integrated energy consumption (10 thousand tonues of standard coal)         Integrated energy consumption per RMB10 thousand output value (tonne standard coal/ RMB10,000)           Utilization of energy         Total electricity consumption (10 thousand in Total oil consumption (10 thousand tonnes) Consumption of other energies           Utilization of water resources         Total water consumption (million tonnes) Consumption per RMB10 thousand out value (tonne/RMB10 thousand)           Utilization of water resources         Fresh water consumption (million tonnes) Amount of sewage water produced (million tonnes)           Integrated utilization rate of sewage water (9 Chemical Oxygen Demand (COD)         Total emission (10 thousand tonnes)           CDM projects         Co- emission reduction approved of CDM pro- for 2014 (10 thousand tonnes CO- equivalent for 2014 (10 thousand m <sup>2</sup> )           Number of major environmental pollution accidents <sup>More 3</sup> Total emission (tonne)           Hazardous wastes         Total emission (tonne)           Hazardous wastes         Total emiss		34.88
			10.83
			4,576.32
		thousand output value (tonne standard coal/	2.43
	Utilization of energy	Total electricity consumption (10 thousand kwh)	2,036,469.32
		Total natural gas consumption (10 thousand m <sup>3</sup> )	38,483.528
		Total oil consumption (10 thousand tonnes)	43.18
		Consumption of other energies	Note 1
		Total water consumption (million tonnes) $^{\mbox{Note 2}}$	194.03
		Water consumption per RMB10 thousand output value (tonne/RMB10 thousand)	9.997
	Utilization of water resources	Fresh water consumption (million tonnes)	161.44
Environmental Protection			167.27
		Integrated utilization rate of sewage water (%)	64.3
	Chemical Oxygen Demand (COD)	Total emission (10 thousand tonnes)	0.27
		Number of registered CDM projects	3
	CDM projects	$CO_2$ emission reduction approved of CDM projects for 2014 (10 thousand tonnes $CO_2$ equivalent)	0
	Ecological construction	Capital investment in water and soil conservation and ecological construction (RMB100 million)	3.29
		New afforestation area (10 thousand m <sup>2</sup> )	2,507.34
	Number of major environmental pollution accidents <sup>Note 3</sup>		0
		Total emission (tonne)	1,459.29
	Hazardous wastes		0.08
		Total emission (tonne)	3,233.34
	Harmless wastes	Harmless wastes emissions per RMB10,000 output value (tonne/RMB10,000)	1.71
	Soot	Total emission (tonne)	17,118.15

Note 1 Consumption of raw coal amounted to 102.214 million tonnes, washed coal 1.561 million tonnes, coke oven gas 465.468 million cubic metres, thermal power 1,137,316.8 million kJ and gangue (used as fuel) 4.1614 million tonnes.

Note 2 Of the total, consumption of surface water amounted to 108.08 million tonnes, groundwater 14.03 million tonnes, running water 35.92 million tonnes and recycled water, rainwater and others 35.99 million tonnes.

Note 3 As defined in the National Emergency Response Proposal for Environmental Incidents (2006) (Guo Ban Han [2014] No. 119).

# Indicator System on Social Responsibility Performance of China Shenhua

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Performance in 2014
		Number of current employees	92,738
		Number of employees with disabilities	344
	Pacie information of amployees	Number of child workers	0
Employees' Interests	Basic information of employees	Number of part-time employees	0
		Number of minority employees	4,980
		Number of female employees	19,404
	Occupational health	Capital investment (RMB100 million)	4
		Additional employees with occupational disease (cases)	14
	Staff training	Staff training (person-time)	1,174,483
	Staff training	Staff training time in aggregate (hours)	3,940,647
	Capital investment in research and development (RMB100 million)		12.23
Technological Innovation	Number of scientific research and development projects undertaken	Number of projects approved by the headquarters	119
	Intellectual property rights	Patents obtained	400
	applications	Including: invention patents obtained	78

Appendix I: Indicator System on Social Responsibility Performance of China Shenhua

## COAL PRODUCTION AND TRANSPORTATION OPERATIONS

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Performance in 2014
Customer Relations	Market share	Proportion of seaborne coal in outbound shipment for domestic coal sales through major ports in China in the same period (%)	34.7
	Basic conditions	Fatality rate per million tonnes of raw coal production	0.009
		Number of serious accidents and above $\ensuremath{^{\text{Note}}}$	1
Safety Production		Mechanization rate of coal mining and excavation (%)	99.58
	Construction results	Number of coal mines with a safety record of consecutive 1,000 days or above	19
		Number of super-safe and efficient mines (2013)	14
		Integrated energy consumption of raw coal production (kg standard coal/tonne)	2.25
		Electricity consumption of raw coal production (kwh/tonne)	5.5
		Electricity consumption for the selection of thermal coal (kwh/tonne)	2.34
	Utilization of energy	Integrated energy consumption of unit railway freight turnover (kg standard coal/10 thousand tonne kilometres)	35.53
		Integrated energy consumption per 10 thousand tonne throughput of port (kg standard coal/10 thousand tonnes)	2,673.01
Utilization of Resources		Integrated energy consumption per 1,000 tonne nautical miles of shipping (kg standard coal/1,000 tonne nautical miles)	5.59
		Energy consumption of coal-to-polyolefin products (kg standard coal/tonne)	5,350.83
		Average recovery rate in mining area (%)	88.56
	Recovery rate in mining area of coal	Average recovery rate in mining area of underground coal mines (%)	83.81
		Average recovery rate in mining area of open-cut mines (%)	97.8
		Raw coal washed and processed (million tonnes)	279
	Coal washing and selection	Gangue removed (million tonnes)	27.9
		Reduction in railway freight turnover due to gangue removed (100 million tonne km)	167.4
		Coal gangue generated (10 thousand tonnes)	2,870
Emission	Solid emissions	Integrated utilization of coal gangue (10 thousand tonnes)	200.86
Treatment		Other solid waste generated (10 thousand tonnes)	45.92
		Integrated utilization of other solid waste (10 thousand tonnes)	1.13

Note As defined in the "Productions Safety Accident Report and Investigation & Treatment Regulations" (Order No. 493 of the State Council).

# Indicator System on Social Responsibility Performance of China Shenhua

## **POWER OPERATIONS**

First Tier Indications	Second Tier Indications	Third Tier Indications	Performance in 2014
	Total installed capacity (MW)		41,828
	Installed capacity of coal-fired generators (MW)		40,907
		Capacity (MW)	25,420
	Units of 600MW and above	Proportion to the total capacity of coal-fired units (%)	62.14
		Capacity (MW)	40,607
	Desulphurization units	Proportion to the total capacity of coal-fired units (%)	100
Condition of		Capacity (MW)	36,200
units at the end of the reporting	Denitrification units	Proportion to the total capacity of coal-fired units (%)	89.1
period	Integrated utilization of the installed capacity of power plant (MW)		5,667
	Installed capacity of direct air cooling technology (MW)		9,720
	Installed capacity of heating units (MW)		16,784
	Installed capacity of wind power units (MW)		15.75
	Installed capacity of hydropower units (MW)		125.2
Safe production	Basic conditions	Number of serious accidents and above $^{\mbox{\tiny Note}}$	0
	Consumption of energy	Average consumption of standard coal for power output dispatch of coal-fired units (g/kwh)	321
Safe production	Itilization of water recourses	Fresh water consumption for thermal power generation (kg/kwh)	0.69
resources	Inits at the end of the reporting periodDenitrification unitsIntegrated utilization of the installed capacity of power plant (MW)Installed capacity of direct air cooling technology (MW)Installed capacity of heating units (MW)Installed capacity of heating units (MW)Installed capacity of hydropower units (MW)Installed capacity of hydropower 	Water resource from seawater desalination (10 thousand tonnes)	895
		Wind power generation (10 thousand kwh)	2,228.64
	resources	Hydropower generation (10 thousand kwh)	66,513.44
	Sulphur Dioxide (SO <sub>2</sub> ) treatment	Indicator of SO <sub>2</sub> emission from thermal power generation (g/kwh)	0.68
		Total emission (10 thousand tonnes)	14.3
Emission	Nitrogen oxide (NOx) treatment	Indicator of NOx emission from thermal power generation (g/kwh)	1.23
treatment		Total emission (10 thousand tonnes)	26
	Soot treatment	Indicator of soot emission from thermal power generation (g/kwh)	0.08
	Coal fly ash and cinder and	Total generation (10 thousand tonnes)	1,911.99
	desulphurized gypsum	Integrated utilization (10 thousand tonnes)	1,392.1

Note As defined in the "Productions Safety Accident Report and Investigation & Treatment Regulations" (Order No. 493 of the State Council).

**Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance** 

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Disclosure Recommendations of the Shanghai Stock Exchange <sup>Note</sup>	Sustainability Reporting Guidelines (G4) of the Global Reporting Initiative
Cover Story			
Company Profile			G4-3, G4-4, G4-7, G4-5, G4-9, G4-EC1
About This Report		Preparation Guidelines Article 3	G4-17, G4-22, G4-23, G4-28, G4-30, G4-31, G4-33
Chairman's Statement		Notice Articles 1,2	G4-1, G4-2
Full Integration of Social Responsibility: the Road to Become a Top-notch Enterprise			
Background for Sustainable Development			G4-EC2
CSR Management		Notice Articles 1,2	
Philosophy in CSR			
CSR Model			
CSR Governance			G4-43
CSR Promotion			G4-43
Performance Assessment			
Communication with Stakeholders			G4-16, G4-24, G4-25, G4-26, G4-27, G4-53
Materiality Analysis			G4-18, G4-19, G4-20, G4-21
Social Contribution Value per Share		Notice Article 4 Preparation Guidelines Article 5	
CSR Honours			
High Quality and Efficiency: the Road to Grow Stronger and Healthier		Notice Articles 1,2	
Corporate Governance			G4-34, G4-35, G4-36, G4-37, G4-38, G4-41, G4-42, G4-48, G4-49, G4-50, G4-52

**Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance** 

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Disclosure Recommendations of the Shanghai Stock Exchange <sup>Note</sup>	Sustainability Reporting Guidelines (G4) of the Global Reporting Initiative
Compliance in Operation			G4-SO8, G4-14, G4-56
Internal Control and Risk Management			G4-44, G4-45, G4-46, G4-47
Anti-Corruption	C3.0.1, C3.1.1, C3.1.2, C3.1.3, C3.1.4, C3.1.5, C3.2.1, C3.2.2, C3.2.3, C3.2.4, C3.2.5		G4-SO4, G4-SO5, G4-56, G4-57, G4-58
Synergistic Development			
Integrated Operations			
Globalization			G4-6
Efficient Management			
Informatization of Management			
Refined Management			
Cooperation for Mutual Success		Notice Article 5(1),(3) Preparation Guidelines Article 4(1), (3)	
We Care About Our Investors			
Services to Our Customers	C2.0.1, C2.0.2, C2.2.1, C2.2.2, C2.2.3, C2.4.1, C2.5.1		G4-PR4, G4-PR5, G4-PR8, G4-8
A Responsible Supply Chain	C1.0.1, C1.1.1, C1.2.1, C1.2.2, C1.2.4		G4-12, G4-EC9, G4-EN32, G4-LA14, G4-SO9, G4-HR10
Driving Reform: the Road to Innovative Upgrade		Notice Articles 1, 2 Guidelines Article 3(3)	
Motivating Innovation Vitality			
Scientific and Technological Innovation System			
An Open Innovation Model			

Appendix II: Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Disclosure Recommendations of the Shanghai Stock Exchange <sup>Note</sup>	Sustainability Reporting Guidelines (G4) of the Global Reporting Initiative
Strengthening Innovation Capability			
Assuring Input in Science and Technology			
Pooling Together Science and Technology Professionals			
Protecting Intellectual Property Rights	C2.3.1, C2.3.2, C2.3.3		
Acting as An Innovation Engine			G4-EC4
Commercializing Achievements in Science and Technology			
Moving towards Zero Incident: the Road to Production Safety		Notice Articles 1, 2	
Concept of Production Safety	A2.1.1, A2.1.2		G4-LA6
Management of Risk Prevention and Control			
Safety Technology Innovations			
Safety Awareness of Employees		Notice Article 5(1) Preparation Guidelines Article 4(1)	G4-LA9
Featured Safety Culture			
People-oriented Strategy: the Road to Happiness		Notice Articles 1, 2	
Protection of Rights and Interests	A1.0.2		
Composition of Employees	A1.1.1, A1.1.2, A1.1.3, A1.2.1, A1.2.2		G4-10, G4-LA1, G4-LA2
Basic Rights And Interests	A1.0.1, A4.0.1, A4.0.2, A4.1.1, A4.2.1		G4-LA2, G4-LA12, G4-HR3, G4-HR6, G4-HR12, G4-EC3
Remunerations and Welfare Packages			G4-LA2, G4-LA3
Democratic Management			G4-LA4, G4-LA5, G4-LA16, G4-11
Occupational Health	A2.0.1, A2.0.2, A2.3.1		G4-LA7, G4-LA8

**Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance** 

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Disclosure Recommendations of the Shanghai Stock Exchange <sup>Note</sup>	Sustainability Reporting Guidelines (G4) of the Global Reporting Initiative
Career Development		Notice Article 5(3) Preparation Guidelines Article 4(3)	
Development Path			G4-LA10
Training System	A3.0.1, A3.1.1, A3.2.1		G4-LA9, G4-LA10, G4-HR2
Caring about Employees			
Clean and Environmentally Friendly: the Road to Ecological Civilization		Notice Articles 1, 2, 5(2) Guidelines Article 3(1) Preparation Guidelines Article 4(2)	MM3
Management of Energy Conservation and Environmental Protection	B1.0.2	Guidelines Article 3(3), (5), (9)	G4-EN24, G4-EN25, G4-EN29, G4-EN31 G4-EN34
Feature: A Supplier of Clean Energy		Guidelines Article 3(3), (5)	
Clean Production	B2.1.7		G4-EN3, G4-EN5, G4-EN6
Clean Utilization			
Clean Conversion			
Development of Low- carbon Energy			G4-EN7
Provision of Solutions			
Minimized Environmental Impact	B1.0.1, B3.0.1, B3.1.1	Guidelines Article 3(2), (4), (5), (6)	G4-EN27
Increasing Resource Utilization Rate	B2.0.1, B2.3.1		G4-EN1
Reducing Pollutant Emission	B1.1.1, B1.1.8, B1.1.9, B1.1.10, B1.4.1, B1.4.2, B1.4.3, B1.4.4, B1.4.5, B1.5.1, B1.6.1		G4-EN2, G4-EN10, G4-EN21, G4-EN22, G4-EN23, G4-EN26

Appendix II: Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Disclosure Recommendations of the Shanghai Stock Exchange <sup>Note</sup>	Sustainability Reporting Guidelines (G4) of the Global Reporting Initiative
Water Conservation and Efficiency Enhancement	B2.2.1, B2.4.1, B2.4.2		G4-EN8
Prevention and Control of Noise Pollution			G4-EN30
Green Office			G4-EN10
Unrolling an Ecological Blueprint		Guidelines Articles 3(8), (9), 6	MM1, MM2
Ecological Construction in Underground Mining Areas			G4-EN12, G4-EN13
Ecological Construction for Open-cut Mining Areas			G4-EN12, G4-EN13
Ecological Construction along Railways			G4-EN12, G4-EN13
Embracing a Spirit of Compassion: the Road to Achieve Mutual Success in Harmony		Notice Articles 1, 2	MM5, MM9
Stable Energy Supply			
Prosperous Development of the Community	D1.0.1, D1.1.1	Notice Article 5(1) Preparation Guidelines Article 4(1)	
Driving Local Economic Development			G4-SO1, G4-EC7, G4-EC8
Resettlement of Immigrants from Mining Areas			G4-HR8
Harmonious Overseas Operations			
Promoting Cultural Integration			
Operation Localization			
Supporting Community Public Welfare Undertakings			G4-EC7
Protecting the Local Environment			G4-SO1
Engaging in Public Welfare Undertakings	D1.2.1		
Shenhua Foundation			
A Rich Variety of Volunteer Activities	D1.2.2, D1.2.3		

**Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance** 

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Disclosure Recommendations of the Shanghai Stock Exchange <sup>Note</sup>	Sustainability Reporting Guidelines (G4) of the Global Reporting Initiative
Plan and Outlook			
Indicator System on Social Responsibility Performance of China Shenhua	B1.1.2, B1.1.3, B1.1.4, B1.1.11, B1.3.1, B1.3.2, B1.4.6, B1.4.7, B2.1.1, B2.1.2, B2.1.3, B2.1.4, B2.1.5, B2.1.6, B2.1.8, B2.1.9, B2.1.10, B2.1.11, B2.2.2, B2.2.3		
Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance			G4-32
Results of Third Party Assurance		Preparation Guidelines Article 6	
Assets Distribution Map			
Equity Structure Diagram			G4-13, G4-23
Feedback Sheet			

Notes: "Notice on Strengthening Listed Companies' Undertaking of Social Responsibilities and Issuance of 'Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange"" ("Notice");

"Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange" ("Guidelines");

"Guidelines on Preparation of 'Corporate Report on Performance of Social Responsibilities'" ("Preparation Guidelines").

Appendix II: Cross Reference Sheet of the Contents of this Report and the Relevant Indicators on Social Responsibility Performance

### DESCRIPTION OF ESG UNDISCLOSED INDICATORS

Number and Name of Indicator	Disclosure Plan and Description
A1.1.4 Number and percentage of employees by region	Disclosure by region not yet available at present
A1.2.3 Percentage of employee turnover by region	Disclosure by region not yet available at present, disclosure of this indicator by age and by sex already available
A2.2.1 Number of working days absented (loss of working days counted on the basis of every 200,000 working hours) due to work-related injuries	The Company has incorporated the indicator into the safety information system and disclosure will be made when the statistical system have been further improved
A3.1.2 Total number and percentage of training attendances by staff category	Expected to be disclosed in 2015
B1.1.5 Total amount of dust emissions (tonne)	It is hard to monitor dust emissions since sources of emissions are non-point sources. A scientific statistical system has to be established for calculating the total amount
B1.1.6 PM2.5 concentrations (micrograms/cubic meter)	Disclosure will be made when these two indicators are added to the Company's existing statistical system after the PM2.5 and PM10 monitoring instruments and monitoring equipment are in place
B1.1.7 PM10 concentrations (micrograms/cubic meter)	Ditto
B1.2.1 Carbon dioxide equivalent (tonne)	Statistical calculation and disclosure will be made after the government has clarified its policies on reduction of carbon dioxide emissions and confirmed that there are unified accounting standards for carbon dioxide emissions
B1.2.2 Total carbon dioxide emissions (tonne)	Ditto
B1.2.3 Total methane emissions (tonne)	Ditto
B1.2.4 Greenhouse gas emissions per RMB10,000 output value (tonne/RMB10,000)	Ditto
B2.5 Total amount of packing materials used (tonnes) and (if applicable) estimated amount per production unit	Not applicable
C1.2.3 Number of suppliers visited	The scope of statistics cannot fully cover the specifications of China Shenhua Energy Company Limited
C2.1.1 Percentage of product recalls of coal customers due to quality issues (%)	Not applicable
C2.2.4 Customer satisfaction (%)	Due to the current wide business scope of the Company arising from frequent mergers, restructuring and zoning in the sales business of the Group in recent years, the Company sell a wide range of products and has a complicated customer structure, making it difficult to conduct a unified survey on customer satisfaction, thus disclosure is not made for the time being
	Ditto

**Results of Third Party Assurance** 



## **Independent Assurance Report**

# To the Board of Directors of China Shenhua Energy Company Limited (the "Board of Directors"):

We have been engaged by the Boards of Directors of China Shenhua Energy Company Limited ("CSEC") to perform a limited assurance engagement on the information disclosed in its 2014 Social Responsibility Report for the financial period from 1 January 2014 to 31 December 2014.

## **Responsibilities of the Board of Directors**

The Board of Directors is responsible for the compilation and presentation (including reporting guidelines, limitations, reporting data and relevant identification procedures) of the Report in accordance with the recommendations of the following guidelines issued by Shanghai Stock Exchange and Hong Kong Stock Exchange:

- Notice on Strengthening Listed Companies' Undertaking of Social Responsibilities and issuance of 'Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange'
- Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange
- Guidelines on Preparation of 'Corporate Report on Performance of Social Responsibilities'

(collectively known as the "SSE Guidelines")

• Environmental, Social and Governance Reporting Guide("ESG")

The Board of Directors is also responsible for determining CSEC's objectives in respect of social responsibility performance and reporting, including identification of stakeholders and material issues that are relevant to these stakeholders; for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived; and for maintaining adequate records.

## **Our Responsibilities**

In accordance with our agreed terms of engagement with CSEC, it is our responsibility to carry out a limited assurance engagement and to express a conclusion on CSEC's compliance with the recommendations of the guidelines issued by Shanghai Stock Exchange and if there were any error that would have a material impact on the Key Social Responsibility Indicators related to ESG disclosed in the Report, based on our work performed; and to report our conclusion solely to the Board of Directors, and for no other purpose. We do not assume responsibility towards or accept liability to any third parties for the contents of this Independent Assurance Report.

### **Basis of Our Work**

We conducted our work in accordance with International Standard on Assurance Engagements 3000: "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" issued by the International Federation of Accountants. We planned and performed our work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to form our conclusions below.

#### **Procedures, Scopes and Limitations of Our Work**

Our procedures performed included interviewing with CSEC's personnel responsible for collecting, compiling and reporting the information, analyzing the information obtained, and other procedures relevant to the collection of the appropriate audit evidence. Specifically we:

- Interviewing management and staff at CSEC Head Office responsible for collating and reporting the Disclosed Information, and interviewing staff of the centralized departments for business management at CSEC Head Office;
- In accordance with the recommendations of SSE Guidelines and ESG, comparing the information presented in the Social Responsibility Report to corresponding information in the relevant underlying sources from CSEC Head Office to determine whether key information contained in such underlying sources has been included in the Social Responsibility Report;
- Performing analytical review procedures on the selected key indicators relating to environmental protection, production safety and others recommended to be disclosed by SSE Guidelines and ESG;
- Visits to Shenhua Shendong Coal Group Corporation Limited and Guohua Power Branch of the Company, selected on the basis of a risk analysis;
- Reconcile key financial data in the Social Responsibility Report with the audited financial statements.

In a limited assurance engagement, the evidence gathering procedures are less in scope than a reasonable assurance engagement. Accordingly, we do not express an opinion on the effectiveness of any of the CSEC's application systems, business processes, and the related financial performance data.

We performed our limited assurance engagement over the internal controls and procedures at and information provided by the head office of CSEC, Shenhua Shendong Coal Group Corporation Limited and Guohua Power Branch of the Company. We did not carry out limited assurance engagement mentioned above at any other branches and subsidiaries of CSEC nor involve interviewing with external stakeholders. Moreover, historical comparative data is not within the scope of our work.

#### Our Conclusions

- Subject to the limitation of our work, and the work performed and described in the Independent Assurance Report, nothing has come to our attention that causes us to believe that the Report was not prepared in compliance with the recommendations of SSE Guidelines at any material respect; and
- Subject to the limitation of our work, and the work performed and described in the Independent Assurance Report, nothing has come to our attention that causes us to believe that there were any error that would have a material impact on the Key Social Responsibility Indicators related to ESG disclosed in the Report.

This is translation of the Chinese language version of the Independent Assurance Report. If there is any conflict in meaning between the Chinese and English versions, the Chinese version will prevail.

### Deloitte Touche Tohmatsu Certified Public Accountants LLP

20 March 2015



## Equity structure diagram



Note: The equity structure diagram of China Shenhua (including major branches/ subsidiaries) as at 31 December 2014 is for illustrative purpose only.

			- 51.00% - CLP Guohua She	nmu Power Co., Ltd.
			— 60.00%— Zhejiang Guohu	a Zheneng Power Generation Co., Ltd.
endong Coal Group Co., Ltd.				Huidafeng Wind Energy Development Co., Ltd
unge'er Energy Co., Ltd.				a Yuyao Gas-fired Power Co., Ltd.
dian Shengli Energy Co., Ltd.				angdong Power Co., Ltd.
jie Energy Co., Ltd.				ingzhou Power Generation Co., Ltd.
otou Energy Co., Ltd.				hua Yudean Taishan Power Co., Ltd.
rixile Energy Co., Ltd.				a International Power Co., Ltd.
a Energy Co., Ltd.				Jinjie Energy Co., Ltd.
annur Energy Co., Ltd.	-			
	-			inneng Power Co., Ltd.
tralia Holdings Pty Limited				Chenjiagang Power Co., Ltd.
al Branch		Major Controlling Companies	70.00% — PT GH EMM Inde	pnesia
nch	-		— 92.00% — Shenhua Guohu	a Beijing Electric Power Research Institute Co., l
			— 60.00% — Shenhua Guohu	a Shouguang Power Generation Company Lim
			—100.00%— Shenhua Shend	ong Power Co., Ltd.
pup Co., Ltd.			—100.00% — Shenhua Fujian	Energy Co., Ltd.
			— 51.00% — Shenwan Energy	v Co., Ltd.
			— 51.00% — Guohua Mengjir	Power Generation Co., Ltd.
			— 51.00% — Shenhua Guohu	a Zhangzhou Power Co., Ltd.
			– 80.00% – Inner Mongolia	Guohua Hulunbeier Power Generation Co., Ltd.
		 	— 51.00% — Shenhua Sichua	n Energy Co., Ltd.
hen Railway Group Co., Ltd.			– 52.00% – Shenhua Guohu	a Guangtou (Beihai) Power Generation Co., Ltd
Shenhua Baoshen Railway Co., Ltd. Shenhua Ganquan Railway Co., Ltd.				a (Beijing) Gas Thermal Power Co., Ltd.
Shenhua Xinzhun Railway Co., Ltd.			— 50.00% — Guohua Taicang	
ailway Development Co., Ltd.				a Jiujiang Power Co., Ltd.
nchi Railway Company Limited				a Yongzhou Power Co., Ltd.
gdong Railway Co., Ltd.				<u> </u>
vay Transportation Co., Ltd.			52.20% — Shenhua Guohu	a Guangtou (Liuzhou) Power Generation Co., L
ilway Branch			65.00% — Tianiin Guohua F	anshan Power Generation Co., Ltd.
Mechanical Maintenance Branch			55.00% - Sanhe Power Co	
nghua Harbour Administration Co., Ltd.				
jin Coal Dock Co., Ltd.			50.00% Suizhong Power	
ean Zhuhai Port Coal Dock Co., Ltd.				Guohua Zhunge'er Power Generation Co., Ltd.
nghai Shipping Co., Ltd.			Beijing Thermal F	
nce Co., Ltd.			Guohua Power B	ranch
erials Group Ltd.	_	Major Branches	Shengli Energy B	
ysys Information Technology Co., Ltd.	_	Major Branches		i Thermal Power Branch
logical Exploration Co., Ltd.			Guonua Huizhou	
ua Overseas Development and Investment Co., Ltd.	100.00%			
ng Kong Limited	100.0070			
nce and Technology Research Institute Co., Ltd.				
ning Center Co., Ltd.				
C III				

# Appendix V: Definition

Abbreviation	Full Name
Shenhua Group Corporation	Shenhua Group Corporation Limited
China Shenhua or the Company	China Shenhua Energy Company Limited
Branches and Subsidiaries	Branches and subsidiaries of China Shenhua, unless the context otherwise requires
Shendong Coal Group, Shendong Group or Shendong Coal Company	the corporation conglomerate consisting of Shenhua Shendong Coal Group Co., Ltd. and its subsidiaries
Guohua Power Company	Beijing Guohua Power Company Limited
Guohua Power Branch, Guohua Power	Guohua Power Branch of the Company
Zhunge'er Energy Company	Shenhua Zhunge'er Energy Co., Ltd.
Shuohuang Railway Company, Shuohuang Railway	Shuohuang Railway Development Co., Ltd.
Shenbao Energy Company	Shenhua Baorixile Energy Co., Ltd.
Bayannur Company	Shenhua Bayannur Energy Co., Ltd.
Shenshuo Railway Branch	Shenshuo Railway Branch of the Company
Zhunchi Railway Company	Shenhua Zhunchi Railway Company Limited
Sichuan Energy Company	Shenhua Sichuan Energy Co., Ltd.
Baotou Coal Chemical Company	Shenhua Baotou Coal Chemical Co., Ltd.
Materials Group	Shenhua Materials Group Ltd.
Dingzhou Power	Hebei Guohua Dingzhou Power Generation Co.,Ltd.
Overseas Company	China Shenhua Overseas Development & Investment Co., Ltd.
Australia Pty	Shenhua Australia Holdings Pty Limited
EMM Indonesia	PT.GH EMM INDONESIA
Russia Company	Обществас ограниченной ответственностью «Разрезуголь»
Sanhe Power	Sanhe Power Co., Ltd.

Abbreviation	Full Name
Zhuhai Wind Energy	Zhuhai Guohua Huidafeng Wind Energy Development Co., Ltd.
Hubei Power	Inner Mongolia Guohua Hulunbeier Power Generation Co., Ltd.
Taishan Power	Guangdong Guohua Yudean Taishan Power Co., Ltd.
Ninghai Power	Zhejiang Guohua Zheneng Power Generation Co., Ltd.
Accounting Standards for Business Enterprises	the latest Accounting Standards for Business Enterprises issued by the Ministry of Finance of the People's Republic of China and the related application guidance, interpretations and other related requirements
International Financial Reporting Standards	International Financial Reporting Standards issued by the International Accounting Standards Committee
Shanghai Listing Rules	Rules Governing the Listing of Stocks on Shanghai Stock Exchange
Shanghai Stock Exchange	Shanghai Stock Exchange
Hong Kong Listing Rules	Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited
Hong Kong Stock Exchange	The Stock Exchange of Hong Kong Limited
A Share(s)	Ordinary shares that are issued to domestic investors with the approval of CSRC and listed on the domestic stock exchanges, and denominated, subscribed and transacted in Renminbi
H Share(s)	Ordinary shares that are issued to foreign investors with the approval of CSRC and listed on the Hong Kong Stock Exchange, and denominated, subscribed and transacted in Hong Kong dollar
Company Law	Company Law of the People's Republic of China
Securities Law	Securities Law of the People's Republic of China
Labour Law	Labour Law of the People's Republic of China
SASAC	Stated-owned Assets Supervision and Administration Commission of the State Council of the People's Republic of China
NDRC	National Development and Reform Commission of the People's Republic of China

## Feedback Sheet and Contact Information

China Shenhua values your opinions on the Company's works on corporate social responsibility and this Corporate Social Responsibility Report. Your opinions and advice will add momentum to continual improvement of our performance and this Report.

Please fax this sheet to +86-10-5813 1814 or email it to 1088@csec.com after you have answered the following questions.

1. Is there any topic that you are concerned but not covered in this Report? If so, please write down the issue(s) that you are concerned about.

2. Which part(s) of this Report are you most interested in?

You are welcome to provide personal particulars if you wish:

Name:	
Occupation:	Organization:
Contact address:	Postal code:
Telephone :	Fax:
Email:	
China Shenhua Energy Company Limited Block A Shenhua Tower 22 Xibinhe Road, Dongcheng District, Beijing, China Postal Code 100011	

Affix stamp here

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2013 CSR Report



2012 CSR Report



2011 CSR Report



2009 CSR Report



2010 CSR Report



2008 CSR Report

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