

(a joint stock limited company incorporated in the People's Republic of China with limited liability) Stock Code: 01088

## 2016 CSR Report " phone Clean Energy for a Greener World



### **Cover Story:**

### **Clean Energy for a Greener World**

With the new normal of the economy, China Shenhua adheres to the development concept of "exploring one mine, greening one piece of land, and vitalizing local economy", firmly implementing the "1245" clean energy development strategy. By prioritizing "clean energy supply" as the core of corporate social responsibilities, "coal" is no longer simply equivalent to "pollution", but also a positive factor contributing to better ecological environment.

We integrate social responsibilities into production and operation while fully committed to clean and efficient development and utilization of coal, with great emphasis placed upon innovation and equipment localization. As a result, a number of green and intelligent digital mines have been built and Shenhua is also the first power generator in China to start ultra-low emission retrofit of its coal fleet. The persistent efforts to innovate have further strengthened China Shenhua's position as an industry leader in environmental protection, efficiency and profitability and innovation.

We persevere in ecological conservation. Lucid waters and lush mountains are invaluable assets. Through innovation and application of Eco-friendly technologies, we achieved recycling of fuel, energy and water resources; with solid efforts in areas such as water and soil conservation, land rehabilitation, wind break and sand fixation, slope protection, we tried our best efforts to protect our ecological environment. We effectively respond to the challenges from climate change by fully implementing carbon emission control schemes to steadily reduce emission intensity.

Going forward, we will continue to commit ourselves to green and low-carbon development to forge green integrated industrial chain and strive for harmony between man and nature and balance between coal development and utilization and environmental protection.



### **Company Profile**

China Shenhua Energy Company Limited, controlled by Shenhua Group Corporation Limited ("Shenhua Group"), is cross-listed in both Hong Kong and Shanghai stock exchanges. The headquarter is located in Beijing. It is a coal-based integrated energy company with businesses of coal, power, railway, port, shipping and coal-to-chemicals, primarily engaged in production and sales of coal and electric power, coal transportation through railway, port and shipping as well as coal-to-olefins production.

China Shenhua is the largest listed coal supplier in both China and the world. The Company's coal business has been regarded as a role model in China in terms of clean, efficient and safe production. China Shenhua also owns a sizable and efficient power generation operation, which serves to complement the Company's coal business for coordinated development. The Company owns and operates a large transport network integrating railway, port and shipping fleet, creating tremendous synergy and cost advantages for the Company.



### **About This Report**

The Social Responsibility Report for 2016 ("CSR Report") is the tenth 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 eye to enhancing communication and liaison with all stakeholders.

The Board and all the Directors of the Company guarantee that the report does not contain any false representation, misleading statement, or major omission, and bear joint and several liabilities for the truthfulness, accuracy and completeness of the content hereof.

Main Scope of the Report G4 Materiality Disclosures G4-17

China Shenhua Energy Company Limited and its subsidiaries, including companies and assets newly acquired or established in 2016. For details of the main scope of the report, please refer to Appendix V of this report.

### **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", "Guidelines on Preparation of 'Corporate Report on Performance of Social Responsibilities'" and "Notice of Information Disclosure in Relation to Further Optimizing Poverty Alleviation Work of Listed Company" issued by the Shanghai Stock Exchange;

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

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

This report is issued based on G4 core selection, but the reporting and disclosure remain consistent with the social responsibility report in the previous year.

### Principles of Data Processing G4 Materiality Disclosures G4-20 G4-22

The reporting period of data and statement disclosed in this report is consistent with the reporting period of this report. The financial information contained in this report is sourced from the audited financial report of the Company for 2016. Unless otherwise indicated, Renminbi is the denomination currency in this report. The major indicators on safety and environmental protection of the Company are calculated in accordance with China's regulations or industry standards.

### 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 Appendix IV.

### Language versions and availability of the 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 those in the Traditional Chinese version and English version are extracted from the H-Share financial report of the Company. In case of any other discrepancies, the Simplified Chinese version shall prevail.

This report is available to stakeholders and the public in a PDF document, which can be downloaded from the websites of the Shanghai Stock Exchange and the 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 different reading interests and requirements of different stakeholders to the extent possible during the compilation of this report to make it as plain, clear and easy to read as possible. The compilation of this report may not be entirely satisfactory due to various objective constraints. The Company will 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 with this report.



### **Compilation of This Report**

By issuing the CSR Report, China Shenhua proactively responds to the expectation and attention of stakeholders while streamlining the operation and management of the Company, so as to avoid economic, social and environmental risks and enhance the Company's management capability. After publication of the CSR Report every year, the Company solicits opinions and suggestions from investors, employees, customers, suppliers and other stakeholders on corporate operation and management as well as report preparation, and adopts those that are reasonable. The replies will be disclosed in the CSR Report of the next year.

### **Compiling Procedure**

The CSR Management Division under the General Office of China Shenhua has designated personnel in charge of preparing CSR Reports, collecting opinions and suggestions from stakeholders and establishing a report preparation team involving various departments at the end of the year.



### Identification of Substantive Issues

### G4 Materiality Disclosures G4-18 G4-19 G4-23

The contents disclosed in the CSR Report were determined by China Shenhua based on the relevant standards and documents, policies and regulations on social responsibility and the issues of concern to stakeholders within the year. The Company comprehensively analyzed and captured the importance of social responsibility issues to stakeholders and, through internal discussion, determined the significance of such issues for sustainable development of China Shenhua. On this basis, the Company finalized issues to be disclosed in the report.

Significance to stakeholders



Significance to the sustainable development of China Shenhua

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### **Chairman's Statement**



### **Dear Friends**,

The energy sector in China experienced a series of fundamental changes in 2016, where supply-side structural reforms became the main theme of restructuring and transformation of the coal industry. China Shenhua actively reacted to the complicated and volatile market conditions and persevered in implementing the "1245" clean energy development strategy. With "supplying clean energy" as the core in fulfillment of social responsibilities, the Company fully leveraged the advantages of its integrated operation and stepped up efforts to "make fossil energy cleaner and clean energy bigger", combining social responsibilities with production and achieving remarkable operation performance, with revenue standing at RMB183,127 million in the year, representing a year-on-year increase of 3.4%; profit before income tax standing at RMB41,253 million, representing a year-on-year increase of 19.5%. In addition, China Shenhua was also awarded the "2016 CCTV Top 10 Listed Companies in China".

Coordinated development to enhance efficiency of the integrated operation. The Company worked actively to transform development approach and mode, optimize industrial distribution, consolidate competitiveness from traditional coal-based business and develop emerging energy, in an effort to achieve the transformation towards a world first-class clean energy supplier, powering social and economic development with stable, clean and high-quality energy products and services.

Innovative development to facilitate the transformation of economic development mode. The Company adopted the technology-first strategy and focused on enhancing indigenous innovation, achieving a number of high-level technological achievements which further strengthened our core competitiveness. In 2016, the Company injected RMB664 million into research and development, attained 683 new patents, received provincial, ministerial or above awards for 10 technological achievements. "Key Technology and Demonstration Projects of Intelligent Coal Mine Construction" was awarded second prize of the National Award for Progress in Science and Technology, and the national key laboratory for "protection and utilization of water resources in coal mining" was also established.

Safe development with excellent safety record. The Company maintains great safety awareness, operating as if "skating over thin ice or standing by the edge of abyss". We sped up establishment of the risk prevention and control system, strove to lay a solid groundwork for safe production, set up safety accountability system and pushed forward production safety in all business segments. In 2016, the fatality rate per million tonne of coal output of the Company's coal mines was zero, one of the best in the global coal industry. In particular, Shendong Coal Group has created the record of "zero fatality" in producing 200 million tonnes of raw coal for the year.

Green development to sustain ecological improvement and environmental protection. The Company took energy conservation and environmental protection as its top priority and firmly implemented the national "Hundred, Thousand and Ten Thousand" program for key energy consumers, operating with the dual control of total energy consumption and unit consumption target. With increased investment in upgrading programs for better energy efficiency and environmental-friendliness, we made great efforts to mitigate greenhouse gases emissions, innovate on green development technologies and disclose environmental information in compliance with laws and regulations to receive social supervision. In 2016, the Company invested RMB2.605 billion in energy conservation and environmental protection projects and had a total of 66 ultra-low emission coal-fired units, of which the emission performance of major pollutants meets or is even lower than the natural gas generator emission standards.

Open development to push forward international expansion. The Company actively responded to the "Belt and Road Initiative" and "Going Global" strategy of the government, exporting our own advanced coal and power integrated development technology to countries such as Indonesia. In addition, we also worked actively to develop new energy markets overseas in order to bolster our capability to tap into both domestic and overseas markets and resources. While exporting capital and technology, the Company continued to strengthen understanding of and integration with local culture, pushed forward localization and protected local environment, contributing as a responsible global corporate citizen.

Sharing development to share development dividends with employees and community. The Company has always considered talents as the No. 1 resource, taking employees' interests, career development and well being as the key part of social responsibilities fulfillment. We also actively engaged in precise poverty alleviation programs and public welfare activities. With Shenhua Public Welfare Foundation as platform, the Company participated in aid programs in Tibet, Qinghai and Xinjiang and other targeted poverty alleviation efforts, adopting precise alleviation measures to speed up local infrastructure construction, industrial development and improvement of people's living standards. In addition, substantial progress has also been made in public welfare programs such as Love and Care Activities and establishment of Shenhua Schools and Shenhua Libraries across China with beneficiaries of over 8 million in aggregate.

In 2017, China Shenhua will strive to become not only a world-class clean energy supplier, but also a top provider of clean energy solutions. Committed to the five development concepts, we will make every effort to enhance development quality and efficiency, corporate governance, global presence, soft power and the capability to fulfill social responsibilities, contributing to the transformation of China's coal industry and create greater value for shareholders, customers, suppliers, employees, communities and all the others stakeholders.

17 March 2017



### Full Integration of Social Responsibility: Towards Sustainable Development

China Shenhua pays high attention to social responsibility. It embedded the tenets and fulfillment of social responsibility into its development strategy and established a multifaceted CSR system underpinned by standardized and refined practice and measures, thus striving to enable sustainable development.

### **Background of Sustainable Development**

In 2016, under the background of supply-side reform promoted by the State, significant changes had been made to coal and power markets. Faced with such a complicated and variable energy market environment, China Shenhua proactively put into action the concept of "innovative, coordinated, green, open and shared development", persisted in bottom-line thinking and value creation, abided by the laws of market, and worked together with stakeholders to achieve win-win cooperation on the strength of new driving forces such as strategic transformation, structural adjustment and technological innovation.



Analysis of the Background of Sustainable Development

### **CSR Model**

Holding fast to the five development concepts, the Company is continuously exploring a CSR management and practice mechanism, with mutual benefits and harmony as the final goal. It continues to optimize and improve its CSR model, thus forming a model with its own characteristics and a culture of fulfilling social responsibility.



CSR Model of China Shenhua



### **CSR Management**

After years of exploration, China Shenhua has gradually formed its own CSR management philosophy characterized by "strengthening strategic leadership and the integration of CSR, improving CSR communication and brand image". Under the guidance of this philosophy, the Company has continuously reinforced institutional development and consolidated the management foundation of CSR so as to strike a balance between economic, environmental and social benefits.

### Institutional development

The Board and its special committees serve as the decision-making body to coordinate the Company's CSR effort, with a vice president in charge of implementation. The general office is the responsible department, within which a CSR management division with a dedicated staff of three is established to support systematic implementation of CSR related activities. All subsidiaries (branches) and production units have designated CSR management bodies and personnel. In 2016, the Company further optimized its CSR work process, refined division of duty, improved management system and formulated and published the "Protocol of Publishing and Utilizing CSR Report".



CSR Organizational System of the Company



### Integration of CSR

The Company has complied its CSR plan to be implemented during the "13th Five-Year-Plan" period and actively promote the integration of CSR with employees' daily work to turn the fulfillment of CSR into employees' self-motivated action, making CSR an indispensable part of the Company's strategic management and operation system.

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**Capacity Building** 

In 2016, the Company continued to carry forward CSR training with a pragmatic approach. It invited the SASAC of the State Council, Chinese Academy of Social Sciences (CASS), and China WTO Tribune, among other government authorities and authoritative academic institutions, to carry out special training to 58 CSR managers and relevant staff from each and every subsidiary and business branch of the Company, promulgating the latest CSR knowledge and enhancing their CSR awareness so as to drive forward CSR work more effectively.

Inviting Xun Zhenying, Chairman of Guangzhou Merchants Association, to give lessons to trainees

### **Communication with Stakeholders**

China Shenhua has established a normal communication mechanism with its stakeholders. The Company has incorporated stakeholders' needs into its entire production and operation process through bringing them inside as well as going out to respond to expectations and requests from stakeholders including shareholders, customers, employees, suppliers, communities and regulatory authorities, and with that trying to gain appreciation and support from

stakeholders. G4 Materiality Disclosures G4-24 G4-25 G4-26 G4-27



Participating in the Fifth China Charity Fair



Launching an exhibition on Shenhua's CSR efforts titled "Accountable Shenhua, Charity First"

	Expectations and needs	Communication methods	Feedback by the Company
Investors	High profitability, reasonable dividend policy, increasing market value	General meeting of shareholders, information disclosures, result announcement, investor hot line, reverse roadshows and company websites, etc	Stepping up efforts in information disclosure and improving profitabilit modifying operations with views fro the market
Customers	Fulfillment of contracts, quality products and services, mutual benefits and win-win cooperation	Negotiation of contracts and agreement, sales and order placement meetings, customer services, customized product development and customer satisfaction surveys	Provision of quality energy products and services in an effective, safe and green manner, strictly keeping commercial secrets, customizing products
Staff	Fair wages and welfare, employee health and safety protection, career promotion and development, caring for staff	Labor contracts, the committee of employees' representatives, surveys on employees' satisfaction, labor unions and the office of petition	Improving the wage system and staff protection system, increasing investment in health and safety protection of workers, bring greater happiness to employees
Suppliers	Long-term cooperation, open and fair procurement, abiding by commitments, mutual benefits and win-win cooperation	Negotiations of contracts and agreements, supplier conferences, voluntary visits	Keeping commercial principles and processes open and transparent, good fulfillment of contracts and agreements, green and responsible procurement
Community	Participation in community development, contribution to public welfare, raise the level of employment and conservation of local ecology and environment	Cooperation and co-development, public welfare activities, publicity activities and employment security	Contribution to public welfare, commitment to creating local jobs, boosting local economic growth
Regulatory authorities	Full compliance with laws and regulations, compliance in operation, tax payment in accordance with laws, safety production, environmental protection, energy efficiency and emission reduction, jobs creation, technological innovation	Participating in the formulation of various standards, attending relevant meetings, submitting work reports and information	Faster economic transformation, compliance with laws and regulatior active communication with regulato authorities
Creditors	High solvency, due repayment of debts and interest, mutual trust and cooperation	Contracts and agreements	Due repayments, better communication and liaison
Industrial peers	Fair competition, jointly carrying out research on safe production, environmental protection and low carbon operation, and jointly deal with challenges presented by the sluggish market	Industrial associations, seminars and conference	Undertaking key scientific research projects of the industry, promoting best practices in safe production, maximizing the value of industrial chain, sharing technological know-how and techniques and refraining from vicious competition

### **Social Contribution per Share**

In 2016, the social responsibility contribution per share<sup>Note</sup> of China Shenhua stood at RMB4.162 per share (Accounting Standard for Business Enterprises) and RMB4.272 per Share (International Financial Reporting Standards) respectively.

### **CSR Honors**

China Shenhua's efforts on social responsibility have been widely recognized across the society. In 2016, China Shenhua and its subsidiaries (branches) attained various honors in this field.

- China Shenhua is selected as the "Top 10 Listed Companies in China" and "Top 10 Chinese Listed Companies with The Best CSR Performance" awards at the "2016 CCTV Financial Forum and Chinese Listed Companies Summit"
- China Shenhua is selected as the "Top 100 Chinese Listed Companies in 2016 with the Most Capital Brand Valuation" award at the 10th Market Value Management Summit and Forum of Chinese Listed Companies hosted by Research Center for Market Value Management of Chinese Listed Companies
- China Shenhua received the "2016 China Financial Market Award for Listed Companies Best Brand Value Award" at the Award Ceremony for "2016 China Financial Market Award for Listed Companies" hosted by "China Financial Market"
- China Shenhua was awarded "A-Class Evaluation for 2015 Information Disclosure" by the SSE
- Shendong Coal Group and Shuohuang Railway Company owned by China Shenhua were awarded "Excellent Enterprise for Social Responsibility Report in China's Coal Industry" by China National Coal Association
- The "Shenhua Loving Care Activities" were awarded the title of "Central Enterprise Voluntary Service Brand" by SASAC of the State Council

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 include the taxes 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.

### Stronger and Healthier Growth for Coordinated Development

China Shenhua grasps firmly the important strategic opportunity of promoting energy reform of the nation. Guided by the "1245" clean energy development strategy, it actively promotes "cleaner fossil energy and clean energy on a larger scale" and accelerates the transformation of development mode and the adjustment of industrial structure, so as to constantly improve the efficiency of integrated operation and realize steady and efficient operation of the Cempany.



### **Corporate Governance**

Pursuant to requirements of laws and regulations, China Shenhua has kept improving its corporate governance structure, set up explicit rules of meetings and work procedures, and put in place a management system and operation mechanism in which duties were performed in accordance with laws and regulations by the shareholders' general meeting, the Board, the Supervisory Committee, the management team and functional bodies, which effectively ensures the Company's independent, efficient and transparent operation.



Shareholders' General Meeting

The shareholders' general meeting of the Company performs such work as meeting convening, notice and review, voting and information disclosure in strict observance of the Articles of Association and Rules of Procedures to safeguard the shareholders' right to know, to participate, to question and to vote. In 2016, the Company convened one annual general meeting.

• The Board

The Board is a standing decision-making body of the Company. As of the end of 2016, the third Board comprised nine directors, including four executive directors, three independent non-executive directors and two non-executive directors. Each of the directors has extensive experience in macro-economy, industry, financial audit, legal affairs and strategic management. Their knowledge and expertise is complementary to each other, which plays an important role in ensuring the rationality of decision-making as well as improving its efficiency.

The Board executes the resolutions of shareholders' general meeting, and makes decisions on significant issues including the production and operation plan as well as investment proposal of the Company. In 2016, the Company convened seven Board meetings, including five on-site meetings, one meeting held by teleconferencing and one meeting held by both on-site and teleconferencing. Meanwhile, the Board and its special committees paid close attention to the Company's performance of social responsibilities, reviewed resolutions in relation to social responsibility report, dividends distribution and other issues.

### • Supervisory Committee

The Supervisory Committee of the Company is accountable to the shareholders' general meeting. In accordance with the Articles of Association and relevant laws and regulations, it supervises the daily operating activities and performance of duties of directors and senior management, rectifies the actions in violation of laws and the Articles of Association. The Supervisory Committee of the Company comprised three supervisors, including one employee representative. In 2016, the Company convened five meetings of the Supervisory Committee.

### Management team

The management team is responsible for implementing the resolutions of the shareholders' general meeting and the Board, as well as managing the production and operation of the Company.



Age Structure of Senior Management

Please refer to Sections VIII, IX and X of the 2016 Annual Report of China Shenhua for detailed information with respect to corporate governance of the Company.



### **Members of the Board of the Company**



ZHANG Yuzhuo Chairman, Executive director



LI Dong Executive director, Senior vice president



GUO Peizhang Independent non-executive director



LING Wen Vice Chairman, President, Executive director



FAN Hsu Lai Tai Independent non-executive director



CHEN Hongsheng Non-executive director



HAN Jianguo Executive director



GONG Huazhang Independent non-executive director



ZHAO Jibin Non-executive director

### **Senior Management**



LING Wen President



WANG Yongcheng Vice president



ZHANG Jiming Vice president

### **Members of Supervisory Committee**



ZHAI Richeng Chairman of the Supervisory Committee



LI Dong

Senior vice president

ZHANG Zifei

Vice president

ZHOU Dayu Supervisor





WANG Jinli Senior vice president



WANG Shumin Vice president



ZHANG Kehui Chief Financial Officer



SHEN Lin Employee Representative Supervisor

### **Compliance in Operation**

China Shenhua has established a sound regulatory system in strict observance of the national laws and regulations, as well as all supervisory requirements, whereby it strengthened the management and control of the operation and improved the operating and management standards in accordance with laws, and with that ensuring a stable and healthy operation of the Company.

### Legal Compliance

The Company firmly established the awareness of lawful governance through strengthening law-based corporate governance, compliance in operation and standard management. It established a leading group to promote rule of law across Shenhua, kept growing legal talents and strove to learn from overseas outstanding enterprises their experience in compliance management.

In 2016, the Company made further amendments to "Internal Management Authorization Manual" to refine the scope, matters and authority of decision-making at each level. It fully implemented authorization management system in secondary subsidiaries (branches) to ensure the decision-making system has institutional robustness, standardized procedure, open process and clear accountability. The Company is implementing the project for improving periodic close-loop management of contracts through their entire lives and making an effort to realize the integrated online management of contracts across the whole process, so as to ensure 100% execution rate, 100% online rate and 100% legal review rate of contracts.



Major Steps Taken by the Company to Address Legal Risks in 2016

### Internal Control and Risk Management

The Company has established an organizational framework of risk management and control comprising the Board and the Audit Committee, internal audit division, regional audit centers and risk management departments of its subsidiaries and branches. It has established a risk-oriented internal control and operation mechanism whereby it realized an integrated close-loop management comprising review of institutional risks, risk assessment at the beginning of the year and quarterly risk monitoring, special supervision and inspection, self-evaluation and self-inspection, error identification and rectification, and upgrade of risk database etc..

The Company values the enhancement of internal control and error rectification, and keeps regulating the management of the Company in order to improve its anti-risk capability. In 2016, the Company carried out evaluation of internal control in all departments at the headquarters, secondary enterprises and third-tier units in major business segments, involving 33 business areas and 633 control spots included in "Internal Control Evaluation Criteria of China Shenhua Energy Company Limited", and carried out extensive inspection on the effectiveness of design and operation of the internal control system. The result showed the internal control system of the Company had been running in good condition throughout the year, with no significant issue or material flaw identified in connection with its design or execution.

Please refer to the 2016 annual report of China Shenhua for the internal control in relation to the financial report of the Company and the third party audit report.

### **Cleansing Party Conduct and Anti-corruption Efforts**

The Company has upheld the principle of arranging the deployment, implementation, inspection and evaluation of the work of cleansing the Party's conduct and fighting corruption alongside its production and operation, persisted in the comprehensive implementation of stringent Party governance to prevent the recurrence of "the four types of detrimental practice", practiced indepth the "Four States"<sup>Note</sup> through pushing forward the checkup and inspection in combating corruption and kept driving forward the cleansing of Party conduct and the fight against corruption.

In 2016, the Company continued to optimize the setup of its supervisory institutions and established a multilevel supervisory system comprising a supervisory department in headquarters, regional supervisory centers and supervisory departments of subsidiaries (branches). With an innovative mindset and methods such as the breakdown and further categorization of the supervisory responsibility and the establishment of the evaluation system for supervisory responsibility with 12 categories and 50 items of evaluation standards, the Company has realized an all-dimension evaluation of the implementation of supervisory responsibility of the disciplinary committees of subsidiaries (branches). The Company valued greatly the smoothness of public reporting channels and for that reason set up and announced a whistle-blowing telephone line, email addresses and mail boxes to encourage public supervision. The privacy of the informant was safeguarded. During the year, there was no retaliation to informants occurred as a consequence of reporting corruption.

### Cleansing the Party's Conduct and Combating Corruption in 2016



Note The "Four States" refers to constant criticism and self-criticism with regular interviews and inquiries which makes "accepting criticism" to be a norm; the majority of disciplinary punishment should be minor disciplinary punishment and reorganization; major disciplinary punishment which causes severe penalty and major position adjustment should be the minority of disciplinary punishment; serious disciplinary offenses with suspect law violation that might lead to legal proceedings should be extremely rare.

### **Efficient Operation**

China Shenhua proactively explored innovative management models with quality and efficiency improvement at the heart, kept enhancing the integrated operation and digitization, optimized industrial structure and drove quality and efficiency improvement so as to maximize the overall value of the Company.

### **Optimization of Industrial Structure**

In 2016, there was a significant fluctuation in coal market. The overall market experienced a downturn in the first half of the year while the coal price rebounded drastically in the second half of the year. Under the fierce market competition, through continuous optimization of the structure and layout of coal, power, transportation and coal-to-chemical businesses, as well as integration of internal and external resources of the enterprise in respect of production, market and logistic, the Company made quick responses to market changes, resulting in a synchronized interaction among all segments and a timely allocation of all types of resources. The strength of integrated operation model was given a full play, allowing the Company to achieve a sound economic return.

In 2016, the profit before income tax of the Company amounted to RMB41,253 million, representing a year-on-year growth of 19.5%. In terms of the operating revenue of each business segment before consolidation and inter-segment elimination in accordance with the International Financial Reporting Standards, the proportion of coal, power, transportation and coal-to-chemical segment was 36%, 25%, 38% and 1% respectively. As the structure of the integrated business was further optimized, the synergistic operation capability continued to improve, effectively withstanding the market risks.

Major operating indicators		2015		2016		Year-on-year change (%)
Commercial Coal Production (million tonnes)		280.9	I	289.8		3.2
Coal Sales (million tonnes)		370.5	l	394.9	l	6.6
Total Electricity Sales (billion kwh)		210.45	I	220.57	l	4.8
Sales of Polyethylene (thousand tonnes)		319.2	l	292.6	l	(8.3)
Sales of Polypropylene (thousand tonnes)		312.9	I	282.1	l	(9.8)
Freight by Self-owned Railway (billion tonne kilometres)		200.1		244.6		22.2
Seaborne Coal at Self-owned Ports (million tonnes)		158.5		201.3		27.0
Shipping Freight (billion tonne nautical miles)	l	64.1	I	63.0		(1.7)

### Performance of Each Business Sector in 2016

Please refer to the 2016 Annual Report of China Shenhua for further details of the information on integrated operation and business segments.

### **IT-based Transformation**

Through the "SH217" Information Project and digital mining, China Shenhua integrated the information technology into the entire process of the production and operation of the Company, facilitating the integrated and efficient operation through digitized management.

Smart Production

Through the deployment of information technology such as IoT and big data, the Company has carried out IT-based transformation to production processes of all its business segments. Through construction of digital mines, smart power plants and ports, transparent demand and supply and automatic resources allocation were made reality, which reduced the



Digital Power Plant – Shenhua Guohua (Beijing) Gas Thermal Power Co., Ltd.

loss incurred from mismatched production plans. Progress has been made in work efficiency and safety as well as energy conservation and consumption reduction thanks to unmanned or less labor intensive operation resulted from automatic operation.

• Smart Dispatch

Through IT-based technology and methods, the Company drew an operation map across all its business segments and achieved integrated and smart dispatch. Currently, the Company has established a monitoring system for production and operation, a dispatch system and a management system for coal purchase from third parties. In 2016, the Company commenced the project of building a planning and analytic system for production and operation, which further improved efficiency of integrated operation.

• E-commerce

The Company adopted a complementary business model that combines online marketing and sales generation with offline services, and established an e-commerce platform providing various functions such as online platform trading, payment management, provision of services to long-term customers and basic service management. In 2016, the Company completed a pilot third-party logistic project at Zhuhai Coal Dock and the launch of supply chain financing business, while the planning and development of an e-commerce system that spans material procurement and macroscopic logistic was also commenced.

• Energy Interconnection

By establishing regional clean energy interconnection, the Company has been exploring a path to transition from a traditional energy provider to an expert in comprehensive clean energy production, as well as energy allocation and utilization. In 2016, the Company commenced the construction of engineering demonstration for comprehensive energy supply in high-tech industrial park of Fuping, Shaanxi, where it built a demonstration area for synergic, optimal and interconnected energy utilization that integrates traditionally independent energy networks of electricity, heat, steam, cold and water. The aim is to promote the revolution of energy manufacturing, transmission and consumption, improve the efficiency of energy utilization as well as boost energy saving and emission reduction.



### **Overseas Business Development**

Echoing such national strategies as "Going Overseas", "the Belt and Road Initiative" and International Capacity Cooperation, the Company kept expanding its international business landscape in an active but steady manner, with an aim to "evolving into a world-class clean energy supplier".

In 2016, the Company pressed ahead the construction of the existing overseas projects. PT.GH EMM INDONESIA, which was constructed and operated in high quality, was awarded the prizes including Top Ten Power Generation Company in 2015 and the Best IPP Power Plant in 2016 in Indonesia. The cumulative gas production by the shale gas project in the United States was 1.323 billion m<sup>3</sup>. The Russian National Mineral Resources Reserve Committee officially approved the reserves of 663 million tonnes (grade C1+C2) of Zashulanskoye project, and the trial operation of Zashulanskoye project was successfully extended.

The Company also actively explored market opportunities for coal-fired power generation and new energy in countries such as the United States, Laos and Mongolia, and promoted ultra-low emissions technology and products, among other things, to countries like Russia, Poland and Indonesia.

### Create Shared Value G4 Materiality Disclosure: G4-21

China Shenhua actively safeguarded the legitimate rights of stakeholders including investors, customers and suppliers, created shared value and achieved win-win results by delivering impressive operating results, quality products and services, as well as fair and transparent procurement policy.

### Safeguard the Interests of Investors

The Company safeguards investors' rights to know, to make decisions and to share profits in accordance with the laws and regulations and relevant regulatory requirements, striving to be investors' reliable and trustworthy partner.

• Information Disclosure

In 2016, the Company stressed a systematic disclosure to investors of such information as risk control and prevention, performance stability and industrial-chain value recreation resulted from business integration, low-cost operation and adjustments to business structure. Meanwhile, the Company proactively conveyed its thoughts of transformation and practice in clean utilization of fossil energy in view of the green development mechanism and strategy of clean mining, clean utilization and clean conversion across the whole industrial chain of coal. In 2016, China Shenhua released 160 information disclosure documents in total.

Communication with Investors

The Company upholds the idea of "business professionalization, service systematization and attitude optimization" through ongoing, open and adequate communications of varied forms such as results announcement presentation, roadshows as well as meetings with investors and analysts. In 2016, the Company had more than 700 contacts with analysts and fund managers, receiving their surveys on a weekly basis and answering phone calls almost everyday except silent period.

Returns for Investors

The Company is committed to safeguarding investors' interests through its sound operational capability. The Company adhered to a stable cash dividend distribution policy in 2016 and distributed a final dividend for the year in cash of RMB0.46 per share (inclusive of tax) on the Board's suggestion, representing 40.3% of its basic earnings per share under the Accounting Standards for Business Enterprises, with a total of RMB9.149 billion (inclusive of tax). The Board recommended to distribute a special dividend in cash of RMB2.51 per share (inclusive of tax) with a total of RMB49.923 billion (inclusive of tax). The Company's total cash dividends since 2005 amounted to RMB204.372 billion (included the 24th meeting of the third session of its Board of Directors at which the Proposal for the Distribution of Special Dividend by the Company was passed).



### Total Cash Dividends of China Shenhua (RMB100 million)

### Distribution of Final Dividends by China Shenhua (RMB/share)



### Provision of Quality Products and Services G4 Materiality Disclosures: G4-21

The Company endeavors to provide customers with quality products and services. During the production and operation, the Company continues to optimize its quality management system, improves quality management level, safeguards basic interest of customers and offers reliable products and services to customers in accordance with the PRC laws and regulations and quality standards of the industry.

Quality Products

Coal, electricity, coal-to-chemical products and logistics services are main products of the Company. The Company plays to its strength resulted from resource integration, structural adjustment and integrated operation to lower the cost of production and transportation and enhance service standards, thus maximizing the value for its customers. In 2016, the Company did not engage in any legal disputes about coal quality.

**Coal Products:** The Company adopted stringent industry, national and international standards on coal products, strengthened the management of mining and processing, increased coal-washing rate and took measures such as packing and transporting separately to control the contents of ash, sulfur and water, so as to ensure the stability of coal quality.

**Power Products:** Through policy marketing, environmentally-friendly marketing and technology marketing, the Company continuously consolidates and develops power market in a safe, efficient and environmentally-friendly manner, providing the market with reliable, stable and clean power.

**Coal-to-Chemical Products:** The Company adjusts the product structure, extends the industrial chain and develops highend and high value-added coal-to-chemical products on a market-driven approach.

**Logistics Services:** The Company promotes macroscopic logistic transportation to provide clients with comprehensive, professional and speedy logistic services. Up to now, the macroscopic logistic business of the Company serves more than 20 clients, covering more than 20 types of goods.

Customer services

Upholding the principle that "client is the market, client is the Lord", the Company standardized customer management in such aspects as lead-generation, file management and after-sale services, while at the same time focused on protecting customer privacy and providing better customer services. As such, no infringement on customer privacy and loss of customer materials had occurred in 2016.

The Company actively reached out to know the problems arising from purchase and use of Shenhua coal and timely provided solutions to address these problems. In 2016, the Company paid 9 technical visits with domestic and international industry experts to 25 customers in the power, metallurgical and chemical sectors. It also carried out a satisfaction survey among key accounts in power sector who signed annual off-take contracts with the Company, as well as other key accounts and some representative customers. The result showed that the satisfaction rates of its customers in terms of the quality of coal products, price of the products, shipment and service quality were 97.6%, 85%, 88%, 98.4% respectively.

Note The Board also recommended to distribute a special dividend in cash of RMB2.51 per share (inclusive of tax).

**One-stop service** 

**Online services** 

Implementation and leveraging of the customer manager policy to provide customers with professional and standardized one-stop service

By adopting innovative sales model, Shenhua e-trading website optimized the functions of its mobile phone application, as well as its finance and logistics modules, and expanded the scope of online sale to provide customers with more convenient services

### Principal methods of convenient services provided by the Company to customers

G4 Materiality Disclosures: G4-21

### **Building Responsible Supply Chains**

The Company has been continuously improving its supplier management system whereby it aims to realize "centralized management, total transparency, dynamic assessment as well as supporting the superior and eliminating the inferior". The IT-based management platform was used as a vehicle to carry out the supervision, management and control of businesses during the whole process including special approval for suppliers, collection of information and performance evaluation. As of the end of 2016, our informational system had 40,942 registered suppliers, including 7,115 new suppliers and 92 material suppliers. The total purchase amount of the top five suppliers was RMB14,340 million, accounting for 14.4% of the total purchase amount for the year.

### Material Suppliers by Geographical Region<sup>Note</sup>

Geographical Region		Number
Northern China	I	15,034
Northeastern China		1,980
Eastern China	[	11,293
Central Southern China	l	4,139
Southwestern China	I	1,584
Northwestern China	I	6,514
Others		398

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).

The Company pays special attention to suppliers' social values and their fulfillment of social responsibility and continues to build a responsible supply chain through strict control of special approval and materials supply. Under special approval, the Company not only requires the suppliers to provide the certificates of quality, environment and occupational health and safety, but also requires the fulfillment by bidders of relevant national standards and requirements on environmental protection in terms of their products and production process and engages external relevant experts to conduct evaluations on suppliers who apply for special approval. In 2016, the Company issued "Guidance on Management of Suppliers in Good Faith" (《誠信供應商管理指導意見》). Based on the recording function of the IT-based management system, the Company is gradually establishing an efficient and transparent procurement environment. The material procurement generated by e-trading accounts for 99.08% of the Company's total material procurement in the year. G4 Materiality Disclosure: G4-21

### Case study: Convening of Suppliers Meeting

At the end of 2016, the Company held the suppliers meeting themed with "Integrity and Trustworthiness to Reach a Win-win Situation" ("誠實守信合作共贏") and invited more than 230 domestic and international suppliers to discuss the launch of the "Guidance on Implementation of Establishment of Trustworthy Supplier System" (《誠信 供應體系建設實施指導意見》). By in-depth communication with suppliers including listening to their opinions and suggestions, the Company built up a better relationship for collaboration with the suppliers based on better mutual understanding.



The Suppliers Meeting

### Driving Reform for Innovation and Development

China Shenhua persists in carrying out innovative development, actively promotes the forming of its own research and development system, improves capacity of technological innovation, and focuses on breakthroughs in major technological-projects. By doing so Shenhua aims to play a leading role in advancing industrial technologies, and provide important scientific and technological-support to the safe development, clean development and transformation of the Company.



### **Management of Technological Innovation**

Focusing on improving technological innovation system and targeting at enhancing independent innovation capacity, Shenhua continuously optimizes its scientific and technological innovation decision-making system and management system, keeps expanding innovation platform in order to form an open innovation model with Shenhua's characteristics.

### Improving Innovation System

The Company has established a comprehensive technological innovation system with Science and Technology Committee and Expert Advisory Committee at the decision-making level, the Department of Scientific and Technological Development at the management level, three-tiered scientific research institutes including national-level institute, directly-owned institutes and institutes managed by affiliated units as well as platforms for cooperation among industry, academia and research institutes at the R&D level, and grassroots units at the execution level.



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

### Expanding Innovation Platform

The Company is active in exploring and practicing the system and mechanism that brings together the industry, academia and research institutes, and has launched an open innovation platform that makes full use of social technological resources. The Company currently owns R&D platforms including national key laboratory for "protection and utilization of water resources in coal mining" and Guohua Electricity Institute. It has also established a technological innovation base comprising Shenhua Research Institute and Shenhua Training Center, and platforms for cooperation among industry, academia and research institutes comprising "Postdoctoral Scientific Research Station" (博士後科研工作站) and Academicians Workstation (院士專家工作站) as well.

The Company has established a long-term and stable strategic cooperation mechanism with the Chinese Academy of Engineering (CAE), Tsinghua University, China University of Mining and Technology, China Coal Technology and Engineering Group and the China Aerospace Science and Technology Corporation (CASC), enabling Shenhua to draw in high-end talents as well as tap into intelligent resources of China's top think tanks. The Company has also joined hands with China Coal Research Institute to establish three professional research institutes, namely Northwest Production Safety Science Institute, Northwest Mine Hydro-geology Research Institute and Northwest Coal Mine Fire Extinguishing and Prevention Institute, so as to eliminate major safety risks and realize production safety by providing important technological support.



The Establishment of National Key Laboratory for Protection and Utilization of Water Resources in Coal Mining

### **Supports to Technological Innovation**

China Shenhua enhances independent innovation capacity, protects its intellectual property rights (IPR), increases investment in technological research and development, and strengthens the development of technological talent pools.

### Protecting Intellectual Property Right

The Company continues to improve the application and protection of IPR, and has formulated and implemented regulations such as IPR Strategies and Handbook for IPR Management, established IPR assessment, patent analysis and warning systems in order to provide a decision-making basis for significant scientific and technological activities.

In 2016, the Company filed 751 patent applications, including 249 invention patents; and obtained 683 new patents, including 125 invention patents, and seven overseas patents.

In 2016, to further improve technological innovation management and the capacity of technological management officers, the Company held IPR training workshops on key scientific research projects for headquarters and subsidiaries' employees, with an attendance of more than 900. Through the training, the Company has strengthened employees' understanding of IPR and encouraged them to keep enhancing innovation capability. The Enterprise IPR Education Base (企業知識產權教育基地) awarded by Beijing Intellectual Property Bureau was officially established at Shenhua Training Center.



First IPR Training Workshop Held by the Company

### Increasing Investment in Technology

The Company continues to increase R&D input and strives to make important technological breakthroughs in green coal mining, ultra-low emission of coal-fired power plants, coal chemical, and heavy-haul railway transportation. In 2016, Shenhua's R&D input registered RMB664 million.

### Fostering Scientific and Technological Talents

The Company attaches great importance to fostering technological talents, and has trained and attracted a number of high-level technological innovation talents with its technological innovation platform. As of the end of 2016, the Company was home to seven Postdoctoral Workstations and a cumulative total of 30 academicians had worked in its "Academicians Workstation" covering various fields and disciplines such as mining engineering, mine engineering geology and geophysical prospecting, mine gas prevention, power mechanical engineering, coal to chemicals and thermal engineering.

### **China Shenhua Senior Scientific Research Talents (persons)**

Academician of the CAE	ĺ	3	
Technical talents with senior professional titles	Į	4,162	
Receivers of special government subsidies from the State Council	ĺ	47	
Expert of the "Thousand-Talent Plan"	ĺ	15	
Expert of the "Hundred, Thousand and Ten Thousand Talents Project"	ĺ	4	
# Achievements in Technological Innovation

Taking the accelerated commercialization of scientific and technological results as an important path forward for the implementation of its clean energy development strategy, China Shenhua is committed to tackling technical difficulties arising from the development of enterprises and industry as a whole, comprehensively promotes technological advancements, and makes great efforts to become a world-class clean energy technology solutions provider.

#### Achievements in Science and Technology

The Company makes innovative use of policies, platforms and incentives to achieve continuous increase in number and quality of scientific and technological achievements. In 2016, the Company initiated 78 new scientific R&D projects with an overall budget of RMB1.124 billion; its subsidiaries and branches had 350 self-financed projects under way; two national key R&D projects including "Technology and Demonstration of Ecological Restoration and Comprehensive Renovation of Large-scale Coal-fired Power Base in Eastern Grassland Regions" organized and applied by the Company had been approved by the Ministry of Science and Technology with government grants of RMB67.9 million.

In 2016, the Company won ten Provincial and Ministerial Technology Advancement Awards and the "Key Technology and Demonstration Project of Intelligent Coal Mine Construction" was awarded the Second-Class Prize of the National Science and Technology Progress Award.

# Case Study: "Key Technology and Demonstration Project of Intelligent Coal Mine Construction" was awarded the Second-Class Prize of the National Science and Technology Progress Award

Safe, intelligent, green and efficient mines represent the future of coal mine development in China. By grasping the key technologies of intelligent mines and the following engineering demonstration, the project solved the problems affecting the core factors of intelligent coal mine construction, realized intelligence on three levels, invented automatic and intelligent working face, built intelligent mine with integrated control and 100-million-tonne intelligent mine cluster with synergetic control. The project has received authorization of 20 invention patents and 20 software copyrights, and contributed to the publication of one monograph and 38 dissertations, as well as one national standard, two industry standards and various enterprise standards. The results of this project has completed demonstration in Guohua Jinjie Coal Mine and Shendong 100-million-tonne mine cluster, reducing working-face operators per shift from 15 to 3 and underground workforce by 20% while increasing work efficiency mine-wide by 16%. The project formulated the first standard system of intelligent mine in the world with relevant results adopted by the newly-amended Coal Mine Safety Standard, thus blazing a new trail for the development of intelligent coal mines.

#### Commercialization of R&D Results

The Company proactively promotes commercialization of achievements in scientific and technological innovation, intensifies R&D on applied science and technology as well as application and promotion of new technological achievements, and with that helping to tackle difficulties in industrial development. The Company actively participates in formulation of industry and national standards, continuously cementing its technological advantages with standards and thus exerting its influence as a leading energy enterprise. In 2016, one national standard and two industrial standards, the formulation of which were led by Shenhua, and one national standard, of which Shenhua participated in the formulation, were officially published and implemented, while six standards including the "Basic Requirements on Drafting the Construction Plan of Green Mines in Coal Industry" coordinated by Shenhua were included in the revision plan of national energy standards.

# Advancing Towards Zero Accident - the Path of Safe Development

China Shenhua insists that safe production is the fundamental responsibility of an enterprise, and that the greatest value lies in employees' safety. With such belief, Shenhua has established and kept improving an integrated safe production management system, and has continuously strengthened the development of safety equipment, safety team and safety culture in order to effect safety management that covers the entire workforce, production process and all dimensions.



# Safety Management System

China Shenhua has established a safe production committee at the headquarters, leading groups of safe production in each subsidiary and branch, as well as multi-tiered safety supervision divisions at the headquarters, subsidiaries and branches and each production unit. In line with the principle of "safety management must be embedded in the management of the Company's various business segments and daily operation of its subsidiaries", a safe production and environmental protection management system with "cultural guidance, ensured accountability, risk prevention and control, effective support, solid foundation and continuous improvement" has been established.

The Company has continuously pushed forward the establishment of safety risk prevention and control management system, and established and strengthened the regulations such as *Requirements of Safety Risk Prevention and Control Management System of Subsidiaries and Branches, Safety Management Requirements of Contractors* and *Safe Production Contingency Management Measures*, while revising and optimizing the safe production system and driving the accountability for safety at each level of management, business departments and staff, in order to accomplish a "full coverage" of safety responsibilities. In 2016, with the development of the system of intrinsic safety, the Company inspected and accepted 131 production units in total safety-wise, with 34 of them rated first-class in intrinsic safety, 48 rated second-class, 39 rated third-class and 9 fourth-class, with first-class and second-class intrinsic safety ratings totaling 62.6%.

The Company increased its investment in safety in order to eliminate safety accidents and safeguard the production safety with full effort. In 2016, the Company committed RMB3.962 billion to production safety. No major or more serious safety accident occurred during the year. There were three work-related deaths. Fatality rate per million tonne of coal output of coal mines was zero. Twenty coal mines extended their safe production period to over 1,000 days, and three coal mines have achieved safe production for over ten years. Shendong Coal Group achieved zero fatality against nearly 200 million tonnes of raw coal production. As of the end of 2016, the Company had a total of 19 super-safe and high-efficiency mines.



Investment of Each Segment in Safe Production (RMB 100 million)





# **Innovation in Safety Technology**

China Shenhua values the R&D, application and innovation of safety technologies. It continuously promotes the establishment of safety management information system and constantly conquers technical difficulties in safety while improving the standards of production in such aspects as IT-based management, mechanization and automation, thus effectively protecting the lives of its employees.

# Establishment of Safety Information System

The Company strives to establish a digital, IT-based, intelligent, automatic and integrated information management system to promote safe production across the company. Currently, 95% of its production units have applied advanced information systems in direct operations such as equipment safety management and monitoring, and control over major hazard sources, realizing an intelligent and IT-based management of equipment and major hazard sources. The Company has applied widely at operation sites such technologies as mobile terminals, personnel positioning and wireless surveillance in order to realize IT-based management over unsafe behaviors and ensure standard operation of workers.

# Case Study: Establishment of Intelligent Mine and Enhancement of Safe Production

Through independent research and development, Shenhua HollySys Information Technology Co., Ltd. launched the integrated intelligent production control system and production management system for coal mining. Centralized monitoring and control, data sharing, alarm linkage, precise personnel positioning and other methods were used to enhance the transparency of safety management. Certain work in the mines was unmanned or undertaken by fewer staff members, which reduced the possibility of injury and death of mine workers and enhanced the capability of emergency rescue and hazard prevention, breaking the prolonged monopoly of foreign software products in this niche market.

## Overcoming Difficulties in the R&D of Safety Technology

The Company continues to push forward the strategy of "promoting safety with science and technology" and puts relentless effort in scientific research in major hazard treatment and key safety technologies. Breakthroughs have been made in relation to several core technologies, overcoming technical difficulties that affected production safety.

Technological innovation project	Actual results	Honors
Research on Reasons for Water Hazard on the Coal Seam Roof in North Ordos Basin and Key Technology for Prevention and Treatment	Effective prevention and treatment of water hazard on the coal seam roof	First-Class Award of Technology Advancement in Chinese Coal Industry
Intelligent Production Management System for Coal Mines	Reduction of injury and death of mine workers and enhancement of capability of emergency rescue and hazard prevention	Innovation Award of IT-based Management in Chinese Energy Enterprise
Research on Reasons for Water Hazard Occurred when Digging Ordovician Limestone in the Ultra-Thick Coal Seam in Zhunge'er Coalfield and Key Technology for Prevention and Control of This Hazard	Prevention and control of water hazard occurred when digging Ordovician limestone in the ultra-thick coal seam in the coalfield	Reached world-leading or advanced level as authenticated by experts

#### **Examples of Major Safety Technology Innovation Achievements**

# **Safe Operation Environment**

China Shenhua proactively pushes forward the safety management and enhances risk management and contingency management, in an effort to comprehensively improve safety management and safety protection capability.

#### **Risk Management**

The Company pays great attention to the investigation and prevention of risks and strives to eradicate the causes of safety incidents in order to nip such incidents in the bud. In 2016, 12,903 safety risks and problems were identified through such means as safety inspections, "blanket" investigations, major safety checks of "three prevention" during the flood season, inspections by mining experts and so on. Adhering to the principle of "immediate action and immediate rectification", the Company compiled detailed and thorough reports on the risks and problems identified and consulted experts to rectify these risks in a timely manner. As of the end of 2016, 11,745 rectifications have been made with a completion rate of 91%.

#### **Emergency Management**

In 2016, the Company was active in emergency management as well as related capacity building. It amended the *Measures for Emergency Management in Production Safety of China Shenhua* and established an inspectorate to ensure its full compliance. "Double-blind" emergency drills and emergency management inspections were also carried out through the year. As of the end of 2016, the Company had seven full-time mine rescue teams, two part-time mine rescue teams, 39 fire teams and 986 professional rescuers, and a total of 2,180 emergency rescue drills were carried out in the year.



#### **Fire Rescue Drill**

# **Safety Behavior of Employees**

China Shenhua pays attention to cultivating safety awareness and safe behaviors of its employees through nurturing a safety culture, providing safety education and training and implementing regulations on safe behaviors, in order to keep enhancing employees' risk awareness, responsiveness to emergency and ability to deal with emergencies.

#### Cultivating a Safety Culture

The Company actively creates a safety culture with Shenhua's characteristics by rolling out safety culture initiatives that are guided by principles and harmonized with traditional culture and family care. In 2016, the Company launched a variety of activities to improve safety culture, including the "Safety and Health Cup" competition, "Typical Case Study", "Sharing One's Own Experience in Accidents", "Family Assistance", and "Production Safety Month" among other things, and with that helping to create a favorable atmosphere for safety culture.



Photos of activities during the "Production Safety Month"

# Case Study: "Water Philosophy" of Safety Culture

Shendong Coal Group has established a safety culture that features "people first, automation, risk prevention and zero accident" over three decades of development. "Water philosophy" is the highlight of Shendong's safety culture system, which organically combines the nature of water with the basic requirements of safety management and can be summarized as "one center, three powers and four characteristics". Based on this, the cartoon image "Ping'an Baobao" was designed combining elements of water drop, heart and "Shendong Blue" to be the mascot for safe production of Shendong. It is then widely used to promote safety culture as it visualize the concept of safety production.

Nurtured by the "water philosophy" of safety, the enterprise and its employees have aligned their goals and feelings. The enterprise respects and cares about its employees and helps them to better themselves. The employees consciously assume personal, familial and corporate responsibilities. Both sides work together to ensure safety, and create a unique safety culture whereby the Company leads its employees to work towards the goal of "zero injury".



# Safety Education for Employees

The Company attaches great importance to safety education for employees. It has gradually strengthened safety education and expanded education channels. Safety training, drills and skill competitions were held to raise safety awareness and improve safety skills of employees, as well as help them internalize safe and standard behaviors. In 2016, the Company held 2,231 safety training sessions with an attendance of 197,423 and total training hours of 341,251.



Site of Safety Education



# Clean and Environmentally-Friendly Development: Towards the Path of Green Growth

China Shenhua is committed to a balanced approach towards resources development and environmental protection, and strengthens its efforts on energy conservation and environmental protection. The Company is pushing forward saving as well as reducing the consumption of energy in addition to the continuous enhancement of ecological environment, whereby it endeavors to build itself into a resources-saving and environmentally-friendly enterprise.

# **Management of Energy Conservation and Environmental Protection**

The Company keeps strengthening the management of energy conservation and environmental protection by institutional improvement and system optimization as well as sustained investment growth, thus driving the sustainable green development of the Company.

## Energy Conservation and Environmental Protection System

The Company has never stopped strengthening the framework of decision-making, management and support in relation to energy conservation and environment protection. It established a safety, health and environmental protection committee under the Board and the Department of Environment Protection at the headquarters with three divisions covering energy-saving management, environmental protection and environmental supervision. Corresponding bodies were set up in each of the subsidiary (branch) and plant (mine, section) to devolve responsibility and pass pressure and incentives to each level of management structure, which in turn contributes to a steady improvement in environmental safety. There was no serious environmental safety incident occurred within the Company and there was no lose in lawsuit in material legal disputes in environmental aspect throughout the year<sup>Note</sup>.

While actively building up an energy conservation and environmental protection system, the Company established and strictly implemented the standardized management systems including ISO14001 (environmental management), HSE (health, safety and environment management), energy management, risk prevention and control management, etc.. A management system to prevent and control risks regarding energy conservation, environmental protection, and risk prevention and control was put on trial, which covers four business segments including coal, power, transportation and coal chemical to enhance the level of supervision on environmental safety. Construction projects were rigorously assessed in relation to their environmental impacts and energy saving performance. The conservation plan of water and soil and the "Three Simultaneous" system on environment protection were also strictly implemented to ensure these projects are in compliance with laws and regulations. The Company also established a comprehensive and standard environmental monitoring system and an assessment mechanism, with a view to lifting the monitoring and management level.

Progress of the Three Major Energy Conservation and Environmental Protection Systems in 2016

Statistics	Optimized the analysis system on measurement and statistics, and added a data table showing compliance performance in energy conservation and environmental protection in the Statistical Reporting System for Energy and Environment; published the Company's own Indicator System and Statistic Standards on Energy Conservation and Environmental Protection to ensure a standardized and robust statistical work.
Monitoring	Enhanced the management of Environmental Protection Online Monitoring System, and issued the Management Measures on Environmental Protection Online Monitoring System (Trial Operation) in accordance with relevant national standards and management provisions regarding online monitoring of pollution sources.
Assessment	Intensified efforts on performance assessment and administrative accountability, incorporated key constructions and environmental incidents of all subsidiaries and branches into the performance assessment system.

For definition of material legal disputes, please refer to "Interim Measures for the Administration of Material Legal Disputes in Central Enterprises" (Order No. 11 issued by the SASAC of the State Council).

## Investment in Energy Conservation and Environmental Protection

In 2016, the Company earmarked RMB2.605 billion for energy conservation and environmental protection projects, of which RMB1.515 billion was used for environmental protection, focusing on projects such as removal of sulfur oxides, nitrogen oxides and dust from flue gas, water treatment and ecological restoration, and RMB1.09 billion for energy conservation, focusing on projects such as boiler retrofit, transformation of frequency conversion, and heat and pressure recovery and so on.



# **Promotion of Energy Conservation and Consumption Reduction**

The Company consistently attaches equal weightings to saving resources and improving the efficiency of resource utilization and continues to intensify efforts on energy conservation and consumption reduction to reduce environmental pollution. In 2016, the comprehensive energy consumption of the Company was 46.6794 million tonnes of standard coal and the comprehensive energy consumption per RMB10,000 turnover was 3.28 tonnes standard coal.

#### Energy Consumption of Each Business Segment

	2014	2015	2016
Comprehensive energy consumption against raw coal production (kg standard coal/tonne)	2.25	2.13	2.56
Comprehensive energy consumption against railway turnover (kg standard coal/10 thousand tonne kilometers)	25.86	24.45	25.12
Comprehensive energy consumption against port throughput (kg standard coal/10 thousand tonnes)	2,673.01	2,775.24	2,249.22
Comprehensive energy consumption against shipping volume (kg standard coal/1,000 tonne nautical miles)	5.59	4.95	5.33
Comprehensive energy consumption against polyolefin produced from coal (kg standard coal/tonne)	5,350.83	4,916.72	5,100.56

#### **Clean Coal**

The Company continues to refine the process of coal mining, washing, processing and transportation and to explore a green production model featuring low consumption, low emission and high efficiency, so as to enhance the comprehensive mining efficiency. In 2016, the comprehensive energy consumption against raw coal production amounted to 2.56 kg standard coal/ tonne, washed and processed 273.6 million tonnes of raw coal, and removed 27.4 million tonnes of coal gangue, equivalent to a cut on railway freight turnover by 16.416 billion tonne km, assuming the coal travels 600 km on average.

The Company adheres to the principle of "full recovery through refined mining" and continues to improve recovery rate through technology innovation. In 2016, the average recovery rate company-wide reached 88.4%, among which, the recovery rate of underground mines reached 83.95% and that of open-pit mines reached 97.9%, both leading the industry.

#### Recovery Rate in Coal Mining Areas

		2014	2015		2016
Average recovery rate of coal mining areas (%)	l	88.56	89.19	l	88.4
Recovery rate of underground mining areas (%)		83.81	84.64		83.95
Recovery rate of open-pit mining areas (%)	l	97.8	97.81	l	97.9

# **High Efficiency Power Generation**

The Company actively implements "the Action Plan on Upgrading and Retrofitting of Green Power Generation Units for Energy Conservation and Environmental Protection", and constantly carries out energy conservation retrofit on operational units in such areas as heat supply, capacity expansion, flow-path retrofit, cold end optimization and BOP efficiency enhancement, thus advancing the transformation and upgrading of its power segment. In 2016, the total capacity of the Company's 600MW (and above) coal units accounted for 67.99% of its total coal capacity. The average coal consumption for electricity sold from coal-fired units was 315 g standard coal/kWh.

# High-end Coal Chemical Industry

The coal-to-chemicals segment holds to the principle of "optimized structure and complementary energy mix" and continuously enhances the clean conversion efficiency of coal through strengthening equipment management, innovating process and technologies, intensifying product quality control, among other measures. In 2016, the energy consumption of coal-based polyolefin products stood at 5110.56 kg standard coal/tonne.

# Green Transportation

The Company continues to optimize the organization and coordination of transport to boost efficiency. In 2016, the comprehensive energy consumption against railway freight throughput was 25.12 kg standard coal per ten thousand tonne kilometers. The Company took the initiative to expand into logistics business, redoubled its efforts to develop non-coal transportation business, and advanced the opening of coal transportation market in a moderate and steady manner, so as to enhance the utilization efficiency of transportation capacity. In 2016, the utilization rate of major transport channels of the Company topped 90%.

# **Improvement of Water Conservative Management**

Adhering to the principle of "development within water constraint", the Company quickened its pace to eliminate high water consumption process and equipment while promoting the advanced water conservation process and equipment. Complying with the concept of "split-flow of clean and waste water, divide-and-treat between waste water, and multipronged water use", the Company adopted an across-the-board approach that covers water preservation and conservation as well as pollution prevention and treatment. In doing so, the Company realized the tiered-utilization and recycling of water resources, maximized water saving, enhanced the efficiency of water use, and continuously reduced water consumption.

#### Water Conservation

The Company is committed to a water-saving development model, promoting water-saving technology company-wide including water protection in coal mining, air cooling units in power plants, evaporation cooling and close-loop circulating water system. Water conservation retrofits are rolled out to effect water saving from source to process through to the whole system.

In 2016, the Company consumed 197.49 million tonnes of fresh water in aggregate, while in the meantime produced 14.88 million tonnes of water through desalination. The total capacity of air-cooled units stood at 12,400 MW, accounting for 22.79% of total capacity of coal-fired units of the Company. Water consumption for thermal-power business was 0.65 kg/kwh.

#### Waste Water Recycling

The Company handles different types of waste water produced from the production process as per their varied water quality and recycling standards and reused them to the maximum extent to enhance water reuse rate, thus transforming waste water into a resource. In 2016, total waste water produced by the Company amounted to 168.69 million tonnes, of which 115.67 million tonnes were recycled, representing a recycling rate of 68.57%. The recycling rate of underground mine water was 68.64% while that of industrial waste water was 80.83%.

#### Comprehensive Utilization of Waste Water Resources

		Produ 2014	ictio	n (Millio 2015	on To	onnes) 2016		Utiliz 2014	atio	n (Millio 2015	n To	nnes) 2016
Underground Mine Water	[	104.6	[	105.3	[	105.66	[	63.1	I	71.1		72.53
Industrial Waste Water		48.4		46.97	[	47.74	[	40.3	[	41.15		38.59
Livelihood Sewage		14.7		14.85		15.28	[	4.2	[	4.45		4.06



**Collection Pool for Sewage** 

# **Promotion of Ecological Development**

The Company ploughed on with its rehabilitation efforts including soil and water conservation, windbreak and sand fixation, subsidence treatment, reclamation and greening as well as other ecological projects in a bid to protect and improve the ecological environment around the mining and plant sites, and alongside rail lines.

# **Underground Mines**

Having taken into account the ecological affordability of the mining sites, the Company persists in adopting an ecological treatment model characterized by "premining pollution control, in-process protection and post-mining restoration", and continues to improve the ecology of the mining sites in a holistic manner by making great efforts to subsidence prevention and control, management of coal gangue (soil) piles, rehabilitation and greening for mining sites as well as green space management and protection. As of the end of 2016, 10 coal mines in aggregate were selected as pilot units of national green mine.



Demonstration Area of Eco-economic Forest in Subsidence Site of Daliuta Coal Mine

#### **Open-Pit Mines**

The Company is committed to synchronizing mining with rehabilitation, and vigorously promotes dump rehabilitation for its open-pit mines to explore and develop ecological agriculture business, and with that helping to build distinctive ecological mining sites. In 2016, Zhunge'er Energy Group earmarked RMB11.92 million for ecological restoration and greening. As of end 2016, Zhunge'er Energy Group completed a total rehabilitation area of 2,308 hectares, planting 64.40 million trees and shrubs of various types.



Windbreaks of Pinus Sylvestris

#### Along the Railway

The Company puts continued efforts into biological sand control, vegetation planting and maintenance alongside the Company's rail lines, significantly improving the neighboring ecology. In 2016, Baoshen Railway invested over RMB1.90 million in planting more than 11,000 trees of various types, perimeter hedge of 1,069m<sup>2</sup> and elm wall of 80m<sup>2</sup>.

# Case Study: Zhuhai Coal Dock Company Carried out Ecological Compensation Project

As required by the environmental evaluation documents and following government approval, Zhuhai Coal Dock invested RMB11.728 million in fish stock replenishment as well as result tracking and monitoring. During the period of September to October 2016, the replenishment activities were carried out three times and 129.3176 million black seabream as well as other species released.

In addition, Zhuhai Coal Dock company also injected RMB10 million to jointly construct artificial reefs at Miaowan Island of Zhuhai with Zhuhai Oceanic, Agricultural and Water Bureau and put 1,000 reefs into the sea. Artificial reef helps improve habitat of water creatures and hinder destructive fishing behavior, providing a habitat for fishes and other creatures to feed, breed, and grow.



An On-site Replenishment Activity



# **Combating Pollution**

The Company adheres to the principle of preventing pollution at source, controlling pollution in the process and combating pollution at the end and actively carries out pollution prevention and treatment so as to minimize the impact of its production and operation on the environment. Among the list of enterprises under key monitoring for pollution source issued by the government in 2016, 47 subsidiaries of the Company were involved, including 42 gas-emitting enterprises and six enterprises that discharge waste water (one of which discharge both waste water and gas).

Distribution of Enterprises under Key Monitoring for Pollution Source by the State

Region <sup>Note</sup>	Number
Northern China	17
Northeastern China	1
Eastern China	13
Central Southern China	3
Southwestern China	3
Northwestern China	10

# **Treatment of Water Pollution**

The enterprises of the Company involved in the national key monitoring of waste water discharge were mainly coal mines, coal chemical and sewage treatment plants. The main pollutants were COD and ammonia. The discharge of waste water is implemented in accordance with the Comprehensive Sewage Emission Standard (GB8978–1996), and mainly through the enterprise's conduits to surface water. In 2016, the waste water pollution prevention and treatment facilities of all enterprises of the Company were operated stably and able to meet the emission standards.

The Company has actively implemented the Action Plan for Water Pollution Prevention and Treatment (2015–2020), consolidated its efforts to promote the prevention of and treatment over pollution caused by coal mine water, industrial effluent and domestic sewage, reduced the discharge of waste water and improved the comprehensive utilization of wasted water. A total of 20 waste water prevention and treatment projects were implemented within the year, reducing chemical oxygen demand by 57.15 tonnes.

# **Gas Emission Treatment**

The Company takes real action to implement the Action Plan for Air Pollution Prevention and Treatment (2013–2017) by undertaking retrofits to remove dust, sulfur oxides, and nitrogen oxides from flue gas and construction of dust prevention and treatment facilities within industrial site. With a view to minimizing air pollutant emissions, the Company lays emphasis on promoting ultra-low emission at coal-fired power plants. The enterprises of the Company involved in the national key monitoring

The specific criteria for the classification are as follows: 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). of gas emissions were mainly public thermal power plants. The main pollutants were soot, sulfur dioxide and nitrogen oxides, which were mainly emitted through chimney to the atmosphere. In 2016, the pollution prevention and treatment facilities of thermal power plants of the Company were all set and operated stably, and able to meet the emission standards. The retrofit of pollution prevention and treatment facilities of Bayannur coking plant is set to be complete before 30 June 2017 and put into trial operation after that.

The Emission Standards of Air Pollutants	s implemented by the	e Company and Complian	ce Results in 2016
	1 /	1 / 1	

Type of Enterprise	Number	Standard Implemented	Compliance Results
Public thermal power plant	39	Emission Standards of Air Pollutants for Thermal Power Plants(GB13223-2011)	Up to Standard
Coal-chemical captive thermal power plant	1	Emission Standards of Air Pollutants for Thermal Power Plants(GB13223-2011)	Up to Standard
Heating boilers of coal mines	1	Emission Standards of Air Pollutants for Boiler(GB13271-2014)	Up to Standard
Coking Plant	1	Emission Standards of Chemical & Industrial Pollutants for Coking Plants(GB16171-2012)	Partly up to Standard

In 2016, ultra-low emission retrofit for 31 coal-fired generating units (16,460MW) was complete and 66 coal-fired generating units (36,770MW) achieved ultra-low emission, representing 67.6% of the total installed capacity of coal-fired power plants. 48 generating units were entitled to subsidies for ultra-low emission.





# Performance of Flue Gas Emissions of the Company's Thermal Power Business in 2016 (g/kWh)



# Case Study: All Coal-fired Power Plants of Shenhua in Beijing-Tianjin-Hebei Region Achieved Ultra-low Emissions

The implementation of "ultra-low emission" renovation is an important measure to improve the level of clean coal use and reduce air pollutant emissions from the source. In 2016, the Company completed the renovation of 22 coal-fired generating units with total installed capacity of 9,784 MW for 6 power plants in Beijing-Tianjin-Hebei region, and achieved reduction in soot emission of 1,716 tonnes, sulfur dioxide emission of 2,686 tonnes, and nitrogen oxides emission of 15,131 tonnes, representing a decrease of 83%, 71% and 83%, respectively. The effect of reduction on atmospheric pollutants was significant. Upon the renovation of 22 generating units, the average emission performances per kWh of electricity generated for soot, sulfur dioxide and nitrogen oxides were 0.009g/kWh, 0.037g/kWh and 0.103g/kWh respectively, contributing to the implementation of "Integration of Beijing-Tianjin-Hebei" strategy of the country and air quality improvement of the region.



Press Conference Held in Beijing for Achievement of Ultra-low Emissions by All Shenhua Coal-fired Power Plants in Beijing-Tianjin-Hebei Region

# Solid Waste Treatment

The Company effectively recycled valuable solid waste such as coal gangue, fly ash and slag produced during the production process through intensified equipment investment and technological renovation. Hazardous waste and temporarily unusable solid waste were disposed of safely in strict observance of national laws and regulations, safeguarding the environment from pollution. As of the end of 2016, the total installed capacity of coal units fueled by recycled waste of the Company reached 6,484 MW, representing 11.91% of the total installed capacity of coal-fired power plants. Coal gangues consumption stood at 3.43 million tonnes, equivalent to 0.98 million tonnes of standard coal. In 2016, the comprehensive utilization rate for solid waste was 26.31%, of which the comprehensive utilization rate for fly ash, slag and desulfurized gypsum was 67.95%.

# **Responding to Climate Change**

The Company keeps a close eye on the latest development of climate change, actively responds to the initiatives of Paris Agreement and integrates low carbon, emission reduction and green development into its corporate development strategy as well as production and operating practice.

# **Development of Low-Carbon Energy**

The Company has been vigorously developing renewable energy such as wind power and hydropower. As of the end of 2016, the installed capacity of wind power and hydropower amounted to 15.75 MW and 125.2 MW respectively, producing 0.698 billion kwh in total in the year, which can translate into a reduction of standard coal consumption by more than 0.2 million tonnes and carbon dioxide ( $CO_2$ ) emission by more than 0.5 million tonnes.

# **Carbon Management**

The Company further promoted the carbon management, actively established the strategy and system for carbon emission management, strengthened the training for carbon transactions knowledge and built the management frameworks for carbon emission reduction.

In 2016, the main measures with respect to carbon management carried out by the Company were as follows:

- The examination of carbon for the whole company was complete for the first time and the total carbon emission volume was calculated
- The action plan for carbon emission management and control was further implemented, and the Strategic Study on the New Norms of Carbon Emission Management and Control during the 13th Five-Year Plan Period was conducted
- The carbon asset management system was optimized, and four carbon management regulations were drafted including the Measures on Carbon Asset Management
- Special training courses for "Carbon Transactions and Response to Climate Change" were held where experts were invited to give lectures on such special topic as "From the Paris Agreement to the Establishment of National Carbon Market"

# Advocating Green Office

The Company actively advocates the idea of green office and energy conservation and carries out activities including exhibition for environmental protection and energy conservation, energy conservation week and low carbon lectures to encourage all staff's participation in energy conservation and environmental protection starting from saving electricity, water and paper, among other things.

# **Case Study: Bayannur Company Launched the Activities of World Environment Day**

On 5 June 2016, Bayannur Company organized the activities of World Environment Day and promoted the activities through website, specialized conference, promotion banner, promotion poster promotion SMS and rolling electronic screen in staff restaurants. On the Low-carbon Day, air-conditioners were switched off company-wide and office lighting was cut to the bone to practice the idea of green development.

# -People-Oriented Development for a Better Life

Holding human resources as the primary resources, China Shenhua always takes it as its main social responsibilities to protect employees' rights and interests, enable personal growth as well as increase employees' senses of well-being, with an aim to sharing company achievements with all its employees.



# Protection of Employees' Rights and Interests

China Shenhua has made continued efforts to improve the employment management mechanism so as to ensure equal job opportunities and competitive salaries and welfare, kept improving working environment, and motivated employees to participate into democratic management, aspiring to provide a considerate, safe and harmonious development platform for employees.

# Equal Opportunities in Employment

In strict compliance with laws and regulations including the "Labour Contract Law", China Shenhua standardizes recruitment, promotes equal employment, prohibits any form of discrimination, and precludes the use of child labor and forced labor. The Company has established a sound collective contract system with 100% labor contract execution rate. The company actively provides job opportunities for the disabled, minorities and veterans, and ensures male and female employees get equal pay for equal work.

As of the end of 2016, the Company had a workforce of 90,882 employees, including 413 disabled employees, 4,932 minority employees and 19,090 female employees, representing 0.45%, 5.43% and 21.01% of the workforce. In 2016, the Company newly recruited 1,105 employees with a turnover of 3.2%<sup>Note</sup>.

# 25.89% 29 and below 34.2% 30–39 29% 40–49 7.49% 50–44 3.43% 55 and above

#### Employees by Specialty

Category of Professionals		End of 2015 (persons)		End of 2016 (persons)	Year	-on-year change (%)
Operation and maintenance	I	55,985	[	56,155	[	0.3
Management and administration		13,372		15,317		14.55
Finance and accounting		1,620		1,850	[	14.2
R&D and technical support		14,992		12,986		(13.38)
Sales and marketing		2,312		1,062		(54.07)
Others		7,217		3,512		(51.34)
Total		95,498		90,882		(4.83)

Calculation of turnover of employees: The employees leave the Company voluntarily or due to dismissal.

# Employees by Education Background

Education Level		End of 2015 (persons)	End of 2016 (persons)	Ye	ar-on-year change (%)
Postgraduate or above	ĺ	3,130	2,941		(6.04)
University graduate	l	28,202	28,873		2.38
College graduate	l	25,512	24,553		(3.76)
Vocational school graduate	l	14,888	13,470		(9.52)
Technical school and high school graduate or below		23,766	 21,045		(11.45)
Total	ĺ	95,498	 90,882	I	(4.83)

# Staff Turnover Rate by Age and Gender (%)

Age Group/Gender		Male		Female		Total	
Aged 29 or below	l	0.72		0.19	l	0.91	
Aged 30–39		1.08		0.21	l	1.29	
Aged 40-49		0.39	l	0.11	l	0.5	
Aged 50-54		0.1		0.06		0.16	
Aged 55 or above		0.16		0.04		0.2	

# Remuneration and Welfare

The Company provides a competitive remuneration system for employees, whose remuneration mainly comprises fixed remuneration, floating remuneration, various allowances, social insurance and other welfare. Based on annual performance assessment, the Company paid salary, bonus, allowance and subsidy totaling RMB13,181 million to employees in 2016.

In 2016, the Company contributed in time and in full to all the statutory social insurance programs and the housing fund for its employees, with its employee social insurance coverage ratio reaching 100%. Employees are entitled to paid leave, maternity leave, paternity leave and other statutory leave in accordance with the law, and the Company grants 8 days of paid annual leave on average for each employee. Employees are entitled to free meal, annual medical check-up, reimbursement of medical expenses and other welfare provided by the Company. In addition, the Company built an enterprise annuity system to boost employees' happiness after retirement.

#### **Democratic Communication**

With the establishment of workers' congress, employees are playing their full part in democratic management, democratic decision-making, collective negotiation and democratic supervision, setting off their enthusiasm, initiative and creativity in democratic management. In 2016, the first session of the second workers' congress collected 96 proposals from employee representatives, all of which were properly handled.

The labor union of the Company is established in accordance with laws to ensure employees' rights to know, to choose and to appeal. The labor union of the headquarters is established independently with 10 designated personnel. 92.5% of second-tier enterprises have established labor unions, with 99.7% of employees having joined as members.

# Case Study: Chairman's Mailbox – the Bridge Linking Chairman with Employees

Hot issues and focus of wide concern in the eyes of employees have been pragmatically and effectively solved via the chairman's mailbox since its inception in Shendong Coal Group four year ago. By the end of 2016, the mailbox had received over 100,000 letters with a responding rate reaching 98%. Apart from the newly added function of sending letters via mobile phones, a rating system has been added for incoming letters and replies, showing a constant upgrade on its function. Feedback and actions in relation to the issues raised by these letters were incorporated into the five-category performance assessment, and the duration for reply was shortened to 3 to 5 days, facilitating the communication between employees and the Company.

# **Occupational Health**

The Company always takes employees as its most valuable asset and cares for their physical and mental health. In 2016, the Company continued to strengthen occupational health training and assessment, and strictly prohibited personnel from working in hazard-prone posts who were not properly trained or failed in the post-training examination, as a result of which its occupational health training ratio reached 100%. The Company put in place a sound annual medical check-up system, and conducted pre-service, in-service and after-service occupational medical check-up particularly for employees working in hazard-prone posts in a timely manner and in strict observance of relevant regulations of the State. A thorough verification of the number of the patients was carried out who were suffering from occupational diseases, and pneumoconiosis in particular, and corresponding lung lavage treatment or recuperation was arranged for employees suffering from pneumoconiosis in a timely manner. The Company invested RMB418 million in occupational health in the year and there were 11 new cases of occupational diseases company-wide.

The Company has continued to improve the on-site working environment and added cooling facilities for coal mines under high-temperature hazards; promptly refurbished dust removal facilities in workplace facing severe dust hazard, such as underground coal mines, coal preparation plants and loading stations, and further improved the utilization and maintenance management system of such facilities. It intensified the inspection of procurement, distribution and usage of personal protective equipment and severely penalized employees in accordance with "Three Violations" for non-compliance with the requirement of using personal protective equipment in the hazardous workplace.

# Case Study: Proactive Prevention and Control of Dust <u>Hazard at Shengli Energy</u>

Dust is the major on-site occupational hazard of the mining area in Xilingol League. Based on the mining characteristics of open-pit coal mines, Shengli Energy Company took active measures to prevent and control generation and diffusion of dust with the approach of "perfecting the system while optimizing the equipment". Also, regulations such as the "Operating Procedures for Occupational Health" were optimized, the management process of coal dust control equipment was standardized and refined, and the operating personnel were stringently trained. Equipment and facilities including windproof dust suppression net, dry mist dust suppression device and bag filters were introduced in the ground production system, effectively reducing dust generation and diffusion.



Windproof dust suppression net and dry mist dust suppression device at the crushing station

# **Supporting Employees' Growth**

In order to stimulate employees' innovation and vitality, attract and retain excellent talents, China Shenhua has consistently improved its training system, built targeted internal career paths, and supported employees' career development planning with advanced IT-based management tools, so as to achieve mutual development of employees and the Company.

#### **Career Development**

The Company attaches great importance to the career development for each employee and smooths career paths in three directions, namely operation management, professional skills and skill operation, providing employees with equal development opportunities and an extensive development platform.

In 2016, the Company formulated the "The Plan for Talents Development during the 13th Five-Year-Plan Period", which specified the implementation of three major talents programs during this period, namely team building of "Five Types of Talents", development program on "Strategic Talent Pool for Clean Energy" and young talent training program, so as to further expand the space for employees' career development.

## **Training for Employees**

The Company has established a multilevel and multichannel training system with Shenhua Training Center as the core, various training institutions for each business sector as support, its subsidiaries and branches as the main body, and training conducted at factories, mines, workshops, classes and groups as the basis. In 2016, Shenhua Training Center was awarded "The Best Enterprise College Award in China".

The Company has unceasingly stepped up its personnel training. In 2016, the accrued input in training was RMB139 million. The training engaged 0.9457 million employees with a total length of 3.9329 million training hours and an average length of 43.27 hours/person.

#### Training for Employees of Different Categories

Category of Employees		Total Number of Trainees	Ac	cumulated Training Hours
Management		71,928	l	505,563
Including: Senior management	I	5,757	l	42,930
Senior professionals		83,730	l	440,043
Technicians		723,281		2,807,103
Others	I	66,757		180,152

# Case Study: Guohua Power Company Exploring the Mechanism for Young Talents Training

With the establishment of a young talent pool of 872 candidates by selection, Guohua Power Company explored and implemented specialized training for young talents, and formed a long-term mechanism of collaborative training with equipment manufacturers for young talents through on-site teaching plus theoretical tutoring. Selected young talents are dispatched in batches to observe and learn at manufacturing sites for the purpose of application. Training is divided into three segments, namely, enhancement of production expertise, enhancement of post-related management capabilities, and enhancement of comprehensive competence. Various means tailored for different trainees such as writing study summary and recording message video were devised and implemented to improve training effect.

# **Caring for Employees**

China Shenhua takes care of its employees by solving their difficulties and strives to satisfy their spiritual and cultural needs through a rich and varied cultural and sports program, which effectively heightens employees' sense of happiness and belonging.

# Female Employees

The Company attaches great importance to the health and career development of female employees. Female staff committee was established at the headquarters, and each subsidiary and branch was required to enter into the "Special Collective Contract for Female Staff". Extensive publicity and education of the "Special Provisions on Labor Protection for Female Workers", the "Law on the Protection of Women Rights and Interests" and the "Provisions on Labor Protection for Female Workers" was carried out to safeguard the legitimate rights and special interests of female employees.



A pick-up counter designated for female employees in the canteen



Special medical check-up for female employees

# Employees in Need

Recognizing the importance of support for employees in need, the Company stepped up its support in serious disease relief and funding college education. In 2016, a total of RMB1.496 million of serious disease relief was granted by the Company to employees in need in 3 batches; and RMB0.21 million of student subsidies was granted to 42 children from families in need.

# Fantastic Cultural Activities

The Company has launched rich and varied cultural and sports activities to promote culture at grass-roots level, enrich employees' after-work life, and ease the stress from work. The Company encourages them to enjoy life outside work and present their optimistic and progressive spirit. In 2016, the Company organized varied events including the First Employees' Sports Games, the employees' skills competition as well as calligraphy, art and photography exhibitions, setting up a broad stage for employees to showcase themselves.





Scenes of the First Employees' Sports Games

# **Features: Beautiful Shenhua Employees**

Times are changing, but the effort and undertaking of generations of Shenhua staff remain unchanged, and the new generation of Shenhua staff is in a more determined mindset to pursue their beliefs and values. On this stage, a group of people stick to perseverance and responsibilities while at the same time keeping a low profile. They carry tradition on their shoulders and strive to realize personal value whilst driving the rapid development of Shenhua. They use passion and sweat to nurture their beautiful lives.







# Shenhua talent in coordinated development

Mr. Zhang Shoubing is the business backbone of Shendong Services Center of the Logistics Group. He goes hither and thither among various units for dynamic coordination between suppliers and users at grass-roots level to enhance services in response to demand and boost business vitality through professional services, so as to provide better service experience for the mining area by professional logistics management.

#### Shenhua talent in innovative development

Mr. Yao Huijun is the director of the electrical and mechanical services office of Exploitation and Preparation Center of Shendong Coal Group. He took reducing labor intensity as the driver for innovation, and solved a variety of problems affecting construction progress and safety. A number of inventions were granted national patents. He participated in the establishment of many key specifications and standards for the smooth operation of electrical and mechanical equipment. His innovation achievements reveal the exclusive charisma of Shendong electrical and mechanical talents.

#### Shenhua talent as a safety model

As the leader of Jinjie Coal Mine Operation Team of Shendong Coal Group, Mr. Gao Aijun insists on stringent safety management, attentive staff care and up-to-date techniques and technologies to promote safety development with his best efforts, and in doing so evolving into the most inspiring mine safety expert of China Shenhua. During his term as the leader of the operation team, he sorted out the management system of "establishing clear accountability and shared responsibility for each worker" and realized safe and smooth operation throughout the year with outstanding achievement of no accident occurred for 10 consecutive years.



# Shenhua talent in happiness

Ms. Cui Haiyan is an ordinary logistics worker of Shenshuo Railway Branch. During her service for over a decade, she always puts the interest of the Company in the first place. She sewed clothes for newly enrolled apprentices in her spare time and shouldered task for pregnant colleagues. Besides, she cherishes and unifies existing staff members and also cares about new employees. Her fellows gave her an affectionate nickname: "Cui Jie" (Auntie Cui). She embodies the extraordinary value of her life on this ordinary position with her professionalism.



## Eco-friendly Shenhua talent

Dedicating her excellent skills and unremitting efforts to DSC system for 11 years to facilitate the successful completion of green transformation of equipment of the Company, Ms. Yu Lijuan, a DCS engineer of Shenhua Guohua Taicang Power Generation Co., Ltd., is an indispensable mainstay for the operation of DCS system. In the hundred-days green retrofit of Unit 7, Ms. Yu managed to finish challenging tasks such as IO listing for desulfurization retrofit, reasonable IO point configuration and unit assembly with her thorough efforts.



#### Shenhua talent spreading love

Mr. Li Dong is the party secretary of Shenmu North deployment workshop under the locomotive depot of Shenshuo Railway Branch. Recognized as a kindhearted "elder brother" by his fellows, he is committed to public welfare undertakings. He pushed forward the establishment of the "Locomotive Care Fund" which raised over RMB370,000 and helped more than 50 staff members in need. Moreover, He organized the "Squad of Mutual Assistance" to provide 24-hour volunteer work for train attendants and spread love to everyone.



# Dedication with Compassion: Towards Shared Development

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China Shenhua actively gives back to the society while concentrating on corporate development in accordance with the philosophy of "shared development". The Company supports local economic development with real actions and participates in public welfare undertakings to achieve joint advancement and joint development between the enterprise and the society.

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# **Supporting Community Development**

The Company takes full account of the impact of its business operation on local community and adopts effective measures to support the development of local infrastructure, job creation and local economy, thereby gaining supports and respects from all circles of society.

# Active Communication and Interaction

The Company attaches great importance to strengthen communication and interaction with the community and actively invites the government, media and residents of the community to visit Shenhua through organizing events like Enterprise Day and Media Day to enhance communication and interaction. The Company also releases relevant information through channels like new media to allow the society to gain a full and comprehensive understanding of the production and operation of the enterprise.

# Case Study: Liberal Studies Teachers from Hong Kong Secondary Schools Visited Shenhua

In 2016, Hong Kong Endeavour Education Centre and Hong Kong Liberal Studies Association organized the activities of "Journey to China Shenhua – Liberal Studies Teachers from Hong Kong Secondary Schools Visited Shenhua". More than 40 teacher representatives from Hong Kong Endeavour Education Center participated the activities held in Beijing, Hebei and Inner Mongolia. Teachers gained an all-round knowledge of Shenhua's concept of clean development through close contact, personal experiences and face-to-face communication at the Company's power plants, coal mines and underground working faces, contributing to a better understanding of the development path and responsibility of China Shenhua characterized by safety, high-efficiency, green development, technology advancement and accountability. The journey to China Shenhua strengthens communications among stakeholders, so as to bring home to the outside world the positive image of China Shenhua as an active fulfiller of social responsibility.



Liberal Studies Teachers from Hong Kong Secondary Schools Visited Shenhua

# Integrating into Local Communities

The Company cares and supports local economic and social development and proactively cooperates with local governments to participate in local rescue and infrastructure construction, etc. in order to create a harmonious and win-win environment for development. In addition, by active leveraging its advantages, the Company devoted great efforts to coal storage and electricity supply during summer as well as winter peaks and prioritized quality coal supply for areas in shortage of energy. In 2016, heat generated by power generating units in northern China was fully utilized to serve the local residents in winter.

# Case Study: Shendong Fire & Rescue Squad Participated in Local Emergency Rescue

On 18 August 2016 before dawn, there was a heavy rain in the mining area of Shendong. The elevated railway overpass near Daliuta mining area was seriously flooded and a number of private vehicles were trapped. The Shendong Fire & Rescue Squad rushed to the scene immediately after receiving the report, pulled out the trapped vehicles and successfully saved the car owner. Established in 1997, Shendong Fire & Rescue Squad, which is also known as the "patron saint of mines", has 318 members, with a service areas covering Shanxi, Shaanxi and Inner Mongolia and assumes the obligations to undertake mine rescue and emergency disposal of disasters and accidents such as ground fire and traffic accidents in surrounding areas.



Firefighters rescued trapped car owners

# **Contribution to Targeted Poverty Alleviation**

Based on the Targeted Poverty Alleviation Plan and document requirements of the country, the Company values poverty alleviation work. It endeavors to continuously improve the production, living and medical conditions of the people from target counties and poor villages as the starting point and the foothold to benefit them based on different geographical conditions, pays attention to the effectiveness and focuses on grassroots and agriculture, rural areas and farmers. The Group elaborately organizes poverty alleviation projects, continues to invest in poverty alleviation funds, standardizes management, strengthens the supervision, and focuses on promotion of poverty alleviation work on education and health care. It strengthens the construction of rural infrastructure and production facilities and supports the development of special industries in poverty areas, etc. Shenhua Foundation is the main body of the Company to implement poverty alleviation work. The Company is the important governing units and major fund donor of Shenhua Foundation<sup>Note 1</sup>.

In 2016, the expenditure on targeted poverty alleviation of the Company amounted to approximately RMB125 million<sup>Note 2</sup>, which was mainly used to provide assistance in Tibet, Qinghai and Xinjiang and targeted poverty relief work, including subsidizing students in poverty areas to complete their studies, construction of roads, schools and libraries in poverty areas and provide medical assistance to children suffered from leukemia and congenital heart disease in poverty-stricken families.

For the 2016 targeted poverty alleviation work statistics and follow-up targeted poverty alleviation plan, please refer to the 2016 Annual Report of China Shenhua.

Note 1 Among the donation received by Shenhua Foundation since its establishment, the Company contributed 82% of the total donation.

Note 2 The calculation on expenditure for targeted poverty alleviation: the expenditure of the Shenhua Foundation on targeted poverty alleviation × the proportion of donations from the Company to Shenhua Foundation + the expenditure of the Company directly use on targeted poverty alleviation.

In 2016, the expenditure of Shenhua Foundation on the assistance in Tibet amounted to RMB36.5 million, which was mainly used in Nierong County of Tibet to facilitate its economic and social development as well as improve the production and living conditions in Tibet. The focus was on projects of improving people's livelihood including infrastructure construction and industrial development. The expenditure of Shenhua Foundation on the assistance in Qinghai amounted to RMB12 million<sup>Note</sup>, which was mainly used in Gangcha County of Qinghai, with a priority list covering projects such as housing for farmers and herdsmen, support to industries with distinctive local features, as well as health care and education.



Tibetan Children Sang and Danced at a Shenhua Kindergarten



Settlement of Herdsmen Built by Shenhua in Shaliuhe town, Gangcha County of Qinghai

# **Targeted Poverty Relief**

In 2016, the expenditure directly used on targeted poverty relief by the Company amounted to RMB6 million, which was mainly used in 8 towns, 1 street office and 4 convenience service center in Mizhi County of Shaanxi and poverty alleviation work such as construction of infrastructure and industries support in 5 towns in Wubu County of Shaanxi. The expenditure of Shenhua Foundation on targeted poverty relief amounted to RMB4 million, which was mainly used for the construction of 4 kindergarten in 4 poverty villages of Juesa countryside of Butuo County in Sichuan (locally called "One Village One Kindergarten Project"), and the construction of new comprehensive teaching building project of Daheba primary school in Huashan countryside of Puge County in Sichuan.





The Construction of a New Village Participated by Shenhua

A Poverty Relief Cadre Visited an Impoverished Village to Conduct Household Survey

Of which, RMB4 million has been committed to pay in 2016, however, the payment was not made due to the progress of the project, and is expected to actually pay in the first quarter of 2017.

# Case Study: Tianming Power Generation Company Participated in "Helping Hundred Villages by Hundred Enterprises" Activities

In response to the initiative of targeted poverty alleviation titled "Helping Hundred Villages by Hundred Enterprises" proposed by Jiangyou City of Sichuan, Sichuan Energy Tianming Power Generation Company took effective actions to understand the root causes of poverty at Niucaishi village, its natural resources, population structure as well as planning and development status of the ecological and cyclical agriculture business park to be built there. Considering the existing conditions and characteristics of the village, aid measures including assistance in industrial development, trading, resources, employment and volunteer services, are determined to practically help people at Niucaishi village get rid of poverty and become better off.

#### Shenhua Loving Care Activities

Shenhua Loving Care Activities are launched together by Shenhua Foundation and China Association of Social Workers with an aim to sponsoring the children in impoverished families who suffer from leukaemia and congenital heart defect to complete their medical treatment. In 2016, the cumulative expenses of Shenhua Loving Care Activities amounted to RMB55.1598 million, which has helped 200 children suffered from leukaemia and 2,300 children suffered from congenital heart defect. As of the end of 2016, the cumulative expenses amounted to RMB45.8872 million, with which a total of 2,941 children suffered from leukaemia and 19,717 children suffered from congenital heart defect have been treated.

Since 1 November 2015, Shenhua Foundation has come up with a new model of "screening + treatment + subsidy". A free screening of congenital heart defect for new-born babies was provided in certain Counties (Cities) of Hebei and Shaanxi as pilot areas. For those children who were found to suffer from congenital heart defect, they were given a prioritized treatment through green channels. For children from impoverished families who meet the conditions to apply for subsidies, priority was given to them to obtain these subsidies handed out by "Shenhua Loving Care Activities". Such project established an integrated aid system comprising the "government, hospitals and social organizations" to achieve "Targeted Aid" advocated by the government. As of the end of 2016, a total of 22,999 new-born babies from Tang County, Fengning County, Huanghua City of Hebei and Xunyi County, Sanyuan County and Chunhua County of Shaanxi had been screened.

# Case Study: Shenhua Loving Care Activities Successfully Helped a Child Patient

The initiative of free screening of congenital heart defect for new-born babies launched by "Shenhua Loving Care Activities" can provide new-born babies with free echocardiography services. Little Zexuan, a 6-day new-born baby, was brought to a maternal and child care service center of Tang County by his parents for echocardiography and was diagnosed as total anomalous pulmonary venous connection (upper heart). Considering the financial conditions of the family, medical personnel successfully helped this family apply for charitable fund from congenital disease subsidy project organized by "Shenhua Loving Care Activities" to pay for the treatment. Through this free screening project, Shenhua Loving Care Activities has gradually come up with an innovative public welfare model of "screening + treatment + subsidy" to help the people in need.



A Child Patient received help from Shenhua Loving Care Activities

# Shenhua Loving Care Libraries

"Shenhua Loving Care Library" project aims to nurture the culture of reading, cultivate thinking and broaden the horizons of young people as well as promote economic, cultural and educational development of minority concentrated regions through book donation to primary and secondary schools in impoverished areas of those regions. In 2016, Shenhua Foundation donated 3.071 million books worth RMB80.15 million to Sichuan Province, Chongqing City and Taijiang County of Guizhou Province to build 1,545 Loving Care Libraries, which benefited 0.766 million students. Since the launch of the project, it has donated a total of 21.176 million books worth RMB501 million to 14 Provinces (Districts and Cities) and built a total of 11,715 Shenhua Loving Care Libraries which benefited 8.52 million students.



Shenhua Loving Care Library – Fansheng Primary School in Taijiang, Guizhou

# Shenhua Loving Care Schools

To support the educational development of impoverished area and old revolutionary base area and build a good learning environment for children, Shenhua Foundation launched "Shenhua Loving Care School" project at the end of 2010 and donated a total of RMB56.8262 million to Jiangxi, Yunnan, Guangxi, Qinghai, Inner Mongolia and Xinjiang to build 15 Loving Care Schools, of which 14 schools were complete and put into use. The project has effectively improved local educational conditions and eased the shortage of placement in local schools. Two educational parks have thus been formed in Ji'an County and Yugan County of Jiangxi, exerting a positive influence on local education and livelihood at large.



Comparison of Shenhua Loving Care School in Zhaotong City, Yunnan before and after the Construction
#### **Volunteer Activities**

The Company values greatly and encourages participation in volunteer activities. It provides policy support and institutional safeguard to enable employees to take part in volunteer services and activities such as elderly and child care, promotion for environmental protection and free consultation in an atmosphere that inspires dedication and rewards commitment with heartfelt happiness. As of the end of 2016, the Company was home to 316 volunteer teams and 11,356 registered members, providing a total of 100,324 hours of volunteer services in the year.

#### **Harmonious Overseas Operations**

While proactively adhering to "the Belt and Road" initiatives, the Company's outbound investment and technology transfer come amid increasing understanding of and immersion into the culture of the countries of destination. The Company actively drives forward localized operation, protects local environment and supports public welfare of the local community, hence building an image of a global corporate citizen.

#### **Localized Operation**

Guided by the principle of "localization", the Company actively creates local jobs and prioritizes local procurement and local suppliers in its overseas business operation, and with that to boost local economic development. The Company fully respects the customs, cultural traditions and religions of the countries where its projects are located to facilitate cultural immersion.

### **Case Study: Shenhua Russia Adheres to Localized Operation**

Shenhua Russia adheres to localized operation and the proportion of the number of foreign employees to local employees does not exceed 2:8. Statutory holiday arrangements, religions and local customs in the Far Eastern District of Russia are strictly observed, and the holiday arrangements are made rationally to create a good working atmosphere. As of the end of 2016, local employees accounted for 84.6% of the staff of Shenhua Russia, and 60% of the senior management were locals.



### Case Study: Shenhua Australia Participated in "Harmonious Day" Activities in the Community

"Harmonious Day" activities are national activities in Australia with an aim to promoting multiculturalism and advocating the integration and harmonious coexistence of cultures of all countries. On 24 March 2016, Shenhua Australia's staff participated in "Harmonious Day" activities held at Winanga-Li Aboriginal Kindergarten to learn dietetic customs and cultural features of different countries through a variety of culinary experiences, and visited the nursery project of the aboriginal kindergarten sponsored by the Company through community foundation, thereby encouraging positive community feedback on the promotion of Watermark project and establishing a good public image.



Staff from Shenhua Australia Participated in "Harmonious Day" Activities

#### Supporting Public Welfare of the Community

The Company extends to its oversea operations the philosophy of "win-win for community and company as a whole" and participates in local public welfare undertakings with a strong sense of social responsibility, providing great support for the development of local education, economy and culture.



A Bridge is being Repaired Locally by Shenhua Russia

# Case Study: the Kindergarten Playground Sponsored by Shenhua was Officially Opened

In Australia, the Werris Creek kindergarten playground sponsored by "Watermark Community Foundation" was officially opened to children on 18 October 2016. "Through this sponsorship, the kindergarten can acquire quality outdoor equipment, which increases physical activities for children in various aspects. Hence, we appreciate the support from Shenhua as it strengthens our education conditions and enriches students' lives." said Julia Cameron, the dean of the kindergarten, upon completion of the project. "Such project benefits the community including Werris Creek and allows the children to enjoy happy outdoor leisure time. Our community expresses sincere gratitude to Shenhua for the support on this facility." said Debbie Watson, the Community Liaison Officer of Shenhua Australia.



Werris Creek Kindergarten



# 2017 Outlook

Going forward in 2017, China Shenhua will continue to put "the provision of clean energy" at the very center of its CSR policy and press ahead to develop "cleaner fossil energy and clean energy on a larger scale" by closely focusing on the concept of "innovative, coordinated, green, open and shared development" and the "1245" clean energy development strategy of the Company. Its ambition is to integrate CSR into the whole process of production and operation, keep building up its capacity to fulfill social responsibilities, and strive to evolve into a world-class clean energy supplier.

In the coming year, China Shenhua, as a forerunner of clean and efficient development and utilization of coal as well as active participant and promoter of sustainable development, will pay more attention to CSR management and communication, take the initiative in innovating CSR practices, work together with stakeholders to seize the opportunities to meet challenges ahead and create a sustainable future for all of us.



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

# GENERAL INDICATORS OF THE COMPANY G4 Materiality Disclosures: G4-21

First Tier Indicators	Second Tier Indicators	Company's performance in 2016
	Social contributions per share (RMB/share) (ASBE)	4.162
	Social contributions per share (RMB/share) (IFRS)	4.272
	Cash dividend in aggregate (RMB million) (inclusive of dividend plan proposed by the Board)	204,372
Social Contributions	Final dividend for 2016 (RMB/share) (tax inclusive) (proposal)	0.46 <sup>Note 1</sup>
	Total tax paid (RMB million)	32,730
	Donations to society (RMB million) <sup>Note2</sup>	791
	Volunteer service period (hours)	100,324
	Revenue (RMB million)	183,127
	Total assets (RMB million) (ASBE)	571,664
Financial	Total assets (RMB million) (IFRS)	576,729
	Net profit attributable to shareholders of the Company (RMB million) (ASBE)	22,712
	Profit for the year attributable to owners of the Company (RMB million) (IFRS)	24,910
	Commercial coal production (million tonnes)	289.8
	Coal sales (million tonnes)	394.9
	Total power output dispatch (billion kwh)	220.57
Duainaaa	Sales of Polyethylene (thousand tonnes)	292.6
Business	Sales of Polypropylene (thousand tonnes)	282.1
	Turnover of self-owned railway (billion tonne km)	244.6
	Seaborne coal at self-owned ports (million tonnes)	201.3
	Shipment turnover (billion tonne nautical miles)	63.0
	Number of information disclosure documents released	160
Stakabaldar	Percentage of purchase from top five suppliers to total purchase (%)	14.4
Stakeholder Relations	Percentage of total sales revenue contributed by the Company's top five customers (%)	23.0
	Number of suppliers assessed	92
	Capital investment (RMB100 million)	39.62
Safety Production	Safety production training (person-time)	197,423
	Number of first class intrinsic-safety compliant units	34

Note 1 The Board also recommended to distribute a special dividend in cash of RMB2.51 per share (inclusive of tax).

Note 2 Of which, the Group donated 722.8 million to Shenhua Foundation.

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Company's performance in 2016
	Investment in environmental protection (RMB100 million)		15.15
	Investment in energy conservation (RMB100 million)		10.9
		Integrated energy consumption (10 thousand tonnes of standard coal)	4,667.94
		Integrated energy consumption per RMB10 thousand output value (tonne standard coal/ RMB10,000)	3.28
	Utilization of energy	Total electricity consumption (10 thousand kwh)	2,222,262.8
		Total natural gas consumption (10 thousand m <sup>3</sup> )	111,555
		Total oil consumption (10 thousand tonnes)	36.8
		Consumption of other energies	See Note 1 for details
		Total water consumption (million tonnes)Note 2	227.7
	Utilization of water resources	Water consumption per RMB10 thousand output value (tonne/RMB10 thousand)	14.87
Environmental Protection		Fresh water consumption (million tonnes)	197.49
		Amount of sewage water produced (million tonnes)	168.68
		Integrated utilization rate of sewage water (%)	68.57
	Chemical Oxygen Demand (COD)	Total emission (10 thousand tonnes)	0.17
	Ecological construction	Capital investment in water and soil conservation and ecological construction (RMB100 million)	1.47
		New afforestation area (10 thousand m <sup>2</sup> )	1,156.73
	Number of major environmental pollution accidents <sup>Note 3</sup>		0
		Total emission (tonne)	2,358.5
	Hazardous wastes	Hazardous wastes emissions per RMB10,000 output value (kg/RMB10,000)	0.17
		Total emission (10 thousand tonnes)	3,506.52
	Harmless wastes	Harmless wastes emissions per RMB10,000 output value (tonne/RMB10,000)	2.46

Note 1 Note 2 Note 3

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Company's performance in 2016
		Number of current employees	90,882
		Number of employees with disabilities	413
	Desis information of amployage	Number of child labor	0
	Basic information of employees	Number of part-time employees	1
Employees'		Number of employees from minority ethnic groups	4,932
Interests		Number of female employees	19,090
	Occupational health	Capital investment (RMB100 million)	4.18
		Additional employees with occupational disease (cases)	11
	Staff training	Staff training (person-time)	945,696
	Staff training	Staff training time in aggregate (hours)	3,932,861
	Capital investment in research and development (RMB100 million)		6.64
Technological Innovation	Number of scientific research and development projects undertaken	Number of projects approved by the headquarters	78
	Intellectual property rights	Number of patents obtained	683
	applications	Including: number of invention patents obtained	125



# **COAL PRODUCTION AND TRANSPORTATION BUSINESS**

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Company's performance in 2016
	Basic conditions	Fatality rate per million tonne of coal output of coal mines	0
		Number of serious accidents and above $\ensuremath{^{\text{Note}}}$	1
Safety Production		Mechanization rate of coal mining and excavation (%)	100
	Construction results	Number of coal mines with a safety record of consecutive 1,000 days or above	20
		Number of super-safe and efficient mines	19
		Comprehensive energy consumption against raw coal production (kg standard coal/tonne)	2.56
		Electricity consumption against raw coal production (kwh/tonne)	5.88
		Electricity consumption against prepared thermal coal production(kwh/tonne)	2.68
	Utilization of energy	Comprehensive energy consumption against railway turnover (kg standard coal/10 thousand tonnes kilometers)	25.12
		Comprehensive energy consumption against port throughput (kg standard coal/10 thousand tonnes)	2,249.22
Utilization of Resources		Comprehensive energy consumption against shipping turnover (kg standard coal/1,000 tonnes nautical miles)	5.33
		Energy consumption against polyolefin produced from coal (kg standard coal/tonne)	5,100.56
	Recovery rate in coal mining area	Average recovery rate in mining area (%)	88.4
		Average recovery rate in mining area of underground coal mines (%)	83.95
		Average recovery rate in mining area of open-cut mines (%)	97.9
		Raw coal washed and processed (million tonnes)	273.6
	Coal washing and preparation	Gangue removed (million tonnes)	27.4
		Reduction in railway freight turnover due to gangue removed (100 million tonne km)	164.16
		Coal gangue generated (10 thousand tonnes)	2,893.19
Emission	Solid emissions	Integrated utilization of coal gangue (10 thousand tonnes)	415.15
Treatment	Source enurses	Other solid waste generated (10 thousand tonnes)	58.41
		Integrated utilization of other solid waste (10 thousand tonnes)	0.81

Note

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

# **POWER GENERATION BUSINESS**

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Company's performance in 2016
	Total installed capacity (MW)		56,288
	Installed capacity of coal-fired generators (MW)		54,417
	Units of COON/N// (inclusive)	Capacity (MW)	37,000
	Units of 600MW (inclusive) and above	Proportion to the total capacity of coal-fired units (%)	67.99
	Proportion to the total capacity of coal-fired units for desulfurized units (%)		100.0
Condition of Units at the end of reporting	Proportion to the total capacity of coal-fired units for denitrificated units (%)		100.0
period	Integrated utilization of the installed capacity of power plants (MW)		6,484
	Installed capacity of direct air cooling technology (MW)		12,400
	Installed capacity of heating units (MW)		18,024
	Installed capacity of wind power units (MW)		15.75
	Installed capacity of hydropower units (MW)		125.2
Safety production	Basic conditions	Number of serious accidents and above $\ensuremath{^{\text{Note}}}$	0

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

First Tier Indicators	Second Tier Indicators	Third Tier Indicators	Company's performance in 2016
	Consumption of energy	Average consumption of standard coal for power output dispatch of coal-fired units (g/kwh)	315
Utilization of		Fresh water consumption for thermal power generation (kg/kwh)	0.65
resources	Utilization of water resources	Water resource from sea-water desalination (10 thousand tonnes)	1,488.26
		Wind power generation (10 thousand kwh)	3,075.18
	Utilization of renewable resources	Hydropower generation (10 thousand kwh)	66,749.98
	Soot treatment	Performance of Soot emission from thermal power generation (g/kwh)	0.021
		Total emission (10 thousand tonnes)	0.8406
	Sulphur Dioxide (SO2) treatment	Performance of $SO_2$ emission from thermal power generation (g/kwh)	0.096
Emission		Total emission (10 thousand tonnes)	2.25
treatment	Nitrogen oxide (NO <sub>x</sub> ) treatment	Performance of $NO_x$ emission from thermal power generation (g/kwh)	0.16
		Total emission (10 thousand tonnes)	3.73
	Coal fly ash and cinder and	Total generation (10 thousand tonnes)	1,956.77
	desulphurised gypsum	Integrated utilization (10 thousand tonnes)	1,329.64





Service



	GRI DESCRIPTION	PAGE	EXTERNAL ASSURANCE
Strategy and Analysis	G4-1 Provide a statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and the strategy thereof.	7	No
	G4-2 Provide a description of key impacts, risks, and opportunities.	7, 10	No
Organizational Profile	G4-3 Name of the organization.	1	No
Profile	G4-4 Primary brands, products and services.	1, 27, 28	No
	G4-5 Location of the organization's headquarters.	1	No
	G4-6 Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	71-73	No
	G4-7 Nature of ownership and legal form.	1	No
	G4-8 Markets served (including geographic breakdown, sectors served, and types of customers (beneficiaries)).	27-28	No
	G4-9 Scale of the reporting organization.	1, 24, 27-28	Partial
	G4-10 Total number of employees by employment type, contract and region.	56, 77	Yes
	G4-11 Percentage of employees covered by collective bargaining agreements.	58	No
	G4-12 Describe the organization's supply chain.	28-29	Partial
	G4-13 Report any significant changes during the reporting period regarding the organization's size, structure, supply chain, or its ownership.	24, 28-29	No
	G4-14 Explain whether and how the prudent approach or principle is addressed by the organization.	22, 39-41	No
	G4-16 List memberships of certain associations (such as industry associations) and (or) national or international advocacy organizations.	15	No

Material Aspects and Boundaries	G4-17 List all entities included in the organization's consolidated financial statements or equivalent documents. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	2	No
	G4-18 Explain the process for defining the report content and the Aspect Boundaries. Explain how the organization has implemented the Reporting Principles for Defining Report Content.	4	No
	G4-19 List all the material aspects identified in the process for defining report content.	4	No
	G4-20 For each material Aspect identified, state clearly the Scope and Aspect Boundary within the organization.	2	No
	G4-21 For each material Aspect identified, state clearly the Scope and Aspect Boundary outside the organization.	26-29, 75	No
	G4-22 Report the effect of any restatements of information provided in previous reports and the reasons for such Restatements.	2	No
	G4-23 Report significant changes from previous reports in the Scope, Aspect Boundaries.	4	No
Stakeholder Engagement	G4-24 Provide a list of stakeholder groups engaged by the organization.	13	No
	G4-25 Report the basis for identification and selection of stakeholders with whom to engage.	13	No
	G4-26 Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	13	No
	G4-27 Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	13	No

Report Profile	G4-28 Reporting period (such as fiscal or calendar year) for information provided.	2	No	
	G4-29 Date of most recent previous report (if any).	2	No	
	G4-30 Reporting cycle (such as annual, biennial).	2	No	
	G4-31 Provide the contact point for questions regarding the report or its contents.	4	No	
	G4-32 Report the 'in accordance' option the organization has chosen. Report the GRI Content Index for the chosen option (see tables below). Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	3	No	
	G4-33 Report the organization's policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. Report the relationship between the organization and the assurance providers. Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	3	No	
Governance	G4-34 Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	12, 18-21	No	
	G4-35 Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	12, 18-21	No	
	G4-36 Details on whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	12, 18-21	No	
	G4-37 Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body.	12, 18-21	No	
	G4-38 Composition of the highest governance body and its committees	13-14, 18-21	No	
		YPY		

Ethics and Integrity	G4-56 Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	11-12	No
	G4-57 Report the internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines.	22-23	No
	G4-58 Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	22-23	No
Economics	G4-EC1 Direct economic value generated and distributed (EVG&D).	26-27, 75	Partial
	G4-EC7 Development and impact of infrastructure investments and services supported.	66-73	No
	G4-EC8 Significant indirect economic impacts, including the extent of impacts.	24, 32, 67-69, 71-73	Partial
	G4-EC9 Proportion of spending on local suppliers at significant locations of operation.	28-29	Partial
	G4-EN2 Percentage of materials used that are recycled input materials.	52	No
	G4-EN3 Energy consumption within the organization.	45, 76	No
	G4-EN5 Energy intensity.	76	Partial
	G4-EN7 Reductions in energy requirements of products and services.	45	Yes
	G4-EN8 Total water withdrawal by source.	47	Partial
	G4-EN10 Percentage and total volume of water recycled and reused.	47, 52, 76	Partial
	G4-EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity outside environment- protected areas.	48-49, 76	No
	G4-EN21 NOx, SOx, and other significant air emissions.	51	Partial
	G4-EN23 Total weight of waste by type and sewage discharge method.	76	Partial
	G4-EN27 Measures and effect of impact mitigation of environmental impacts of products and services.	53	No

Economics	G4-EN29 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance	76	Yes	
	with environmental laws and regulations.			
	G4-EN31 Total environmental protection expenditures and investments by type.	76	Partial	
	G4-EN32 New suppliers that were screened using environmental criteria.	29	No	
Society – Labor Practices and Decent Work	G4-LA1 Total number and rates of new employee hires and employee turnover by age group, gender, and region.	56-57	Partial	
	G4-LA6 Rates of injury, occupational diseases, lost days, and absenteeism, and number of injury and work-related fatalities by region and by gender.	38, 78	Partial	
	G4-LA9 Average hours of training per year per employee, by gender, and by employee category.	60	Partial	
	G4-LA10 Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	60	No	
	G4-LA12 Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	19, 56-57, 77	Partial	
	G4-LA16 Number of grievances about labor practices addressed through formal grievance mechanisms.	58	No	
	G4-HR5 Operations and major suppliers identified as having significant potential for incidents of child labor, and measures taken to contribute to the abolition of child labor.	56	No	
	G4-HR6 Operations and major suppliers identified as having significant potential for forced or compulsory labor, and measures to contribute to the elimination of these kinds of labor.	56	No	
	G4-SO2 Operations with significant potential and actual negative impacts on local community.	66	No	
	G4-SO4 Communication and training on anti-corruption policies and procedures of the organization.	23	Yes	
	G4-S05 Public policy positions and participation in public policy development and lobbying.	23	Yes	
		Ye Ye		

Product Responsibility	G4-PR1 Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	27	No
	G4-PR5 Results of surveys measuring customer satisfaction.	27	No
	G4-PR8 Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	27	No

# Appendix III: Disclosure Recommendations of Shanghai Stock Exchange and ESG Contents Index of Hong Kong Stock Exchange

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Recommendations of disclosure of the Shanghai Stock Exchange
Cover Story		
Company Profile	B8.2	
About This Report		Preparation Guidelines Article 3
Compilation of This Report		
Chairman's Statement	A1.1, A1.2, A1.3, B2.1, B6.3, B8.1, B8.2	Notice Articles 1, 2
Full Integration of Social Responsibility: Towards Sustainable Development		
Background for Sustainable Development		
CSR Model		
CSR Management		Notice Articles 1, 2
Communication with Stakeholders		
Social Contribution per Share		Notice Article 4, Preparation Guidelines Article 5
CSR Honors		
Stronger and Healthier Growth for Coordinated Development		
Corporate Governance	B1.1	
Compliance in Operation	B6 General Disclosures	
Compliance with the Law		
Internal Control and Risk Management		
Party's Culture Building and Anti-corruption Efforts	B7 General Disclosures, B7.1, B7.2	
Efficient Operation		
Optimize the Asset Structure		
IT-Based Establishment		
Overseas Business Development		
Create Shared Value	B5, B6 General Disclosures	
Safeguard the Interests of Investors		Notice Article 5(3), Preparation Guidelines Article 4(3)
Provide Quality Products and Services	B6 General Disclosures, B6.2, B6.4, B6.5	Notice Articles 5(1), (3), Preparation Guidelines Articles 4(1), (3)
Build Responsible Supply Chains	B5 General Disclosures, B5.1, B5.2	

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Recommendations of disclosure of the Shanghai Stock Exchange
Driving Reform for Innovation and Development		
Management of Technological Innovation		
Optimize Innovative System		
Expand Innovation Platform		
Supports to Technological Innovation	B6.3	
Protect Intellectual Property Right		
Increase Investment in Technology		
Build up Talents Pool		
Achievements in Technology Innovation	B6.3	
Achievements in Science Technology & Research	B6.3	
Commercialization of Achievements		
Advancing towards zero accident – the path of safe development		Notice Articles 1, 2
Safety Management System	B2.1	
Innovation in Safety Technology	B2 General Disclosures	
Establishment of Safety Information System	B2 General Disclosures	
Overcoming Difficulties in the R&D of Safety Technology	B2 General Disclosures	
Safe Operation Environment	B2 General Disclosures	Notice Article 5(1), Preparation Guidelines Article 4(1)
Risk Elimination	B2 General Disclosures	
Emergency Management	B2 General Disclosures	
Safety Behavior of Employees		Notice Article 5(1), Preparation Guidelines Article 4(1)
Cultivating a Safety Culture	B2 General Disclosures, B3 General Disclosures	
Prioritizing Safety Education	B2 General Disclosures, B3.2	
Clean and Environmentally-Friendly Development: Towards the Path of Green Growth		Notice Articles 1, 2, 5(2), Guidelines Article 3(1), Preparation Guidelines Article 4(2)
Management of Energy Conservation and Environmental Protection	A2.3	Guidelines Article 3(3), (5), (9)
Energy Conservation and Environmental Protection System	A1 General Disclosures, A2 General Disclosures	

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Recommendations of disclosure of the Shanghai Stock Exchange
Investment in Energy Conservation and Environmental Protection		
Energy Conservation and Emission Reduction	A2.1	Guidelines Article 3(2), (5)
Clean Coal	A2.3	
Efficient Power	A1 General Disclosures, A2 General Disclosures, A2.3	
High-end Coal Chemical Industry	A2.3	
Green Transportation	A2.3	
Water Conservation by Increasing Efficiency	A2.4	Guidelines Article 3(2), (3)
Water Conservation	A2.2, A2.4	
Wastewater Reuse	A2.4	
Promote Ecological Progress	A3 General Disclosures	Guidelines Article 3(3)
Underground Mines	A3.1	
Open-Pit Mines	A3.1	
Along the Railway	A3.1	
Combating of Pollution	A1 General Disclosures	Guidelines Article 3(3), (4), (5), (6)
Combating of Water Pollution	A1 General Disclosures, A1.5	
Combating of Air Pollution	A1 General Disclosures, A1.1, A1.2, A1.5	
Disposal of Solid Waste	A1.6	
Responding to Climate Change	A3 General Disclosures	
Development of Low-Carbon Energy	A1.5	
Carbon Management	A1 General Disclosures	
Advocating Green Office	A3 General Disclosures, A3.1	
People-Oriented Development for a Better Life		Notice Articles 1, 2
Protection of Employees' Rights and Interests	B1. General Disclosures	
Equal Opportunities in Employment	B1. General Disclosures, B1.1, B1.2; B4. General Disclosures	
Remuneration and Welfare	B1. General Disclosures	
Democratic Communication	B1. General Disclosures	
		Y

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Recommendations of disclosure of the Shanghai Stock Exchange
Occupational Health	B2. General Disclosures, B2.3	Notice Article 5(1), Guidelines Article 4(1)
Supporting Employees' Growth	B3. General Disclosures	Notice Article 5(3), Guidelines Article 4(3)
Career Development	B3. General Disclosures	
Training for Employees	B3.1, B3.2	
Caring for Employees	B1. General Disclosures	
Female Employees	B1. General Disclosures	
Employees in Need	B1. General Disclosures	
Fantastic Cultural Activities	B1. General Disclosures	
Features: Beautiful Shenhua Employees	B2. General Disclosures	
Dedication with Compassion: Towards Shared Development		Notice Articles 1, 2
Supporting Community Development	B8. General Disclosures	Notice Article 5(1), Guidelines Article 4(1)
Active Communication and Interaction	B8.1	
Integrating into Local Communities	B8.1, B8.2	
Contribution to Targeted Poverty Alleviation	B8. General Disclosures	Poverty Notice
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Shenhua Loving Care Activities	B8.1, B8.2	
Shenhua Loving Care Libraries	B8.1, B8.2	
Shenhua Loving Care Schools	B8.1, B8.2	
Volunteer Activities	B8. General Disclosures, B8.1, B8.2	
Harmonious Overseas Operations	B8. General Disclosures	
Localized Operation	B8.1	
Supporting Public Welfare of the Community	B8.1, B8.2	
2017 Outlook		
Indicator System on Social Responsibility Performance of China Shenhua	A1.1, A1.3, A1.4, A2.1, A2.2, A2.4, B2.3, B3.2, B5.2, B6.3, B8.2	

Content of the Report	Environmental, Social and Governance Reporting Guide of the Hong Kong Stock Exchange	Recommendations of disclosure of the Shanghai Stock Exchange
Global Reporting Initiative G4 Content Index		
Disclosure Recommendations of Shanghai Stock Exchange and ESG Contents Index of Hong Kong Stock Exchange		
Independent Assurance Report		
Major Assets Distribution Map		
Equity Structure Diagrams		
Feedback Sheet		

Notes: "Notice on Strengthening Listed Companies' Efforts in Undertaking Social Responsibilities and Issuance of 'Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange'" is referred to as the "Notice"

"Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange" is referred to as the "Guidelines"

"Guidelines on Preparation of 'Corporate Report on Performance of Social Responsibilities'" is referred to as the "Preparation Guidelines"

"Notice of Information Disclosure in Relation to Further Optimizing Poverty Alleviation Work of Listed Company" is referred to as the "Poverty Notice"



# **Appendix IV: Independent Assurance Report**



#### **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 2016 Social Responsibility Report for the financial period from 1 January 2016 and 31 December 2016.

### **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.

### **Our Independence and Quality Control**

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants. Our firm applies International Standard on Quality Control 1 and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

### **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

17 March 2017



# Equity structure diagram



	CLP Guohua Shenmu Power Co., Ltd.
	- 60.00% - Zhejiang Guohua Zheneng Power Generation Co., Ltd.
	<ul> <li>73.33% — Zhuhai Guohua Huidafeng Wind Energy Development Co., Ltd.</li> </ul>
	<ul> <li>— 80.00% — Zhejiang Guohua Yuyao Gas-fired Power Co., Ltd.</li> </ul>
	<ul> <li>— 51.00% — Hebei Guohua Cangdong Power Co., Ltd.</li> </ul>
100.00% – Shenhua Shendong Coal Group Co., Ltd.	- 40.50% Hebei Guohua Cangdong Fower Co., Ed.
— 57.76% — Shenhua Zhunge'er Energy Co., Ltd.	
— 62.82% — Shenhua Beidian Shengli Energy Co., Ltd.	
— 60.00%— Shenhua Xinjie Energy Co., Ltd.	- 70.00% - Shenhua Guohua International Power Co., Ltd.
—100.00% — Shenhua Baotou Energy Co., Ltd.	— 70.00% — Shaanxi Guohua Jinjie Energy Co., Ltd.
— 56.61%— Shenhua Baorixile Energy Co., Ltd.	— 65.00% — Tianjin Guohua Jinneng Power Co., Ltd.
— 50.10%— Yulin Shenhua Energy Co., Ltd.	— 55.00% — Jiangsu Guohua Chenjiagang Power Co., Ltd. Major Controlling — 70.00% — PT GH EMM Indonesia
60.00% - Shenhua Bayannur Energy Co., Ltd.	Contrólling 70.00% PT GH EMM Indonesia
Shenhua Australia Holdings Pty Limited	— 92.00% — Shenhua Guohua Beijing Electric Power Research Institute Co., Ltd.
Shendong Coal Branch	— 60.00%— Shenhua Guohua Shouguang Power Generation Company Limited
Ha'erwusu Coal Branch	-100.00% - Shenhua Shendong Power Co., Ltd.
	—100.00% — Shenhua Fujian Energy Co., Ltd.
	— 51.00%— Shenwan Energy Co., Ltd.
	— 51.00% — Shenhua Guohua Mengjin Power Generation Co., Ltd.
-100.00% — Shenhua Sales Group Co., Ltd.	— 51.00% — Shenhua Guohua Zhangzhou Power Co., Ltd.
	- 80.00% - Inner Mongolia Guohua Hulunbeier Power Generation Co., Ltd.
	— 51.00% — Shenhua Sichuan Energy Co., Ltd.
Shenhua Baoshen Railway Group Co., Ltd.	— 52.00% — Shenhua Guohua Guangtou (Beihai) Power Generation Co., Ltd.
88.16% Shenhua Baoshen Railway Co., Ltd. 88.46% Shenhua Ganguan Railway Co., Ltd.	—100.00% — Shenhua Guohua (Beijing) Gas Thermal Power Co., Ltd.
90.00% — Shenhua Xinzhun Railway Co., Ltd.	— 50.00% — Guohua Taicang Power Co., Ltd.
- 52.72% - Shuohuang Railway Development Co., Ltd.	—100.00% — Shenhua Guohua Jiujiang Power Co., Ltd.
85.00% — Shenhua Zhunchi Railway Company Limited	-100.00% - Shenhua Guohua Yojizha Power Co., Ltd.
—100.00% — Shenhua Mengdong Railway Co., Ltd.	<ul> <li>— 52.20% — Shenhua Guohua Forigiziou Tower Co, Ed.</li> <li>— 52.20% — Shenhua Guohua Guangtou (Liuzhou) Power Generation Co, Ltd.</li> </ul>
-100.00% - Shenhua Railway Transportation Co., Ltd.	
Shenshuo Railway Branch	-100.00% - Guohua Xuzhou Power Generation Co., Ltd.
Railway Track Mechanical Maintenance Branch	-100.00%
70.00% — Shenhua Huanghua Harbour Administration Co., Ltd.	— 51.00% — Shenhua Guohua (Zhoushan) Power Generation Co., Ltd.
55.00% — Shenhua Tianjin Coal Dock Co., Ltd.	— 51.00% — Shenhua Guohua Qingyuan Power Generation Co., Ltd.
40.00% – Shenhua Yudean Zhuhai Port Coal Dock Co., Ltd.	<ul> <li>75.00% — PT. Shenhua Guohua Lion Power Indonesia</li> </ul>
51.00% — Shenhua Zhonghai Shipping Co., Ltd.	— 70.00%— Shenhua Guohua (Indonesia) Jawa Power Generation Co., Ltd.
100.00% – Shenhua Finance Co., Ltd.	—100.00% — Shenhua Guohua Guangdong Electricity Sales Co., Ltd.
— Shenhua Logistics Group Corporation Limited	—100.00% — Shenhua Guohua (Beijing) Distributed Energy Technology Co., Ltd.
—100.00% — Shenhua Information Technology Co., Ltd.	56.77% — Shenhua Guohua Ningdong Power Generation Co., Ltd.
100.00% – Shenhua Geological Exploration Co., Ltd.	C 65.00% — Tianjin Guohua Panshan Power Generation Co., Ltd.
-100.00% - China Shenhua Overseas Development and Investment Co., Ltd.	= 55.00% = Sanhe Power Co., Ltd.
-100.00% - Shenhua Hong Kong Limited	- 50.00% Suizhong Power Co., Ltd.
—100.00% — Shenhua Zhunneng Group Co., Ltd.	65.00% Inner Mongolia Guohua Zhunge'er Power Generation Co., Ltd.
51.00% — Shenhua (Tianjin) Financial Leasing Co., Ltd.	
	Guohua Power Branch
	Major Shangli Energy Branch
	Guohua Huizhou Thermal Power Branch

51.00% — Shenhua Funeng Power Generation Co., Ltd.

# Appendix VI: Definition

Abbreviation		Full Name
	Shenhua Group Corporation	Shenhua Group Corporation Limited
	China Shenhua or the Company	China Shenhua Energy Company Limited and its controlling subsidiaries, unless the context otherwise requires
	headquarters	headquarters of China Shenhua Energy Company Limited
	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
	Coal Liquefaction and Chemical Company	China Shenhua Coal Liquefaction and Chemical Co., Ltd.
	Zhunge'er Group or Zhunge'er Company	Shenhua Zhunge'er Group Co., Ltd.
	Shenshuo Railway or Shenshuo Railway Branch	Shenshuo Railway Branch of the Company
	Shuohuang Railway Company or Shuohuang Railway	Shuohuang Railway Development Co., Ltd.
	Shenhua Trading Group	Shenhua Trading Group Limited
	Huanghua Harbour	Shenhua Huanghua Harbour Administration Co., Ltd.
	Baotou Coal Chemical Company	Shenhua Baotou Coal Chemical Co., Ltd.
	Shenbao Energy Company	Shenhua Baorixile Energy Co., Ltd.
	Shengli Energy	Shenhua Beidian Shengli Energy Co., Ltd.
	Bayannur Company	Shenhua Bayannur Energy Co., Ltd
	Tianjin Coal Dock	Shenhua Tianjin Coal Dock Co., Ltd.
	Zhuhai Coal Dock or Zhuhai Coal Dock Company	Shenhua Yudean Zhuhai Port Coal Dock Co., Ltd.
	Overseas Company	China Shenhua Overseas Development & Investment Co., Ltd.
	Sichuan Energy	Shenhua Sichuan Energy Company Limited
	Logistics Group	Shenhua Logistics Group Corporation Limited
	Shenhua Training Center or Shenhua Management Academy	Shenhua Training Center Co., Ltd
	1-1-1-1-5	er.

Abbreviation	Full Name		
Shenhua Research Institute	Shenhua Science and Technology Research Institute Co., Ltd.		
Russian Company	Обществас ограниченной ответственностью «Разрезуголь»		
Australian Company	Shenhua Australia Holdings Pty Limited		
EMM Indonesia	PT.GH EMM INDONESIA		
Beijing Gas	Shenhua Guohua (Beijing) Gas Thermal Power Co., Ltd.		
Shanghai Stock Exchange	Shanghai Stock Exchange		
Hong Kong Stock Exchange	The Stock Exchange of Hong Kong Limited		
Shanghai Listing Rules	Rules Governing the Listing of Stocks on Shanghai Stock Exchange		
Hong Kong Listing Rules	Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited		
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 guidelines, interpretations and other related requirements		
International Financial Reporting Standards	International Financial Reporting Standards issued by the International Accounting Standards Committee		
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 RMB		
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		
Articles of Association	Articles of Association of China Shenhua Energy Company Limited		
Company Law	Company Law of the People's Republic of China		
Securities Law	Securities Law of the People's Republic of China		
Labor Law	Labor Law of the People's Republic of China		
SASAC of the State Council	Stated-owned Assets Supervision and Administration Commission of the State Council of the People's Republic of China		
Chinese Academy of Social Sciences	Chinese Academy of Social Sciences		

# **Feedback Sheet and Contact Information**

China Shenhua values your opinions on the Company's endeavors on corporate social responsibility and this Corporate Social Responsibility Report. Your opinions and advice will add momentum to the continual improvement of 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 about but is 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 parti Name:	culars if you wish:	
Occupation:	Organization:	
Contact address:	Postal code:	
Telephone:	Fax:	
Email:		
China Shenhua Energy Company Limited Block A Shenhua Tower 22 Xibinhe Road, Dongcheng District,		

22 Xibinhe Road, Dongcheng Di Beijing, China Postal Code 100011



Affix stamp here

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2013 CSR REPORT



2011 CSR REPORT



2014 CSR REPORT



2012 CSR REPORT



2010 CSR REPORT

2015 CSR REPORT



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