

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

> 2021 Environmental, Social and Governance Report China Shenhua Energy Company Limited



STRENGTHEN ENERGY SAFETY SUSTAIN GREEN AND LOW CARBON DEVELOPMENT

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About the Report

The report mainly introduced the concepts and policies of China Shenhua Energy Company Limited (hereinafter referred to as "China Shenhua" or the "Company") in aspects of environmental protection, social responsibility and corporate governance, as well as the efforts made in 2021. It aims at enhancing communication and liaison with all stakeholders in response to concerns and hopes. We have taken into consideration the 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. You are welcomed to put forward your opinions and suggestions by completing the Feedback Sheet attached to this report. The Company will improve and enhance the report on a best effort basis in the future.

REPORTING PERIOD

The report is an annual report. The reporting period is from 1 January 2021 to 31 December 2021 while certain contents exceed this period.

MAIN SCOPE OF THE REPORT

Unless otherwise specified, the relevant information of the report covers China Shenhua and its subsidiaries.

PRINCIPLES OF DATA PROCESSING

The information and data contained in this report were mainly sourced from official documents, statistical and financial reports of the Company, as well as the environmental, social, and governance (hereinafter referred to as the "ESG") information collected from the Company's statistics and audits. This report is available in Chinese and English. In case of any confusion or inconsistency, the Chinese version shall prevail. Unless otherwise stated, the currency used is the Renminbi. The major indicators on safety and environmental protection of the Company are calculated in accordance with China's regulations or industry standards, including General Principles for Calculation of the Comprehensive Energy Consumption (GB/T2589–2020), the General Principles of Water Statistics in Enterprises (GB/ T 26719–2011), Calculation Method for Pollution Discharge Volume at the Discharge Outlet of State Controlled Pollution Sources (H.B. [2011] No.8), Energy Statistical Reporting System (2019) (National Bureau of Statistics), etc.

REPORT PREPARATION BASIS

The report is prepared in accordance with the requirements of the Environmental, Social and Governance Reporting Guide as set out in Appendix 27 of the Rules Governing the Listing of Securities on HKEx, and the Guidelines for the Self-Regulation of Listed Companies No. 1 -Standardized Operation on SSE, and with reference to the "core" disclosure guideline under GRI Sustainability Reporting Standards (referred to as "GRI Standards") issued by the Global Sustainability Standards Board (the "GSSB"). Part of the content contained in Response to Climate Change refers to the Guidelines on Information Disclosure of Climate on HKEx and the recommendations of the Task Force on Climate-related Financial Disclosures (the "TCFD").

ASSURANCE

This report has been assured independently by our independent auditor, KPMG Huazhen LLP. The proof, scope, methodology and conclusion of the assurance are included in Appendix III.

AVAILABILITY OF THE REPORT

This report is published in Simplified Chinese, Traditional Chinese and English, and this report is also 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 the Company (www.csec.com). Please email ir@csec. com or dial 86–10–5813–1088/3399/3355 to request for a printed copy of this report.

Chairman's Statement



Dear Stakeholders:

In 2021, the goal for peaking carbon emissions and realizing carbon neutrality in China has been gradually implemented in the "1+N" policy system, and low-carbon transition has become an important feature of China's high-quality social and economic development in the new era . Over the past year, on the basis of safeguarding national energy security, China Shenhua has firmly followed the path of clean, low-carbon, safe and efficient and sustainable development, maintained its leading position in the industry in terms of business performance, and achieved progress in key work such as energy conservation and emission reduction, scientific and technological innovation, and safe development. In the list of "Top 250 Global Energy Companies in 2021" released by Platts, China Shenhua ranked No. 2 in the overall list and No. 1 among Chinese companies.

Taking responsibility to ensure energy security.

In the face of the changes in the supply and demand of the energy market in 2021, according to the requirements of basing upon the national conditions, controlling the total volume and keeping in mind the bottom line, we bravely shouldered responsibilities, overcame difficulties, gave full play to the advantages of integrated operation, paid close attention to the market supply and demand situation, and adhered to corporate credit. We strived to stabilize production, price, market and confidence, and ensure the supply of energy for warmth, electricity and livelihood, providing energy support for China's modernization and to meet the Chinese people's need for a better life. At the critical moment, China Shenhua once again demonstrated the responsibility as a central state-owned listed company.

Implementing green transformation to strive for realizing Carbon Peak & Carbon Neutrality goals.

We actively carried out research on carbon peak and carbon neutrality strategy, led the coal industry in the green and low-carbon transition. We continued to promote the clean and efficient mining and utilization of coal, put clean and efficient generating units into operation, and strengthened the transformation and upgrade of generating units, so as to improve the overall efficiency of energy utilization. We strengthened cooperation with local governments and enterprises, gave full play to the role of industrial funds, actively promoted renewable energy projects and construction of green mines, green power stations, green transportation and green chemicals facilities, and paid attention to the ecological protection of the Yangtze River and Yellow River basins simultaneously, to consolidate the key achievements in pollution prevention and control continuously. We actively participated in the development of the national carbon market to enhance the capacity of carbon asset management and ecological carbon sequestration.

Being innovation-driven to promote intelligent development.

We realized self-reliance on the basis of high-level science and technology, increased the investment in scientific research, advanced the construction of smart production, smart management and smart operation, taking a new initiative for the integrated development of the digital economy and the energy economy. In 2021, the coal segment of the Company has completed five targets of 100% intelligent construction as annual phased tasks. The transportation segment has achieved new results in the construction of intelligent transportation technology, standards and data system. The construction of intelligent demonstration power stations and intelligent chemical production systems has been further promoted.

Systematically consolidating safety managements to fulfill social responsibilities.

We comprehensively carried out special safety rectification compaigns, strictly investigated and rectified safety risks and potential accidents, upgraded and implemented safety assessments, enhanced emergency response and rescue capabilities, and vigorously carried out routine pandemic prevention and control. The production safety of the Company remained generally stable throughout the year. We accurately grasped the connotation and requirements of common prosperity, earnestly helped local governments consolidate and expand the achievements of poverty alleviation, and comprehensively promoted rural revitalization. We also continued to organize and carry out public welfare projects such as donation to school, medical assistance and voluntary services to promote the development and progress of local communities.

Continuing to forge ahead to improve management efficiency.

According to the "14th Five-Year Special Plan for ESG Governance" of the Company, we formulated annual plans and tasks to improve the ESG governance structure and operating mechanism continuously, carried out ESG special campaigns, upgraded the ESG information management system, promoted the standardization and informatization of ESG management, and strived to integrate ESG into the whole process of operation of the Company. In 2021, the Company was listed the first batch of 10 "China ESG Demonstration Enterprises" and "Central State-owned Enterprise ESG Pioneer 50 Index".

2022 is an important year for us to forge ahead in "14th Five-Year Plan". We will fully implement the spirit of the important speech made by President Xi Jinping when inspecting the China Energy Group Yulin Chemical Company, and adhere to the work orientation of stability, coordination, empowerment and quality improvement, accurately grasp the relationship between energy supply and green transformation, synergy and efficiency and cost reduction and efficiency increase, innovation drive and industrial upgrade, intensive development and layout optimization, as well as strategic planning and long-term achievements, and comprehensively improve the standards for governance system and modernization of governance capabilities, carry out all works in a coordinated and orderly manner, work with all stakeholders to build a better life, create a better future, and greet the "20th" CPC National Congress with excellent achievements!

25 March 2022

ESG Governance Statement from the Board

The Board of the Company is the highest responsible and decision-making institution for ESG matters, which takes full responsibility for the Company's ESG strategies and report, and monitors ESG related matters that may affect the Company's business or operation, shareholders and other stakeholders. The Safety, Health and Environmental Protection Committee of the Board is responsible for supervising the commitment and performance of ESG key issues, and reporting to the Board to ensure the integration of ESG concept and the Company's strategy.

The Company attaches great importance to the significant impact arising from the ESG risks, and regularly conducts assessments of ESG key issues based on the external social and economic macro environment and the Company's development strategy and submits them to the Board for review. The Board discusses and determines the risks and opportunities of ESG, takes the management and improvement of key issues as the key ESG work, incorporates key issues into the Company's overall strategy formulation for consideration, and supervises the management and performance of key issues.

The Company has established an ESG target management mechanism covering major ESG performance indicators such as carbon emissions, pollutant emissions, energy consumption and water resources management, and the Board regularly reviewed the progress of the targets. The Company has incorporated ESG indicators such as safety production, energy conservation and environmental protection, and compliance operations into the annual performance appraisal system of the management and subsidiaries and branches of the Company to promote the achievement of the Company's ESG targets.

This report discloses the details of progress and effectiveness of ESG work of China Shenhua in 2021, which was considered and approved at the 12th meeting of the fifth session of the Board on 25 March 2022. The Board and all Directors of China Shenhua warrant that there are no false representations, misleading statements or material omissions contained in this report and severally and jointly accept full responsibility for the authenticity, accuracy and completeness of the information contained herein.



About China Shenhua

Profile of the Company

China Shenhua was founded on 8 November 2004, and was listed on the Hong Kong Stock Exchange and Shanghai Stock Exchange on 15 June 2005 and 9 October 2007, respectively. As of the end of 2021, the Company's total assets are RMB610.6 billion, the total market value is US\$66.2 billion, and the total number of employees is 77,872.

China Shenhua is the world's leading listed coal-based comprehensive energy company, mainly engaged in six business segments, namely coal, railway, power, port, shipping and coal chemicals. Starting from the coal mining business, the Company leverages its own transportation and sales network, as well as the downstream power plants and coal chemicals facilities to achieve cross-sector and cross-industry vertically integrated development and operation model, forming the core competitiveness of the Company.

Business profile



The approved production capacity is 330 million tonnes, representing approximately 8% of the national total. China Shenhua has built the world's first 200-million-tonne coal production base and 10-million-tonne mine cluster, with 7 mines' production capacity above 20 million tonnes and 7 mines of 10-20 million tonnes, promotes the construction of green and smart mines and has a mining mechanization rate reaching 100%, and its production, technology, energy consumption, environmental protection and other indicators have reached the world's advanced level.

Power The total installed capacity is 37.90 GW, including coal-fired capacity of 36.82 GW, gas-fired capacity of 950 MW and hydropower capacity of 130 MW. The Company has vigorously promoted green, low-carbon and clean development, and all conventional coal-fired generating units have achieved ultralow emission



China Shenhua has 40 cargo vessels with a deadweight Shipping capacity of 2.18 million tonnes and an annual transportation capacity of 55 million tonnes. The route covers Huanghua Port, Tianjin Port, Qinhuangdao Port and other major domestic ports and over 200 power generation enterprises and coal emergency reserve bass in coastal and riverine provinces and cities. The fleet size and profitability rank in the forefront among shipping enterprises in China.



China Shenhua controls and operates a network of concentric and radiating transportation railways around the major coal production bases in western Shanxi, northern Shaanxi and southern Inner Mongolia as well as "Shenshuo - Shuohuang Line", the second largest channel for coal transportation from western to eastern China, as well as Huangda Railway, a new energy channel in Bohai Rim, with a total mileage of railway operation of 2,408 km, an annual transportation capacity of 530 million tonnes, more than 800 locomotives at its disposal, and more than 50,000 self-owned wagons. China Shenhua is the second largest railway operator in China.



China Shenhua has three self-owned dedicated ports and terminals, namely Huanghua Port, Tianjin Coal Terminal and Zhuhai Coal Terminal, with a designed handling capacity of 270 million tonnes. Huanghua Port is an important outlet of the second largest channel of "Coal Transportation from West to East" and "Coal Transportation from North to South" and its labor productivity and per capita profitability rank the first place among the domestic ports.



The Baotou Coal-to-olefin project is a national strategic key project, and it is also the would's first and largest coal-based MTO industrial demonstration project with an annual production capacity of approximately 600,000 tonnes. The main products are polyethylene, polypropylene and a small number of byproducts. BayanNur Energy Company has an annual coking production capacity of 1.2 million tonnes.





The Company's production and operation collaborative scheduling system

About China Shenhua 2021



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The world is entering a period of economic development dominated by information industry. We should grasp the opportunity of the integrated development of digitization, networking and intelligence, and cultivate new functions with informatization and intelligence as a lever.

—Xi Jinping



In recent years, China Shenhua has actively embraced the trend of digital and intelligent development, focused on comprehensive senses, comprehensive digitalization, comprehensive interconnection and comprehensive intelligence as the main development directions, taken accelerating digital and intelligent development as an important engine for improving the quality and efficiency of the whole industry, and strived to find a way of integrated development of digital economy and energy economy.

Intelligent Mine

Leading a new mode of intelligent construction of coal mines

China Shenhua has started automatic transformation since 2000, and Shendong Coal took the lead in building a 100-million-tonne modern mining area. In 2010, China Shenhua started to explore the construction of digital mine and built digital mine demonstration projects in Jinjie coal mine and Heidaigou open-cut mine respectively. In 2013, China Shenhua started to explore the intelligent mining mode of medium and thick coal seam in Yujialiang mine. After years of exercise, China Shenhua has summarized the "1235" coal mine intelligent construction model of "one set of system for overall planning, two models for stimulating innovation, three types of coal mines for demonstration and guidance and five-in-one for efficient promotion", and the intelligent construction level of the Company's coal mines is always at the forefront of the industry.

Making new progress in five 100% targets

According to the targets of "100% intelligent mining working faces, 100% intelligent tunnelling working faces, 100% intelligent coal preparation plants, 100% unattended fixed stations, and 100% coverage of intelligent technology and construction of coal mines", China Shenhua has formulated the promotion plan and implemented measures, and has mastered many technologies such as intelligent coal mining, intelligent tunnelling, unmanned mining trucks and coal mine robots. As of the end of 2021, 27 key projects of intelligent mine technological innovation have been implemented. 4 intelligent demonstration coal mines, 26 intelligent mining and stripping working faces, 4 intelligent roadway development working faces, 3 intelligent mine truck unmanned projects have been completed, more than 140 coal mine robots of 21 types in 5 categories have been developed for application, and most of fixed stations such as water pump houses and power stations have been realized unattended.

Combining strengths to achieve joint construction and win-win outcomes

The Company established an innovation consortium, and jointly studied and broke through the problems of the intelligent construction of coal mines. In August 2021, Shendong Coal and Huawei Technologies Company Limited jointly released the "Harmony OS Mining Operating System" to comprehensively promote the strategy for autonomy and controllability of equipment and industrial control systems in the coal industry. In September 2021, Zhunge'er Energy cooperated with China Telecom to develop innovative applications of 5G technology in smart mines using the "5G+ Smart Mine Joint Innovation Laboratory" as a platform.



"Harmony OS Mining System" remotely-controls underground working face robot

"It's much easier to sit in the ground control room and cut coal remotely with a handle. The achievement of intelligent construction really benefits our front-line miners, and turns coal miners into office 'white collars'."

The coal machine driver of first production class of NO.2 long-wall mining team of Yujialiang Mine Zhang Xueming

In September 2021, Baorixile Open-cut Mine unmanned truck marshalling demonstration project under extremelycold weather passed the safety evaluation and scientific and technological achievements identification. As of the end of 2021, unmanned trucks have run a total of more than 50,000 kilometers, with the highest operating speed of 40 km/h in the industry. The mobility rate of the unmanned driving system is greater than 96.7% and the comprehensive efficiency is no lower than that of manned driving.



Intelligent Transportation

Intelligent driving

Baoshen Railway heavy-haul locomotive intelligent driving system utilizes intelligent video recognition, long-range radar detection, BeiDou Navigation differential positioning, automatic collection of meteorological information, intelligent frequency conversion and other technologies, which achieves full coverage of intelligent control of 23 application scenarios, including self-awaken locomotives, self-coupling, self-penetration test, self-departure, self-safety driving, self-parking and self-shunting based on the dispatching plan. As of the end of the reporting period, the travel of intelligent driving heavy-haul train with ten thousand tonnes has exceeded 400,000 kilometers, providing reliable reference data and successful cases for the large-scale application of intelligent driving technology. After the intelligent driving is fully put into operation, the safety level of heavy-haul train transportation, the efficiency of line transport and the efficiency of line emergency response will be comprehensively improved, the technical speed of the locomotive can be increased by 8 kilometers, the transportation efficiency can be increased by 16%, and the annual electricity cost can be saved by approximately RMB32 million.

Intelligent operation and maintenance

Railway Equipment Company has built an intelligent condition-based maintenance system of heavy-haul railway wagons, marking that China's heavy-haul railway maintenance has officially entered a new era of intelligent operation and maintenance featured with intelligent diagnosis and precise maintenance, Shuohuang Railway has become the first heavy-haul railway in China to apply mobile blocking technology. After the upgrade, the average departure interval has shortened by approximately 33.6% the transportation capacity has increased by approximately 24.3%,, and the comprehensive maintenance cost of signal system has reduced by approximately 20%.

Intelligent port

Huanghua Port successively implemented intelligent coal yard transformation and remote control of ship loaders, fully realized all-weather automatic operation of coal dumping, stacking, reclaiming and loading, and has become the world's first coal bulk cargo port with whole-process intelligent operation. Tianjin Port independently developed the world's first intelligent ship loading system based on ship-shore digital twins technology providing a "Tianjin Port solution" for the whole process intelligence of global bulk cargo ports.



China's first heavy-haul mobile blocking train commenced operation



Intelligent operation site of Huanghua Port

Intelligent Power Plant

Beijing Gas-fired Power Plant is the intelligent ecological power plant with the highest level of intelligence, the least employment and near-zero emissions in China, realizes the "One control with three centers, 30 people" model of operation. It achieves key applications, such as startstop with one button, unattended operation, all staff on duty, one-step integration, threedimensional display, intelligent inspection based on the post customization intelligent working platform, which has won the first prize of China Electric Power Science and Technology Progress, the first prize of China Electric Power Innovation, the first prize of Electric Power Informatization Achievements, the Benchmark Enterprise of Intelligent Manufacturing in Beijing and other heavyweight honors.



Beijing Gas-fired Power Plant's intelligent inspection robot



Beijing Gas-fired Power Plant's Centralized Control Center

Endless innovation, unlimited future

Driven by the continuous development and integration of new information technologies such as the Internet of Things, big data, cloud computing, mobile interconnection, artificial intelligence, block chain and quantum computing, China Shenhua will promote the digital transformation in resource allocation, business operation, decision-making mechanism, organizational structure and business model and continue to lead the smart and intelligent process of energy industry with the foreseeable "acceleration" in the future.

Major ESG Honors in 2021



Corporate Governance

China Shenhua focused on the strategic objective of "establishing a global top-tier energy listed company with international competitiveness", strictly complied with the Company Law of the People's Republic of China and other of the listed place, established and improved the modern organically integrated strengthening the leadership of the Party and improving corporate governance, improved the and integrity, and is managed with integrity and efficiency to protect the rights and interests of investors and enhance the value of the Company.



Corporate Governance



Governance Structure

General Meeting

General meeting is the highest authority of the Company. The Company convenes general meetings in strict accordance with the Articles of Association to adequately safeguard all shareholders to rank pari passu, and effectively exercise their rights to know, to participate, to question and to vote. The Company has formulated separate vote counting and cumulative voting system and regulations of not imposing any minimum shareholding limitation for soliciting voting rights and disclosure of the policy of dividend distribution to protect the legitimate interest of minority shareholders. In 2021, the Company convened a total of one annual general meeting, one extraordinary general meeting, one A shareholders class meeting and one H shareholders class meeting, and all 14 proposals were approved.

Board of Directors

The Board of Directors is a standing decision-making body of the Company and is responsible to the general meeting. Directors protect the interests of the shareholders as a whole, pursue the principle of being diligent, honest and prudent, and are earnest to perform duties. In 2021, the Company convened a total of five meetings of the Board of Directors to review a total of 46 proposals, such as annual reports, to ensure that the various work of the Company was carried out in an orderly manner.

Construction of the Board of Directors in 2021

Standardizing the operation of the Board of Directors	Amendments to the Articles of Association and the Rules of Procedure of the Safety, Health and Environmental Protection Committee; implementation of the new Securities Law and amendments and improvement of corporate governance system.	
Implementing the functions and powers of the Board of Directors	Formulation of the Implementation Plan of the Functions and Powers of Boards of Directors, implementation of the medium – and long-term development decision-making powers, employment rights of the management members, performance appraisal rights, remuneration management rights and management rights of major financial matters in accordance with the law, stipulation of the responsibilities and limits of the Party Committee, Board of Directors and management.	
Standardizing authorization management of the Board of Directors	Formulation of Administrative Measures for Authorization of Board of Directors, to clarify the scope and principles of authorization.	
Clarifying the relationship between governance entities	Formulation of the decision-making list of China Shenhua, to standardize the decision-making bodies and responsibilities of 149 items in 12 categories.	
Strengthening informatization construction	Online "Three meetings" information system, to embed 39 proposal templates and 27 work templates and improve the quality of proposals.	

Diversity of the Board

China Shenhua formulated the diversity policy of members of the Board of Directors. The Directors of the Company were from different industries domestically and overseas and presented the characteristics of diversity. Knowledge structure and professional sector of each Director are professional and complementary, which is beneficial to safeguard the scientific decision-making of the Board of Directors. As of the end of 2021, the Board of Directors of the Company comprised 8 Directors¹, including 3 Independent Non-executive Directors, accounting for 37.5%.



Diversified structure of the fifth session of the

Independence of the Board

Directors investigation on information construction

The Company has appointed Independent Directors in strict accordance with the office conditions stipulated in the Articles of Association and the numbers and backgrounds of the appointed Independent Directors shall meet the requirements of the listing rules of the listed place. In 2021, the Company's Independent Directors strictly implemented the requirements of relevant laws and regulations, the Articles of association, relevant rules of procedure and the Company's independent director system, adhered to the Independent Directors' independence, gave play to supervisory functions, participated in the formation of all major decisions and the review of regular reports and financial reports of the Company, played an important role in the standardized operation of the Company and safeguarded the legitimate rights and interests of minority shareholders.



Strategic Seminar of the Board of Directors of China Shenhua

¹ Mr. Yang Jiping resigned as an Executive Director of the Company on 16 November 2021 due to work adjustment.

Corporate Governance

Training of Directors²

In 2021, Directors of the Company participated various training of 23 person-times, with a total length of 61.5 hours, including 7 times of compliance training organized by CSRC, association of listed companies and exchanges, and 1 time of ESG governance training organized by HKEx on Guidelines on Climate Information Disclosure.

Special committees

All special committees leverage their expertise, and carry out preconsideration and gate keeping of the proposals of the Board of Directors.

Special committee meetings convened in 2021

11 Special reports listened

38 Proposals considered

Strategy Committee

- Studying the Company's long-term development strategies and major investment decisions and make recommendations;
- Comprising 3 members and the Chairman serves as the chairman of Strategy Committee and one Non-executive Director serves as the member.
- In 2021, two meetings were convened and 2 proposals were considered.

Audit Committee

- Supervising and evaluating the performance of external auditors, proposing to hire or replace the external auditors, supervising and evaluating internal auditing, reviewing the Company's financial information and disclosure, supervising and evaluating the Company's internal control, etc.;
- Comprising 3 Independent Non-executive Directors. Chairman Chen Hanwen has rich experience and professional background in the auditing industry.
- In 2021, 6 meetings were convened, 9 special reports were listened and 25 proposals were considered.

Remuneration Committee

- Making recommendations on remuneration plans or packages for Directors, Supervisors and senior management of the Company;
- Comprising 3 members, with an Independent Non-executive Director as chairman and two-thirds of the Independent Nonexecutive Director members;
- In 2021, a total of 1 meeting was convened, with 3 proposals considered.

Nomination Committee

- Making recommendations on the structure and scale of the Board of Directors, the criteria and procedures for the selection of Directors and senior management and the selection of candidates.
- Comprising 3 members, with an Independent Non-executive Director as chairman and two-thirds of the Independent Nonexecutive Director members;
- In 2021, a total of 3 meetings were convened, with 5 proposals considered.

Safety, Health and Environmental Protection Committee

- Supervising the Company's commitments and performance on key ESG issues such as carbon emissions and water resources management, assessing ESG-related risks, formulating and regularly monitoring ESG management policies, strategies and objectives, and reporting to the Board of Directors;
- Comprising 3 members, with the general manager of the Company as chairman;
- In 2021, a total of 2 meetings were convened, with 3 proposals considered.

Supervisory Committee

The Supervisory Committee of the Company honestly and prudently performs the functions of supervision, in accordance with the Company Law, the Articles of Association and relevant regulations, to ensure the Company's compliance with and conforming to the laws and regulations of the PRC, the Listing Rules, the Article of Association and other relevant regulations and to protect the legitimate rights and interests of the Company and its shareholders. As of the end of 2021, the Supervisory Committee of the Company comprised 3 Supervisors, including 1 employee representative Supervisor; 4 meetings of the Supervisory Committee were convened throughout the year.

Integrity and Compliance

China Shenhua calls for all member enterprises and employees to strictly comply with the laws and regulations of China and the regions in which they operate, international conventions, international treaties and international practices, and to abide by the business ethics and guidelines of honest operation and fair competition. The company is also committed to building a complete and efficient compliance management system, which integrates integrity and compliance guidelines into all fields of production and operation, where the red line of compliance will not be touched and the bottom line of compliance will not be overstepped.

Senior management

Senior management, the executive authority of the Company, is engaged by and responsible to the Board of Directors. According to the requirements of the Company Law and the Articles of Association as well as the authorisation of the Board of Directors, senior management executes Board resolutions and organises production, operation and other business activities of the Company.

Compliance Management

According to the principle of "comprehensive coverage, emphasis on key points, clarity of authority and responsibility, efficient coordination", China Shenhua established the Compliance Management Committee in order to construct the compliance management leadership system comprising the leadership of the Party Committee, the decision-making of the Board of Directors, the supervision of the Supervisory Committee, the coordination of the Compliance Management Committee and the promotion of the management. It also formulated the Requirement on Compliance Management (Trial) and the Work Plan for the Establishment of Compliance Management System and other management systems, organised and prepared the Decision List of Business Matters, and optimised the authorisation management to ensure compliance operation of the Company.

Major actions of compliance management in 2021:

- (1) Studied and formulated formulation of compliance management guidance for both A-share and H-share listed company
- (2) Conducted video training sessions on legal compliance operation of affiliated companies
- (3) Organised the study of the Integrity and Compliance Manual of China Energy and signed the "Compliance Pledge" by all staff

Risk Prevention Management

The Company introduces a risk-oriented internal control system and has established an organisational structure with a hierarchy of responsibility for the work of the Board of Directors and the Audit Committee, the departments of the Head Office and the subsidiaries to ensure that internal control and risk management are carried out effectively. The Board of Directors is responsible for the risk management and internal control system and conducts annual appraisal of the effectiveness. The Supervisory Committee oversees the establishment and implementation of internal controls by the Board of Directors. Senior management is responsible for organising and leading the daily operation of internal control of the Company. According to Comprehensive Risk Management Requirement, the procedures for internal control and risk management include an integrated closed-loop management mechanism of risk assessment and reporting at the beginning of the year, quarterly material risk monitoring, daily systematic risk review and special supervision and inspection of internal control, and annual internal control evaluation. After the Company has completed the assessments of effectiveness in annual internal control and of major risks in 2021, the Board of Directors believed that the risk management and internal control system of the Company has been run effectively and that there was not any significant risk incident in the Company. Please refer to China Shenhua 2021 Annual Report for risk assessment and response.

Corporate Governance

Adhering to Business Ethics Standards

China Shenhua has strictly complied with the Anti-Monopoly Law of the People's Republic of China and Anti-unfair Competition Law of the People's Republic of China and other laws and regulations, stringently complied with the business ethics standards, participated in market competition in compliance with laws and regulations, opposed any form of commercial bribery, money laundering, monopoly, unfair competition. The Company has formulated the Requirement on Compliance Management (Trial) and Integrity Compliance Manual for the Head Office and its subsidiaries, and required the business partners to comply with the relevant policy requirements regarding anti-business bribery and anti-corruption. It is committed to a good cooperation relationship with business partners that embraces mutual respect and win-win cooperation.

Establishment of good business partnerships

- Select honest business partners and closely monitor changes in creditworthiness
- Fair treatment, equal consultation and no abuse of dominant position
- Keep promises and perform by law
- Deal with transaction disputes in accordance with the law

Ban on commercial bribery

- Strictly regulate the acceptance of gifts and business receptions
- Discounts and commissions are accounted for as appropriate
- Ban bribery in the name of donations, sponsorship, etc.
- Prohibition of payment of facilitation fees, benefit fees and hush money

No money laundering

- Careful review and identification of customers and partners
- Reject non-compliant cash payments
- No payments to non-trading accounts, irregular accounts and unknown accounts

Anti-Monopoly

- Resist agreements with competitors that are monopolistic in nature
- Refusal to enter into an agreement of a monopolistic nature with the counterparty to the transaction
- No abuse of a dominant market position
- Compliance with operator concentration reporting requirements

Ban on unfair competition

- No committing acts of confusion sufficient to be considered to be the goods of, or to have a specific connection with, another person
- No false advertising
- No damage to the goodwill of others
- Non-infringement of others' trade secrets



As the Company attaches great importance to the work of raising employee's awareness of business ethics, all employees (including contract workers, labourers, temporary workers and parttime staff) and contractors and suppliers were provided with business ethics trainings in 2021 with a total of 85,889 hours and 27,352 staff attendees, with a coverage ratio of 35.1%.

Anti-Corruption

China Shenhua has strictly complied with the requirements of laws and regulations such as the Constitution of the Communist Party of China. the Regulation of the Communist Party of China on Disciplinary Actions, the Working Rules of Supervision and Discipline Enforcement for Discipline Inspection Authorities of the CPC, the Regulations on the Integrity of Leading Personnel of State-owned Enterprises, the Criminal Law of the People's Republic of China, and the Supervision Law of the People's Republic of China, formulated a supervisory and management system covering the Company's headquarters and its affiliated enterprises, continued to carry out anti-corruption and integrity promotion activities, cultivated a culture of integrity, and created a standardized and rule-of-law operating environment.

Organisational System

Discipline Inspection Committee of the Company serves as the Party's supervisory organ mainly responsible for safeguarding the Constitution of the Communist Party of China and other Party laws and regulations, inspecting the implementation of the Party's routes, guidelines, policies and decisions, and assisting the Party Committee of the Company in promoting the comprehensive and strict governance of the Party, strengthening Party discipline and organising and coordinating anti-corruption management. The Discipline Inspection Office is responsible for carrying out specific tasks such as supervision, discipline enforcement and accountability. The Company established the uncorrupted governance construction and anti-corruption coordination team to enhance the effectiveness of supervision through the supervision of all parties in accordance with the working rules. Discipline inspection and supervision bodies have been set up in all the affiliated companies, thus achieving full coverage of supervision of Directors, Supervisors, senior management as well as all institutions and employees.

China Shenhua Current Anti-Corruption Management System

Work Rules of the Disciplinary Inspection Committee of CPC China Shenhua (Trial)

Management Measures of Corruption Reports and Evidence of Issues of Disciplinary Inspection Committee of China Shenhua (Trial)

Handling Measures of Evidence of Issues of Disciplinary Inspection Committee of China Shenhua (Trial)

Administrative Measures on Integrity Talks of China Shenhua (Trial)

Administrative Measures for the Management of Cadres of the Party Committee of China Shenhua

Administrative Measures of Response to Advice on Party Discipline and Anti-Corruption of Disciplinary Inspection Committee of China Shenhua

Requirement Regarding the Prohibition of Engagement in Economic Activities within the Group System by Relatives of the Management and Other Persons with Special Relationships (Trial)

Corporate Governance

Reporting and Complaints

The company accepts letters, visits and telephone reports, and publishes reporting telephone. The management of letters, visits and clues adheres to the principles of centralized management, standardized procedures and serious discipline, and strictly performs the disposal procedures according to the management authority and establishes a management ledger. The personnel of the Company's Discipline Inspection Committee strictly enforces the confidentiality system and recusal system, controls the scope of knowledge of letter and visit reports and problem clues, strictly prohibits the disclosure of problem clues and their disposition, and prohibits anyone from accessing problem clues without approval. In 2021, the Company has studied and drafted the "Management Measures of China Shenhua Discipline Inspection Organ on the Protection of Letter and Visit Reporters (Trial)".

Violation and Penalty

The Company has established management mechanism, in which the violation is linked with the employee performance remuneration. Regarding the violation by employees which brings material economic losses to the country and the Company, the responsible person shall be subject to economic penalty and the amount involved will be deducted from the remuneration of the employee based on the "Measures for Addressing Non-compliances and Malpractices of the Staff of China Energy Investment Corporation (Trial)" and other relevant requirements.

Anti-Corruption Management for Supply Chain

The Company and all employees are prohibited from committing or accepting acts of corruption or bribery in any geographical area for any reason or in any form, and suppliers, service providers and contractors are required to comply with the above provisions. Contractors and suppliers are required to sign an undertaking to abide by business ethics when registering, and in the event of commercial bribery, malicious slander, false accusations or framing of other competitors, they will be subject to "disqualification" and joint disciplinary action within the China Energy Group.

Construction of Party discipline and integrity and anti-corruption work of the Company in 2021:

In 2021, the Discipline Inspection Commission of the Company adhered to the general principle of seeking progress while keeping performance stable, carried out solid political supervision, promoted the construction of the system of "no dare to corruption, no corruption and no intention to corruption" as a whole, strengthened the Party's integrity, built a loyal and disciplined team, and achieved new results in the overall strict governance of the Party, providing strong discipline guarantee for the reform and development of the Company.

Promote Integrity Warning Education

The company held a warning and education conference, carried out warning and education activities of "the fresh wind moistens the original heart, and honesty builds integrity" for 6 times, organized 5 warning and education film watchings, compiled 2 issues of the "Warning Book of Disciplinary Cases", produced and distributed 12 issues of electronic brochures, and through monthly "Wechat reminders "to enhance employees' awareness of integrity and self-discipline.

Build a culture of integrity

Carrying out the educational activities of "pursuing the style of martyrs and promoting cleanliness", organising the viewing of 6 feature films on integrity education; putting in place the implementation of the Regulations on the Implementation of the Supervision Law, organising the viewing of the special film "Chinese Family Rules" and promoting 2 issues of the electronic brochure "Learning History and Promoting Integrity".

Implement special supervision and inspection

Prior to important holidays, the disciplinary requirements and channels for letters and reports were raised for notice, and an investigation into the implementation of the spirit of the Eight Provisions of the Central Government were organised. "six strict investigations and punishments" were conducted, and self-investigations to strictly prohibit leading cadres from using special resources for personal gain were carried out.



China Shenhua Clean Leadership Education Conference

Incorrupt education and training of the Company in 2021



Anti-corruption work in 2021

Number of corruption litigation cases

0(PCs.)

Number of verified letters and visits received



Number of corruption litigation cases concluded during the year



Number of persons received Party and Government discipline punishments

148(persons)

Number of complaints received



Corporate Governance

Party Building

China Shenhua adheres to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implements the decisions and arrangements of the CPC Central Committee, strengthens the creation of characteristic brands in grass-roots organizations and branches, highlights the series of activities to study and educate Party History and celebrate the 100th anniversary of the founding of the Party, strengthens news publicity, corporate culture and youth league construction, and continuously improve the governance and effectiveness of Party construction, so as to provide a strong political guarantee for the reform and development of the Company.

 Organised and convened 30 meetings of the Party Committee to review 186 pre-settlement matters which effectively played a leading role in guiding the direction, managing the overall situation and ensuring implementation. Convened the Party's Construction Work Meeting to draw up key points of the Party's work in 2021. Carried out in-depth Party History learning and education, produced 38 micro videos of "Talk About Party History", released 54 special tweets and compiled and distributed 105 briefings. 	
Organised the theoretical learning center group of the Party Committee to study for 10 times.	
Carried out a series of celebrations for the 100th anniversary of the founding of the Party.	
Carried out characteristic brand creation activities in 15 branches of the headquarters.	
 Carried out publicity and implementation of the Company's cultural core values and corporate culture. Established China Shenhua volunteer service team to carry out volunteer service and publicity and education of a variety of subjects. Continuously organised reading and learning activity titled "emphasize on study, improve quality and set good example". A total of 40 books were read throughout the year, and 118 quarterly and annual reading pacesetters were selected. 	



China Shenhua Party History Learning and Education Knowledge Competition



The headquarters of the Company presents books to young people

Supply Chain Management

China Shenhua regards suppliers as important partners and is committed to working with suppliers to create a mutually beneficial and win-win business environment.

Supplier management

China Shenhua formulated the Procurement Management Regulations of the Headquarters (Trial) and other management systems, applied the unified supplier management information system, established and improved the electronic archives of suppliers, comprehensively and in real time recorded the information of suppliers' registration, participation in procurement activities, fulfillment, performance and rewards and punishments, so as to realize the electronic management and information sharing of suppliers in the whole life cycle.

China Shenhua incorporated supply chain risk into its comprehensive risk management system. In accordance with the work responsibilities, basic processes, monitoring methods and other management mechanisms specified in the Company's Comprehensive Risk Management Regulations, China Shenhua carried out risk identification and assessment according to the risk assessment model at the end of each year, formulated risk management strategies, and carried out real-time monitoring and timely early warning on the risk management status with reference to the risk monitoring index system of China Energy.

Sustainable development

The Company formulated the Green Procurement Measures (Trial), actively promoted "green procurement", implemented the concept of "green and low-carbon, energy conservation and environmental protection" in the assessment elements of procurement document, gave priority to the procurement of products that are environmentally friendly or less harmful with high resource utilization and low energy consumption in the whole life cycle under the same condition, gave priority to the application of new energy conservation and environmental protection technology and techniques, advocated the protection of workers' rights and interests, and promoted the whole supply chain to practice environmental protection and social responsibility.

- Access: suppliers must provide safety, environment, quality and other certificates of the certification system when applying for registration
- Assessment: the Company requires to evaluate the environmental performance of suppliers, and conduct on-site compliance investigation on supplier qualification documents if necessary
- Evaluation: suppliers are graded according to the results of the assessment, which are used for reference by the bid evaluation committee or the review panel
- Exit: in case of safety and environmental protection accidents during the performance of the contract, which cause economic losses or adverse social impact to the Company, the supplier shall be given 3 years, 5 years or permanent disqualification as appropriate

In 2021, the Company disqualified suppliers who violated regulations or broke faith.

3,213

As of the end of 2021, China Shenhua had compliance suppliers.

127,440



ESG Governance

China Shenhua adhered to integrated, coordinated and safe development, incorporated ESG into the Company's development strategy, continuously improved ESG governance structure and operation mechanism, unswervingly promoted the clean and efficient use of coal along the whole industrial chain, provided high-quality energy products and services, actively responded to the requirements and expectations of stakeholders, and endeavoured to set an excellent role model to global enterprises in terms of the idea of sustainability, performance of social responsibility and development of smart enterprise.

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ESG Governance

ESG Governance Structure

The Company established an ESG Governance System covering the headquarters and affiliated enterprises



ESG Governance Mechanism

China Shenhua formulated the Administrative Measures on Environmental, Social and Corporate Governance (Trial) to ensure the implementation of ESG management system from the aspects of organization, management objectives, work process, supervision and assessment. In accordance with the Special Plan for ESG Governance in the 14th Five-Year Plan and 2021 Key Points for ESG Work of China Shenhua, each ESG working group takes ESG information construction as the starting point, systematically considers and plans ESG development strategy as a whole, carries out ESG special actions, and promotes the nomlalization, standardization and informatization of ESG governance system.

ESG Actions of the Company in 2021



In 2021, the Company's ESG governance experience was widely reported by Xinhua News Agency, China Securities Journal and other mainstream media, and won more than 10 honors, such as Central Enterprise ESG Pioneer 50 and the First Batch of China's ESG Demonstration Enterprises. The paper "Adhere to the New Development Concept to Carry out Carbon Peak Action" was awarded the first prize of excellent paper of 2021 Coal Economy Research Association.



ESG Research Group of SASAC of the State Council conducted research in China Shenhua

ESG Governance

Communication with Stakeholders

China Shenhua has attached great importance to the communication with stakeholders, and identified the feedback and expectations of various stakeholders to the Company, so as to improve the Company's ESG performance in a targeted manner, and effectively respond to the needs of all parties.

Stakeholders	Expectations and needs	Communication and feedback
Government	Compliance with disciplines and laws Energy security Payment of taxes pursuant to laws Driving the development of local economy	Strengthening operation management in compliance with regulations Optimizing production organization and ensuring energy supply Accepting supervision and assessment Carrying out strategic cooperation to boost local employment
Shareholders	Stable operation Sustainable development Earnings and returns Unimpeded information flow	Improving competitiveness and profitability Fulfilling social responsibility for ecological and environmental protection Increasing the proportion of cash dividend and carrying out share repurchases Information disclosure in a timely manner, carrying out investor exchanges
Customers	Performance of contracts in good faith Quality assurance Premium services	Guaranteeing the exchange rate of long-term contracts Strengthening the management of product quality and optimizing product structure Carrying out satisfaction survey and securing quasi liner transportation
Staff	Wages and welfare Protection of employees' rights and interests Career development Health and safety Humanitarian care	 Medical insurance, enterprise annuity Labor union organization, election of employee directors and employee supervisors Education and training, career development platform Fighting against the epidemic and elimination of occupational diseases Caring for staff, and the set up of complaint feedback mailbox
Environment	Coping with climate change Water resources Pollution prevention and treatment Energy saving and emissions reduction Biodiversity protection	Carbon emission reduction, exploration of carbon neutrality path Water resources management, comprehensive utilization of sewage and wastewater Carrying out pollution control Technological innovation, energy saving and consumption reduction Building green mines
Partners	Business ethics Transparent procurement Mutual benefit and win-win cooperation	Good faith execution of contracts Open procurement, e-procurement Business exchange and cooperation, symposium
Community	Community development Public welfare activities Jobs creation	Community activities, visits and exchanges, respect for cultural traditions Donation to schools for education, rural revitalization, emergency relief and voluntary service Skills training, local employment and procurement
Creditors	High solvency Due repayment of debts and interest Mutual trust and cooperation	Due repayments Better communication and liaison commencement of cooperation
Industries	Fair competition Facilitating industry progress Promoting the development of industrial chain	Refraining from vicious competition Exchange of experience Technological innovation

Communication Methods and Results

Fulfill information disclosure obligations in accordance with the law

- · Establish a sound information disclosure management system
- Disclose periodic reports and temporary announcements in a timely manner. A total of 237 information disclosure documents was issued by the Company in 2021.

Maintain an open communication channel

- Answer questions and listen to opinions from investors through general meetings, performance briefings, investor hotlines and websites. In 2021, the Company held 4 performance briefings on the Roadshow Center Platform of SSE, answering nearly 342 questions from investors while answering 180 questions form investors on the e-interactive Platform of SSE.
- Hold online video and telephone conferences to communicate with shareholders and investment institutions. In 2021, 76 exchange meetings were held with investors, in which the Company communicated with investors in a total of approximately 1,000 person-times.
- Hold 6 times communications with environmental protection funds and organizations including CA100+ on ESG-related issues through telephone conferences, emails and other means.
- Listen to criticisms and opinions from all sectors of society through public open days, customer visits and questionnaire surveys, actively accept supervision from all sectors of society.

Actively participate in social activities

- Hold large-scale conferences including seminars on low-carbon and clean utilization of coal to share industry experience and professional insights.
- Participate in the "ESG China Forum 2021 Spring Summit" and the "Dialogue with International Investors: How ESG Empowers Listed Companies" held by SSE and other forums to interpret corporate governance and operations to stakeholders.

Response to ESG Reporting Principles



Principle of importance:

According to the requirements of "Environmental, Social and Governance Reporting Guidelines" issued by HKEx, China Shenhua conducts the identification and screening of ESG issues by way of anonymous questionnaire survey every 3 years or so with reference to the international ESG initiatives and standards as well as the general concerns of ESG issues in the industry. After the analysis and evaluation of the questionnaire data, a matrix of substantive issues is drawn, and alternative issues are determined and submitted to the Board of Directors for approval. This report highlights the disclosure of ten key substantive issues of China Shenhua approved by the Board of Directors in 2019. The next ESG review of key substantive issues will take place in 2022.

Principle of quantification

China Shenhua established an information management system for ESG index covering the headquarters and subsidiaries, which conducted regular statistics on the quantitative key disclosure indicators of all "environment" categories and certain "society" categories in the ESG Report, and summarized and disclosed at the end of the year. This report explained the calculation methods and reference standards of ESG quantitative data. Please refer to each section of the report for details.

Principle of consistency

This report had no significant adjustment to the disclosure scope of the ESG Report of the Company in previous years, with using consistent statistical methods of disclosure. This report disclosed the multi-year comparison of 71 ESG indicator data. Please refer to each section of the report for details.
ESG Governance



ESG Goals Management

China Shenhua has formulated four management and control targets covering greenhouse gas emissions, pollution prevention, energy consumption and water efficiency for the period from 2020 to 2025 in accordance with its own operating conditions. In 2021, the Safety, Health and Environmental Protection Committee continued to review and supervise the operation of the above-mentioned target management.

	Item	2025 management target based on 2020	2021 compared to 2020
greenhouse gas	total carbon emissions	strive to reach the peak in 2025	increase by 31%
	COD emissions	reduce by 4%	reduce by 47%
	Thermal power SO ₂ emission performance	reduce by 2%	reduce by 15%
pollution	Thermal power NO _x emission performance	reduce by 2%	reduce by 14%
prevention	Thermal power soot emission performance	reduce by 3%	reduce by 30%
	Comprehensive utilization rate of general solid waste	increase by 5 percentage points	increase by 29 percentage points
energy consumption	comprehensive energy consumption of ten thousand RMB output value	reduce by 0.8%	reduce by 4%
	standard coal consumption for power supply	reduce by 1%	reduce by 2%
water efficiency	wastewater utilization rate	rate increase by 5 percentage points increase by 1.2 percentage	

Response to United Nations 2030 Sustainable Development Goals (SDGs)

SDGs	Our actions in 2021	SDGs	Our actions in 2021
1 ^{∞ਖ਼ਲ਼} ⋔_॓∊ ⋪ _॓ ₽	Consolidation of the results of poverty alleviation and promotion of rural revitalization	2 ******	Deepening of industrial poverty alleviation and enhancement of self-hematopoietic function
3 ^{良好} 健康与福祉	Strengthening of production safety and epidemic prevention, and protection of employees' physical and mental health	4 ^{优质教育}	Continued operation of donation activities and reinforcement of education and training for employees
5 ^{住刻平等}	Protection of the rights and interests of female employees and provision of equal opportunities for employment and development	6 清洁饮水和 卫生设施	Optimization of structure of water usage and promotion of sewage and wastewater recycling
7 经济通用的 清白起港	Realization of clean and efficient coal mining and utilization, and active promotion of development of new energy industry	8 徐丽工作和 经济增长	Provision of equal employment opportunities, promotion of localized procurement, and contribution to local economic development
9 产业、创新和 基础设施	Increasing funds input, for conduction of management and technological innovation	10 ^{减少不平等}	Prohibition of employment of child labor and forced labor, as well as any form of discrimination, and guarantee of equal opportunities for employees
	Aid to build infrastructure, conduction of emergency relief, community care and other activities	12 ^{负责任} 済度和生产	Promotion of clean and low- carbon development of coal- powered electricity to advocate green procurement
13 ^{气候行动}	Research on low-carbon development paths, research and development of technologies for reducing carbon emission to reduce carbon footprint	14 * ^{下生物}	Strict management of discharge of mine water and sewage to help the protection of the ecology of the Yangtze River and Yellow River basins
15 ^{Rive±m}	Conduction of green mine construction and ecological management for protection and restoring of animal and plant habitats	16 和平.正义与 强大机构	Improvement of corporate governance, promotion of compliance management and clean governance
17 促进目标实现的 优件关系	Strengthening of communication and cooperation for achievement of a win-win situation for all parties		

Response to climate change

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Establishing the goal of "carbon peak" and "carbon neutrality", China has put forward new and higher requirements for the high-quality development of the energy industry. Based on the fundamental national conditions of coal as the mainstay, China Shenhua will play a leading role in scientific and technological innovation, and actively promote the optimization and upgrade of the industrial structure, enhance the development and construction of clean and renewable energy, promote the optimization of coal and new energy, and achieve clean fossil energy, intelligent energy industry and large-scale development of clean energy in order to make due contributions to response to global climate change.



Response to climate change

Governance

China Shenhua has adopted specialized method to establish the climate change governance structure to decide and consider climate change issues related to the strategy, operation, investment and other activities of the Company's headquarters and affiliated companies.



of the Board of Directors of the Company have also covered climate change-related issues. For instance, the Company has incorporated climate change risk into its comprehensive risk management system, and the Audit Committee of the Board regularly reviews climate-related risks to ensure that the content of climate change risks is consistent with the expectations and requirements of investors and regulatory authorities.

To ensure that the Board of Directors can receive the latest trends of climate-related issues, the Company conducts irregular capacity training of the response to climate change to ensure that Directors have the necessary expertise and skills. In order to better support the decision-making process, the Board of Directors may also seek external professional advice from experts if necessary.

Strategy

As a coal-based comprehensive listed energy company, the Company attaches importance to the potential impact of climate change risks on its business. Based on the comprehensive consideration of the social and economic environment, business nature and geographical location, and according to the low-emission scenario RCP2.6, SSP1 and the IEA sustainable development scenario path supplemented by the 2050 net zero emission case, we conducted a climate scenario analysis of all the business controlled by the Company from short-term to long-term time range, combined with the Company's comprehensive risk management system framework, identified two categories of climate change risks, namely physical risks and transitional risks, and then formulated responses to climate change risks.

The factors and reasons considered for the analysis

Main factors	Impact on the business of the Company	Under low emission scenario (1.5-2°C)
•	▼	•
Development of renewable energy	There is a crowding out effect on the traditional coal-fired power industry, which may lead to a decline in business scale.	
Prices of carbon trading	The national carbon market has officially operated and the Company may have to pay for carbon emissions.	The proportion of renewable energy in the Company will gradually increase.
Environmental protection	The intensification of environmental protec- tion policies may increase operating costs.	According to the "2021 China Carbon Price Survey Report", the average carbon price in the national carbon market is expected to reach RMB139 per tonne by 2030.
Extreme weather	The increase in the frequency of extreme weather has an impact on normal operation.	

Response to climate change

List of climate change risk

Risk type	Risk category	Risk description	Time range	Strategic impact (response to risks)
	Policy risk	The goal of "carbon peak" and "carbon neutrality" makes greenhouse gas emission restriction measures more stringent	short to mid- term	Intensify the development of renewable energy; in principle, no new coal-fired power units will be constructed after 2025; R&D of and application of
		Carbon market trading has been gradually improved, and prices of carbon trading have increased	short to mid- term	energy-saving technologies; preparation for carbon market fulfillment
Transitional risk	Technology risk	The increase of energy- saving technological transformation and the carbon capturing costs	short to mid- term	Develop technological cooperation, reduce R&D costs; develop comprehensive energy utilisation projects
ΠSK	Market risk	Consumers' preference changes and consumers tend to choose low-carbon products	short to long-term	Promote the optimization portfolios of coal and new energy, provide clean products and services
	Reputational risk	The response is not as good as investors' expectation and may have a negative impact	short to mid- term	Disclose compliance information and strengthen communication and exchanges
	Acute risk	The frequency and severity of extreme weather events increase and production operations are disrupted	short to long-term	Improve dispatching command system, maintain safety inventory, and make contingency plans
Physical risk		Unexpected natural disasters threaten the safety of personnel and cause property losses	short to long-term	Improve disaster prevention contingency plans; purchase commercial insurance
	Chronic risk	The average temperature rises and the sea level rises, causing damage to equipment and facilities	short to long-term	Strengthen typhoon prevention and flood control facilities of coastal enterprises

Risk Management

The Company incorporates the climate change risks into the comprehensive risks management system, and manages the climate change risks in accordance with the responsibilities, methods and processes stipulated in the management system. The Company organizes comprehensive risks identification assessment once a year, and conducts special risks identification assessment for specific projects from time to time.

Climate change risks identification and assessment process

Under the framework of national regulations and the Listing Rules, the Company organizes relevant departments and key branches and subsidiaries to identify possible climate change risks according to their own operations; the Company communicates with all stakeholders to understand the risks of their concerns in the process of identifying important issues.

The method of qualitative analysis is adopted to evaluate and rank the possibility and the extent of the influence of the risks. According to the assessment and ranking results, list of climate change risks has been formed and submitted to the Audit Committee and the Board of Directors for approval and implementation.

Climate change risk management

The Company determines the risk management strategy and risk management plan according to the risk category and grade, and monitors, analyzes, early warns and reports the risk management situation according to the actual situation of the Company.

Indicators and Targets

Overall objectives: The Company strives to achieve the peak of carbon dioxide emissions in 2025, and actively explores effective paths and strives to achieve "carbon neutrality" by 2060

Medium and	short-term	targets:
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Indicators	Target type	2020 Baseline	2021	2030
Total amount of scope I and scope II carbon emissions (10 thousand tonnes of CO ₂ equivalent)	Absolute	13,490	17,665	The increase of scope I and scope II carbon emission is controlled within 48%
Renewable energy investment (%)	Absolute	0	0.08	No less than 40% of annual capital expenditure will be used on renewable energy

The Company accounts for carbon emissions in accordance with reporting standards or technical specifications such as the "Guidelines on Enterprise Greenhouse Gas Emissions Accounting and Reporting – Power Generation Facilities" issued by the Ministry of Ecology and Environment. Emission facilities include boilers, gas turbines, etc., as well as power generation equipment purchased to use electricity.



³ The thermal power projects in Indonesia were not included in the statistics of the chart.



Response to climate change

Our Actions in 2021

Energy structure transformation

China Shenhua has set the task goal of developing more than 600 MW of new energy during the "14th Five-Year Plan" period. The Company will adopt "double-wheel driver" strategy of construction, production, operation and equity investment, combine base centralised and distributed operations, diversify development space to promote the rapid scalable development of the new energy industry.

Double-wheel driver	Progress
Low-carbon fund	 The Company has contributed RMB4 billion to participate in the establishment of Beijing Guoneng New Energy Industrial Investment Fund, which has successively invested in photovoltaic and wind power projects in Shanxi, Jiangsu, Anhui and other places. The Company has contributed RMB2 billion to participate in the establishment of Beijing Guoneng Green and Low-Carbon Development Investment Fund, which completed industrial and business registration and filing in October 2021, and established Xinyuan No.1 Sub-Fund in November.



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- The Company has withdrawn from the exploration rights of Watermark Coal Project in Australia in compliance with law, and has received consideration from the NSW government of Australia.
 - The Company and its subsidiaries have put into operation of 19 new energy projects, with a total of 72.9 MW.

Reduce comprehensive energy consumption

In strict accordance with the requirements of laws and regulations, including Energy Conservation Law of the People's Republic of China, China Shenhua has formulated management systems such as the Development Plan of the 14th Five-Year Plan for Energy Conservation and Environmental Protection, and Measures for the Management of Energy Conservation, implemented energy conservation requirements in the whole cycle and whole process of coal mining, transportation and transformation, strengthened technological upgrade and transformation, and improved the efficiency of energy use.

Means of energy consumption reduction	Examples of measures and their effects
Technological innovation and	Huizhou Thermal carried out steam turbine flow transformation and optimization transformation of the way of heat supply and steam extraction, which could reduce coal consumption by 8g/kWh of a single unit.
transformation	Cangdong Power carried out cascade utilisation of seawater desalination, optimized the operation mode of the units to reduce energy consumption.
	Zhunge'er Energy has tested the application of the clean energy emission reduction system of large-sized trucks, and the fuel saving rate has been measured to be up to 6%.
Improvement of	The level of intelligence has been improved with transition from human control to machine control. See the section of "Feature" of this report.
efficiency of the industrial chain	Seven ultra-supercritical low-energy consumption generating units have been put into business operation.
	Railway transport enterprises continued to promote "Transition from Road to Rail, Decentralization to Centralization" to reduce the comprehensive energy consumption of the society.
Application of clean	The transformation of shore power facilities of 11 berths and 32 ships in self-owned ports has been completed, the completion rate of shore power transformation of power plants was more than 80%, the shore power connection rate of self-owned ports was more than 85%, and fuel consumption was reduced.
energy	Shuohuang Railway adopted various forms of clean heating transformation, such as centralized heating, electric heating, geothermal heating, etc In 2021, the clean heating coverage rate of each station reached 100%.
	Baoshen Railway changes DC electric locomotives to AC electric locomotives year by year, and plans to gradually replace the fuel of diesel locomotives with clean energy, such as hydrogen energy.

Response to climate change

China Shenhua Energy Consumption Data

Total energy consumption and intensity		2019	2020	2021
	Total natural gas consumption (100 million m³)	8.44	8.41	8.05
Indirect energy	Total electricity consumption (100 million kWh)	173.04	169.06	158.30
Comprehensive energy consumption (10 thousand tonnes of standard coal)		4,394.49	4,324.04	5,155.47
Comprehensive energy consumption per RMB10 thousand output value (tonne of standard coal/RMB10,000)		2.96	3.05	2.92
Coal consumption for electri	307	307	301	

Note: Energy consumption data is calculated in accordance with the General Principles for Calculation of the Comprehensive Energy Consumption (GB/T2589–2020).

Carbon assets management

The Company established the working system of carbon emission and carbon trading in accordance with the principle of "unified management, unified auditing, unified development, unified transaction". In 2021, the Company continued to carry out carbon inventory and carbon verification, covering all the production enterprises owned by the Company. The Company's key energy use and emission control enterprises carried out carbon assets management and storage in accordance with the requirements of the regional government.

Carbon trading

Among the six pilot power plants in China Shenhua, Beijing Gas-fired Power, Taishan Power and Huizhou Power were still under trading compliance in the pilot market in 2020, while the remaining pilot plants were involved in the allocation quotas and trading compliance in the national carbon market in 2020. The quotas for 2019/2020 were obtained free of charge, the quotas of each power plant varied, and the Company as a whole had surplus.

In December 2021, the Company successfully completed the settlement performance in the first performance cycle (2020) of the national carbon market. 21 thermal power enterprises and chemical enterprise-owned power plants owned by the Company achieved 100% performance of duties, with a trading quota of 2.28 million tonnes, trading CCER (Chinese Certified Emission Reduction) of 40,000 tonnes, with a trading volume of RMB86 million.

Carbon capture and utilisation

In June 2021, the whole process demonstration project of carbon dioxide capture and storage after combustion in Jinjie Energy Coal-fired Power Plant was officially put into operation. During the reporting period, the device operated normally, the carbon dioxide capture efficiency was more than 90%, the gas purity of the carbon dioxide product was higher than 99.5%, and the carbon dioxide parameters after liquefaction were approximately -19 ℃ and 2.1MPa, and all the key indicators met the designed requirements. The project case was selected for the 2021 annual report "Low-emission Coal Technologies for Zero-carbon Asia Future" issued by the Coal Industry Advisory Board (CIAB) of the International Energy Agency (IEA).

Carbon compensation

The Company has made every effort to promote the construction of green enterprises and ecological forests improved the green coverage of their communities, and played a role in carbon reduction and carbon sequestration.

Carbon sink performance	of China Sh	enhua	
Category	2019	2020	2021
Newly increased green area (10 thousand sq.m.)	1,472	1,083	9,256
Carbon sink conversion volume of newly increased green area (10 thousand tonnes)	6.0	4.4	37.74

⁴ According to the measuring and calculation of the China Carbon Trading Network (http://www.tanjiaoyi.com/article-4820-1. html),the planting number for each adult woods per mu (667 square meters) is about 60 to 110 strains, which can absorb about24.455 tonnes of CO2 (taking the median of 90 strains). Then the calculation formula of carbon sink is: carbon dioxide absorption volume = green area (mu) × 24.455. In order to balance the green area scale of woodland and grassland, China Shenhua set the benchmark of 10 plants per mu, and calculated the carbon sink conversion volume of newly afforested area over the years.

development, continued to raise the level of clean production and utilisation of coal-based energy, vigorously promoted energy conservation, emission reduction and pollution prevention, improved energy efficiency, and strengthened the construction of green mines and the protection of water resources and biodiversity, unswervingly promoted the coal industry to take the green, low-carbon, safe and intelligent development path with high quality and with ecological conservation as a priority so as to realize the low-carbon and clean use of high-carbon energy.

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Environmental Management System

The Company continued to improve the environmental protection management system, implemented the ecological and environmental protection responsibility system, solved realistic and potential ecological and environmental problems, coordinated and measured the relationship between production and operation activities and the ecological environment, and strengthened supervision, restraint and incentives to ensure the high-quality development of the Company.

Environmental management goals

The Company implemented the Three-year-plan for Safe Environmental Protection of China Energy (2019–2021), carried out year of responsibility implementation, year of risk control, year of assurance and promotion, and promoted the goal of ecological and environmental management.

Overall goal	Pollutant discharge is better than the national standard.
2021 target	Eliminate ecological environment destruction event. The compliance rate of discharge of major pollutants was not less than 99.8%, the dump rehabilitation rate, the treatment rate of subsided land and the forestation rate of coal gangue dump were not less than 90%, and the comprehensive energy consumption per RMB10,000 of production value was not higher than 3.6 tonnes of standard coal. Through carrying out the activity of "year of assurance and promotion", we highlighted and strengthened various assurance measures, promoted the high-quality construction and modernization of the environmental protection system in all directions, and realized the continuous improvement of the Company's environmental protection level.
	Please refer to the content of this section and "Appendix I : Table of Key Performance"

Environmental management system

While strictly implementing laws and regulations including the Environmental Protection Law of the People's Republic of China, China Shenhua has established a three-level environmental protection management system for decision-making and deployment, supervision and management, and organization and implementation to realize vertical hierarchical management. The Safety, Health and Environmental Protection Committee of the Board of Directors is responsible for supervising the implementation of the Company's environmental protection plan. The Company has formulated Administrative Measures on Environmental Protection, Environmental Protection Responsibility System and other environmental protection. Each subsidiary fulfilled the major responsibility of environmental protection, and grass-roots units ensured that environmental protection measures put in place.

As of the end of 2021



Information management

The Company applied the information management system covering the headquarters and its subsidiaries and realized "online monitoring, ecological remote sensing, and energy conservation and environmental protection monitoring", effectively improving the inefficiency of the original manual operation, ensuring the timely assignment of tasks and targets and the completeness, accuracy and reliability of management data.

Environmental protection responsibility system

The Company incorporated the safety and environmental protection index into the management's annual performance appraisal system, and each of the subsidiaries took safety and environmental protection as the performance appraisal index for the employees of the subsidiaries and grass-roots units, which was linked to the annual performance, and increased the accountability of the environment-related events.

Training and publicity

Each production unit of the Company organized training for all staff in accordance with the plan, and regularly carried out publicity on ecological and environmental protection laws and regulations and knowledge and skills, so as to enhance the ecological environmental protection awareness, management level and professional skills of managers and front-line employees.

As of the end of 2021

The Company's subsidiaries formulated

emergency plans for environmental emergencies and filed with the environmental protection department. Carried out **90** emergency drills for environmental emergencies throughout the year.



Environmental Risk Control

The Company incorporated the environmental risk into the comprehensive risk management system, organized a comprehensive risk identification and assessment once a year, and conducted special risk identification and assessment of specific projects from time to time. According to the characteristics of environmental risks and management and control responsibilities, each production enterprise shall comprehensively identify risks by grading, classification, and specialization in accordance with the risk management control system and process, actively carry out hidden danger investigations, and effectively control risks in terms of organization, system, technology, emergency response, etc., so as to achieve a standardized and normalized environmental risk management.

Environmental risk management in the whole process of project construction and operation

Phase	Management content
Project initiation and location selection	Carry out location selection (route selection) ecological and environmental feasibility analysis, avoid ecological reserves or ecologically sensitive areas, assess the impact on the ecological environment, and put forward protection measures.
Completion of construction	The construction shall not be commenced without approval or filing of the competent administrative department on the environmental impact assessment documents and soil and water conservation plans; The investment in ecological and environmental protection in the budget of the project shall not be cancelled or misappropriated; the construction and supervision units shall sign a letter of responsibility for environmental protection and give priority to the adoption of green construction schemes and green products; the completed project shall not be put into operation if it is unaccepted or fails to pass the acceptance inspection in terms of environmental protection.
Production and operation	Strictly implement the discharge permit management system and the online monitoring system of pollutants, ensure simultaneous operation of environmental protection facilities and production equipment. Disclose environmental information in accordance with the law, and carry out investigation and rectification of potential risks in relation to the environmental protection.
Emergency management	Formulate and file emergency plans for unexpected environmental event in accordance with the law, and carry out emergency rescue drills to reduce the impact of unexpected environmental event.
Project withdrawl	Eliminate the potential risk in relation to the ecological and environmental protection, and carry out site closure, reclamation, greening and other treatment and restoration work in an orderly manner.

Main pollutants and monitoring plans

The nature of the subsidiaries of China Shenhua is different, and the requirements for environmental protection and pollutant monitoring vary in different regions. The following states the monitoring plans implemented by representative or major enterprises.

Pollutants	Major moinitoring index	Moinitoring frequency	Sampling and sample	Monitoring anlaysis and method
Atmospheric emissions	sulfur dioxide, nitrogen oxide particulars	Continuous mointoring	Automatic sampling	Light backscattering, ultraviolet fluorescence, ChemiLuminescence, etc.
	COD	Vary from 1-4 hours a time	Automatic and on- site sampling	Potassium dichromate
Sewage and wastewater	mine water fluorochemicals, heavy metals, etc.	Once a month	On-site sampling	Ion Chromatography HJ/ T 84–2015, Water quality– Determination of 65 elements– Inductively coupled plasma-mass spectrometry HJ700–2014, etc.

Pollution Prevention and Control

China Shenhua has constantly updated management concepts, management systems and supervision measures, so as to promote precise, scientific, and legal pollution control, ensuring that pollutants meet the discharge standards. For details of pollution prevention and control goals of the Company and the achievements of 2021, please refer to the section heading "ESG Governance" in this report.

Air pollutants treatment

In strict accordance with the laws and standards including the Prevention and Control of Atmospheric Pollution Law of the People's Republic of China, and the Integrated Emission Standard of Air Pollutants Law of the People's Republic of China, the Company formulated the Administrative Measures for the Prevention and Control of Atmospheric Pollution to strengthen the supervision and management on the air pollutants to reach the discharge standards.

Treatment measures

Total emission control	 Emission concentrations and gross emission have been under strict contr accordance with the approved emission permits. 	ol in
	Technological transformation has been strengthened, and the Company's conventional coal-fired units all achieved the standard of ultra-low emission 2019.	
Process control	Prevent and control coal dust, realize enclosed management during coal storage and transportation process to achieve that no coal is found in the area, apply dust suppression facilities in railway transportation, use esser long-lasting dust suppression technology in ports, close and transform co yard in power plants. In 2021, the dust concentration of Huanghua Port w 48.5% of the national standard emission limit value.	mining ntial pal
	 Promote the use of clean energy and renewable energy, carry out centrali heating and use waste heat, and reduce emissions of air pollutants. 	ized
Environmental monitoring	 Strengthen the operation and maintenance of online monitoring facilities t ensure that monitoring data is real and effective. 	0
Emergency management	 Formulate environmental emergency management plans for major events, pollution weather and other special periods, and improve emission reduct measures and production organization plans under different emergency let 	tion

Coal-fired boiler renovation is launched in Xinshuo Railw

Xinshuo Railway has adopted measures such as electric boilers, solar thermal boilers, natural gas boilers and access to the nearby heating network, and 68 coal-fired boilers along the line have been renovated, which effectively reduced pollutant emissions.

Comparison between total atmospheric emissions

of thermal power (Unit: 10,000 tonnes)

1.87 1.94

Sewage and wastewater treatment and recycling

2021

emission o

nitrogen dioxide

2020

0.179 0.147_{0.12}6

emission of

dust

China Shenhua has implemented the laws and standards including the Water Pollution Prevention and Control Law of the People's Republic of China, strengthened the treatment of industrial wastewater, coal sewage, and domestic sewage and improved the efficiency of recycling, so as to ensure that water pollutants meet the discharge standards and promote enterprises in the Yangtze River Economic Zone, the Yellow River Basin and other key areas to achieve "zero discharge" of wastewater.

Renovated solar electric auxiliary heat boiler **Comparison between atmospheric**

emissions performance of thermal power

Case



Overall sewage wastewater utilisation

rate reached

6.03%

Treatment measures

2.0

1.5

10

1.04

0.89 0.92

emission of sulfur

dioxide

2019



Huanghua Port honored as "Asia-pacific Green Port 2021

In November 2021, APEC Port Services Network (APSN) held the Asia-Pacific Smart Port Development Forum and announced the winning ports (or enterprises) of APSN Green Port Award System (GPAS) 2021, with Huanghua Port awarded 2021 Asia-Pacific Green Port 2021

APSN, an international organization under the framework of APEC to promote the development and cooperation of the port industry in the Asia-Pacific region, has developed a green port assessment system in 2011 to suit the diversity of economic and social development levels in the Asia-Pacific region, namely the APSN Green Port Award System. The system covers various aspects such as green port development



strategies and specific programmes, application of environmental protection and energysaving technologies, and environmental management system, with an aim to encourage ports to keep on progressing during the green development. In 2021, a total of seven ports (or enterprises) from five economies in the Asia-Pacific region received the award.









Solid waste disposal measures

In strict accordance with the laws and regulations including the Prevention and Control of Environmental Pollution by Solid Wastes Law of the People's Republic of China and Standard for Pollution Control on Hazardous Waste Storage, the Company formulated management system including Solid Waste Treatment and Disposal System to adhere to the principles of source reduction, making use of resources during the process and being harmless at the end, implemented separate waste management, actively promoted the resource utilisation of general solid waste, and disposed hazardous waste in accordance with the law.

Disposal measures



The first-ever long distance "coal to ash" conveyor system in China put into operati

In November 2021, from Shengli No.1 open-cut coal mine to Shengli power plant, the first domestic long-distance "coal to ash" conveying system has been put into operation. The system uses the same belt conveyor to transport coal on the upper belt face and ash on the lower belt face, with a construction scale of 10 million tonnes/year of coal in the forward direction and 2 million tonnes/year of ash in the reverse direction and a single length of 8,642 meters in the main belt conveyor. Through the application of a number of technological innovations, the system has achieved the transport of coal from the open-cut coal mine to the pithead power plant, while the fly ash from the power plant was then transported in reverse to the open-cut mine for backfilling to avoid a series of pollution problems, such as dust from vehicle transportation, which effectively protected the beautiful ecological environment of the grassland.

Production and utilisation of general solid waste	2019	2020	2021
Total amount of general solid waste discharged (10 thousand tonnes)	2,176.16	2,806.66	1,537.77
Comprehensive utilisation rate of general solid waste(%)	49.99	41.20	70.04
General solid waste discharge per RMB10,000 output value (tonne/RMB10,000)	1.5	2.0	0.9







Production and disposal of hazardous wastes	2020	2021
Total emission of hazardous wastes (tonne)	4,608.93	6,202.56
Including: waste catalysts (tonne)	1,711.52	3,701.12
waste resin (tonne)	76.35	17.04
waste engine oil (tonne)	2,721.06	2,484.40
asbestos waste (tonne)	100	0
Disposal rate of hazardous wastes (%)	96.88	96.92

Note: The scope of hazardous wastes of the Company is counted in accordance with the four above since 2019.

Use of packaging materials

China Shenhua's Coal Chemical business involves the use of product packaging materials, most of which are polyolefin product packaging bags. Baotou Coal Chemical has formulated management systems such as Product Packaging Quality Management Regulations to strictly ensure the packaging quality and control the packaging weight, and actively promote the reduction of packaging materials.



Water Resources Protection

In strict accordance with the laws and regulations including the Water Law of the People's Republic of China and Regulations on the Prevention and Control of Pollution in the Drinking Water Source Protection Area, China Shenhua adhered to the principle of combination of broadening sources and cutting usage, better using water with good quality and recycling of sewage, fully considered the carrying capacity of water resources and the water environment during the production and construction, and actively adopted water conservation and alternative measures to reduce or eliminate practice that affected the sustainable use of water resources.

Governance system

The Board and the senior management of the Company including the general manager are responsible for the strategies or performance related to water management. At the executive level, the Company set up leading groups for energy conservation and environmental protection at all levels, clarified the water resources governance department, formulated relevant governance system to standardize the use of water resources.

Our main water sources were municipal pipe network, surface water resources, etc. At present, there is no risk at the difficulty in access to water.

Water saving measures

Reduction of the use of fresh water	Apply for a water access license in accordance with the law. Water saving facilities are designed, constructed and put into operation at the same time as the main project.		
	Adhere to the principles of setting the city, land, people and production by water, and organize the preparation of water allocation plans, water quotas and water dispatch plans in emergency.		
- Solar - Contract - C	Promote clean production and water conservation production technologies, adopt advanced water-saving utensils in domestic water to reduce leakage rate of water-supply pipeline network.		
Development of alternative water source	Make full use of mine water, evacuated dry water and municipal water in replacement of production water.		
	Apply seawater desalination technology.		
	Collect and reuse ballast water.		
Recycling of sewage	Construct sewage treatment facilities, conduct recycling of sewage and wastewater.		



In 2021, the consumption of recycled water and other alternative water sources accounted for **23**

5% of the total water consumption of the Company.

Please refer to the section "ESG Governance" in this report for details of water resources saving target set out by the Company and the achievement of 2021.

China Shenhua won "Excellent Performance Award on Water Security 2020 In the water questionnaire in 2020 conducted by CDP Worldwide, China Shenhua has been rated as an excellent B. There were only four enterprises in China that CDP were rated as B or above. CDP is a leading international 企业水安全优秀表现奖 non-profit organization that provides environmental disclosure and ratings to investors, companies and cities around the world, and provides data support for annual 600000-0-0 Dividual Printy Campley L ESG ratings of key indices such as the MSCI, FTSE A DOD THE STOP 2 LEWIS COMMENDER Russel and S&P Dow Jones Indices (DJSI). ----amt cur into 在在本安全化在去现实 COF BRRACISH S 2002104.28



Water resources protection performance of China Shenhua

Water resources type	Unit	Consumption volume in 2019	Consumption volume in 2020	Consumption volume in 2021
Fresh water	million tonnes	132.3	130.89	118.67
Including: Land surface water	million tonnes	106.48	92.93	96.18
Underground water	million tonnes	5.62	2.65	11.48
Tap water	million tonnes	20.2	35.31	11.01
Recycled water (reclaimed water)	million tonnes	43.05	11.22	28.22
Other water (Such as desalinated water)	million tonnes	4.33	15.13	8.22

Total water consumption=fresh water + recycled water + other water

Water consumption per RMB10 thousand output value = total water consumption of industrial enterprises/total industrial output value

Ecological Restoration and Biodiversity



In line with the policy for ecologically civilized construction that natural restoration is attached major importance with the priority to conservation and protection, the Company has organized a batch of major demonstration projects for ecological restoration and treatment to strengthen the synergistic protection and management of various ecological elements of mountains, water, forests, fields, lakes and grass, with an application of new technologies, new approaches and new techniques conducive to ecological protection. It is planned that in 2023 all mines will meet the standard as green mines.

China Shenhua strived to fulfill the concept of "green water and green hills are golden mountains", strictly followed the laws and regulations of the Mineral Resources Law of the People's Republic of China and Water and Soil Conservation Law of the People's Republic of China, implemented the requirement of "treatment while mining", sped up the construction of green mines, balanced the overall ecological treatment of water, soil and vegetation in disturbed areas and sinkholes, and took the initiative to reduce and compensate for the damage to the environment.

The Company has implemented the "triple simultaneous" management of design, construction and acceptance of environmental protection and water conservation facilities for new projects, renovation projects and expansion projects, carried out biodiversity impact and environmental risk assessment, and set out specific requirements for biodiversity protection. The company has run through regular inspection for hidden dangers related to the ecological red line through the monitoring system for ecological treatment and soil and water conservation, and monitored and supervised the ecological restoration in the production process.

In 2021, Shenhua has monitored 15 underground mines and 6 open-cut mines of 6 subsidiaries for ecological treatments and soil and water conservation.

As of the end of 2021



coal mines included in the Provincial Green Mines List



The case of ecological restoration of the Zhunge'er Mines selected in the World Economic Forum's New Nature Economy Report

Case

In the report "Opportunities for China to Move Towards a Nature-Beneficial Economy" under the New Nature Economy series released by World Economic Forum in January 2021, the ecological restoration practice of the Zhunge'er Mines was selected as a case study for "Developing Nature-Beneficial Mineral Resource Extraction".

Zhunge'er Mines are located in the Ordos Plateau in the south of Inner Mongolia, where has sparse vegetation and fragile ecology, and is one of the worst-hit areas in the country in terms of soil erosion. Since the founding of mines, Zhunge'er Energy has innovated an integrated soil erosion control technology system and carried out the water and soil conservation project in mining areas, to hopefully achieve the goal of green mining, reclamation and restoration with coordinating



development of modern agriculture and animal husbandry. Zhunge'er Energy has also conducted a special research on ecological treatment of vegetation restoration in the Loess Plateau area, screening out nearly 100 species of plants suitable for planting, establishing four more scientific ecological structure of shrub-grass type, tree-grass type, tree-shrub type and tree-shrub-grass type, boosting the diversity of species and ecological diversity in the mining area. More than 3,300 hectares of the Zhunge'er Mines have been treated by way of treatment while mining, with a 100% treatment rate, with an increase in vegetation coverage from 25% to 80%, the planting of approximately 69.2 million trees and shrubs of all kinds, and a soil erosion control rate of over 80%. The ecological system has undergone a positive ecosystem succession and virtuous cycle.

Shendong Coal awarded "Mother River Award" for green projects by its ecological accomplishments

In December 2021, Shendong Coal has earned the National 10th Mother River Award for Green Projects, an authoritative award in the field of national ecological and environmental protection, with its ecological and environmental protection treatment project, namely, "Five Mining and Five Treatment", "Three Phases and Three Circles".

In order to overcome the worldwide difficulty in ecological protection of large-scale coal mining in locales with fragile ecosystem, Shendong Coal acts as an active pioneer in developing a synergistic path of "ecological barrier" protection and "energy corridor" development in the Yellow River Basin. Over 30 years, the total area of ecological treatment among Shendong mining area has reached 384 square kilometers, with an increase of the vegetation coverage within the area from 3–11% at the early development stage



to over 64%. While the variety of plant has increased from 16 to more than 100 at present, there was also a significant increase in the number of microbial and animal species, among which a variety of rare and protected birds at the national level such as egrets, black storks, herons and relict gulls have "settled" in the mining area. It resulted in a positive evolvement in the locales with fragile ecosystem, which was evolved from desertification zone to a piece of oasis.

As of 2021



Case

Product Responsibilities

China Shenhua has firmly adhered to the concept of "quality first", continued to improve product and service quality management system, constantly reinforced and enhanced the effectivness of the management, strictly implemented various working requirements and regulations, tightened the full process quality control, and worked hard to provide safe and high quality coal, electricity, heat, coal chemical and other products and transportation services to the society.



Product Responsibilities

Quality Assurance

The Company strictly complies with national laws and regulations such as the Product Quality Law of the People's Republic of China, and has formulated management system, including the Administrative Measures for Coal Quality and the Administrative Measures for Freight Quality to clarify the objectives, responsibilities and specific measures for quality management.

Measures for o	quality management
Commercial coal	Production and purchase : to establish a comprehensive system of coal quality management, which forms a coal quality administrative network for the entire process that covers production, preparation and processing, loading of self-produced coal as well as storage, metering and delivery of purchased coal.
	Transportation : to leverage transportation governance and control system, under which the whole process data of coal loading and unloading, ship entry and exit are monitored.
	Sales : to develop specifications for the acceptance of mechanical sampling equipment, strengthen the management of loading and shipping coal quality pass rates, and refine the quality objection handling process.
Coal chemical	To clarify the standard of acceptance, and control the qualification rate of raw materials.
products	To formulate strict proceedings of production technologies, quality standards and quality control and review in accordance with inspection requirements.
	To test in accordance with finished product testing methods, and approve for sale after reaching the qualification standards.
Power and thermal	To improve the quality of electricity and technology, and guarantee a safe and economical operation of the equipment.
products	To safeguard the maintenance quality for the equipment, and improve the level of equipment monitoring.
Transportation services	To establish a freight quality tracing and feedback mechanism. Under the unified coordination and command of the general dispatching office, relevant units share freight quality information in a timely manner to realize the whole process management of freight quality.

Implementing system upgrading to improve coal quality

In June 2021, the first phase of the quality and efficiency improvement project at Shendong Coal's Daliuta coal preparation plant has been successfully completed with the interfacing of the old and new systems.

By building a new shallow trough system, adding a pulverized coal and coal slurry loading tape machine and replacing the double-layer slack screen, the calorific value of commercial coal of Daliuta Mine will increase by 70–100 calories, and the economic benefit is expected to increase by RMB70 million per year; the amount of secondary coal slurry in the Huojitu Mine coal preparation system is expected to decrease by 70%-80%, and the calorific value of commercial coal will further increase.

Product quality inspection

In addition to the quality control of the Company's commercial coal in the process of coal production and preparation, the Company also conducts quality inspection in three links: loading in the mining area, dumping in the port and ship loading in the port. The dumping and ship loading in the port are entrusted to an authoritative third-party inspection unit for inspection.

Response to product and service complaints

The Company has maintained long-term and stable cooperative relations with domestic authoritative research institutions in the field of coal and domestic well-known experts in professional fields such as boiler combustion, coal gasification and coal quality inspection, and had the advantages in pre-sales, in-sales and after-sales technical services, that is, through the whole process of technical services, the Company can maintain close technical exchanges with customers, and timely find and solve the problems encountered by customers when using China Shenhua coal, and provide technical guarantee for customers' safe use of China Shenhua coal. Commercial coal sales generally do not involve product recall, and all objections regarding coal quality are resolved through negotiation in accordance with the coal sales contract. There was 100% response rate of products and services and no litigation cases in 2021.

Percentage (%) of total products sold or delivered recalled for safety and health reasons in 2021

0%

Number (PCs.) of complaints about products and services received in 2021

)

Case

Product Responsibilities

Scientific Innovation

Relying on science and technology, China Shenhua has vigorously implemented the strategy of scientific and technological innovation of "supporting the establishment of first-class enterprises, leading the scientific and technological progress of the industry, serving the construction of a powerful country in science and technology and leading the global energy technology". While focusing on core technologies and strengthening the construction of independent scientific and technological innovation capacity, the Company focused on the joint cooperation of industry-university-research to achieve the targets of 1.5% intensity of R&D investment and 2.5% intensity of science and technology investment by the end of the 14th Five-Year Plan.

Optimize the ecological environment for innovation

Improve management	Select the project R&D units by means of "open competition mechanism to select the best candidates" and "horse racing", explore the management mode of "lump sum+ negative list" of project funds, establish a fault- tolerant mechanism for scientific and technological innovation, and actively carry out mass entrepreneurship and innovation activities.
Improve the assessment system	Formulate the overall goal of R&D investment intensity during the term of office of the leading group of subsidiaries and branches, adhere to the system of linking scientific and technological assessment with enterprise performance assessment and total wages, and assign the scientific and technological assessment tasks to grass-roots units.
Lay emphasis on recognition and reward	Increase incentives for scientific and technological progress projects, improve the reward and punishment provisions for scientific and technological innovation, and strengthen the linkage between scientific and technological innovation achievements and personal performance and bonuses.

Improve the ability of independent innovation

Intensify efforts to tackle key and core technologies

Focus on the national major special needs, green and low-carbon transformation of traditional industries, improvement of industrial technology level and cultivation of strategic emerging industries, and carry out the battle of key core technologies.

Make use of the role of staff innovation studio, labor model and craftsman innovation studio

Take the innovation studio as the platform to actively carry out the incubation, research and development of scientific and technological innovation projects, transformation of scientific and technological achievements and cultivation of innovative talents.

Optimize the guarantee mechanism of scientific research funds

Establish a multi-channel financing mechanism for guiding funds for scientific and technological innovation and R&D expenses of cutting-edge research institutes, make full use of various national incentive policies, and ensure the stable growth of scientific and technological investment.

Strengthen the construction of scientific research team

The Company is committed to highlighting scientific research practice, creating a career platform, introducing and training a number of leading scientific and technological talents, young scientific and technological backbones, high-level innovation teams and excellent engineer teams. As of the end of 2021, the Company had more than 3,000 technicians with senior titles or above, one national key laboratory, one academician expert workstation and six post-doctoral expert workstations, and took the lead in undertaking seven national key R&D projects.



China Shenhua carbon capture technology research team

Gu Xiuhua, chief skill master of Shendong Coal

Improve the level of external cooperation

In 2021, the Company strengthened cooperations with well-known universities at home and abroad such as Tsinghua University, Wuhan University, Fudan University and Beijing Jiaotong University, as well as authoritative scientific research institutes such as the Chinese Academy of Sciences, the Chinese Academy of Social Sciences and the Energy Institute of the National Development and Reform Commission, carried out research on cutting-edge topics, jointly built key laboratories, researched and developed new technologies in the energy field, opened up the innovation chain of combining basic research, application research and development and engineering demonstration, and promoted the transformation and industrialization of scientific and technological achievements. Please refer to the section headed "Feature" of this report for the cooperation with key enterprises.



Product Responsibilities

Intellectual Property Protection

The Company follows China's laws and regulations on intellectual property protection and law enforcement system, attaches importance to intellectual property protection and management, and has formulated systems such as Administrative Measures for Intellectual Property Rights and Administrative Measures for Scientific Papers and Academic Works, so as to clarify the responsibilities of intellectual property management and standardize the workflow of intellectual property protection. In 2021, the Company's subsidiaries and branches had 16 cases related to intellectual property litigation, involving an amount of RMB4.061 million, of which 15 have not yet obtained effective judgments.

Assessment and evaluation

The Company has incorporated the intellectual property management work into the annual performance assessment of subsidiaries and branches, focused on the assessment of indicators such as the number of invention patents applied, the preparation of group standards and above technical standards, and comprehensively considered according to the completion of the number of patent applications.

Protection measures

Strengthening of business top-level design

Incorporating intellectual property work into the "14th Five-Year" Development Plan, further strengthening the creation of independent intellectual property rights, and building a first-class enterprise science and technology brand represented by high-level patents, technical standards, publications and other scientific and technological achievements and high-end scientific and technological talents.



Improvement of management system

Conscientiously implementing the Enterprise Intellectual Property Management Norm, allocating full-time intellectual property management personnel and strengthening management.



Strengthening of risk prevention

The awareness of intellectual property risk prevention runs through the whole process of scientific research, production and business activities to prevent the occurrence of intellectual property infringement.



Organization of special training

The Company and its affiliated enterprises provide intellectual property training to employees by means of knowledge answering, lecture training, publicity and education.



Patent Application of the Company in 2021

Number of newly added applications for patents

1,437

Accumulated number of authorized patents

5,742

Number of authorizations for patents during the year



Accumulated number of patents

1*,362*

Number of patents invented during the year

199

Protect Customers' Rights and Interests

The Company has strictly implemented the Law on Protection of the Rights and Interests of Consumers of the People's Republic of China, adhered to the "customer-centered and marketoriented" principle, established an industrial chain of sincere cooperation and mutual benefit with customers, established the concept of full service, and pursued to establish a long-term, stable and win-win cooperative relationship with customers.

The Trading Group of the Company has established a hotline, maintained close communication with customers through letters, visits and exchanges, customer exchange meetings and product ordering meetings, and established detailed customer files. The Company pays attention to after-sales communication service, cooperates with customers to solve various problems in product use, provides customers with product use consultation, and formulates corresponding service improvement measures.

Service type	Customer satisfaction (%)		
	Seaborne sales	Direct sales	
Product	99.3	96.9	
Pricing	93.5	95.7	
Logistics	94.4	70.4	
Fulfillment of contract	94.6	86.4	
Service attitude	98.6	100	

Results of 2021 commercial coal customer satisfaction survey

Privacy protection

The Trading Group of the Company has established a trade secret protection committee, which is fully responsible for the protection and confidentiality of commercial coal customers' privacy and information. In daily work, the committee adheres to the confidentiality related principle of "approaching and using as work demands" and the control principle of "sectional approaching and special personnel mastering of core trade secrets" in performing its duties or post responsibilities according to law, implements the responsibility of confidentiality awareness, completes network security protection and eliminates potential security risks. In 2021, there was no disclosure of customer privacy and information in the Company.
Safety and Health

China Shenhua has adhered to safe and scientific development, established advanced safety concept, applied risk pre-control management system, promoted the application of standardized operation process, promoted technology upgrading and modernization of production technology and equipment and realized intensive production and intelligent operation to escort safe production and employees' health.



Safety and Health

Safety Management System

The Company has always put safety production in the first place and established the three-level safety management system at headquarters of the Company, subsidiaries and branches and plants (mines, office and section). Production-type subsidiaries and branches and tertiary units have established independent safety production management departments to implement the safety production responsibility system and safety risk pre-control mechanism, so as to comprehensively guarantee the effectiveness of safety management.



Responsibility mechanism of safety production

The Company has implemented the work requirements of assigning equal responsibilities to the Party Committee and the management charging managers with productin safety responsibilities in addition to their prescribed duties, joint management, and undertaking liability for negligence of duty", and signed the letter of responsibility for safety production level by level, implemented the safety management responsibility with the management as the core, the technical management responsibility with the technical person in charge as the core and the on-site management responsibility with the team leader as the core, realized "one post with one checklist" and established the responsibility network of "horizontal to the end and vertical to the edge".

The Company's safety performance, such as accidents and incidents, implementation of safety documents and treatment of major hidden dangers, has been taken as an important part of the annual performance assessment of the management, and the proportion of safety performance salary was not less than 30% in principle. Each production unit has established a reward and punishment system for safety production responsibility, and gave economic punishment to the person responsible for accident hidden dangers or unsafe behaviors found in the inspection. For example, Shendong Coal has refined 1,108 responsibility criteria, determined more than 1,700 accountability situations, and incorporated responsibility performance into the management system for entire process retrospection. A total of 252 safety accountability investigations were carried out in 2021, with more than 1,200 persons held responsible, which promoted the implementation of safety production responsibilities.

Safety risk pre-control

Hierarchical control and hidden danger investigation are the main means for the Company to carry out safety risk pre-control. For major risks that are prone to occur, the Company has organized annual risk identification and special identification, specified exclusive control schemes, and implemented rectification within a time limit for key risks. At the same time, the Company organized the comprehensive evaluation of the effect of risk and hidden danger treatment, and implemented the full closed-loop management of hidden danger elimination.

Safety production guarantee

Talent guarantee	Strengthening safety education, training, assessment and incentive, and improving the overall quality and practical skills of grass-roots safety management talents.
Fund guarantee	Improving the safety expense management system, and clarifying the procedures, responsibilities and authorities for the withdrawal and use of safety expenses, so as to ensure that the withdrawal and use of safety expenses are in accordance with regulations.
Goods and materials guarantee	Clarifying the requirements of equipment lifecycle management, and strengthening equipment inspection and maintenance, transformation and upgrading and performance optimization, improving the management system of emergency rescue equipment and materials to ensure the capability of emergency support.
Science and technology guarantee	Strengthening cooperation with scientific research institutes and universities, and carrying out research and innovation of safety technology.

Safety and Health

Safe Production

The Company has strictly abided by the Production Safety Law of the People's Republic of China and other national laws and regulations, established and implemented the responsibility mechanism of safe production, continuously improved the production safety rules and regulations, strengthened the risk source prevention and control and process control, regularly organized education and training and emergency drills, and constantly improved the level of production safety control. In 2021, the safe production situation of the Company was generally stable.

25 coal mines of China Shenhua were named 2018–2019 annual coal industry safe and efficient to mines at the construction meeting of coal industry safe and efficient to mines (open-cut) convened by China National Coal Association in September 2021. At the same time, 7 safe and efficient 10-million-tonne-level coal mining teams in China were commended, 4 from China Shenhua; 15 safe and efficient kilometer tunneling teams, 8 from China Shenhua; 15 safe and efficient mines with raw coal efficiency exceeding 100 tonnes/work, 8 from China Shenhua. The number of awards won by China Shenhua in each award exceeds more than half of the total number of awards, which is the most powerful confirmation of the practical and fruitful results of the Company's continuous promotion of safe production construction.

Hidden danger investigation and management

The Company has regularly organized hidden danger investigation and safety supervision every year, formulated the list of major hidden danger supervision items according to the investigation results, and supervised the rectification progress on a monthly basis; formulated "two lists" of potential problems and institutional measures, and carried out precise governance against standards. At the beginning of 2021, the Company has listed and supervised 18 major safety hazards, of which 11 have been rectified, with a rectification rate of 61%; throughout the year, 642 pieces were added into "two lists", with a total of 2,168 pieces, and 1,986 have been rectified, with a rectification rate of 92%.

Special safety inspection

In 2021, the Company carried out 49 special safety inspections on underground coal mine water and sand burst prevention, power safety management, safety of infrastructure and maintenance technical transformation, control of major hazard sources of hazardous chemicals, construction of railway business lines, etc., covering all production enterprises of China Shenhua, and supervised and rectified nearly 10,000 problems in total.

Safety standardization

The Company has formulated the standard operation process of each production post, and through the application of video intelligent analysis technology, the Company realized the workplace electronic fence isolation, automatic identification of illegal behaviour, risk automatic warning, etc., and realized the standardisation of safety production risk control, hidden danger management, site management, operation behaviour, equipment and facilities and operation environment.

Safety production technology

Supported by science and technology, the Company has promoted the construction of intelligent enterprises, improved the internal driving force of safe and efficient production and effectively prevented injury accidents by promoting "mechanization and automation substitute manual labor". For details, please refer to the sections headed "Feature" and "Scientific Innovation" of this report.

The first set of personnel approach protection system for the tunneling working face of Shendong Coal was put into use

In November 2021, Shendong Coal's first set of personnel approach protection system for the tunneling working face was put into operation in Bulianta Mine. Due to the large number of mobile equipment in the tunneling working face, the system was developed to avoid equipment collision and personnel injury, which is of great practical significance to improve the tunneling efficiency and safety factor. The anti-collision device based on UWB precise positioning technology in the system can realize bidirectional alarm of equipment anti-collision base station and personnel wearing bracelet within the dangerous range. If the personnel continue to approach, the equipment can be shut down to achieve the purpose of protecting personnel around the equipment. Machine vision technology intelligent personnel early warning device can complement the anti-collision device to avoid the danger caused by not wearing the bracelet or bracelet failure. Remote video monitoring transmits the video monitoring pictures on each mobile device to the centralized control room through the wireless base station, and transmits it to the ground dispatching center through the underground ring network to realize remote monitoring, real-time monitoring of the production working face and random access of video data.

Emergency rescue drill

The Company has earnestly implemented the Administrative Measures on Emergency Response Plans for Production Safety Accidents, improved the enterprise emergency plan and rescue system, and implemented all kinds of emergency rescue resources according to the industry standard guidelines. In 2021, all production enterprises carried out comprehensive emergency drills and special emergency drills for prone accidents, practically exercised the emergency response ability of emergency command and rescue personnel and all employees, tested the emergency rescue system, and found and made up for the deficiency of emergency response ability.

By the end of 2021,

Number of the safety emergency plans formulated by the Company's affiliated enterprises

701

Number of the emergency and rescue drills for safety incidents carried out throughout the year

1,650



Case

Safety and Health

Safety culture construction

The Company has set March 1 of each year as the "Accident Warning Day" to highlight the penetration of ideas and the formation of behavior. The safety production month, accident warning education, safety management course online training, high-risk operation and fire safety knowledge online answering and other activities carried out in 2021 have comprehensively improved the performance ability of safety production and the safety awareness of front-line employees.

2021

1,565 times

Training and education for safety culture carried out by the Company

Tianjin Port carried out safe production publicity and education

ort carried out a variety of safe

During the "Safety Production Month" activity, Tianjin Port carried out a variety of safety production publicity and education activities, such as visiting the safety experience hall, finding fault, safety knowledge competition, calligraphy and cartoon photography competition, which improved the safety awareness of employees and promoted the construction of enterprise safety culture.



Maintaining production facilities and equipment regularly to eliminate potential safety hazards

Baorixile Energy closely tracked the operation status of the equipment, regularly checked and maintained the important production equipment. In May 2021, the WK10B large electric shovel equipment was inspected, cleaned, repaired and replaced, which effectively ensured the stable operation of the main production equipment.



Number of death due to work and mortality ratio of employees



Mortality rate per million tonnes of raw coal production



Safety and Health



Occupational Health

The Company strictly complies with the Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases, formulated Administrative Measures for Occupational Diseases Prevention, adhered to the management principle of "precaution as focus, combination of precaution and treatment", ensured capital injection, prevented, controlled and eliminated occupational hazard factors in the workplace, provided occupational safety and protective equipment that meets national occupational health standards and requirements, actively conducted the publicity and special training on the theme of occupational disease prevention and control, so as to ensure the occupational health of all employees.

Identification and management and control of occupational disease risk

The Company conducted a mapping survey of occupational hazard factors in the workplace of basic level production units, to identify the types and quantities of occupational hazard factors and clear the severity of occupational hazard factors. The Company proposed six initiatives on strengthening the implementation of responsibilities, carrying out top-level design, refining rectification, enhancing prevention and control capabilities, improving standard system and intensifying the control of key enterprises on this ground, to lay a solid foundation for the scientific and orderly implementation of occupational health work.

Prevention and control of occupational disease

Governance of operational place

The Company strictly implemented the "three simultaneous" system for occupational disease protection facilities and occupational health evaluation system, took them as necessary conditions for project initiation, construction commencement and completion acceptance. The Company conducted regular inspection for harmful factors in operational places, detected and eliminated harmful factors in a timely manner, to ensure that operational places meet the environmental requirements. In 2021, the Company has completed the treatment of around 607 occupational hazard workplaces and invested approximately RMB560 million in occupational health.

⁷

Days of work suspended due to occupational diseases = (total number of working days suspended *1,000,000)/ total number of working hours; Source of calculation formula: OHSAS 18001 (number of lost working days per million working hours)

The establishment of dustless demonstration workshop in Shendong Coal Halagou Coal Preparation Plant

In 2021, Halagou Coal Preparation Plant took selection workshop as the pilot, in accordance with the principle of "intelligent inspection, new prevention, technical treatment and comprehensive management", to reduce the respirable dust into the scope of standard and establish a "dustless" demonstration workshop. The main measures include: to conduct consecutive monitoring of dust concentration in various areas of the production site during specific hours, and analyze the causes of dust production with big data; to adopt new technology and materials, and implement dust-producing point closure on both sides of the coal machine, gathering sill sealing and vibrating screen full sealing; to optimize the lower dust removal fans and tubes of raw coal warehouse, and intelligently control the sprinkler and dust reduction devices of belt conveyor and stage loader.

Occupational health testing and monitoring

The Company organized occupational health testing for new recruits prior to putting into work and for old employees prior to resignation. Employees who have not undergone occupational health testing prior to putting into work are not assigned to engage in work involving occupational hazard factors, and employees with occupational taboos are not assigned to engage in work involving their taboos. The Company formulated an occupational health testing plan for in-service employees and established occupational health files for employees. In the event of an occupational disease, the employee shall be immediately transferred from the current position with appropriate placement and prompt treatment.

Provision of labour protective instruments and tools

The Company distributes protective products for employees with different protection capabilities in accordance with different types of work and working environment, and checks and supervises the wearing of labour protective instruments on site every day.

Promotion and training

In 2021, the Company conducted in-depth publicity and implementation of the "Law on Prevention and Treatment of Occupational Diseases of the People's Republic of China", and carried out 657 occupational disease prevention and control publicity or occupational health warning education activities in various forms, with distinctive features and outstanding effects, effectively improving the expertise of employees.



Case

Safety and Health

2021

Employee health examination coverage

100%

Total recordable injury rate



New occupational diseases



Safety production input



Supply Chain Security

In 2021, the Company formulated the ESG Management Measures on Supply Chain, which sets out the management responsibilities and measures for the safety of supply chain and clarified the supervision of the Safety, Health and Environmental Protection Committee under the Board on the supply chain ESG management. The Supplier's Code of Conduct of the Company states explicitly that suppliers shall provide a safe working environment and protect the occupational health and safety of employees, so as to supervise and promote suppliers complying with the requirements and taking actions actively to create a sustainable working environment.

Health and safety survey

Each unit under the Company regularly organizes high-risk suppliers to fill in the "Supplier ESG Questionnaire" on an annual basis, formulates occupational health and safety management system for suppliers in accordance with the law, rates products/services that meet quality and safety requirements, and conducts ESG evaluation for suppliers.

Certificates of quality

The Company encourages suppliers to obtain the ESG-related certificates and documents that cover product quality and safety, occupational health and safety of employees, environmental management, green products and data privacy and information security, including ISO 14000, OHSAS 18001 and ISO 27001.

Contractor safety management

The Company adhered to the management principle of "unified leadership, hierarchical responsibility, employer responsible for supervision, employing unit held accountability", formulated the contractor safety management system and series of safety management specifications, and continuously strengthened the contractor safety management. In 2021, the Company carried out the special rectification of production safety in the outsourced contracting business of coal and transportation segments, identifying and rectifying a total of 1,083 problems and promoting standardized and orderly management of outsourced projects.



Safety supervision and inspection for suppliers and contractors



Safety management training for suppliers and contractors



Contractor safety management measures

Implementation of responsibility

In accordance with the requirement of "non-differentiation and integration", contractors are included into the safety management system of enterprise, and are under the same deployment, inspection and assessment.

Governance and control of process

Focusing on the investigation and management of subcontracting, "holding but not management", safety training "three false" (false training, false examination, false certificate) and other issues. Carrying out inspection and video remote supervision of special safety technical measures on limited space, hazardous chemicals and operation at heights, and strictly enforcing the system of permission and on-site supervision for outsourced work. Conducting three-level safety education and training examination for new contractor personnel, and carrying out safety knowledge training on time.

Governance and control of source

Strictly reviewing the production safety qualifications of contractors and safety qualification certificates of entry personnel, ensuring contractors are contracted within the scope of their qualification levels.

Appraisal and Investigation

Taking measures such as financial penalties or stopping work for rectification for contractors with safety breaches, to blacklist and veto in the event of safety accidents.

Employees are the valuable resources and wealth of the Company, and are the talent guarantee to promote the implementation of the Company's development strategy and the creation of a world-class comprehensive listed energy company. China Shenhua has always adhered to and practised "people-oriented" idea, respecting and maintaining the interests of employees, strengthening the training and skill improvement of employees, stimulating the work vitality of employees, striving to achieve joint enhancement of personal and corporate values, and building a harmonious and happy enterprise.



Protection of Rights and Interests of Employees

China Shenhua strictly complies with the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China and the Trade Union Law of the People's Republic of China, and supports international regulations and principles including Universal Declaration of Human Rights, the Declaration on the Protection of Human Rights, respects and safeguards human rights, standardizes labor employment according to law, and establishes a harmonious and stable labor relationship with employees with reference to the Social Accountability (SA8000).

Employment according to law

The Company signed labor contracts with employees in accordance with the law and agreed on the employee's rights. The Company strictly complied with the national Prohibition of Child Labour Provisions and legal requirements of the countries (regions) where business operates, firmly prohibited the employment and use of child labour, and opposed any form of mandatory or compulsory labour. The Company implemented labor employment supervision and inspection system, conducted random inspections of labour management from time to time, and launched training on human rights protection for all employees. There were no employment of child labor and forced labor in 2021.

Equal treatment

The Company provided equal opportunities to every employee, prevented discrimination in regarding of recruitment and employment, remuneration and benefits and career development regardless of races, ethnicities, nationalities, genders, ages and religions. The Company actively promoted overseas local recruitment and employment to advance local economic and social development. In 2021, the Company formulated the "Measures for Implementation on Female Employees in the New Era", strictly implemented the maternity and lactation leave regulations and regular physical examination system for female employees, actively encouraged female workers to participate in the democratic management of the enterprise, and protected the legitimate rights and interests and special interests of female workers.



Indicators	2021
Total number of employees	77,872
Including: Contract staff	77,872
Senior management	256
Middle management	3,025
General level employees	74,591
Number of newly-employed employees during the year	3,696
Number of part-time contract staff	0
Number of labor dispatch staff	18,866





Number and proportion of employees turnover as categorized by age

29 Or Under	Turnover	
255	114	187
O 2019	2020	2021
2.58	1.27	2.07
00.00	Ratio (%)	
30-39	Turnover	
370	350	354
O 2019	2020	2021
0 1.11	1.00	1.00
	Ratio (%)	
40-49	Turnover	
128	0 115	0 164
2019	2020	2021
0.63	0.60	0.87
	Ratio (%)	
50-59	Turnover	
0 103	370	294
2019	2020	0 2021
0.85	3.85	2.96
	Ratio (%)	



Remuneration and benefits

The Company continuously improved the salary management system to provide employees with industry-competitive salaries and to ensure that employees are fairly rewarded for their value contributions and match with economic benefits and labour productivity of the enterprise. The internal distribution of the Company focused on the first-line production, key positions, and high-level, high-skilled talents. The Company reasonably widened the wage distribution gap through the distinction of positions and skill requirements, so as to stimulate employees work motivation and help the Company attract, motivate and retain core talents.

Democratic communication

The Company wholeheartedly followed the principle of relying on employees to run an enterprise, constantly optimized democratic management and democratic supervision mechanism, performed democratic procedures and fully listened to the views and suggestions of employees when formulating rules and regulations in relation to the vital interests of employees or determining major issues. The Company implemented the democratic management system with the employees congress as the basic form, to encourage employees to actively contribute to the development of the company.

Handling of labour disputes in accordance with law

The Company encouraged and guided employees to reflect their demands in a lawful manner. If an employee encounters unfair treatment or his/her legitimate rights are not effectively guaranteed, he/she can promptly reflect it to the relevant departments of the Company on his/her own or through labor union organization. In the event of a labour dispute or controversy, a solution that balances the interests of both parties shall be reached under the principle of equal negotiation.

Assistance to Employees' Development

China Shenhua adhered to the strategy of "strengthening the enterprise with talents", continuously improved and deepened the talent training mechanism, attached great importance to the career planning of employees, and strengthened the talent team construction to ensure sufficient talents, reasonable hierarchy and optimized structure. In 2021, the Company formulated the Implementation Plan for Strengthening Talent Work in the New Era to comprehensively promote the construction of talent team.

Appraisal and incentive

The Company implemented quarterly and annual performance appraisal for all employees, of which the quarterly appraisal mainly assessed work performance and the annual appraisal included four categories of political quality (20%), work performance (40%), business ability (20%) and good style of image (20%), and the results of the annual appraisal are linked to the performance income of employees, to give full play so as to the incentive-oriented role of salary. The Company gave one-off rewards to employees who have made outstanding contributions to scientific and technological innovation, business achievements and safety production in accordance with the regulations, to mobilize employees' work enthusiasm.

Career development

The Company insisted on a dual-wheel drive talent strategy of external introduction and internal training, established a democratic, open, competitive and meritbased talent selection mechanism within the enterprise, built and improved three promotion channels for management, expertise and skills, further improved the selection system for young cadres, and strived to create a good environment and atmosphere for all kinds of talents to stand out and be utilized to their full potential. Collecting proposals from staff representatives in 2021

502 -▲-----

Proposals implemented during the year

725

Unifying positions and ranks, paving the way for the development o technically skilled talents

In 2021, China Shenhua actively implemented "14th Five-Year" development plan of talents, unified the title of positions and the setting of ranks of the Company, paved the way for the development of technically skilled talents, fully stimulated the working enthusiasm of talents, retained core talents and promoted the strategy of strengthening the enterprise with talents to a deeper level. First, the Company divided positions into three categories of management, expertise and skill and set relevant promotion rules and terms of appointment, expanded promotion channel from a single channel of management to



University student coal mining class in Halagou Mine of Shendong Coal

three parallel channels of management, expertise and skill, so as to smooth the path of talent development; Second, the Company set unified ranks of 1–16, clarified each job category and corresponding job title for each rank, and standardized the talent management context within the Company; Third, the Company highlighted the grassroot orientation, and cleared that fresh graduates who go to the front line of grassroot production in difficult and remote areas can be appropriately ranked one level higher when approving rank, so as to encourage growth and development in the front line; Fourth, the Company conducted overall control on the number of technical and skilled posts, set rigid appointment qualifications, categorized assessment and incentive, and retained core backbone talents, so as to ensure the quality of talents.

Employees training

The Company formulated the annual training plans according to actual conditions, standardized the training procedures, carefully organized training of various types and at all levels, tracked the completion of training, and improved the employees training information, to effectively improve the quality and ability of employees.



Case

In 2021, a total of 5,340 people from the Company Headquarters particip in various kinds of training

- Case
- (1) Stick to creating the brand of "monthly special training of the Company Headquarters", and held 12 monthly special training sessions throughout the year.
- (2) Hold special seminars on new energy development, special lectures on coal mine dust prevention and training on new technologies for disaster management.
- (3) Organize employees to participate in training courses for outstanding young cadres, study and implement the spirit of the Fifth Plenary Session of the 19th Central Committee and training courses for Party history education; watch live events such as the lecture series "Celebrating the Centennial of the Founding of the Party".
- (4) Organize employees to participate in "Innovative Thinking" series special online training courses, 2021 excellent online learning classes of Rongzhi learning platform, etc.

	2021			
Number of trainees and training hours by gender	Number of trainees	Training proportion (%)	Total training hours (10,000 hours)	
Male employees	63,103	98.13	657.22	
Female employees	13,136	96.83	148.05	

	2021				
Number of trainees and training hours by function types	Number of trainees	Training proportion (%)	Total training hours (10,000 hours)		
Senior management	253	98.83	4.02		
Middle management	3,013	99.60	44.26		
General level employees	72,973	97.83	756.99		

Indicators	2021
Total number of employed professional and technical personnel	10,304
Proportion of employed professional and technical personnel (%)	13.23
Total number of skilled workers	43,324
Proportion of skilled workers (%)	55.63
Employee productivity (profit before tax/total number of employees) (RMB10,000/person)	101.67

China Shenhua actively promotes the construction of corporate culture, cares for every employee, jointly creates a harmonious humanistic environment, and enhances the cohesion of the Company and the team identity of employees.

The Company advocates the coordination and balance of employees' work and life, guarantees employees' rights to vacation and recuperation, holds various forms of recreational and sports activities, enriches employees' sparetime life and promotes employees' physical and mental health.

The Company continues to carry out activities such as family sympathy and caring for the disabled to help employees solve their work and life difficulties, organizes the distribution of epidemic prevention materials to ensure the needs of normalized epidemic prevention and control.

China Shenhua made a list and solidly promoted "I handle concrete affairs for the masses"

In 2021, China Shenhua Party Committee solicited and sorted out opinions and suggestions on the Company's development, social responsibility, talent training, employee welfare, etc., which were closely related to employees with high voice, and formed a "3152" project list of three strategic leading projects, one social responsibility fulfillment project, five employees' and masses' inclusive projects and two specific employees' group care projects in detail, and defined the work objectives and core contents of "I handle concrete affairs for the masses". A total of more than RMB6.76 million was invested in the whole year, with 22 items completed, 13 items completed by phases and 5 items closed, benefiting more than 11,000 person-times.



China Shenhua Headquarters Reading Day Activities

Community Charity

China Shenhua pays attention to communication and cooperation with the government and communities, earnestly fulfills its social responsibilities in energy security and ecological protection, actively supports community public welfare undertakings, boosts rural revitalization, respects the culture and customs of the local place, and strives to contribute to community and social development.



Community Charity

Community Care

Strategies and policies

Adhering to the concept of "being grateful to the motherland, giving back to the society and contributing to the people", China Shenhua supports community infrastructure, employment and economic development of the community, promotes harmony between the community and the Company and strives to become a responsible and respected first-class enterprise in the process of global sustainable development through various forms such as environmental protection, special funds, voluntary assistance and emergency rescue.

Communication and integration

The Company actively builds constructive and strategic partnerships with local governments and communities, maintains timely, open and active communication and exchange, respects and protects human rights, respects local culture, religion, customs and business etiquette, and avoids infringing on the legitimate rights and interests of communities and residents. We carry out community co-construction activities and establish good-neighborly relations. On the premise of meeting the management system of bidding procurement, we will give priority to the procurement of local materials and agricultural and sideline products, and give priority to the recruitment of local workers.In 2021, the Company formulated the Measures for Overseas Compliance Management (Trial) to promote the sustainable development of the Company's international business.

Indonesia South Sumatra Power Plant held "Cloud Open Day

Case

On 17 June 2021, through the cloud open day event with the theme of "Meeting the Light, Meeting the Love-Happiness at Zero Latitude", the Company led the public into Indonesia's South Sumatra Power Plant through vlog, showing the real working and living conditions of local employees in South Sumatra Power Plant to Chinese and foreign media and the public, as well as the important contribution of South Sumatra Power Plant to promoting local economic and social development and improving local people's livelihood. This cloud open day is a cross-border cultural exchange between China and Indonesia, and it conveys the good vision of China Shenhua and the local people to work together for win-win cooperation and create a better life.



Voluntary service

Adhering to the tenet of "dedication, love, unity and mutual assistance", the Company actively participates in community construction and public welfare activities in the form of voluntary service, and contributes to the creation of a harmonious society and a beautiful community. By the end of 2021, the Company and more than 15 subsidiaries had formulated volunteer service management measures, which defined the rights and obligations of volunteers service guarantee measures and service scope, so as to provide guarantee for the organized and planned development of volunteer service.



China Shenhua Headquarters Volunteer Service Team



Public benefit activities

Focusing on the needs of local communities, the Company has invested its own resources into the needy people, continued to carry out public welfare undertakings in many fields such as rescue and disaster relief, living security, donations to education, epidemic prevention and control, and carried forward the power of example. External donation of the Company in 2021 approximately



Community Charity

Rescue and disaster relief

The Company takes the protection of people's lives and property as its own responsibility, gives full play to its emergency rescue system and professional team, and actively participated in the rescue of water and sand burst and other accidents in Haojialiang Coal Mine in Yulin, as well as the flood fighting and rescue work in Henan Province, which has been highly praised by the local government and relevant national ministries and commissions.

Shouguang Power rescued fire fishing boat at Sea

On 21 May 2021, Shouguang Power received a transfer order from the 119 Command Center of Shouguang City to urgently support the rescue operation of the fishing boat fire in Yangkou Port. After more than two hours of unremitting fighting, the open fire was successfully extinguished, minimizing the fire loss.

Living security

The Company makes full use of its own resources to handle concrete affairs and solve difficult problems for the local community, and to build a harmonious relationship in allround way.

The investment in 2021 was about

Case

Case



Shengli Energy presented warm coal to farm households.

In October 2021, facing the continuous temperature drop, Shengli Energy launched the activity of "Sending Warm Coal to Warm People's Hearts", and timely sent 3,000 tonnes of coal to 235 farm households in Yililetegacha, so as to solve the coal shortage of farm households.

Stylistic education

During the Reporting Period, the Company invested approximately RMB100 million, actively carried out donation activities to support the education and the construction of community culture and sports facilities, helped students pave the way for their dreams and enriched the amateur cultural life of the public.

Beihai Power launched the activity of "Caring for Students"CaseBeihai Power has sent schoolbags, basketballs,
table tennis rackets and other stationery and
sporting supplies to poor students in Xinggang
District, Beihai City, to encourage children to
study hard and exercise.Image: Case

Pandemic prevention and control

The Company actively supports and cooperates with community pandemic prevention and control, and assists the community to carry out voluntary services such as nucleic acid testing, vaccination and delivery of daily necessities for home quarantine personnel.

Community Charity

Jinjie Energy helped the community fight the epidemic

Case

Jinneng Energy organized a new era civilization practice activity of "helping each other and promoting civilization-culture benefiting the public in the community" in Nihe community of Shenmu city. At the activity site, volunteers gave the leftbehind elderly and children condolences such as hand sanitizer, soap and disinfectant to guide them to correctly use daily pandemic prevention supplies and prevent COVID-19.



Common Prosperity

Rural revitalization

In accordance with the requirements of the CPC Central Committee to effectively integrate the achievements of consolidating and expanding poverty alleviation with rural revitalization and maintain the overall stability of the transitional assistance policy, China Shenhua has made practical efforts in industrial cultivation, employment guidance, ecological protection, and consumption promotion, so as to comprehensively promote rural revitalization and prosperity. In 2021, China Shenhua invested a total of approximately RMB123 million in Mizhi County and Wubu County of Shaanxi Province, Butuo County of Sichuan Province and Nierong County of Tibet Autonomous Region.

Industrial Cultivation	By expanding the production scale of characteristic industries and improving the quality and added value of agricultural products, farmers are driven to increase their incomes steadily and become rich, and the economic development vitality is injected into poverty-stricken areas. In 2021, RMB20.7 million of industrial assistance funds was invested to support the construction of Butuo County agricultural products trading market, Wubu County 600 mu fruit industry demonstration park and Mizhi County comprehensive breeding base.
Ambition cultivation and education promotion	The Company supports the improvement of school running conditions for compulsory education in poverty-stricken areas, carries out skilled personnel training, helps local personnel improve their quality and ability, and cultivates and stimulates endogenous motivation. In 2021, RMB50.16 million was invested in education assistance for the construction of local primary and secondary schools.
Infrastructure Assistance	The Company continues to promote infrastructure construction, helps improve local quality of life and development conditions, and helps build beautiful villages. In Mizhi County, the construction of rural industrial roads, flood discharge channels and slope protection of flood control ditches are implemented to help improve the local road network structure and water conservancy facilities. The Company builds ecological forests along the Yellow River in Wubu County and strengthens ecological management along the Yellow River.
Consumption Assistance	The Company vigorously promotes the marketing function of "Huicai Mall" platform, broadens sales channels for products in designated counties, and encourage the prioritized procurement of poverty alleviation products within the Company. In 2021, the purchase of poverty alleviation products was





Village Highway in Butuo County, aided by China Shenhua

Students of Abuzelu Primary School in Butuo County, aided by China Shenhua

Central-local cooperation

The Company actively implemented the cooperation deployment of the State-owned Assets Supervision and Administration Commission of the State Council's "hundred pairs of central and local enterprises" to revitalize the Northeast, established a special leading group to carry out field docking at the first time, and established the sound and joint working mechanism. In 2021, a strategic cooperation agreement has been signed, and the implementation plan will be refined and improved in the future to contribute to the comprehensive revitalization of Northeast China.

Future Outlook

The world's changes unseen for a century have accelerated the evolution. China's economy has encountered triple pressures of demand contraction, supply shock and expected weakening, but the fundamentals of long-term improvement have not changed. China's total energy demand is large and the increment is large. Coal being the main energy source is the basic national condition. It is necessary to effectively give full play to the role of coal as the bottom guarantee and the role of coal-fired power as the basic regulation, and continuously improve the ability of energy supply guarantee and balance and overall planning. At the same time, the policy system of carbon peak and carbon neutrality is becoming more and more perfect, and the rigid constraints on ecological and environmental protection are becoming stricter, which forces the development of deep energy conservation as well as clean and low-carbon energy, and the energy industry will also usher in new development opportunities.

Harbor a dream and forge ahead. Guided by the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Company will fully, accurately and comprehensively implement the new development concept, earnestly implement the new energy security strategy of "Four Revolutions and One Cooperation" and the objectives and tasks of carbon peak and carbon neutrality, thoroughly acted upon the great call of "socialism is achieved by earnest work", focus on high-quality industrial development and sound development of capital market, and highlight the work orientation of "soundness, synergy, empowerment and quality improvement". The Company will make overall plans for green transformation, innovation-driven development, quality and efficiency improvement, and Party building, realize stable operation and development with progress and innovation and strive to create a new situation of building a world-class integrated listed energy company.

Appendix I: Table of Key Performance

Primary indicators	Secondary indicators	2019	2020	2021
	Total emissions (10,000 tonnes of carbon dioxide equivalent)	15,741	13,490	17,665
	Including: Scope I (10,000 tonnes of carbon dioxide equivalent)	15,151	12,668	16,779
Carbon emission	Scope II (10,000 tonnes of carbon dioxide equivalent)	589	822	886
	Emission intensity (tonnes of carbon dioxide equivalent/RMB10,000 output value)	11.1	9.35	9.56
	Total sulfur dioxide emissions (10,000 tonnes)	1.5	1.16	1.18
	Sulfur dioxide emission of thermal power (10,000 tonnes)	1.04	0.89	0.92
	Sulfur dioxide emission performance of thermal power (g/kWh)	0.07	0.065	0.055
	Total nitrogen oxide emissions (10,000 tonnes)	3.48	3.26	3.42
Exhaust gas	Nitrogen oxide emissions of thermal power (10,000 tonnes)	2.02	1.87	1.94
	Nitrogen oxide emission performance of thermal power (g/kWh)	0.14	0.14	0.12
	Total soot emissions (10,000 tonnes)	0.43	0.222	0.19
	Soot emission of thermal power (10,000 tonnes)	0.179	0.147	0.126
	Soot emission performance of thermal power (g/kWh)	0.0121	0.0108	0.0076
	Chemical oxygen demand (10,000 tonnes)	0.09	0.086	0.046
	Output of sewage and wastewater (million tonnes)	154.48	168.74	159.99
Wastewater	Utilisation amount of sewage and wastewater (million tonnes)	128.52	126.27	121.65
	Utilisation rate of sewage and wastewater (%)	83.20	74.84	76.03
	Utilisation rate of industrial wastewater (%)	82.58	80.38	86.85
	Utilisation rate of mine (pit) water (%)	85.11	74.76	73.73

Primary indicators	Secondary indicators	2019	2020	2021
General	General solid waste discharge (10,000 tonnes)	2,176.16	2,806.66	1,537.77
	Output of general solid wastes per RMB 10,000 of output value (tonne RMB10,000)	1.5	2.0	0.9
solid waste	Including: gangue emission (10,000 tonnes)	2,021.53	2,429.44	1,241.24
	Utilisation of gangue (10,000 tonnes)	1,564.07	1,254.05	2,650.63
	Output of hazardous solid wastes (tonne)	5,483.49	4,608.93	6,202.56
Hazardous solid waste	Output of hazardous solid wastes per RMB 10,000 of output value (kg/RMB10,000)	0.3324	0.3196	0.3510
	Comprehensive energy consumption (10,000 tonnes of standard coal)	4,394,49	4,324.04	5,155.47
	Comprehensive energy consumption per RMB 10,000 of output value (tonne standard coal/RMB10,000)	2.96	3.05	2.92
Energy consumption	Standard coal consumption for power supply (g/kWh)	307	307	301
	Total electricity consumption (0.1 billion kWh)	173.04	169.06	158.30
	Total oil consumption (10,000 tonnes)	38.32	39.88	40.33
	Total natural gas consumption (100 million m ³)	8.44	8.41	8.05
	Total water consumption (million tonnes)	179.68	157.24	155.11
Water resources	Water consumption per RMB10,000 of output value (tonne/RMB10,000)	11.49	10.68	8.51
	Total fresh water (million tonnes)	132.3	130.89	118.67

Primary indicators	Secondary indicators	2019	2020	2021
Environmental	Environmental protection input (RMB 100 million)	14.24	20.99	23.45
protection input	Including: ecological construction input (RMB 100 million)	5.01	7.54	7.61
Ecological protection	New green area (10,000 square meters)	1,472	1,083	9,256
	Total number of employees (person)	75,620	76,182	77,872
Employee development	New occupational diseases (cases)	54	11	24
	Occupational health fund input (RMB 100 million)	6.52	6.75	5.56
	Social contribution value per share (RMB/ share) (ASBE)	5.95	5.69	6.99
Community contributions	Social contribution value per share (RMB/ share) (IFRS)	5.87	5.52	7.06
	Cumulative cash dividends (RMB million)	265,036	300,998	351,464
	Social donations (RMB million)	279	178	389
	Mechanization rate of coal mining and tunneling (%)	100	100	100
	Number of super-safe and efficient mines	20	22	22
Technological innovation	Number of scientific projects newly-approved for the year	69	105	86
	Capital investment in research and development (RMB100 million)	12.45	21.49	33.47
	Number of patents obtained	556	915	754
	Number of invention patents obtained	155	198	199
	Investment in safety production (RMB100 million)	42.89	38.15	25.62
Safety production	Number of serious accidents and above	0	0	0
	First-level compliance units in safety production	18	7	4
Supply chain management	Total suppliers (ten thousand)	9.3	11.5	12.7

Primary indicators	Secondary indicators	2019	2020	2021
	Number of members of the Board concurrently serving as CEO of other companies (person)	0	0	0
	Number of financial experts in Audit Committee (person)	2	1	1
	Number of Directors against voting (vote)	0	0	0
Corporate governance	External auditing expenses (RMB million)	8.55	8.55	8.55
	Number of information disclosure documents released	211	382	237
	Shareholding proportion of the controlling shareholder at the end of the period (%)	69.45	69.45	69.52
	Number of shares of the Company held by Directors, Supervisors and the senior management at the end of the period (share)	0	0	0

Appendix II: ESG Indicator Index

Contents		ESG Guidelines of HKEx	Guidelines of SSE [®]	GRI Standards
About the Report		A1.6 \ A3.1 \ B2.3 \ B8.1	1.1 \ 1.3	2-14 \ 2-15
About China Sher	hua	B8.2	3.5.14 × 5.2 × 6.5.4 × 6.5.7 × 8.3 × 8.4 × 8.8	
Corporate Governance	Governance System		2.1.1 \ 2.1.2 \ 2.1.3 \ 2.1.15 \ 2.3.5 \ 3.1.1 \ 3.5.12 \ 6.5.4 \ 6.5.5	2-18 \ 2-19 \ 2-22 \ 2-24 \ 2-26 \ 405-1
	Integrity and Compliance	B4.1 × B6.3 × B7 × B7.1 × B7.2 × B7.3	4.1.1 \ 8.1 \ 8.2	2-12 \ 2-15 \ 2-17 \ 2-30 \ 3-2 \ 205-2 \ 205- 3 \ 415-1
	Supply Chein Management	B5 × B5.1 × B5.2 × B5.3 × B5.4	8.1 \ 8.3 \ 8.8	2-9 \ 308-1 \ 308- 2 414-1 \ 414-2 \ 416-1
ESG	ESG Governance Structure		8.5	2-20
	ESG Governance Mechanism	A1.5 \ A1.6 \ A2.3 \ A2.4	7.1.3 \ 8.6 \ 8.14	2-12 \ 2-17 \ 2-21 \ 2-29
	Communication with Stakeholders	B7 × B7.1 × B7.2 × B7.3	7.2.1 × 7.2.3 × 7.4.4 × 8.6 × 8.10	2-6 \ 2-15
	Response to ESG Reporting Principles	A1.5 × A1.6 × A2.3 × A2.4	8.9	2-2 \ 2-12 \ 2-17 \ 2-21 \ 2-29
	ESG Goals Management	A1.5 \ A1.6 \ A2.3 \ A2.4	8.3 \ 8.8 \ 8.12	2-2 \ 2-12 \ 2-17 \ 2-21 \ 2-29
	Response to United Nations 2030 Sustainable Development Goals (SDGS)	A1.5 × A1.6 × A2.3 × A2.4	8.6 × 8.7 × 8.8 × 8.14 × 8.15	2-2
Response to Climate Change	Governance	A1 \ A1.1 \ A1.2 \ A1.5 \ A4 \ A4.1		305-1 \ 305-2 \ 305-3 \ 305-4 \ 305-5
	Strategy	A4 \ A4.1		
	Indications and Targets	A4 × A4.1		

Guidelines for the Self-Regulation of Listed Companies No. 1 -Standardized Operation on SSE referred to as "Guidelines"

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Contents		ESG Guidelines of HKEx	Guidelines of SSE [®]	GRI Standards
Environmental Protection	Environmental Management System	A1 × A1.1 × A1.3 × A1.4 × A1.5 × A1.6 × A2 × A2.1 × A2.3 × A3 × A3.1	8.1 × 8.6 × 8.8 × 8.9 × 8.13	302-1 \ 302-3 \ 302-4 \ 302-5 \ 305-7 \ 306-1 \ 306-2
	Environmental Risk Control	A1 × A1.5 × A1.6 × A2 × A2.3 × A2.4 × A3 × A3.1 × A4 × A4.1	8.1 × 8.3 × 8.6 × 8.8 × 8.9 × 8.12 × 8.15	308-1 \ 308-2
	Pollution Prevention and Control	A1 × A1.1 × A1.2 × A1.3 × A1.4 × A1.5 × A1.6 × A2 × A2.1 × A2.3 × A3 × A3.1	8.1 × 8.3 × 8.6 × 8.8 × 8.9 × 8.10 × 8.12 × 8.13 × 8.15	306-1 \ 306-2 \ 306-3 \ 306-4 \ 306-5
	Water Resources Protection	A2 × A2.2 × A2.4 × A3 × A3.1	8.1 \ 8.3 \ 8.6 \ 8.8 \ 8.9 \ 8.15	303-1 \ 303-2 \ 303-3
	Ecological Restoration and Biodiversity	A2 × A2.3 × A3 × A3.1	8.1 × 8.3 × 8.6 × 8.8 × 8.9 × 8.10 × 8.12 × 8.15	304-1 \ 304-2 \ 304-3 \ 304-4
Safety and Health	Safety Management System	B2 × B2.1	8.13 \ 8.14	403-4 \ 416-1
	Safe Production	B2.3	8.13 \ 8.14	403-4 \ 403-5
	Occupational Health	B2 × B2.1 × B2.2 × B2.3	8.3 \ 8.6 \ 8.7 \ 8.14	403-2 \ 403-3 \ 403-4
	Supply Chain Security	B5 × B5.1 × B5.2 × B5.3 × B5.4 × B2.3	8.6	2-9 \ 308-1 \ 308-2 414-1 \ 414-2 \ 416-1
Employee Care	Protection of Rights and Interests of Employees	B1 × B1.1 × B1.2 × B4 × B4.1 × B4.2	8.1 \ 8.3 \ 8.7 \ 8.14 \ 8.15	2-8 \ 2-41 \ 401-1 401-2 \ 401-3 \
	Assistance to Employees' Development	B3 × B3.1 × B3.2	8.1 \ 8.3 \ 8.7 \ 8.14	404-1 \ 404-2 \ 405-1
	Employee Care	B8 \ B8.1 \ B8.2	8.1 \ 8.7 \ 8.14 \ 8.15	
Community Charity	Community Care	B6 × B6.2 × B6.5	8.1 × 8.3 × 8.4 × 8.6 × 8.15	
	Common Prosperity	B8 × B8.1 × B8.2	8.1 × 8.3 × 8.4 × 8.6 × 8.14 × 8.15	413-1
Appendix	Table of Key Performance		8.1 × 8.2 × 8.5 × 8.8 × 8.15	2-8

Appendix III: Independent Limited Assurance Report

To the Board of Directors of China Shenhua Energy Company Limited

We were engaged by the Board of Directors of China Shenhua Energy Company Limited ("CSEC") to provide limited assurance on the 2021 Environmental, Social and Governance Report of CSEC for the year ended 31 December 2021 ("the ESG Report").

RESPONSIBILITIES OF THE BOARD OF DIRECTORS

The Board of Directors of CSEC is solely responsible for the preparation and presentation of the 2021 ESG Report, including the information and assertions contained within it, in accordance with the disclosure recommendations of the following guidelines issued by the Shanghai Stock Exchange ("SSE Guidelines") and by the Hong Kong Exchange ("HKEX Guidelines"):

SSE Guidelines include :

- Circular on Issuing the Guidelines on the Rules of the Shanghai Stock Exchange for the Selfregulation of Listed Companies No.1-Standardized Operation
- Preparation and review of internal control report and social responsibility report

HKEX Guidelines include :

• Environmental, Social and Governance Reporting Guide

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; for establishing and maintaining the internal control that is necessary to make ESG report free from material misstatements due to fraud or error, and for maintaining adequate records.

RESPONSIBILITIES OF KPMG

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed on whether the ESG report is prepared according to SSE Guidelines and HKEX Guidelines and whether there are significant misstatements in the key ESG related performance indicators disclosed in the Appendix I of ESG report. 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 Auditing and Assurance Standards Board. The standard requires us to plan and execute our work to obtain limited assurance that ESG reports are free of material misstatements.

Our independent limited assurance report is made solely to CSEC in accordance with the terms of our engagement. Our work has been undertaken so that we might state to the Board of Directors of CSEC those matters we have been engaged to state in this independent limited assurance report and for no other purpose. We do not accept or assume responsibility to anyone other than CSEC for our work, for this independent limited assurance report, or for the conclusions we have reached.

KPMG'S INDEPENDENCE AND QUALITY CONTROL

We have complied with our independence and other relevant ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, and complied with the applicable requirements of International Standard on Quality Control 1 to maintain a comprehensive system of quality control.

SUMMARY OF WORK PERFORMED AND THE LIMITATIONS

A limited assurance engagement on a ESG report consists of making inquiries, primarily of persons responsible for the preparation of information presented in the ESG report, and applying analytical and other evidence gathering procedures, as appropriate. Our procedures included:

- 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;
- Comparing the information presented in the ESG 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 ESG 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 HKEX Guidelines;
- Carrying out assurance work to some major subsidiaries(branches), selected on the basis of a risk analysis including the consideration of both quantitative and qualitative criteria;
- Reconcile key financial data in the ESG Report with the audited financial statements.

Where the ESG report has included information or year-on-year comparisons of information not contained in previous reports, we have not examined the information for previous years.

The extent of evidence gathering procedures performed in a limited assurance engagement is less than that for a reasonable assurance engagement, and therefore, a lower level of assurance is provided. In addition, our work was not undertaken for the purpose of opining on the effectiveness of CSEC's systems and procedures.

CONCLUSIONS

Our conclusions are based on and shaped by the matters outlined in this report.

We believe that the evidence we have obtained is sufficient and appropriate, which provides the basis for issuing the assurance conclusion.

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe:

- that the ESG Report of CSEC for the year ended 31 December 2021 is not presented fairly, in all material respects, in accordance with the disclosure recommendations of the SSE Guidelines and HKEX Guidelines; and
- that significant misstatements of key performance indicators related to ESG disclosed in your 2021 ESG Report.

KPMG Huazhen LLP

Beijing 25 March, 2022

Appendix IV : MSCI-ESG Self-evaluation Table

	MSCI Description	2021 Score
	In the context of current performance, the Company set aggressive emission reduction targets	Medium
	Outstanding performance in achieving carbon reduction targets	Medium
	Using clean energy	High
Carbon emissions	Carbon capture technology	High
	Energy use management and energy efficiency improvement	High
	Participate in CDP	High
	Other carbon reduction measures	High
	Formulate policies that include provisions for the sustainable management of natural resources and raw materials	High
	Formulate policies to minimize interference in business and operation	High
Biodiversity and land use	Formulate policies on land destruction	High
	Restoration or repair of disturbed areas through continuous operations	High
	Disclosure of projects to protect the natural ecological environment	High
	Biodiversity impact assessment before the project	High
	Implementation of water-saving production process	High
	Proportion of water consumption from alternative water sources	High
	Evidence of the use of alternative water sources	High
	Water recycle/recovery rate	High
Water pressure	CEO is responsible for water management strategy and performance	High
	Senior management or Executive Committee are responsible for water management strategy and performance	High
	CSR or Sustainable Development Committees are responsible for water management strategy and performance	High

	MSCI Description	2021 Score
	With EMS management system	High
	Evidence of regular environmental impact audit	High
Hazardous emissions and	Evidence of audit at all operating locations	High
wastes	Evidence of annual compliance audit	High
	Aggressiveness in reducing toxic emissions targets	High
	Disclosure of progress in achieving hazardous gas emission targets	Medium
	With the certification and evidence of occupational health and safety	High
Occupational health and safety	The strategy and performance of occupational health and safety are managed by the Sustainable Development Committee or the H & S team or the risk leader	High
	H&S policy covers all dimensions	High
	H&S policy applies to contractors	High
	The goal of improving H & S performance	Medium
	Disclose the percentage of labor force covered by trade union/collective agreement	High
	Evidence of collective agreement	High
Labor management	Employment stock ownership plan or employment stock purchase plan	Low
	Remuneration policy based on performance	High
	Non-compensatory benefits, including pension and retirement benefits	High

	MSCI Description	2021 Score
	Localization policy	High
	Promise not to work in the reserve	High
	Local community participation	High
	Community impact assessment before entering the community	High
	Local procurement policy	High
Community	Local employment	High
relations	Actions to support local community development	High
	Human rights policy	High
	Business ethics policy covering contract security providers	Medium
	Anti-violence and conflict policy	Medium
	The Company monitors the effectiveness of their human rights policies	High
	Human rights protection training for employees	High
	Executive body responsible for managing business ethics and corruption issues	High
	Anti-corruption and fraud policy system	High
Corporate behavior	Regular business ethics audit	Medium
	Staff ethics training standard	High
	Whistleblower protection policy and its practice	High
	Board of Directors	High
Corporate governance	Remuneration	Medium
corporate governance	Ownership and Control	Medium
	Audit	High

Appendix V: Definitions

Abbreviation	Full Name
China Shenhua or the Company	China Shenhua Energy Company Limited
Group	The Company and its subsidiaries
China Energy	China Energy Investment Corporation Limited
China Energy Group	China Energy and its subsidiaries (excluding the Group)
Shendong Coal	China Energy Shendong Coal Group Co., Ltd.
Guohua Power	Guohua Power Branch of the Company
Zhunge'er Energy	Shenhua Zhunge'er Energy Co., Ltd.
Shuohuang Railway	Guoneng Shuohuang Railway Development Co., Ltd.
Xinshuo Railway	China Energy Xinshuo Railway Co., Ltd.
Trading Group	China Energy Trading Group Co., Ltd.
Huanghua Port	China Energy Huanghua Harbour Administration Co., Ltd.
Baoshen Railway	China Energy Baoshen Railway Group Co., Ltd.
Baotou Coal Chemical	China Energy Baotou Coal Chemical Co., Ltd.
Baorixile Energy	China Energy Baorixile Energy Co., Ltd.
Tianjin Port	China Energy Tianjin Coal Dock Co., Ltd.
Sichuan Energy	China Energy Sichuan Energy Co., Ltd.
Fujian Energy	Shenhua Fujian Energy Co., Ltd.
Taishan Power	China Energy Yudean Taishan Power Co., Ltd.

Abbreviation	Full Name
Jinjie Energy	China Energy Jinjie Energy Co., Ltd.
Huizhou Thermal	China Energy Huizhou Thermal Power Co., Ltd.
Shouguang Power	Shenhua Guohua Shouguang Power Generation Company Limited
Beihai Power	Guoneng Guangtou Beihai Power Generation Co., Ltd.
Beijing Gas-fired Power	Guoneng Guohua (Beijing) Gas-fired Power Co., Ltd
Shanghai Stock Exchange	Shanghai Stock Exchange
Hong Kong Stock Exchange	the Stock Exchange of Hong Kong Limited
Listing Rules	the Rules Governing the Listing of Stocks on Shanghai Stock Exchange and the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited
Accounting Standards for Business Enterprise	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
Articles of Association	Articles of Association of China Shenhua Energy Company Limited
RMB	Renminbi, unless otherwise specified

Feedback

China Shenhua values your opinions on the Company's endeavors on environmental, social and governance and this ESG Report. Your opinions and advice will add momentum to the continual improvement of this Report.

Please fax this sheet to +86-10-58131814 or email it to ir@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 particulars if you wish:

Name:		
Occupation:	Organization:	
Telephone:	Fax:	
Email:	Postal code:	
Contact address:		

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