



2022 ESG

China Coal Energy Company Limited

Environmental, Social, and Governance Report

Description of the Preparation of the Report

Report summary

The China Coal Energy ESG Report 2022 is the environmental, social and governance report published by China Coal Energy Company Limited (the “ESG Report”), which mainly provides information in respect of, among other things, environmental protection, social contributions and corporate governance of the Company in 2022, and aims to enhance communication and contact with various stakeholders.

The Company has published 14 annual corporate social responsibility reports in aggregate since its first release in 2008. To further satisfy the information disclosure requirements for listed companies, the Company has issued its environmental, social and governance reports from 2021.

Range of period

From 1 January 2022 to 31 December 2022. To increase the comparability of the report, certain contents may date back to previous years where applicable.

Scope of reporting

This report covers China Coal Energy Company Limited and its subsidiaries (branches).

Basis of preparation

“Self-Regulatory Guidelines for Listed Companies on the Shanghai Stock Exchange No. 3 – Industry Information Disclosure” issued by the Shanghai Stock Exchange;

“Environmental, Social and Governance Reporting Guide” (ESG Reporting Guide) issued by the Stock Exchange of Hong Kong Limited. The Company has complied with the disclosure requirements of the “comply or explain” provision set out in the *ESG Reporting Guide*;

The *“GRI Standards”* issued by the Global Reporting Initiative (“GRI”);

The *“Guidelines on Preparation of Corporate Social Responsibility Report for Enterprises in China – Coal Mining and Processing Industry”* (CASS-CSR3.0) released by the Chinese Academy of Social Sciences.

Source of information

Financial data in this report were extracted from the audited annual report of China Coal Energy Company Limited (prepared in accordance with the PRC Accounting Standards), whilst other data came from internal data of the Company and other relevant statistics. China Coal Energy guarantees that this Report does not contain any false representations, misleading statements or material omissions.

Description of references

For easy reference and reading, China Coal Energy Company Limited is also referred to as “China Coal Energy”, “the Company” and “we” in this Report.

Frequency of publication

The report is published annually.

Access to the report

This report is prepared in Chinese and English. The electronic version of this Report can be downloaded on the website of China Coal Energy Company Limited: <https://www.chinacoalenergy.com>.

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Chairman's Statement



Dear Friends,

On behalf of the Board of Directors, I would like to extend my sincere gratitude for your continuous interest in and support for China Coal Energy.

The year 2022 was an extraordinary year in the history of China Coal Energy. Throughout the year, guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, China Coal Energy adhered to the development direction of “efficiency enhancement and incremental transformation”, drove the national three-year campaign of state-owned enterprise reform while coordinating pandemic control efforts and production and business operations, vigorously pushed forward technological innovation, achieved record-high operating performance and continuously improved development quality. Furthermore, the Company held on to the values of sustainable development and its corporate mission of “supplying quality energy, leading industrial development for a prosperous life”, and secured energy supplies in line with its social responsibility, thereby contributing to the public’s well-being as well as economic and social stability. The Company redoubled its efforts and accomplished new results in corporate governance, value creation, work safety, environmental protection, technological innovation, staff caring and community development. It also continuously empowered its stakeholders and drove synergistic development of the economy, community and environment.

Provision of Quality Energy

The Company enhanced its organisation for production, built on its mining capacity, and continuously increased unit production and input level. By actively unlocking the production potential of open pit mines and high-production and high-efficiency mines and accelerating the launch of new coal mines, the Company injected a high degree of resilience into production activities, giving full play to its role as a “ballast” and “stabiliser” of energy supply. In 2022, the Company produced 119.17 million tonnes of commercial coal, up of 4.4% year-on-year. The output of major coal chemical products was 5.667 million tonnes, up of 3.4% year-on-year.

The Company duly implemented the national policy of securing energy supply, took measures to boost production and sales volume and stabilise supply, and proactively built a large marketing management system with China Coal Energy’s characteristics of “coal-electricity-chemical”. It secured a substantial number of medium and long-term coal contracts, and honoured its contractual obligations. In 2022, the Group sold 262.95 million tonnes of commercial coal, making a positive contribution to ensuring national energy supply and stable economic and social development.

The Company promoted green and low-carbon energy transformation, set up the Electricity and New Energy Division, and actively developed the clean energy industry pursuing multi-source energy complementarity. Focusing on key resource-rich regions such as Xinjiang, Inner Mongolia, Shaanxi and Shanxi, the Company pushed ahead with the implementation of “joint operation of coal and coal power” and “joint operation of coal power and renewable energy” demonstration projects seeking to establish new energy systems. The first-phase 263MW photovoltaic project of the New Energy Demonstration Base in Shanghai Datun Energy Company was completed and connected to the electricity grid, the construction of the 100MW agricultural and photovoltaic complementary project of Pingshuo Group is underway, and the 160MW photovoltaic power generation project was included in the list of economical electricity grid-connected new energy projects in Shanxi Province.



A Pacesetter in the Energy Industry

The Company always put life and safety first, made considerable efforts to implement safety development strategy, and tightened safety management in all aspects. In the meantime, it enhanced work safety supervision, continued to promote the “10 measures” to address the root causes of work safety issues, and implemented the 15 measures to improve work safety. The Company thoroughly commenced the special rectification and inspection of work safety, and work safety remained at a stable level overall. Throughout the year, RMB1.921 billion was invested in work safety, and sophisticated equipment was introduced and applied to enhance safety standard.

As a champion of green development, the Company created a synergistic industrial chain of safe and green coal mining and clean and efficient utilisation, and reinforced comprehensive management, systematic management and source management. Also, it promoted pollution reduction and carbon emission reduction, and accelerated green and low-carbon transformation and development. The ecological reclamation project in the Pingshuo Mining Area was officially recognised as an industry benchmark, and many of its coal chemical enterprises have attained “zero discharge” of waste water.

The Company was determined to develop through innovation, consolidated the in-depth integration of businesses, higher education institutions and research institutes led by enterprises, and deployed the innovation chain revolving around the industrial chain. It marshalled its efforts in carrying out major original and leading scientific and technological research projects, and continued to improve technological innovation. Throughout the year, the Company invested RMB4.478 billion in research and development, advanced 40 key core technology projects, and won 29 industrial, provincial and ministerial technology progress awards, which was the best accomplishment in the past six years. The Company made headway in the intelligent construction of coal mines was effective, with 36 intelligent mining sites, nine integrated intelligent control platforms, nine coal mine data centres, nine coal mines equipped with 24 sets of intelligent robots, 44 unattended and remote-control fixed stations, and 4 coal mines passing the intelligent coal mine accreditation.

Contribute to Prosperous Life

Adhering to the people-oriented principle, the Company has built harmonious labour relations, strengthened occupational health protection, and safeguarded the legitimate rights and interests of its employees. The Company continuously improved the salary distribution system, further reformed the allocation system, and optimised the revenue distribution structure. It continuously improved employees’ income and significantly increased their sense of well-being.

The Company insists on harmonious win-win development and supports the development of the local economy and society. In 2022, the total amount of the Company’s social contribution through the payment of taxes, labour costs and net profit totalled RMB70.812 billion (including RMB28.239 billion in taxes and administrative fees paid throughout the year), with a record-high social contribution value of RMB5.34 per share.

The Company has deepened efforts to consolidate and expand the integration of effective poverty alleviation efforts and rural revitalization, insisted on undiminished efforts and non-lowered standards, and made due contribution to “paired up assistance”

with passion and energy. Its affiliates assisted 23 villages/towns and implemented 31 assistance projects, benefiting more than 80,000 people who were lifted out of poverty; in 2022, the Company invested RMB59.23 million in assistance funds (including cash equivalents for material aid), and procured and helped sell agricultural and side-line products worth more than RMB30 million in the poverty-stricken areas, contributing positively to the promotion of rural revitalisation.

The Company has been actively involved in charitable causes, supported cultural, sports and health undertakings through money and material donations, and gave back to society by donating a total of RMB27.29 million (including cash equivalents for material aid). In 2022, amid multiple COVID-19 outbreaks in many parts of the country, the Company duly implemented the strategic decisions made by the Party Central Committee on pandemic prevention and control, improved the pandemic contingency plan, and formulated targeted measures to maintain normal business order. The Company and its subsidiaries donated RMB24.57 million to fund local pandemic prevention and control efforts during the year, helping to win the fight against the disease. Coal chemical enterprises under the Company rigorously complied with the national secure fertiliser supply requirements, made every effort to secure fertiliser supply despite the impacts of the pandemic during the fertiliser preparation and application for spring and summer farming, effectively supporting agricultural production and ensuring food supply security.

This year is the opening year for the all-round implementation of the spirit of the 20th CPC National Congress and for the Company to make solid and unremitting efforts in implementation of the “14th Five-Year Plan”. Guided by the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Company will uphold the development direction of “efficiency enhancement and incremental transformation” following the general principle of “prioritising stability, making progress while maintaining stability”. Meanwhile, we will tighten up management, deepen the enterprise reform, reinforce technological innovation, promote transformation and upgrading, prevent and mitigate major risks, and optimally drive the high-quality development of the Company.

At present, the ESG philosophy has become a growing consensus and is gaining in traction among investors. Bearing in mind its responsibility and mission as a state-owned energy enterprise, China Coal Energy will adapt itself to the ESG development trend, advocate the ESG philosophy, further develop the ESG working mechanism, and enhance ESG performance. We will promote mutual advancement and integration of economic value, social value and environmental value, and work together with stakeholders to create a better future.

Wang Shudong
Chairman
23 March, 2023

ESG Governance Statement from the Board

The Board of Directors of China Coal Energy undertakes that the Company will strictly comply with the disclosure requirements of the environmental, social and governance reporting guidelines of the stock exchange in the place of listing.

The Board of Directors of the Company has participated in the review and decision-making regarding major issues of ESG, including the formulation of relevant strategies and policies and the deliberation of its annual ESG Report and social responsibility practices. The Safety, Health and Environmental Protection Committee of the Board of Directors is responsible for monitoring the commitment and performance of key ESG issues of China Coal Energy. Through convening regular meetings and other forms, we discuss and clarify the regulatory responsibilities of the Board of Directors, and improve its regulatory process, so as to integrate ESG

into the Company's business operation and long-term development objectives, and ensure that ESG is truly incorporated into the Company's corporate culture.

On the basis of corporate strategies, current corporate management status and concerns of stakeholders, the Board of Directors benchmarks the Company against enterprises in the industry in terms of sustainable development strategies and management, material issues, quantitative indicators and the best practice, thereby achieving continuous improvement.

This Report discloses the progress and performance of China Coal Energy's ESG works in 2022 in details, and has been considered and approved at the second meeting in 2023 of the fourth session of the Board of Directors of the Company on 23 March 2023.

Company Overview

China Coal Energy Company Limited was incorporated as a joint stock company by the China National Coal Group Corporation on 22 August 2006, with its headquarters located in Beijing, China. The Company was successfully listed in Hong Kong in December 2006, and its A shares were issued in February 2008.

China Coal Energy is a large-scale energy company with four principal businesses including coal production and trading, coal chemical processing, power generation and coal mining equipment manufacturing.

Coal industry

The Company boasts abundant coal resources and diversified coal products as well as modern mining, coal washing and compounding technologies and techniques. Mining areas in Pingshuo, Shanxi Province, and Hujirt, Ordos of Inner Mongolia Autonomous Region, primarily developed by the Company, are the most important thermal coal production bases in the PRC. Xiangning mining area in Shanxi, where Wangjialing Coal Mine is located, is the production base of high-quality low-sulfur, ultra-low-phosphorus coking coal in the PRC. Jincheng mining area in Shanxi, where Libi Coal Mine is located, is the production base of quality anthracite in the PRC. The major coal production bases of the Company have well-established coal transportation networks connected to coal ports, creating favorable conditions for the Company to sharpen competitive edges and achieve sustainable development.

Coal chemical industry

The Company has focused on the development of modern coal chemical such as coal-to-olefin and coal-to-carbamide operations. The coal chemical business is mainly located in Inner Mongolia Autonomous Region, Shaanxi, Shanxi, etc. By maintaining safe, stable, long-term, fully loaded and optimum operation of the equipment, the Company's major production and operation indicators have remained at industry leading levels.

Power generation industry

Aiming to adjust its industrial structure and absorb self-produced coal, the Company proactively develops environmental-friendly pithead power plants and power plants comprehensively utilising inferior coal, and participates in the construction of downstream power plants. By promoting the joint operation and integration of coal and electricity, the Company actively creates its unique advantages in terms of low costs, high efficiency and comprehensive utilisation of resources. The business is mainly located in provinces such as Shanxi and Jiangsu and Xinjiang Uygur Autonomous Region.

Coal mining equipment manufacturing industry

The Company's coal mining equipment manufacturing industry takes the lead nationwide with the capability to develop, manufacture and supply comprehensive coal exploitation equipment. The technologies and market share of complete set of intelligent coal mining platform with transportation, support and mining equipment take a leading position in China.



Industry model of China Coal Energy



Corporate Culture



China Coal Energy's logo consists of two letters of "C", which denotes "CHINA" and "COAL" respectively. The two "C"s form the Chinese character "中", in which the Chinese Character and English letters are joined together to create a vivid image. The combination of the trapezoidal C and the elongated C resembles a ring of light emanating from an old miner's lamp. The shape of a Chinese lantern is formed on the outer contour, which signifies auspiciousness, stability and dignity and conveys strong oriental charm. The base color of the logo is purple blue, the color of coal or gas that combusted in the fullest and the most environmental-friendly way. The logo integrates English, Chinese and a variety of symbols, reflecting the Company's style as a diversified and international conglomerate.

China Coal Energy's Vision

To Build Itself into a World-class Energy Enterprise

China Coal Energy's Mission

To Supply Quality Energy and Lead Industrial Development for a Prosperous Life

To supply quality energy: to build itself into a clean energy supplier, adhere to the integration of coal, electricity and chemical industries, promote clean and efficient utilisation of coal so as to provide energy assurance for China's economic construction.

To lead industrial development: to strive to become the leader in the safe, green energy production industry, the role model of the utilisation of clean energy, the propeller driving technological advancement in the industry, and a practitioner in providing superior quality service.

To contribute to a prosperous life: to put people first and provide employees with more concrete sense of gain, happiness and security; to fulfil social responsibilities more properly to contribute to the building of a beautiful China.

China Coal Energy's Spirit

Dedication, Integrity, Innovation and Being a Forerunner

Dedication – being dedicated to duties, being courageous to undertake responsibilities, being passionate for work and being loyal to the Company.

Integrity – seeking truth and being pragmatic with a down-to-earth working style, being industrious and thrifty, being honest, doing solid work and seeking actual results.

Innovation – being open minded, being courageous to explore, adhering to scientific thinking, enhancing innovative capacity and building into an innovative enterprise.

Being a Forerunner – being pioneering and ambitious, being courageous to scale new heights, benchmarking against excellent enterprises, striving to surpass them, establishing a China Coal Energy brand and striving to become a role model in the industry.

China Coal Energy's Core Values

Scientific Development, Safety and Efficiency, Harmony and Win-win Situation

Scientific development: being people-oriented and making overall planning and consideration to achieve comprehensive, balanced and sustainable development of the Company.

Safety and efficiency: being committed to safe development and to improving efficiency and benefits.

Harmony and win-win Situation: being honest and trustworthy, and striving to achieve mutual benefit and Win-Win Situation as well as harmonious coexistence and joint development of the Company and its employees, of the Company and other enterprises and of the Company and society.

Strategies of the Company



The Company deeply grasps the global energy revolution trend and the internal requirements for energy enterprises' quality development. It mainly focuses on promotion of quality development and the major direction of deepening supply-side structural reforms. The Company comprehensively promotes the "carbon peaking and carbon neutrality", thoroughly implements the new energy safety strategy of "four revolutions and one cooperation", fully implements the "2035 world-class" strategy and the development directions of "efficiency enhancement and incremental transformation". The Company built and improved the high-quality development of the four-industry synergetic industry structure with the coal industry as the cornerstone, the coal-based clean and efficient conversion and utilisation industry and the energy comprehensive service industry as two wings, and new energy and other strategic emerging industries as important growth point, and strived to build a long-chain enterprise of modern coal industry chain and world-class clean energy enterprise pursuing "multi-energy complementation, green and low-carbon business, innovation and demonstration, and modern governance".

Firstly, develop the coal production and trade industry steadily. The Company implements the responsibility for ensuring the national safety and stability of coal supply, continuously deepens the supply-side structural reforms of coal, optimizes the layout of production and development, promotes green and intelligent development, improves product quality and service capabilities, increases marketing scale and market share, continuously builds a safe, efficient, green, intelligent, and leading strategic core industry to promote the quality and sustainable development of China's coal industry.

Secondly, optimize the development of the coal clean and low-carbon conversion industry. Based on the coal, power and chemical integrated industrial chain, the Company will facilitate the development of coal power in terms of size, intelligence and cleanliness as well as the development of coal chemical in terms of high-end positioning, differentiation and refinement. The Company will tap the potential and enhance efficiency of its existing projects,

deploy new projects in a stable and orderly manner, advance its industry chains to modern level with various measures, foster the transformation of coal industry from single fuel to combination of coal and raw materials, and facilitate clean and efficient conversion and utilisation of coal.

Thirdly, vigorously develop the clean energy industry complemented by multiple types of energy. Under the development direction of adapting to local conditions, highlighting model cases, complement by multiple types of energy and various measures, the Company will plan and organise for areas with coal, power and chemical industries and other appropriate areas meeting conditions like rich resources, sound construction conditions and market appetite. The Company will comprehensively strengthen resources allocation, proactively establish model projects, accelerate the deployment and establishment of wind power and photovoltaics projects, promote technology reserve and industry implementation such as hydrogen power and power storage, foster the complementing, integration and synergy between new energy and existing major businesses, as well as facilitate energy supply-side and low-carbon transformation.

Fourthly, transform and upgrade the integrated energy service industry. By proactively leveraging the important opportunity of establishing the leading modern industry chain by the government, the Company will anchor on equipment manufacturing industry as the core of its chain, utilise integrated energy service as the key model and use other coal-based service business as supplements. The Company will adhere to its responsibilities as a corporate citizen, fully foster in-depth corporate reform, enhancement of expertise, business resources integration, commercial model innovation as well as internal and external market exploration. Focus will be placed on fostering high-quality development of coal-based industries, energy intelligent equipment and innovation, development of ground and underground resources for coal mines, and provision of comprehensive energy services to set project examples. The Company will accelerate its establishment as an energy system solution provider.

Corporate Governance

Regulated Operation

Governance structure. The Company has established a corporate governance structure comprising the Shareholders' general meeting, the Board, the Supervisory Committee and the management team in accordance with the provisions of relevant laws and regulations including the *Company Law* and the *Securities Law*, so as to establish a check-and-balance and coordinating mechanism with clear delineation of rights and responsibilities and standardized operation among the executive, decision-making and supervisory bodies and the management team. The Company has formulated a series of rules and regulations such as *Articles of Associations*, *Rules of Procedures of Shareholders' General Meetings*, *Rules of Procedures of the Board of Directors*, *Rules of Procedures of the Supervisory Committee* and *Rules of Procedures of the Management Team*. During the reporting period, the corporate governance of the Company complies with the requirements of relevant regulations.

Standardized operation. The Shareholders' general meeting is the highest authority of the Company, and Shareholders exercise their rights via the Shareholders' general meeting pursuant to the law. The Company convenes the Shareholders' general meeting in strict compliance with the *Articles of Association*, and conducts works on notification, consideration, voting and information disclosure in accordance with the rules of procedures to fully secure the equal status of all Shareholders to effectively exercise the rights to information, participation, enquiry and voting. The Board is the permanent decision-making authority and is accountable to the Shareholders' general meeting. When the Board decides on major issues, such as the direction of the Company's reform and development, its main objectives and tasks, and the arrangement of key duties, it shall first hear the opinions of the Party organisation, so as to fully play the core leadership and political roles of the Party organisation. Under the Board, five special committees are established, namely the Audit and Risk Management Committee, Remuneration Committee, Strategic Planning Committee, Safety, Health and Environmental Protection Committee and Nomination Committee. The special committees are enabled to employ their full functions, and major decisions will be discussed first by the special committees before submitted to the Board for review. Independent non-executive Directors of the Board account for one third of the members of the Board, which meets the relevant regulatory requirements. A work mechanism has been established for independent non-executive directors to conduct fieldwork research. The Board makes an overall arrangement of the annual plan for Board meetings, adopts new forms of meetings and ensures that independent non-executive directors can attend meetings on time and fully express their views. The Supervisory Committee reports to the Shareholders' general meeting and monitors daily operation activities and the performance of duties by the directors and the senior management in accordance with the *Articles of Association* and the relevant laws and regulations. In 2022, China Coal Energy organised and convened four General Meetings, six Board meetings and five Supervisory Committee meetings. The Board of China Coal Energy steps up scientific decision

making and supervision of the Company's major matters such as development strategies, investment plans, financial management and production and operations, as well as guides and promotes corporate reform and development, thus effectively enhancing the Company's core competitiveness and sustainability.

Compliant operation. The Company has always taken "Rule by law" as its core management concept, organised special studies on Xi Jinping's philosophy on the rule of law, carried out in-depth "compliance management reinforcement year" activities, innovated the legal compliance review mechanism for major decisions, strengthened the pre-review of significant projects and played a professional reviewing role. The Company has also put more efforts in the centralized management of systems and processes, as well as built an ecosystem of systems that operates in coordination with each other at different levels. Besides, it has also organised enterprises at all levels to carry out special management of operational compliance issues, comprehensively investigated compliance risks in key areas such as production safety, bidding and procurement, energy conservation and environmental protection, and stepped up the rectification of hidden risks to firmly guard the bottom line of material risks avoidance. The Company issued the *Integrity and Compliance Handbook* and actively organised activities such as legal awareness training and behavioural compliance training for all staff, so as to firmly establish the concept of legal operation, compliance with the law and integrity for all cadres and employees, and strive to build a compliance culture for China Coal.

Internal Control

Internal control system. The Company has established an internal control construction and supervision management system under the overall leadership of the Board of Directors, active promotion of the management, and coordination of the internal control department and the business department to effectively promote the implementation of internal control requirements to the whole process and all links of the internal control system. With the goal of "internal control enhancement, risk prevention and compliance improvement", the Company further consolidates and optimizes relevant systems on internal control, risk and compliant operation, while establishing and improving an internal work mechanism with a strong leadership, definite responsibilities, clear processes and effective regulations. Through establishing a sound mechanism for self-repairing work such as the development, evaluation, improvement and perfection of internal control systems, the Company assures the timely conversion of external regulatory requirements into internal corporate requirements, effectively embeds internal requirements into the whole process of production, operation and management, and promotes implementation by all staff. Through continuously optimizing the management control model of each business sector and regional branch, and by implementing differentiated management across enterprises in different business sectors, the Company has developed a system and framework with different tiers and categories, and successfully improved the effectiveness of internal controls across various business sectors.

Budget management. The Company conducts an in-depth research on macroeconomic and industrial conditions, and has established a comprehensive budget management model of "budget preparation – target management – process control – performance appraisal". It has employed the guiding role of budgeting through strengthening budget proposal implementation, budget refinement, vigorous control, and strict assessment. The Company strengthened performance appraisal for all employees, further extended Key Performance Indicator (KPI) management, integrated the completion of all key duties with relevant operating performance appraisals, highlighted personalized appraisal indexes and increased the weight of key duties in the performance appraisal, so as to guarantee the realization of current operational performance objectives, the fulfilment of key duties as well as the increase of development potential.



Board meeting of China Coal Energy

Corporate Governance

Risk management. The Company continues to improve the major risk assessment and monitoring mechanism with prediction at the beginning of the year, quarterly monitoring and assessment at the end of the year. Closely focusing on “target, risk and control”, the Company conscientiously rationalizes the weakness and potential risks for its enterprises in the course of operation and management. By integrating the changes of risks such as industries, domestic and foreign market environment and bulk commodities price, the Company scientifically identifies material risk categories, continuously optimizes monitoring model, objectively reflects risk characteristics, formulates targeted risk responsive measures, and regularly reports to the decision-making body and management. For early detection, early warning and early disposal of major risks, the Company establishes a material risk event reporting mechanism, sets up risk monitoring indicators, and builds a long-term mechanism. It also decomposes material risk management and control measures, consolidates risk management and control responsibilities of all departments and holding subsidiaries at all levels of the Company, tracks and monitors material risk management and control on a quarterly basis, eliminates possible material risk hazards, and effectively prevents the occurrence of material operational risk incidents.

Supply chain management. China Coal Energy promotes the supply chain management concept of cooperation, reciprocity, win-win and openness, continuously optimizes and improves the bidding and procurement management system, and vigorously advocates fair competition. By establishing a unified management and graded responsibility for the whole life cycle management mechanism of supplier registration and access, performance management and surviving of the fittest, the Company implements “Sunshine Procurement” and market-based procurement. Adhering to procurement with responsibility, the Company will fully integrate the concepts and requirements of performing social responsibilities into the whole procurement process. For rating factors of procurement appraisal, performance by suppliers in areas such as honesty and trustworthiness, human rights of employees, occupational health and safety are considered and acknowledged.

Based on the development of technology and environmental protection, the Company gives priority to green, energy-saving, efficient, safe, reliable and sophisticated materials and equipment.

The Company promotes sustainable development of supply chain, strengthens international cooperation in supply chain construction, focuses on cutting-edge technology, and signs contracts with 14 foreign investors from 8 countries, including Germany, United States, Japan and the United Kingdom, at the 5th China International Import Expo, with record-high procurement categories and contract value. The Company strengthens cooperation with outstanding domestic enterprises, draws on strengths of cooperation with local enterprises in the transformation and development of the enterprises and the construction of projects. By strongly supporting the construction of the local economy, the Company takes the initiative in driving regional economic development and fueling domestic economic recovery.

As of the end of 2022, the Company had 105,739 suppliers, of which 105,647 were domestic suppliers, 37 were from Europe, 20 were from North America and 35 were from Asia (excluding China).

Geographical distribution of China Coal Energy's domestic suppliers by place of registration

Indicator		2022
Total number of suppliers		105,739
Overseas suppliers	Asia	35
	North America	20
	Europe	37
	Northeastern China	3,595
Domestic suppliers	Northern China	42,938
	Eastern China	31,786
	Southern China	2,267
	Central China	7,996
	Northwestern China	15,040
	Southwestern China	2,025

Note: The procurement scope of suppliers excludes the procurement of coal.



China Coal Energy attended the China International Import Expo 2022



Anti-corruption. The Company strictly complies with relevant national laws and regulations such as the *Anti-Unfair Competition Law of the People's Republic of China*, and has zero tolerance for illegal acts such as bribery and unfair competition.

The Company has reinforced the guidance and restraint all units and suppliers to jointly resist dishonest business practices, formulated or revised management systems such as the *Procurement Management Regulations*, *Subcontracting Procurement Management Measures*, followed the principles of openness, fairness, impartiality and good faith, organised and carried out relevant work, consciously accepted supervision and inspection to create a good procurement environment; By giving full play to the anti-corruption coordination mechanism, the Company integrates the regulatory forces of the supervision and inspection, disciplinary investigation and review, patrol checks and inspection, and audit to maximize the regulatory synergy, perfects the regulation mechanism, and heighten the regulation efficiency, with supervision covering all the staff of the Company. The Company has established a working system for the secretary of the party committee and the secretary of the discipline inspection committee to talk to the "top leaders" of the lower level, and further strengthened the supervision of the "top leaders" of the affiliated enterprises; executed special supervision and inspection on the problem of relying on using public resources for personal gain, special rectification of blacklisted suppliers, and review of the special rectification work of "Turning the public interests into private interests" and "shadow companies" and "shadow shareholders"; continued to strengthen the restriction and supervision on the exercise of power, and strived to eliminate the root causes and conditions for corruption such as relying on using public resources for personal gain.

The Company has issued the *Implementation Opinions on Strengthening Honest Culture Development in a New Era*, made continued efforts in anti-corruption education, and raised the Party members and cadres' awareness of integrity in work, power excising, individual development, and family management. We have provided special education for the Party members and cadres of the Company, played over 180 educational films, and organised the leaders at all levels and the directors to study the *Educational Cases of Relying on Using Public Resources for Personal Gain in State-owned Enterprises*, with 22,000 participants in aggregate. The Company carries out visits, reporting and case investigation works in strict compliance with the regulations such as *Rules on Reporting and*

Accusation Works Handled by Disciplinary and Supervision Authorities" and the *Rules on the Inspection of Disciplinary Enforcement by the Disciplinary Authority of the Chinese Communist Party*" for further smoothing visiting and reporting channel, enhancing centralized management and classified disposal of the issues and clues, and prioritising the investigation of suspected corruption issues and clues. There was no corruption litigation case in the Company in 2022.

Supervision through auditing. The Company has always adhered to the functional orientation of "economic physical examination" in internal audit work. As guided by preventing major risks, strengthening compliance management, standardizing management behaviors, and promoting the maintenance and appreciation of the Company's capital, the Company continues to innovate the audit concept, accelerates the construction of a centralized, unified, comprehensive coverage, authoritative and efficient internal audit supervision system, focuses on key positions, key areas and key links, and fully performs the audit supervision responsibilities in accordance with laws and regulations. The Company will continue to improve the quality of audit work, deepen the long-term mechanism of audit rectification, enhance the application of audit results, as well as promote the enhancement of its operation and management levels, and practically safeguard the interests of investors.

Transparent Operation. The Company insists on transparent operation. Focusing on key issues of concerns among staff and society, such as recruitment, procurement, bid invitation and the appointment of cadres, the Company insists on transparency of plans, processes and results, accepts social supervision and prohibits operations behind closed doors.

The Company makes regular disclosures on significant matters and financial affairs through the employee representatives meetings, bulletin boards and suggestion boxes, and encourages staff to put forward advice and suggestions and participate in corporate governance. The Company timely discloses the current information of its operations and development, enhances ESG information disclosure and actively responds to the concerns from society through media and means such as the Company's website, WeChat Public, the ESG Report/CSR report and the annual report. The Company has established a sound communication mechanism with its stakeholders, and answers and listens to questions and opinions from investors via means such as telephone hotline, email and facsimile, thereby enhancing operation transparency.

In September 2022, China Coal Energy hosted the activity of "Institutional Investors' Access to State-owned Enterprises" in the Company in Shaanxi, and more than 20 domestic well-known securities investment institutions went to Company in Shaanxi to conduct an investigation. All securities investment institutions had an insight into the business development and corporate culture of Company in Shaanxi, a clear picture of the focus of coal and coal chemical projects and the future development of the industry. It has enhanced the China Coal Energy's development idea of "efficiency enhancement and incremental transformation" in the capital market, and actively implemented the construction of "joint operation of coal and coal power" and "joint operation of coal power and renewable energy" demonstration bases. Moreover, it actively puts in place the development concept of "carbon production without carbon emission" and "coal free coal chemical industry", focuses on the clean and efficient use of coal, and accelerates the understanding and recognition of work arrangements such as safe, efficient, green and low-carbon transformation.



Northwest Energy Chemical Group commences integrity education campaign

Management of ESG

Work System of ESG

China Coal Energy continues to facilitate ESG management with a focus on incorporating the concept of ESG into its current management system, production chain, communication with stakeholders, and its sustainable development. The Company seeks to actively explore suitable ESG management models and continuously improve its ability to fulfil its responsibility while pursuing the objective of sustainable development through the “optimization of integrated values of economic, social and environmental”.

The Company has established an ESG management system covering three levels including “decision making, organisation and implementation”. The Company has formulated an implementation strategy and a promotion plan in accordance with its key ESG management aspects, and encourages different departments and business institutions to incorporate relevant work into their daily operations.

Decision-making level

The Board of Directors of the Company have participated in the review and decision-making regarding major issues of ESG, including the formulation of relevant strategies and policies and the deliberation of its annual ESG Report and ESG practices.

Organisation level

The Company has established an ESG management team, which is responsible for coordinating daily management work related to ESG, including formulating annual ESG reports, organising and conducting training, collecting ESG performance indicators,

collecting and sharing exemplary cases of ESG practices, and planning and implementing ESG practices.

Implementation level

The professional departments of the Company and different business institutions are responsible for the centralized management of ESG issues and the regular reporting of relevant management measures, performance indicators and exemplary cases. The Company has established a preliminary system of ESG indicators covering six areas: economy, safety, environment, innovation, employees and community, which provides rich historical data on ESG management, ensures the comparability of indicators in ESG reports, and lays a foundation for appraising the incorporation of ESG into the management and operations of the Company.

Stakeholder Communication

China Coal Energy has improved the mechanisms of compilation, publication and transmission of the ESG report, and has enhanced the procedures for the compilation and publication of the report. The Company convened regional forums for major clients, occasionally invited news media to come to China Coal Energy for interviews, sought suggestions from outside experts on ESG and listened to the advice of employee representatives and employees. By incorporating the participation of internal and external stakeholders, the Company has effectively responded to the stakeholders’ concerns about ESG, which has specifically improved the Company’s ESG performance.

Stakeholder	Ways and channels for communication and participation	Material issues	Feedback
Government	Regular work meetings, Report of information, Specific agenda meetings	Tax contribution, Job creation, Contribution to social development	Operation in compliance with laws, Tax payment in compliance with laws, Promotion of economic development
Investors	Reports and notification, Results release, Daily receptions, Interactive Q&A platforms	Corporate governance, Stable operation, Profit sharing, Information communication, Market value management	Enhancing corporate profitability by high-quality development; Regulating information disclosure and strengthening investor relations; Reinforcing market value management and increase investors’ confidence.
Suppliers	Public tendering procedures, Work meetings	Business ethics, Fair cooperation, Mutual development	Fair procurement, Performance of contracts in compliance with laws, Formulation of Management Measures for Materials Procurement, Name List of Qualified Suppliers and Name List of Key Suppliers
Customers	Service hotline, Post-sales service, Seminars, Regular visits	Product quality, Service quality, Business ethics, Satisfaction of individual needs	Provision of quality and customized products and services, Establishment of convenient sales network
Employees	Meetings of employee representatives, Satisfaction surveys, Seminars, Mailings and visits, Online college	Basic rights, Occupational health, Remuneration and benefits, Working environment, Career development, Democratic management, Concern for livelihood	Staff training, Provision of good working conditions, Provision of good working environment, Provision of long-term career development opportunities
Peer mining companies	Cooperation, Workshops on specific issues	Industry standards, Fair competition, Promotion of industry development	Cooperation, Experience sharing, Promotion of sustainable growth of the industry
Financial institutions	Specific agenda meetings, Information reports, Timely repayment of principal and interest	Business operations, Operational risks, Compliance governance, Credit facilities	Timely repayment of principal and interest
Media	Information transparency	Publication of reports, Multi-channel information disclosure	Regular disclosure of information on ESG and significant events of public concerns
Community and the public	Public service activities, Environmental protection	Charity donations, Volunteer services, Community development	Disaster relief, Poverty alleviation, Environmental protection

Identification of ESG Issues

Analysis of material issues

The extent of impact on stakeholders and concern of stakeholders

The extent of impact on the development of China Coal Energy and concern about China Coal Energy

Environmental protection
Employee responsibility
Community growth
Contribution to the industry

Sustainable development
Work safety
Company results
Innovation capacity

Progress of ESG Work

Integrating ESG into corporate strategy. When formulating the corporate development strategy, the Company incorporates concepts of ESG through parallel planning and implementation, thus forming the top-level design of ESG management of China Coal Energy.

Conducting ESG training. China Coal Energy has established a learning and communication platform for ESG, has internally carried out ESG training activities in a systematic and graded manner via various means such as convening meetings and trainings, and inviting experts to give lessons, and has actively participated in a range of external professional training courses to broaden its horizons and raise awareness, including the ESG training session organised by the SASAC of the State Council, the ESG report seminar and forums held by relevant professional organisations.

Promoting the practice of ESG. At the beginning of year, the Company collected ESG work summary for the previous year from each work unit and arranged major ESG tasks for this year. Through carrying out the voting of excellent cases of ESG, the Company raised social responsibility awareness and practical ability of its affiliates, and encouraged qualified major subsidiaries to regularly publish social responsibility reports. By strengthening research on ESG, and exploring the concept, implications, objectives and pathways for coal enterprises' fulfillment of social responsibility, the Company has promoted the performance of social responsibility in a more effective manner.

Enhancing communication about ESG. Since 2008, when its first social responsibility report was issued, China Coal Energy has issued social responsibility reports for 14 consecutive years, and was awarded the title of "CCTV Finance 50 Index • Top 10 Companies in Social Responsibility" twice. China Coal Energy has published its annual environmental, social and governance reports since 2021. In 2022, China Coal Energy was again selected in the "Top 50 State-owned Enterprise in ESG" and "Top 50 State-owned Enterprise in ESG Risk Management", and won the first ESG Golden Bull Award "Pioneering Enterprise".



Won the "Excellent Enterprises of Chinese Coal Industry for Issuing Social Responsibility Reports" Award



China Coal Energy was selected in the "Top 50 State-owned Enterprise in ESG"



Providing High-Quality Products, Ensuring Supply of Energy

Scientifically Organizing Production and Sales

Providing High-Quality Products

Improving Quality and Efficiency

**Economic
Responsibility**





2022 was an extraordinary year in the history of China Coal Energy. Throughout the year, China Coal Energy was guided by the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, coordinated pandemic control and production and operation, and promoted the three-year action of state-owned enterprise reform. It vigorously pushed forward technological innovation, achieved record-high operating results, and continuously improved development quality.

Scientifically Organizing Production and Sales

Coal Production and Sales

In 2022, the Company adopted a target-oriented approach, enhanced its organization for production, optimised mining sequences, and continuously increased its unit production and input level. By actively unleashing the production potential of open pit mines and high-production and high-efficiency mines and promoting the early production of new coal mines, the Company significantly enhanced the resilience of production, giving full play to its role as a “ballast” and “stabiliser” of energy supply. The Company produced 119.17 million tonnes of commercial coal throughout the year, representing a year-on-year increase of 4.4%. In 2022, the Company achieved raw coal production efficiency of 31.5 tonnes per worker-shift, maintaining a leading level in the industry. The intelligent construction of coal mines was effective, with 36 intelligent mining sites, 9 integrated intelligent control platforms, 9 coal mine data centres, 9 coal mines applying 24 sets of intelligent robots, 44 fixed stations being unattended and remotely monitored, and 4 coal mines passing the intelligent coal mine verification.

The Company conscientiously executed the national policy of securing energy supply, executed measures on increasing production and sales volume and stabilising supply. The Company sold 262.95 million tonnes of commercial coal on a cumulative basis in the year, making a positive contribution to ensuring national energy supply and stable

economic and social development. The Company proactively built a large “coal-electricity-chemical” marketing management system with China Coal Energy’s characteristics. Specifically, the Company acquired chain advantages by its scale to consolidate and expand long-term strategic cooperation with high-quality power generation enterprises, and made efforts to expand the market of non-power industry. With stable market supply and procurement services well maintained, and active efforts in stabilizing market share, China Coal’s brand advantage, market discourse power and influence were further enhanced.

Production and Sales of Coal Chemical Products

In 2022, the Company continued to strengthen the refined management of coal chemical business, and vigorously promoted energy conservation and consumption reduction, cost reduction and efficiency enhancement. With stable and efficient operation of the coal chemical equipment, the annual output of the Company’s major coal chemical products was 5.667 million tonnes, representing a year-on-year increase of 3.4%.

In response to adverse factors such as significant fluctuations in the energy and chemical product markets, and tense transportation in certain periods, the Company adjusted its marketing strategy in a flexible manner, continuously optimised its customer structure, improved sales channels, and strengthened logistics management. The Company sold 5.585 million tonnes of its major coal chemical products throughout the year, basically flat compared with last year. The Company strictly implemented national policies related to securing supply and stabilizing price of chemical fertilizers to fully meet the domestic market demand. The Company participated in and won the bid of Heilongjiang Fertilizer Commercial Reserve Project for the first time, serving national food security with practical actions. Active efforts were also made to polyolefin customization business, the “make-to-order” business model became more mature, and the differentiated efficiency enhancement was significantly improved. The Company actively expanded the international business of polyolefin and made a breakthrough in polyolefin import.



Northwest Energy Chemical Group Ordos Energy Chemical Company Uxin Ju Plant

Production and Sales of Coal Mining Equipment

In 2022, by focusing on reform, improving functions, tackling areas of weaknesses and ensuring smooth operation, the Company optimised the supply of materials, improved the efficiency of production technology reserve, and significantly increased the level of output. The cumulative output value of coal mining equipment reached RMB9.96 billion, representing a year-on-year increase of 5.3%.

Centring on the market as well as user needs, the Company improved marketing services and continued to optimise its market deployment and customer structure. By seizing the opportunity of intelligent construction of coal mines, the Company promoted the intelligent construction, information technology, and digital transformation and upgrading. The accumulative value of new contracts increased by 25.7% year on year. We put greater efforts in marketing, and drove electrical automation, industrial software, information system integration and other business to extend to the medical, transportation, engineering and construction markets. The drilling products, loading and transportation vehicles, and truck-mounted cranes were introduced in the non-coal sector. The market boundary was further expanded.

Providing High-Quality Products

The Company strictly abided by the *Product Quality Law of the People's Republic of China* and other laws and regulations, built the awareness of "quality first", and conducted in-depth comprehensive quality management to improve the quality of its products and services. The Company adhered to the principles of honesty and trustworthiness and ensured that advertising for coal mining equipment and other products was true, and that the labels of coal chemical products complied with relevant requirements and regulations and contained true and accurate information. The Company held fast on the principles of legality, legitimacy, transparency and necessity for the collection and use of personal information, proactively expressed the purpose and method of collecting and using personal information to customers, and ensured the minimum necessity of permissions on accessing personal information and system. Meanwhile, the Company strengthened employees' awareness of information security and confidentiality, strictly standardized the authorization process and customer data management, and promptly rectified the hidden hazards of privacy leakage. During the reporting period, there was no major customer privacy leakage incident.

Pursuing the "market-oriented and customer-centric" operation philosophy, the Company actively kept itself informed about the problems encountered by customers in purchasing and using products and services such as coal, coal chemical products, and coal mining equipment, and provided solutions in a timely manner. Technical support for the pre-sale, in-sale and after-sale were provided to customers for the safety use of the products and services. In 2022, the Company achieved a 100% response rate in its products and services. All the objections related to the products were settled through negotiation in accordance with the sales contract. No cases of products sold or shipped being recalled for safety and health reasons were received, and no lawsuits involving the Company occurred.

Improving Coal Product Quality

The Company continued to improve the construction of coal quality management system, exerted more efforts in the management, evaluation and inspection of coal quality, and strengthened the whole-process quality control. Comprehensive management was conducted on coal quality from coal mining, washing, transportation and storage to stabilize and improve the quality of the Company's major products. According to the market demand, the Company constantly optimized product structure, provided customized coal products and strengthened its coal blending process to meet the needs of different customers. The Company fully employed its comprehensive advantages such as brand, transport capacity and capital, strengthened its assurance of transport capacity, and provided timely supply of coal products, thus effectively enhancing customer satisfaction.

Improving the Quality of Coal Chemical Products

The Company continuously improved the quality management system, established a cascade quality management team, strengthened refined operation, improved the quality control of device process, and enhanced product quality and performance. In addition, the Company vigorously promoted the customization of olefin products, facilitated the development towards differentiation, high-end positioning and high added value, consolidated and expanded the market share of fertilizers, and enhanced the brand influence of coal chemical products. Fully taking advantage of the intensive sales of coal chemical products, the Company improved supply chain management and the layout of remote warehouses, put into operation the logistics and transportation command system, and carried out the "last kilometre" distribution business, thus constantly improving customer services and creating the brand image of "China Coal chemical products".

Improving Service Quality for Coal Mining Equipment Products

China Coal Equipment Company conducted strict management of product quality, reinforced control over the production process, strictly fulfilled rewards and punishments regarding quality, and continued to comprehensively enhance quality management level. China Coal Equipment Company's major production enterprises have passed the international welding quality management system certification, the review of QEO certification system and CNAS' laboratory accreditation, and the annual review of EN1090 certification for steel products. The Company's



quality management standard operation capacity, production and manufacturing quality assurance capacity continued to be strengthened. All management and technical service staff at all levels went deep into customer sites to understand the product running conditions so as to proactively improve post-sale services. They actively conducted customer satisfaction surveys, registered users' main machines, and sorted out statistics such as equipment model, operating conditions, user feedback, rectification plan, persons-in-charge and record of return visits; also, they created a standing book on post-sale services, regularly followed users' feedback, supervised the improvements, and further improved the services.



The connecting-rod robot production line of the structural branch of China Coal Beijing Coal Mining Machinery Co., Ltd., widely used in the welding of various hydraulic support connecting rods

Improving Quality and Efficiency

In 2022, the international energy situation was complex and grim. The Company conducted an in-depth analysis on the macroeconomic situation and changes in market supply and demand, and formulated the *Special Plan for Improving Quality and Efficiency in 2022*. Guided by high-quality development, the Company coordinated production and operation, reform and development, and pandemic control, and continued to improve quality and efficiency with focus on cost reduction and expenditure reduction, asset revitalization, technological innovation, and management improvement. The results of the Company hit record high and the quality of business continued to improve.

Coal production enterprises enhanced their organization for production, optimised the balance between amount of coal mined and mining speed, and continuously increased their unit production and input level. Also, they actively released the production capacity of open pit mines and high-production and high-efficiency mines and promoted the early production of new coal mines, which significantly enhanced the resilience of production. During the reporting period, the Company's raw coal productivity was 31.5 tonnes per worker-shift, continuing to maintain a leading level in the coal industry.

Focusing on building energy efficiency benchmarks, coal production enterprises optimized their production process, enhanced system maintenance, arranged overhaul in a scientific manner, and strictly controlled unplanned shutdown. They achieved safe, stable and efficient operation throughout the year. Additionally, they actively responded to the pressure of rising raw material prices, and laid emphasis on energy conservation, cost reduction and efficiency enhancement. As a result, all affiliated coal chemical enterprises made profits.

Seizing the opportunity of intelligent upgrading and transformation of coal mines, coal mining equipment enterprises intensified their efforts to tackle and introduce key systems and technologies, accelerated the upgrading of technologies, products and services, overcame the impact of the pandemic, and improved the efficiency of production technology preparation. The annual output value of coal mining equipment was RMB9.96 billion, representing a year-on-year increase of 5.3%, and the total operating revenue and profit continued to grow.

Power enterprises focused on strengthening coordination between coal and electricity, actively studied and evaluated the market situation, and generated more efficient electricity and market electricity; meanwhile, they increased the on-grid electricity price year on year, and effectively responded to the impact of coal price.

Life is the Most Valuable, Safety is of Vital Importance

Preventing and Resolving Major Risks

Improving Security Capabilities

Securing Safety Responsibilities Level by Level

Strengthening Supervision in Key Safety Factors

Safety Responsibility





In 2022, the Company conscientiously implemented the arrangements of production safety from the competent authorities, strived to overcome the adverse impact of the COVID-19 pandemic on safety production, comprehensively strengthened safety management and supervision, continued to promote the “Ten” fundamental policies and “Fifteen” safeguard measures of safe production. In addition, we carried out in-depth special rectification and safety inspection of production process, ensured the safe production during special periods such as major festivals and important meetings, and maintained overall stability of safe production.

Prevent and Resolve Major Risks

In order to comprehensively lift our capability of risk identification and quality control, we deepened the construction of dual-prevention mechanism, and set up a major safety risks management and control mechanism of “annual identification, quarterly evaluation, monthly summary, and weekly analysis” to ensure that risks are controllable and under control. We thoroughly commenced the three-year action of special rectification of work safety, the year of improving production safety of central enterprises, the special rectification of self-built houses safety and the centralized management of hazardous chemical safety risks, gradually securing safety responsibilities level by level to ensure that all activities achieve practical results. Drawing upon the combined wisdom from expert consultations and business consultations, we stepped further to defuse major disasters, studied and resolved a number of major and difficult safety issues.

Improving Security Capabilities

We continue to deepen the standardization of coal mine safety production, and 9 coal mines, including Anjialing Mine, have reached the first-level national standards of the production safety standardization management system. We also accelerated the construction of intelligent coal mines, and the proportion of intelligent underground mining faces witnessed a significant increase, with unattended operation realized in many fixed places. Yaoqiao Coal Mine of Shanghai Energy Company has passed the on-site acceptance inspection by experts on the first batch of national intelligent demonstration coal mine. The Company continued to promote “one optimization and three reductions” and invested RMB1.921 billion in safety expenses, vigorously upgraded the core equipment in coal mines, and promoted the application of advanced equipment such as kilometer directional drilling rigs. 97 major production system modification works were completed, including “one ventilation and three preventions”, prevention and control of water

pollution, machinery transportation and electricity transmission. The Company steps up construction of emergency rescue system, and the Pingshuo Group rescue brigade has been included in the construction of national emergency rescue base, representing our enhanced capability of emergency rescue.

Securing Safety Responsibilities Level by Level

The Company implements the requirements of the *Work Safety Law*, revised the safety production responsibility system of the headquarters of the joint-stock company. We clarified the safety responsibilities of leaders at all levels, functional departments and personnel in accordance with the principle of “three management and three musts” and “sole responsibility”, so as to ensure that safety responsibilities have “no cross and no overlap”. Safety guarantees were implemented at all levels of the Company, guaranteeing 19 mines (plants) to promote the implementation of on-site safety responsibilities. Measures for evaluating the safety performance of coal mining enterprises have been formulated to comprehensively evaluate the implementation of the main responsibility for safe production and the ability of the responsible persons to perform their safety duties, in a bid to continuously enhance safety management capability.

Strengthening Supervision in Key Safety Factors

In order to constantly strengthen safety supervision and inspection, the Company organized and carried out a series of activities such as “Warning Campaign in March”, “Safe Production Month” and “Hundred-Day Safety” and the general inspection of safe production, to maintain a tough position in and create a strong atmosphere of safe production. In order to secure the implementation of security measures, we issued the “fifteen” safeguard measures and “nine strict” safety measures to strengthen safe production, and enhanced the safety management and control upgrade measures for important meetings and key periods. We also carried out the initiative that “cadres should introspect if workers violate the rules” within the Group, and vigorously oppose the “three violations” behaviours to cultivate the safety culture of “abiding by the rules”. Shanghai Energy Company has built an intelligent violation monitoring system, which can realize intelligent identification, analysis, capture and alarm for violations and hidden hazards, further enhancing the effect of “three violations” governance.



China Coal Energy's second coal chemical enterprises emergency rescue skills competition was held in Shanxi Company



Dahaize Coal Mine introduced VR and AR technologies provided safety education to its employees



Adhering to Green and Low Carbon and Improving the Ecological Environment

In Response to Climate Change
Strengthening Environmental Protection
Conserving Energy Resources

Environmental
Responsibility





Upholding Xi Jinping's Thought on Ecological Civilization, China Coal Energy has conscientiously implemented the national policy of resource conservation and environmental protection, built an industrial chain of safe and green mining as well as clean and efficient utilisation of coal based on coal, put the concept of green development into the whole process of production and operation as well as development to strengthen comprehensive governance, systematic governance and source governance, and to promote the synergy of pollution reduction and carbon reduction, contributing to the high-quality development of China Coal Energy.

In Response to Climate Change

Risks, opportunities and impact on the Company of climate change

In response to climate change, promoting low-carbon development have become a global consensus. The major strategic decision of the Party Central Committee on carbon emissions peak and carbon neutrality provided a fundamental basis for promoting the comprehensive green and low-carbon development and transformation of domestic economic and social development. According to the Working Guidance for Carbon Emissions Peak and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy and Action Plan for Carbon Emissions Peak before 2030 issued by the CPC Central Committee and the State Council, the Company investigated policies and regulations on national carbon emissions peak and carbon neutrality, carbon market and carbon finance. As guided by the Company's "14th Five-Year" development plan, the Company identified and evaluated the risks and opportunities appeared in the major business segments, formulated corresponding measures, and resolutely implemented the major decision and deployment of the CPC Central Committee and the State Council on carbon peaking and carbon neutrality. The Company focused on the impact of climate change on extreme weather, got well prepared on preventing seasonal extreme weather such as flooding, raining, snowing, freezing, and high temperature, therefore the emergency plans were enhanced, and emergency response capabilities were improved. The Company established a specific carbon asset management organization to carry out specific work on energy conservation, efficiency improvement and carbon reduction. With focus on coal, electric power and coal chemical engineering, the operation efficiency of the industrial chain will be comprehensively improved through technological innovation, transformation and upgradation of energy saving and carbon reduction, therefore the comprehensive energy consumption and carbon emissions will be further reduced to meet the challenges of climate change. The Company made full use of the policy guidance, took the construction of China Coal Energy's characteristic model bases generating electricity by combining different energy sources as the starting point, and strived to comprehensively utilise the underground resources and develop the above-ground resources. The Company proactively promoted the deep integration and development of coal-electricity-chemical industry and new energy, and strived to create an industrial pattern of multi-energy complementary and circular economy such as wind power, photovoltaics, hydrogen energy, and power reserve, to provide cleaner energy products and services and accelerate the transformation and development.

Setting targets to address climate change

To contribute to the construction of China's new energy system, we resolutely implement the goals of the CPC Central Committee and the State Council on carbon emission peak and carbon neutrality, adhere to green development, strengthen the clean and efficient use of coal, accelerate the green and low-carbon transformation, and continue to promote carbon emission reduction.

Taking Action to Address Climate Change

Control greenhouse gas emissions. The Company issued the *Interim Measures for Carbon Emission and Carbon Asset Management* to standardise the establishment of a three-level carbon asset management system of "company headquarters – secondary companies – plants/mines", which effectively prevented and controlled carbon trading and the risks of compliance for carbon allowance, to reduce greenhouse gas emission, and promote the green and low-carbon development of the Company. In 2022, the Company followed the standards of *Guidelines on Enterprises Greenhouse Gas Emissions Accounting and Reporting (Power Generation Facilities)*, *Guidelines for Enterprise Greenhouse Gas Emission Accounting and Reporting (Chemical Industry)* and *Guidelines for Enterprise Greenhouse Gas Emission Accounting and Reporting (Coal Production) (Trial)*, organised the investigated greenhouse gas emissions. According to preliminary statistics, in 2022, the total carbon emissions of the Company's coal, power and chemical segments was approximately 46.17 million tons carbon dioxide equivalence, being 3.4% lower than that in 2021; with the carbon emission intensity of 4.81 tons per RMB10,000, being 7.7% lower than that in 2021. The above data related to carbon emission is obtained from the Company's statistics. Currently, the Company is undergoing the third-party verification of carbon emission data for 2022 in accordance with the requirements of the Ministry of Ecology and Environment, which is expected to be completed in the second half of the year.

Promote green and low-carbon transformation and development.

In 2022, the Company adopted the development direction of "efficiency enhancement and incremental transformation", continuously improved carbon emission and carbon asset management systems, and comprehensively improved our ability in response to climate change and organised nearly 1,000-person professional trainings. The Company continued to carry out carbon inventory of key emission entities, included all coal, power and chemical production enterprises in the scope of carbon emission data management, and continuously consolidated the database in response to climate change. The development path of green transformation under the context of "dual carbon goals" was studied and explored, the potential of energy saving, carbon reduction and efficiency improvement was further explored, the innovation of low-carbon technology was enhanced, and green and low-carbon transformation and development were accelerated. The 263MW photovoltaic project of the first phase of New Energy Demonstration Base in Shanghai Energy Company was completed and connected to the electricity grid, the 100MW agricultural and photovoltaic complementary project of Pingshuo Group started construction, and the 160MW photovoltaic power generation project was included in the list of affordable grid-connected new energy projects in Shanxi Province.



Phase I Project of Shanghai Energy Company New Energy Model Base

Strengthening Environmental Protection

The Company adhered to the green development, strictly fulfilled the political and social responsibilities of central enterprises for ecological and environmental protection, upheld the goal orientation, problem orientation and result orientation, improved the control system, put more efforts on the fulfilment of responsibilities, and accelerated the implementation of pollution control and ecological restoration and treatment projects. The main indicators continued to perform well while no environmental emergencies occurred during the year.

Wastewater treatment and reuse

The wastewater discharged by the Company is mainly coal mine water, coal chemical industry wastewater, and the main water pollutants are chemical oxygen demand and ammonia nitrogen. The discharge standards implemented include *the Emission Standard for Pollutants from the Coal Industry (GB20426-2006)* and *the Integrated Wastewater Discharge Standards (GB8978-1996)*. In accordance with the different characteristics and methods of reuse of mine water, industrial wastewater and domestic sewage, the Company actively promoted the construction of mine water advanced treatment projects, upgradation and transformation, etc., adopted corresponding processing techniques to ensure that the reuse of water and external drainage meet the standards. Moreover, the Company also has deeply explored the potential of using water with different quality standards and multiple use in the mining area and the park, and integrated and optimised the comprehensive utilisation system of wastewater. In 2022, the chemical oxygen demand of the Company decreased by about 15% as compared with that of last year, with a comprehensive utilisation of mine water of 96.2%, maintaining an advanced level in the industry.

Air pollution control

The exhaust gas emitted by the Company is mainly flue gas generated by coal-fired boilers, and the main air pollutant are soot, sulfur dioxide and nitrogen oxides and the discharge standards implemented are *the Emission Standard of Air Pollutants for Thermal Power Plants (GB13223-2011)* and *the Emission Standard of Air Pollutants for Boilers (GB13271-2014)*. The Company has strengthened the control of unorganised emissions in coal mining, transportation, storage and transportation in strict accordance with the requirements of environmental assessment to make the coal-fired boilers of electric power and coal chemical enterprises of the Company meet the ultra-low emission standards. In addition, the Company has also strictly controlled the emission indicators of air pollutants and launched the special initiative in controlling volatile organic compounds (VOCs). Among them, China Coal Beijing Coal Mining Machinery Co., Ltd. was rated as “green factory” by the Ministry of Industry and Information Technology.

Solid waste disposal and utilisation

The solid waste generated by the Company is mainly hazardous waste such as greasy waste and general industrial solid waste such as coal gangue. The Company strictly carried out solid waste disposal in accordance with the laws, regulations and standards including *the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes*, *the Hazardous Waste Transfer Management Measures* and *the Standard for Pollution Control on the General Industrial Solid Waste Storage and Landfill (GB18599-2020)*. The Company strengthened the storage and disposal management of bulk solid waste, kept on promoting

the reduction and recycling of general industrial solid waste such as gangue, and actively expanded the utilisation of coal gangue, to further reduce treatment costs and maximise the level of solid waste utilisation. The Company also treated hazardous waste according to the laws and regulations, collected, stored, transferred and disposed hazardous waste in strict accordance with the requirements, and reinforced the standardised management of hazardous waste.

Hazardous wastes

The hazardous wastes produced by the Company are mainly greasy waste and catalysts waste. The Company built a temporary storage warehouse for hazardous waste in accordance with *the Standard for Pollution Control on Hazardous Waste Storage (GB18597-2001)*, established a hazardous waste management register in accordance with *the Technical Guidelines for Deriving Hazardous Waste Management Plans and Records (HJ 1259-2022)*, strengthened the management of the production, storage, transfer and other links of hazardous waste, and entrusted qualified entities for disposal. In 2022, the Company generated 142,000 tons of hazardous waste, with 14.8 kg of hazardous waste per RMB10,000 of production output, all of which were generated and disposed of in a standardised manner.

General industrial solid waste

The general industrial solid waste produced by the Company is mainly coal gangue. The Company has comprehensively utilised coal gangue in multiple ways, including power generation, production of construction materials, extraction of high value-added products, road backfilling and land reclamation, promoted the application of gangue filling and mining, layer grouting and other technologies according to local conditions, and comprehensively utilised solid wastes such as fly ash and slag as raw materials for cement and building materials, so as to further improve the resource utilisation efficiency. Those could not be utilised was disposed of in accordance with *Standard for Controlling Pollution from Sites for Storing and Landfilling of General Industrial Solid Waste (GB18599-2020)*. In 2022, the Company produced 19.08 million tons of coal gangue, with approximately 0.2 ton of coal gangue produced for one ton of commercial coal, and with a comprehensive utilisation of 19.12 million tons (including comprehensive utilisation in previous years). The Company also produced 6.08 million tons of other general industrial solid waste including coal fly ash, cinder and chemical waste, with a comprehensive utilisation of 2.22 million tons.

Packaging material

The coal produced by the Company is the bulk commodity and does not require the use of packaging materials. The polyolefin, urea and ammonium nitrate of the coal chemical business segment involve the use of product packaging materials, mainly polyolefin product packaging bags. The total use of packaging materials was 14,922 tons, and the use of packaging materials per unit product was 3.9 kg per ton.

Ecological restoration

The Company actively practice the concept of “Lucid waters and lush mountains are invaluable assets”, and strictly abided by the relevant laws and regulations such as *the Water and Soil*



Conservation Law of the People's Republic of China and the Provisions on the Protection of the Geologic Environment of Mines. Additionally, the Company planned, deployed and implemented the comprehensive treatment of mining subsidence area, reclamation of open pit dump and coal production in the same way, took various measures to build an ecological and civilised mine in the new era, built coal gangue dumping site as a high standard ecological environment model project, and actively carried out ecological environment governance. In combination with the current situation of the mining subsidence area, the Company shall reasonably plan and actively promoted the treatment of the mining subsidence area in accordance with the principles of "overall layout, coordination and unification". Our open-pit coal mining operation realised the integration of "stripping, mining, backfilling, and reclamation", which combined green mining with green development, effectively improved the ecological environment of the mining area, and realised the synergy of ecological, social and economic benefits.



Pingshuo Group's Ecological Restoration and Treatment of the East Open Pit Coal Mine Dumping Site

China Coal Pingshuo Group has invested a total of RMB2.6 billion in completing 20,000 mu of green area and 63,000 mu of reclaimed land in the mining area and surrounding areas. In particular, in the past four years, the Company has reclaimed 29,500 mu of land and 13,800 mu of greening, and has planted 920 mu of nurseries and more than 13.11 million seedlings of various sizes in the mining area. The green area outside the mining area is 3,600 mu, more than 270,000 large trees of various types are planted, and the vegetation coverage rate of the dump is more than 95%, which is much higher than the vegetation coverage rate of less than 10% of the original landform. Currently, there are 213 species of various plants, more than 600 species of insects and more than 30 species of wild animals in the mining area, and biodiversity is becoming increasingly prominent, and the former mining area has become a green ecological park full of green trees and vitality. China Coal Pingshuo Group's mine ecological governance and environmental protection have been widely recognised by all sectors of society, and have successively won the 7th CEPF Baosteel Environmental Excellence Award (中华宝钢环境优秀奖), the National Advanced Collective for Energy Conservation (全国节能先进集体), the National Advanced Enterprise for Energy Conservation and Emission Reduction in the Coal Industry (全国煤炭工业节能减排先进企业), National Greening Advanced Entity (全国绿化先进单位), etc.; the practice cases of mining and reclamation integration in Pingshuo mining area were rated as the "Typical Case of Central Enterprise Brand Building", the ecological construction achievements were listed as the "Two Mountains Theory" practice highlights of central enterprises by the State-owned Assets Supervision and Administration Commission of the State Council, and the social responsibility case of China Coal Pingshuo Group's "Mine Reclamation for Recreating Green Mountains" was rated as the "Green and Low-carbon" excellent case of Chinese central State-owned enterprises.

Conserving Energy Resources

Conserving energy

Objective of Energy Efficiency: The comprehensive energy consumption of RMB10,000 of output value was reduced by 10% compared with 2020.

The Company has strictly abided by the laws and regulations such as *the Energy Conservation Law of the People's Republic of China*, *the Renewable Energy Law of the People's Republic of China* and *the Circular Economy Promotion Law of the People's Republic of China*, prioritised on energy saving in its production and operations, and strived to consume minimal energy to guarantee normal production and operation activities. The conservation of coal, electricity, oil and other energy resources has been fully promoted in each of the Company's bases, industry sectors, enterprises and fields, achieving good results in energy saving, cost reduction and efficiency, and emission reduction effect. In 2022, the Company's integrated energy consumption per RMB10,000 worth of production output was 1.2 tons of standard coal/RMB10,000 (According to the assessment requirements of SASAC, all indicators involving industrial output value are calculated against the comparable prices of 2020 as the base period.). The comprehensive energy consumption for raw coal production was 3.68 kg standard coal/ton coal, staying ahead of that of its industry peers.

Coal segment: Coal enterprises vigorously promoted energy-saving technological transformation and continuously optimised coal mining design. The transportation route of the open-pit coal mines and the heating system in the mining area were renovated. The Company reformed the frequency conversion of belt conveyors in coal mines, and eliminated and replaced outdated electrical equipment to increase the energy efficiency. China Coal Pingshuo Group adopted the underground passage coal transportation system to replace the dump truck for long-distance coal transportation to realise "replacing oil with electricity". The energy consumption per unit product of coal mining decreased by 11% year on year, and the energy efficiency of open-pit and underground coal mines basically reached the advanced level.

Coal chemical engineering segment: The coal chemical enterprises implemented projects such as waste steam recovery projects such as recovery boiler's exhaust steam discharged to the air at regular intervals, by-product steam of VOCs treatment unit. The retrofit potential of energy saving and carbon reduction technology were further tapped, to optimise the production process, and continuously improve the energy efficiency. Among them, the energy consumption per unit product of methanol is 1,364 kg standard coal/ton, which is better than the industry benchmark value.

Electricity segment: Power enterprises pushed technical transformation projects such as circulation transformation of steam turbine, vacuum system energy-saving transformation and other energy-saving technical transformation measures, as well as deep peak shaving tests. The Company deeply explored the regulating capacity of coal power units to reduce the energy consumption of coal power units, strengthen the flexibility and regulating capacity, and improve the level of cleaning and efficiency. Therefore, the coal consumption for power supply during the year decreased 4.5 grams standard coal/kWh.

Resource conservation

Resource recycling: The Company continued to increase the selected proportion of raw coal, and continued to strengthen the comprehensive utilisation efficiency of resources. The Company actively utilise underground filling and layer separation grouting to maximise on-site consumption and safe disposal of coal gangue. The Company optimised and adjusted the production process and parameters of low calorific value coal-fired power plants, prioritised the consumption of low calorific value coal from self-owned coal mines, and realised efficient transformation of resources nearby.

Water conservation: The Company strengthened the analysis and demonstration of water sources, water extraction, water use and water conservation measures. Industrial water-saving facilities in construction projects were designed, constructed and put into operation with the main project at the same time. The Company strengthened water-saving management throughout the production process, and implemented water-use plans and target management. It strengthened the treatment and regional recycling of mine water, promoted advanced water-saving technology and equipment, realised the cascade utilisation and recycling of water resources, improved water use efficiency, and reduced the consumption of fresh water. The fresh water consumption of the Company (total water consumption) in 2022 was 65.96 million tons, and the fresh water consumption per ten thousand of production value was 6.88 tons per RMB10,000, and the reuse rate reached 98.1%.

Objective of water efficiency: Mine water utilisation rate is at least 85%.

Efforts: The Company has carried out projects such as advanced treatment of mine water and upgradation of transformation standards, promoted the application of technical processes such as recycling water and wastewater resource utilisation, improved the reuse rate of mine water, made overall planning for coal mine and coal chemical projects with high water consumption. Additionally, the Company also has promoted the intensive recycling of mine water resources, adopted the qualified mine water for river and wetland ecological flow supply, agricultural irrigation, reclamation and greening, conducting to the improvement of the local ecological environment.



Construction of energy management system

The Company continuously updated system documents to ensure the effectiveness of the energy management system. In order to effectively improve energy utilisation efficiency, strengthen the energy use process and continuously optimise the production elements, the affiliated companies followed the standard of *Energy Management Systems-Requirements with Guidance for Use (GB/T 23331-2020)* to carry out conversion and certificate renewal in order to ensure the continuous and effective operation of the energy management system.

Information supporting was strengthened to advance the refined management of energy. In order to promote the whole process, comprehensive and intelligent transformation and upgradation of energy measurement, China Coal Shaanxi Yulin Energy and Chemical Co., Ltd. has established an information system with automatic control utilisation rate and automatic production process data acquisition rate of more than 95% to realise the functions of real-time detection of energy management, online analysis of energy and product quality, energy balance statistics, energy prediction, online monitoring of equipment operation and online optimization of production process, so as to measure, count and analyse energy consumption data in real time, which provided basic support for the establishment of resource-saving, green and low-carbon enterprises.

Energy consumption benchmarking management was strengthened to effectively improve the efficiency of resource and energy utilisation. Through energy audit, clean production, energy efficiency test, energy balance, etc., China Coal Erdos Energy & Chemical Co., Ltd., China Coal Zhangjiakou Coal Mining Machinery Co., Ltd., etc., benchmarked with national and industrial standards and leading enterprises in terms of major energy consumption indicators, unit consumption of devices, sophisticated technology, etc., and deeply tapped the potential for energy conservation, efficiency improvement and efficiency creation.

Promotion of energy saving and low carbon

The Company focused on the energy saving theme of “green and low carbon, energy-saving first” and the low carbon theme of “taking the ‘carbon peaking and carbon neutrality’ actions to jointly build a beautiful home”, and organised and carried out energy saving and low carbon promotion activities with rich content and various forms. The affiliated companies created energy saving promotion column, energy saving and low carbon online quizzes, and the campaign of low-carbon travel and brisk walking to enhance employees’ awareness of energy saving and low carbon.





Promoting Technological Innovation to Lead Industry Development

Enhancing Innovative Capacity

Strengthening Key Technology Research and Development

Deepening Innovation and Entrepreneurship Activities

Strengthening Intellectual Property Protection

**Innovation
Responsibility**





In 2022, China Coal Energy thoroughly implemented the Party Central Committee and the State Council's plan for technological innovation. Taking innovation as the primary driving force for development, we played a leading role in innovation by centering on the development philosophy of "efficiency enhancement and incremental transformation". We spared no efforts to satisfy major needs, such as ensuring energy security, advancing energy transformation, leading the energy revolution and supporting the goal of carbon peaking and carbon neutrality. In order to further deepen industry-academic collaborations led by enterprises, we deployed an innovation chain around the industrial chain, gathered forces to carry out leading original major technological research, and created a source of original technology in the energy field and full modern industrial chain. Thereby, our technological innovation witnessed a constant improvement and our leadership in the industry continues to raise.

Enhancing Innovative Capacity

The Company is committed to the in-depth implementation of innovation-driven development strategy, comprehensively deepened the reform of the technological innovation system and mechanism, and constantly refined our technological innovation system. In order to support the refined management of technological innovation, we formulated and revised a number of technological innovation management systems that are conducive to releasing innovation momentum. China Coal Energy accelerated the construction of innovation platforms and gave impetus to the development of professional research institutes and "Digital China Coal". In order to cultivate and introduce high-end talents in technological innovation, we strive to efficiently manage "selection, training, employment and retention" of scientific and technological talents, adopt market-oriented selection and contractual employment management, cultivates scientific and technological talents through scientific research projects, and constantly improve the incentive policy for scientific and technological talents.

As at the end of 2022, the Company has set up a sophisticated system comprised of China Coal and Coal Chemical Research Institute, China Coal Equipment Research Institute, 1 national energy coal mine extraction mechanical equipment R&D (experimental) center, 2 national enterprise technology centers, 2 national energy technology equipment evaluation centers, 7 nationally recognized laboratories, 5 provincial enterprise technology centers, 5 provincial engineering technology research centers, 5 provincial technology innovation centers, 5 postdoctoral research stations, 15 high-tech enterprises, and 4 "mass entrepreneurship and innovation" model bases, showcasing significantly enhanced technological innovation capabilities.

Strengthening Key Technology Research and Development

The Company accelerated the implementation of major technological projects, and continuously improved our ability in tackling key core technologies. The Dahanze Coal Mine Intelligent Construction Project realized the whole process intelligence in mining, transportation, lifting and processing, and built the industry's first 5G 700 MHz and 2.6 GHz integrated network. The East Open Pit Coal Mine Intelligent Construction Project realized the unmanned operation of mining trucks, breaking through in the first unattended remote control drilling rig technology in China. The special project of Prevention and Control of Rock Burst in Mines in Inner Mongolia and Shaanxi developed and applied the new technology for joint fracturing and impact prevention between the upper and lower wells, developed adaptive anti-impact energy absorption brackets, and built a multi-parameter intelligent early warning cloud platform, establishing a new benchmark for efficient management of major disasters. Considering the national oil and gas strategic base positioning of northern Shanxi, Pingshuo Group conducted a precedent experimental research on the application of large-scale entrained flow gasification of high-sulfur, high-ash and high-ash-melting-point coal in northern Shanxi, promoting the coal-based industrial chain to extend downstream.



Pingshuo Group's East Open Pit Coal Mine truck unmanned driving project realized the synergistic operation of equipment

Innovation Responsibility

China Coal Energy intensified the construction of intelligent coal mines, and constantly enhanced the management of safe, efficient and green mining. Shanghai Datun Energy Resources Company Limited ("Shanghai Energy Company") developed an intelligent gangue separating robot, which increased the sorting efficiency by 60% and completely replaced manual operations. Northwest Energy Chemical Group has developed a big data management and control platform for intelligent mining of coal mines based on the industrial Internet, with an intelligent mining rate of more than 85%. Zhongtian Synergetic Company explored a new roadway support technology, which reduced the support time by 50% and the material cost by 16%. The key technologies of intelligent coal mining developed by China National Coal Mining Equipment Co., Ltd. were included into the "Catalogue of Advanced Applicable Technologies for Conservation and Comprehensive Utilization of Mineral Resources (2022 Edition)" by the Ministry of Natural Resources, and were promoted and applied in more than 30 intelligent working face construction projects in the industry.

The Company advanced the manufacturing of coal machinery and equipment, and constantly enhanced the research and development capability of high-end technical equipment. China Coal Beijing Coal Mining Machinery Co., Ltd. has successfully developed a 10-meter mining height hydraulic support with independent intellectual property rights, and its technical indicators such as mining height, intelligence degree and working resistance are leading the world. The complete set of scraper conveyor of China Coal Zhangjiakou Coal Mining Machinery Company Limited was selected as a single champion product in the manufacturing industry, who independently developed the first 500-meter working face intelligent scraper conveyor in China, and the intelligent heterogeneous product was selected as the China's first set of technology equipment in the energy field. China National Coal Mining Equipment Co., Ltd. launched the industry's first intrinsically safe 5G integrated communication system for mines, which realizes underground high-speed transmission, 4G/5G integrated call, emergency broadcasting, accurate positioning of underground personnel and other functions, filling in the gap in the industry.



China Coal Zhangjiakou Coal Mining Machinery Co., Ltd. independently developed the first 500-meter working face intelligent scraper conveyor in China



The R&D investment of the Company reached RMB4.478 billion for the year, and the proportion of total R&D investment to operating income increased by 0.07 percentage points year-on-year. We also promoted the implementation of 40 key core technology research projects, and completed the appraisal of 37 provincial and ministerial advanced technological achievements.

During the year, the Company won a total of 29 industry and provincial and ministerial technology progress awards, of which 20 technology progress awards were granted by China National Coal Association, achieving the best performance in the past 6 years.

Deepening Innovation and Entrepreneurship Activities

The Company solidly proceeded with the development of its “mass entrepreneurship and innovation” base. Pingshuo Group Innovation Studio was rated as the state-owned enterprise “Youth Civilization”; Shanghai Energy Company formally established the “mass entrepreneurship and innovation” demonstration base; China Coal Huajin Energy Group Limited (“Huajin Group”) promoted innovative mechanisms such as “lecture hall” and “famous teachers and apprentices”; Zhangjiakou Coal Mining Machinery won the Team 3rd Prize of the 11th “Youth Entrepreneurship” China (Hebei) Youth Entrepreneurship and Innovation Competition; and China Coal Ordos Energy and Chemical Co., Ltd. (“Ordos Energy and Chemical”) was in the first list of “Enlisting and Leading” of “carbon peaking and carbon neutrality” projects in Inner Mongolia Autonomous Region. China Coal Information Technology (Beijing) Co., Ltd., China Coal Electric Company Limited, Zhongpan Heavy Industry Co., Ltd. were recognized as the “specialized and new” small- and medium-sized enterprises of Beijing and Guizhou province, respectively.



Labor Model Innovation Studio



The signing ceremony of “famous teachers and apprentices” held by Huajin Group

Strengthening Intellectual Property Protection

The Company strictly abided by the relevant laws and regulations of national intellectual property protection, and clarified the intellectual property management process and improved the compliance of intellectual property protection effort. The Company has specialists to classify and manage the intellectual property-related technical documents. The Company invited experts from patent companies to guide enterprises to apply for patents, and solved the difficulties and problems encountered by employees in patent application in a timely manner. When the Company was under cooperation with the third party, the third party is required to abide by the Company’s relevant regulations, protect the Company’s intellectual property rights and technical secrets, and signed a confidentiality agreement during the cooperation.

In 2022, the Company applied for 577 patents, including 149 invention patents; 257 patents were granted, including 10 invention patents.



Adhering to People-oriented Philosophy and Sharing Results of Development

Safeguarding the Legitimate Rights of Employees

Promoting Career Development of Employees

Sharing the Results of Corporate Development

Employee Responsibility





The Company adheres to the employment concept of “people-oriented and sharing results”, promotes the career development of employees, safeguards the legitimate rights of employees, actively advocates democratic management, cares about the health and life of employees, attaches importance to the training of employees’ capabilities, builds a high-quality employee team, and makes every effort to create a development platform for employees, so that employees can share the development results of the Company, and we can continuously improve employees’ sense of happiness, identity and achievement.

Safeguarding the Legitimate Rights of Employees

Regulating employment management

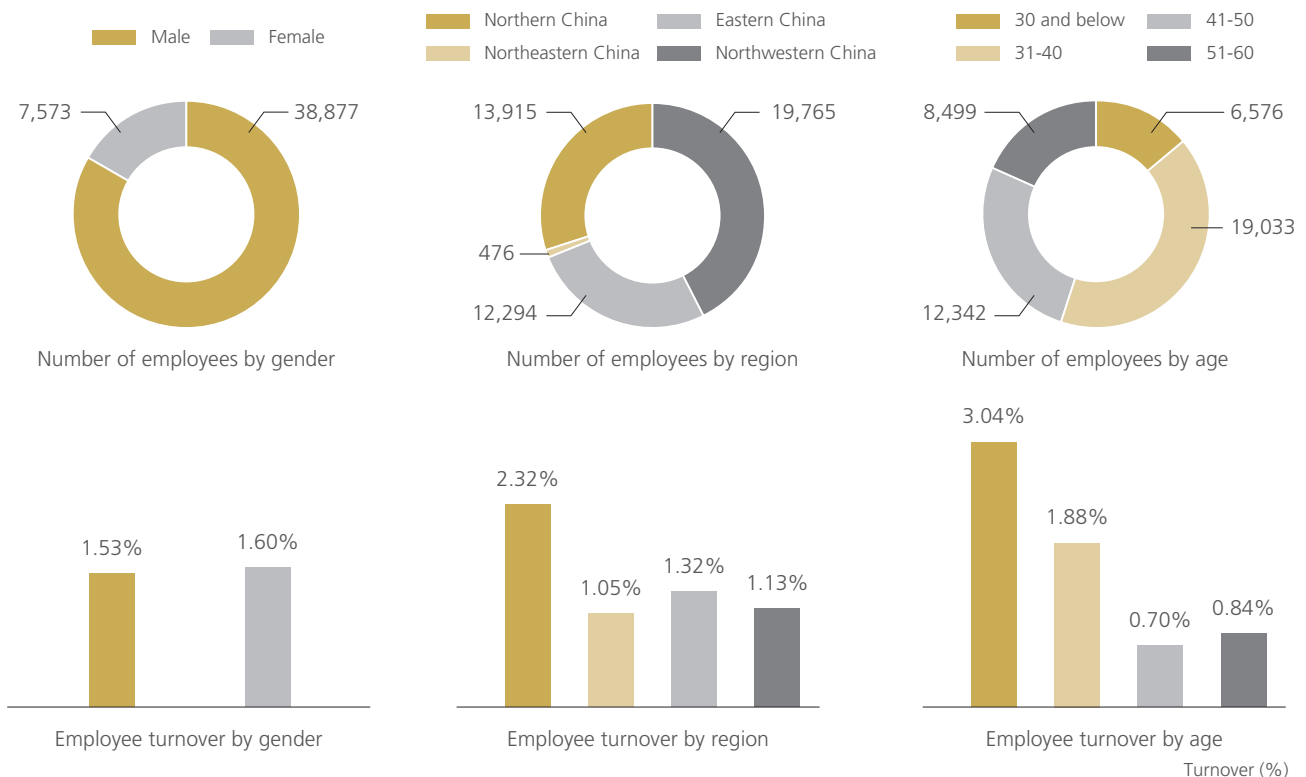
China Coal Energy strictly abides by the *Labor Law of the People’s Republic of China*, the *Labor Contract Law of the People’s Republic of China*, the *Trade Union Law of the People’s Republic of China*, the *Articles of Association of the Trade Union of the People’s Republic of China* and other laws and regulations, adheres to equal and standardized employment, establishes a fair, democratic, competitive and merit-based selection and employment mechanism, publicizes the candidates to be hired, and accepts employee supervision.

In the course of employment, the Company complies with the *Provisions on the Prohibition of Using Child Labor* and other laws and regulations, conducts strict qualification review, focuses on reviewing

valid documents such as ID card and household register, and eliminates the employment and use of child labor at source. All forms of employment discrimination are prohibited, and there is no forced labor. In case of employment of child labor or forced labor, the Company will immediately terminate the labor contract with the employee and hold the relevant personnel accountable in accordance with the law.

We actively provide employment opportunities for ethnic minorities and veterans. The Company protects the rights of female employees, implements equal pay for equal work for men and women, and prohibits the employment of female employees to work underground in coal mines. The Company improves the internal labor market in accordance with laws and regulations, and promotes the orderly flow of front-line employees in all segments. The Company strictly implements the employee leave and adjusted leave system, and protects the legitimate rights and interests of employees during maternity leave, paternity leave and parental leave for sole child. The Company complies with the requirements of the relevant laws and regulations on work hours, and if employees are required to work overtime, the Company will arrange other workdays off to compensate or pay for the extra hours according to regulations.

As of 2022, China Coal Energy had a total of 46,450 employees, 7,573 of which were female employees, accounting for 16.3%; while 38,877 were male employees, accounting for 83.7%. In 2022, the labor contract signing rate of employees was 100%, and the total number of working days lost due to work-related injuries for the year were 16,827 days (calculated based on the number of days compensated by work-related injury insurance).



(Note: Turnover rate of each category = number of employee turnover of the category/total number of employees of the category)

The Company steps up its efforts in the competitive selection of talents and actively promotes the market-oriented recruitment and competitive employment of talents. In 2022, China Coal Energy conscientiously implemented the decisions and deployment of the Party Central Committee and the State Council and vigorously carried out summer recruitment and employment stabilization for college graduates. We strengthened the market-oriented recruitment of the power and new energy business division through the open recruitment of high-end and professional talents in electric engineering, and the channels for selection and employment were further expanded.

Facilitating democratic management

China Coal Energy conscientiously implements various rules and regulations on democratic management of enterprises, adheres to the working principle of submitting major matters concerning the vital interests of employees to the workers' congress for consideration, standardizes the convening of the workers' congress, and stimulates the enthusiasm of employees to participate in enterprise management. The Company implements the factory affairs disclosure system, maximizes the disclosure of matters involving the vital interests of employees in the reform, widely solicits opinions and suggestions from employees, gathers ideas for the development of the Company, and stimulates the sense of belonging and ownership of all employees. The committee gave full play to the role of female employees, organized activities such as theoretical and business learning, professional skills competition, sports competition, and health knowledge lectures for female employees to improve their ability and quality, truly cares for the physical and mental health of female employees to support the reform and development of the Company.

Emphasizing occupational health

The Company adheres to the concept of "people-oriented and health first", adheres to the work policy of "prevention-based and prevention and remediation-combined", continuously improves and optimises its management structure, and perfects the occupational disease prevention and remediation accountability system. By strengthening governance at source and adopting various measures, the Company has implemented occupational disease prevention measures and enhanced the efficiency of prevention and remediation. With continuous introduction of new processes and new equipment, repairment and maintenance of the existing protection facilities and improvement of working environment and conditions, occupational diseases hazards were reduced. Through education campaign regarding occupational disease prevention and knowledge transmission of occupational diseases, the awareness of occupational health and ability for self-protection among staff were enhanced. The Company regularly inspected occupational disease hazards in work premises and organised annual occupational health inspection for its staff. Personal protection items were distributed to the staffs with secured quality and quantity. The Company continued to set up and optimise its occupational health records and employee health supervision records to identify health hazards and occupational contraindication on a timely manner, which has in turn effectively prevented occupational diseases.

Optimising remuneration and welfare system

China Coal Energy is committed to continuously improving the competitive salary and welfare system, and perfecting the aggregate salary determination mechanism with value creation and efficiency enhancement as orientation. The ongoing piloting of aggregate salary management has been carried out, which has effectively stimulated enterprise innovation and efficiency enhancement. The Company strengthened positive incentives, and facilitated the implementation of corporate strategies by building a positive reward mechanism for transformation and development with high-quality development, coal supply guarantee and scientific research. The Company promoted the reform of corporate income distribution, established a remuneration system for core key talents with competitive advantages in market based on the different characteristics of talents, which clarified the income distribution requirements for management, scientific and technical staff and skilled personnel. Its policy also leaned on key core positions, high-calibre talents urgently needed and inferior positions in frontline production, thereby improving the market competitiveness of remuneration for key positions, improving employees' income, and lifting their sense of happiness significantly.

We pay social insurance premiums that shall be borne by the Company in accordance with laws and regulations to protect employees' social welfare benefits such as pension and medical care. The Company has established an enterprise annuity system and supplementary medical insurance security system in accordance with national policies, which is used as a supplement to the basic pension and medical insurance of employees to relieve their worries.

Promoting Career Development of Employees

Improving overall caliber of employees

China Coal Energy has always upheld the people-oriented management concept, firmly implemented the strategy of "strengthening the enterprise with talents", and regard education and training as an important measure to improve the quality of employees and promote the development of enterprises. The Company optimized the construction of systems, and promulgated the *Provisional Management Regulations on Employee Education and Training*, issued its annual education and training work plan at the beginning of each year, and established an education and training system with unified management of the Company's human resources department, division of responsibilities among departments, and hierarchical management of subsidiaries. We also strengthened the construction of bases, and introduced more abundant training resources to improve the training effect of middle and senior managers. Thus the soft and hard power of the three training bases, namely China Coal Vocational and Technical College, Pingshuo Group Education and Training Center, and China Coal Chemical Training



Center, as well as the training centers of our affiliated enterprises, have been constantly improved. China Coal Energy strives to intensify team building, and an educational trainer pool has been jointly set up by outstanding teachers of various units to coordinate the training force, and strengthen training efforts and improve training effects. We have strived to fully lift the comprehensive quality and business ability of employees, and achieved synchronization of talent team construction and enterprise development.

In 2022, the Company focused on the strategic layout of the “14th Five-Year Plan”, and took the opportunity of the Three-year Action for the Reform of State-owned Enterprises and the Three-System Reform to vigorously reinforce the construction of talent teams. The Company made an overall plan for the construction of talent team in the talent work conference, and further clarified the construction direction of Three Teams and the construction goals at the end of the “14th Five-Year Plan”. In response to the impact of epidemic prevention and control on education and training, the Company organized more than 20 online and offline trainings with about 3,000 participants from the Company and various units. In the meantime, the training institutions of secondary enterprises and below had accumulated more than 74,000 participants of training. Among them, there were more than 62,000 male employees, with a training ratio of approximately 77% and an average of 22 training hours, more than 12,000 female employees, with a training ratio of approximately 74%, and an average of 21 training hours; 91% of operation and management personnel were trained, with an average of 27 training hours per person; 72% of professional and technical personnel were trained, with an average of 23 training hours per person; 79% of the skilled personnel were trained, with an average of 25 training hours per person.

By the end of 2022, China Coal Energy boasted over 300 senior professional managers in the coal industry, 111 “master technicians in the coal industry”, 29 studios for master technicians in the coal industry and 14 personnel entitled to special government allowances. One employee was selected as one of the “Hundred Outstanding Craftsmen” of state-owned enterprises, one was included in the “Great Country Craftsmen” cultivation and support program of state-owned enterprises, and 15 employees were awarded the honorary title of “National Technical Expert” by the State Ministry of Human Resources and Social Security.

Facilitating staff development

The Company conscientiously implements the requirements of the Central Committee of the Communist Party of China on deepening the reform of the talent development system, optimises its talent assessment system, and explores growth space for its talents. The Company has formulated the *Measures for the Administration of Qualifications of Professional and Technical Positions*, the *Measures for the Administration of Career Development of Headquarters Employees* and the *Measures for the Implementation of the Career Development of High-skilled Talents and Engineering Technology Talents*, which provide a smooth career development channel for operation and management, professional and technical as well as skill operational talents, open up the connection channel between high-skilled talents and engineering technology talents, and improve the career development system of employees.

Sharing the Results of Corporate Development

China Coal Energy insists on sharing development results with employees while developing the Company. The Company persists in serving all employees, continuously improves the working and living environment for employees, creates an atmosphere where the Company cares for employees and employees love the Company, enhances the sense of happiness and achievement of employees, and promotes the comprehensive development and progress of the Company and employees.

Balancing work and life

With the goal of building a harmonious enterprise and guided by meeting the needs of employees for a better life, China Coal Energy actively creates opportunities, makes full use of the employees activity rooms, clubs, stadiums and other places, organizes and carries out various healthy and enjoyable cultural and sports activities according to local conditions, with a view to cultivating a distinctive corporate culture, improving the coverage and sharing of employees’ cultural and sports activities, meeting the spiritual and cultural needs of employees, and continuously enhancing the cohesion of the enterprise.

Helping employees in need

The Company always pays attention to vulnerable groups and employees in need, establishes the assistance standards and dynamic adjustment mechanisms for employees in difficulties, clarifies the work processes of assistance application, investigation and verification, review and approval, clarifies the work responsibilities of registration, assistance and implementation, and poverty alleviation assessment, creates a rapid assistance channel to provide direct, fast and convenient assistance and services for employees in need, enhances the operability, pertinence and effectiveness of assistance work, continuously improves the quality of assistance work, and delivers the warmth from the enterprise as a family to employees. The trade union of Huajin Group rolled out the support activity for employees in need during the 2022 Chinese New Year, and distributed RMB60,000 Chinese New Year consolation money to 12 employees in need. In addition, it organized and carried out the 2022 Golden Autumn Scholarship Activity, and distributed RMB208,000 Golden Autumn Scholarship to 115 employees’ children, giving full play to the assistance fund in “anti-poverty, medical aid and education support”, representing the Company’s endless care about its employees.



Facilitating Rural Revitalization and Actively Giving Back to Society

Facilitating Rural Revitalization
Benefiting Local People's Livelihood
Partaking in Social Welfare Activities

Community
Responsibility





A company's development depends on the long-term support and assistance from the communities at its operation locations. China Coal Energy attaches great importance to economic and social development at its operation locations, actively takes social responsibility and supports the construction of local economy while ensuring its own operations and development. Activities were carried out, including helping and supporting those in need, making financial donations for education, disaster relief and rescue, to develop together with communities at its operation locations and achieve mutual benefits and mutual success.

Facilitating Rural Revitalization

In 2022, the Company conscientiously and fully implemented the principle of General Secretary Xi Jinping's important instructions on consolidating and expanding the effective connection between the achievements of poverty alleviation and rural revitalization. In accordance with the overall deployment of the designated assistance work of the State-owned Assets Supervision and Administration Commission of the State Council and the National Rural Revitalization Administration, the Company took the designated assistance work as a specific action to practice the "Two Upholds". The Company took deepening, consolidating and expanding the effective connection between the achievements of poverty alleviation and rural revitalization as the theme of the annual targeted assistance, strived to overcome the adverse impact of the COVID-19 pandemic, insisted on not reducing efforts, not wearing off enthusiasm and not lowering standards, and spared no effort to provide targeted assistance. The Company's affiliated enterprises helped 23 villages/towns, carried out 31 assistance projects of various types, benefited more than 80,000 people out of poverty, and allocated donation funds of more than RMB59.23 million (including cash equivalents for material aid) mainly to provide support for industrial revitalization, talent revitalization, ecological revitalization, cultural revitalization and organizational revitalization, and love and caring activities. The Company continued to step up its effort in assistance by consumption and purchased and sold agricultural and sideline products of more than RMB30 million from the assisted areas. The Company designated 19 temporary assistance cadres, first secretaries to the village and members of the working team to the village. The Company vigorously carried out employment assistance, and recruited 53 college graduates and veterans from the assistance areas. We will continue to facilitate the development of poverty-stricken areas and the improvement of people's lives, and ensure that the population and areas getting rid of poverty will not fall behind in the rural revitalization.

Pingshuo Group cooperated with five local assistance villages to help with the construction of 5 projects of "200KW photovoltaic power station", "home heating in Dongxing Village", "new drying ground and street hardening", "10 high-standard vegetable greenhouses and various supporting facilities" and "implementation of greenhouse and trial planting of Chinese herbal medicine", with an investment of RMB1.78 million, benefiting employment of 4,128 people.

Northwest Energy Chemical Group provides 124,400 tons of coal supply to the place of operation, with a discount of RMB38,466,600. In order to continuously support the rural revitalization work of the Tuke Town Government in Wushenqi Banner, Ordos City, the Chemical Sales Company provided 2,500 tons of large granular urea from China Coal Energy to the Tuke Town Government at a price lower than the current market sales price of the Company by RMB200/ton to support the local herdsmen in poverty, giving up a total profit of RMB500,000.



Zhangjiakou Coal Mining Machinery ordered fruits to help the local area



Youth volunteer service activity for rural revitalization

Benefiting Local People's Livelihood

China Coal Energy, with its own funds, labour and technology, actively participated in local economic construction and offered assistance to communities through project construction, production and sales, to promote the upgrading of local industries and economic development, achieving the harmonious win-win mutual development with local governments. In 2022, the Company's social contribution through the payment of taxes, labour costs, and net profit amounted to RMB70.812 billion (including RMB28.239 billion in taxes and fees paid), and the social contribution value per share was RMB5.34, hitting a record high.

Promoting local employment

China Coal Energy has always insisted on the employment models which include open recruitment and labour dispatching to actively create and offer job opportunities in the places where its business operations are performed.

Implementing relevant local policies, Shaanxi Company gives priority to bringing in local talent as regular employees to promote the local employment in Shaanxi Province and Yulin City. At present, the Company has 2,900 registered employees, 1,233 Shaanxi employees, including 1,022 Yulin employees. The proportion of Yulin employees in all the employees of the Company is 35.24%. Shaanxi Company also works together with local employment agencies, many externally commissioned operations, repair and maintenance teams, giving priority to local labour. More than 50% of the workers are local workers.

Supporting construction of local economy

In accordance with the requirements of the national economic development policy, industrial policy and regional planning, China Coal Energy actively supports economic and social development of the places where it operates by making use of its own business advantages and focusing on the needs of the local people's livelihood.

Shaanxi Company solidly and quickly promotes project construction in accordance with the standards of building a world-class energy and chemical company. It constructed coal-based methanol to alkene production project of 0.6 million tons/year, as well as the project of coal mine and coal preparation plant of Dahanze, a supporting chemical facility. In addition, it cooperated with Yan'an Checun Coal to construct the Hecaogou Coal Mine and coal preparation plant, and participated in the construction of Jingshen Railway and Wanggedu Reservoir. As at the end of 2022, the Company had invested RMB42.362 billion on a cumulative basis.

Building harmonious communities

China Coal Energy has always been focusing on the impact of its enterprise development on the surrounding community and insists on achieving mutually beneficial results for the enterprise and the locality and building a harmonious community. Pingshuo Community is a residential area in the ancillary construction of Pingshuo Group. The Company followed the requirements of "high starting point, high standards and high quality" since the early stages of planning for the Pingshuo Community, which was built separately from the mining area in order to satisfy employees and their families. In recent years, the Company followed the requirements of the Guidance on the Construction of Harmonious Communities in the National Coal Industry by regularly conducting specific studies on community planning and cultural development and formulating working plans. Special funds for

community development were raised and investment in infrastructure was increased to ensure rapid community development. Especially since the separation and handover of "Water/Power/Gas Supply and Property Management" ("三供一业"), the Company has always adhered to the mission of "small community and great service", cooperated with the local government to provide great services to common areas within the residential areas, and launched a series of measures to benefit and serve the people, which have been welcomed by the majority of employees. Pingshuo Community has been awarded the title of "Civilised and Harmonious Community" by Shanxi Province, and ranked among the first batch of "Model Areas of Harmonious Community Development in the National Coal Industry" and "Safe Communities in China".

Partaking in Social Welfare Activities

Participating in social aid

China Coal Energy gives full play to the professional advantages of mine emergency rescue centres, makes efforts to improve its emergency rescue capacity and actively participates in local mine rescue work, emergency rescue and disaster relief. Thus, the Company plays an important role in guaranteeing life and property safety of the general public.

The National Hazardous Chemicals Emergency Rescue China Coal Yulin Team and the National Mine Emergency Response China Coal Datun Team have always put the safety of people's lives and property and the safety of the plant area in the first place, been ready to respond at any time, and resolutely acted immediately whenever hearing an alarm. In 2022, China Coal Yulin Team received a total of 91 alarms, including 72 fire rescues, 3 gas leakage disposals, and 16 emergency rescues. From July to mid-August, Yulin area, Shaanxi Province continued to experience heavy rainfall and the flood control situation was severe. China Coal Yulin Team quickly responded to the call of the local government, launched the flood control and drainage emergency rescue plan in the first place, participated in the flood control and drainage emergency rescue task twice, and drained 65,000 cubic meters in total, ensuring the smooth flow of the north-south "lifeline" of Baotou-Xi'an Railway and demonstrating the mission and responsibility of central enterprises with practical actions. In social rescue and disposal, China Coal Yulin Team has undertaken the main tasks many times. China Coal Yulin Team has fully performed the duties and missions of the emergency rescue team, has been highly commended by Yulin Fire Brigade, and established a positive social image of the Company.



The National Hazardous Chemicals Emergency Rescue China Coal Yulin Team



Supporting social welfare

China Coal Energy actively participates in social benefit undertakings. With a donation management system in place, the Company selects public welfare projects following the principle of “willingness, clear responsibilities, actions based on ability, and credibility” and in accordance with the Company’s annual business performance. China Coal Energy donates money and goods, and advocates cultural and recreational undertakings, serving the society wholeheartedly. It donated a total of RMB27.29 million (including cash equivalents for material aid) to the society throughout the year.

In 2022, the COVID-19 pandemic broke out in many places across China. The Company conscientiously implemented the national pandemic control policies, made decisions and due deployment, improved pandemic emergency response plans and determined targeted measures, and tried hard to maintain normal operation order. The Company and its affiliates donated a total of RMB24.57 million for local pandemic prevention and control, helping to win the battle against the COVID-19 pandemic.

The Company’s coal chemical enterprises thoroughly conformed to the national requirements for securing fertilizer supply and stabilizing price, overcame the impact of the pandemic during the fertiliser preparation and use seasons for spring ploughing and summer planting, and made full efforts to secure the supply of fertiliser, proactively serving agricultural production and ensuring food supply security.



Securing Fertilizer Supply - Fertilizer Preparation and Use for Spring Ploughing and Summer Planting

Providing volunteer service

China Coal Energy is concerned about public welfare. The Company supports and encourages employees to participate in various kinds of volunteer service activities. The Company often carries out caring activities such as “Conveying True Love, Giving Warmth, Showing Love, One Helping One and Partner Assistance” to send care and warmth to local households in difficulties, senior citizens and other people in need, transferring positive energy to the society.

As at the end of 2022, “Qingshuo” Volunteer Association of Pingshuo Group has 2,179 volunteers registered at “Volunteer China” website, with credit hours of 45,904 hours, ranking 3,771 in China. In 2022, the Association carried out 12 projects of voluntary service, involving community services, pandemic prevention and control, care for left-behind children, and afforestation. Affected by the pandemic in October and November, Shuozhou City carried out two rounds of static management. “Qingshuo” Volunteer Association mobilised 1,035 volunteers, 7,809.92 hours of volunteer service were provided. The Association was awarded the Outstanding Youth Volunteer Service Group by China Coal Group and the honorary title of “May 4th Red Flag Youth League Committee” in Shanxi Province.



Activities Organized by “Qingshuo” Volunteer Association of Pingshuo Group



Outlook 2023

2023 marks the first year to comprehensively study and carry out the gist of 20th Party Congress, and it's also a significant year for the Company to implement "14th Five-Year" Plan. Under the guidance of Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era, the Company will hold fast to the general principle of "prioritising stability, making progress amid stability", and insist on the development concept of "efficiency enhancement and incremental transformation". We will augment our operation and management, deepen enterprise reform, and propel technological innovation. Meanwhile, we will promote transformation and upgrade, reinforce Party building, prevent and defuse major risks, and effectively lift enterprises' competitiveness as well as capability of innovation, control, influence and risk resistance. We strive to achieve efficient improvement of quality and reasonable growth of quantity in terms of enterprise operation and development, and step up the building of a world-class player in the energy field.

The Company will secure power supply and advance transformation and development. Coal enterprises will strive to stabilise production and supply under the premise of ensuring safety. By accelerating the upgrade of coal mining technology and equipment and intelligent construction, the levels of unit output and unit input are effectively improved. We will resolutely implement the decision-making and arrangement of the Party Central Committee and the State Council on energy supply, give full play to the role of central enterprises as the "anchor" in coal supply, and go all out to complete the task of coal supply. Coal chemical enterprises shall consider the relationship between production and maintenance as a whole, strengthen operation management, maintain the safety and stability of equipment, and realize the long-term, safe and stable operation of chemical production. We will strengthen market research and judgment, promptly adjust sales strategies, and strive to improve the marketing level of chemical products. In accordance with the development direction of "efficiency enhancement and incremental transformation", we solidly promote the implementation of "Two Joint Ventures" project and advance the Company's high-quality transformation and development.

We will reinforce risk prevention and control to build a strong security defense line. Upholding the principle of "People First, Life First", we stick to the strategy of "Safety First, Focus on Prevention", adhere to the goal of "zero mortality" without wavering, and start from scratch and strive to achieve the goal of zero mortality. In the meantime, we effectively manage and control major risks, make further efforts to tackle major disasters, and vigorously advance safety guarantee empowered by technology and intelligence. We comprehensively consolidate the safety foundation, and practically promote the modernization of the safety production governance system and governance capacity.

The Company will insist on green development and protect the ecological environment. We will thoroughly implement the overall deployment of the national ecological civilization construction, practice the concept of green development, and actively promote the green development and clean and efficient use of coal. We will further promote energy conservation and consumption reduction, continue to promote pollution control and emission reduction, strengthen ecological restoration and management of mines, and strive to build a "resource conservation and environment-friendly" enterprise.

The Company will pursue growth through innovation and stimulate development vitality. We will firmly implement the innovation-driven development strategy, and advance the development concept of "efficiency enhancement and incremental transformation" in a coordinated manner. Focusing on the strategic needs of national energy security, layout of national strategic scientific and technological forces, we will spare no effort to create the "source" of original technology in the energy sector and the "chain leader" of the modern industrial chain, while achieving self-reliance in energy science and technology, green and low-carbon transformation of the coal industry.

The Company will embrace people-oriented principles and safeguard employees' legitimate rights and interests. Sticking to its culture construction, China Coal Energy has built harmonious labour relations and safeguarded the rights and interests of its employees. We will continue to care about the health and life of employees, improve the quality of life and working environment of employees, and enhance their sense of achievement, happiness and security. We will also be highly concerned with the cultivation of employees' ability and make full efforts to create a development platform for our employees to achieve the common growth of employees and the Company.

The Company will vigorously contribute to the society and strive for win-win situation. We will adhere to the notion that one who prospers should give back to society. While seeking our own growth, we will continue to support the economic and social development in locality so that a harmonious and win-win situation can be attained. The Company will continue to support public welfare undertakings, consolidate the effective connection between the achievements of poverty alleviation and rural revitalization, and fulfil its corporate social responsibility in order to become a good corporate citizen.

China Coal Energy will be steadfast in fulfilling its corporate mission of "providing quality energy and leading the industrial development for a prosperous life" and constantly integrate the concept of ESG and sustainable development into its development strategy and daily operations, thereby enhancing its ability to create overall economic, social and environmental value. While achieving harmonious development with its stakeholders, we will go all out to achieve the goal of building a world-class player in the energy field.

ESG Key Performance Indicators (KPIs) for 2022

Environmental Performance Indicators

First Tier Indicators	Second Tier Indicators	Unit	2020	2021	2022
Consumption of Energy Resources	Total raw coal consumption	10 thousand tonnes	1,322	1,916	1,887
	Total oil consumption	10 thousand tonnes	21.54	21.78	15.43
	Total electricity consumption	100 million kWh	48.12	52.02	52.34
	Overall energy consumption	10 thousand tonnes standard coal	1,023	1,061	1,151
	Integrated energy consumption per RMB10,000 worth of production output	Tonnes standard coal/RMB10,000	1.487	1.156	1.200
	Total water consumption/fresh water consumption	10 thousand tonnes	6,969	7,025	6,596
	Fresh water consumption per RMB10,000 worth of production output	Tonnes /RMB10,000	10.13	7.66	6.88
Resource Utilization	Water reuse rate	%	97.81	97.83	98.10
	Comprehensive utilization rate of mine water	%	93.3	90.5	96.2
	Comprehensive utilization rate of coal gangue	%	89.4	93.1	96.9
Pollutant Emission	Emission volume of sulphur dioxide	Tonne	2,724	2,299	1,934
	Emission volume of NOx	Tonne	4,006	3,978	3,324
	Emission volume of soot	Tonne	*	*	669
	Ammonia nitrogen emission	Tonne	8	9	7
	Emission volume of chemical oxygen demand	Tonne	183	141	120
Majority Solid Waste	Coal gangue production	10 thousand tonnes	2,413	2,447	1,908
	Amount of hazardous solid waste produced	10 thousand tonnes	6.4	11.6	14.2
	Amount of hazardous waste produced per RMB10,000 worth of production output	kg/RMB10,000	8.8	10.6	14.8
Carbon emission	Total greenhouse gas emissions	Tonnes of carbon dioxide equivalent	*	4,781	4,617
	Among which: direct scope 1	Tonnes of carbon dioxide equivalent	*	3,817	3,587
	Among which: indirect scope 2	Tonnes of carbon dioxide equivalent	*	964	1,030
	Emission intensity	Tonnes /RMB10,000	*	5.21	4.81

Social Performance Indicators

First Tier Indicators	Second Tier Indicators		Unit	2020	2021	2022
Employees	Total number of employees		Person	41,593	45,474	46,450
	Labour contracts signing rate		%	100	100	100
	Social insurance coverage rate		%	100	100	100
	Trade union participation rate		%	100	100	100
	Total workforce by gender	Male	Person	*	37,712	38,877
		Female	Person	*	7,762	7,573
	Total workforce by age group	Aged 30 and below	Person	*	6,624	6,576
		Aged 31-40	Person	*	17,678	19,033
		Aged 41-50	Person	*	12,471	12,342
		Aged 51 and over	Person	*	8,701	8,499
	Total workforce by employment type	Full-time	Person	*	45,474	46,450
		Part-time	Person	*	0	0
	Total workforce by geographical region	Northern China	Person	*	11,847	13,915
		Eastern China	Person	*	13,435	12,294
		Northeastern China	Person	*	488	476
		Northwestern China	Person	*	19,704	19,765
	Employee turnover rate by gender	Turnover ratio of male employees	%	*	1.14	1.53
		Turnover ratio of female employees	%	*	1.47	1.60
	Employee turnover rate by age group	Aged 30 and below	%	*	2.70	3.04
		Aged 31-40	%	*	1.65	1.88
		Aged 41-50	%	*	0.45	0.70
		Aged 51 and over	%	*	0.18	0.84

First Tier Indicators	Second Tier Indicators	Unit	2020	2021	2022	
Employees	Employee turnover rate by geographical region	Northern China	%	*	2.69	2.32
		Eastern China	%	*	0.72	1.32
		Northeastern China	%	*	3.69	1.05
		Northwestern China	%	*	0.74	1.13
	The percentage of employees trained by gender	Male	%	*	76	77
		Female	%	*	72	74
	The percentage of employees trained by employee category	Operation and management personnel	%	*	90	91
		Professional and technical personnel	%	*	70	72
	The average training hours completed per employee by gender	Male	Hour	*	22.1	22.0
		Female	Hour	*	22.2	21.0
	The average training hours completed per employee by employee category	Operation and management personnel	Hour	*	27	27
		Professional and technical personnel	Hour	*	20	23
	Work-related casualties	Person	8	5	6	
	Safety accident-related casualties	Person	0	4	5	
Rate of work-related casualties	%	0.019	0.011	0.013		
Loss of workdays due to work-related injuries	Day	*	23,302	16,827		
Contribution to Community	Rural revitalization, donations and social welfare	RMB10 thousand	1,890	2,599	8,652	
	Tax Paid	RMB100 million	128.52 (restated)	179.88 (restated)	282.39	
	Total social contribution	RMB100 million	354.37 (restated)	526.35 (restated)	708.12	
	Social contribution per share	RMB	2.67 (restated)	3.97 (restated)	5.34	

Governance Performance Indicators

First Tier Indicators	Second Tier Indicators	Unit	2020	2021	2022	
Financial performance	Total assets	RMB100 million	2,829.45 (restated)	3,226.10 (restated)	3,401.09	
	Net assets attributable to the equity holders of the Company	RMB100 million	1,019.99 (restated)	1,143.46 (restated)	1,307.65	
	Operating revenue	RMB100 million	1,409.65 (restated)	2,398.28 (restated)	2,205.77	
	Total profit	RMB100 million	123.27 (restated)	260.71 (restated)	328.97	
Product output	Production volume of commercial coal	10 thousand tonnes	11,001	11,420	11,917	
	Sales volume of commercial coal	10 thousand tonnes	26,544	30,680	26,295	
	Production volume of polyethylene	10 thousand tonnes	146.4	146.4	148.0	
	Production volume of urea	10 thousand tonnes	188.6	204.9	183.4	
	Production volume of methanol	10 thousand tonnes	69.0	154.5	187.9	
	Production volume of ammonium nitrate	10 thousand tonnes	48.8	42.5	47.4	
	Production value of coal mining equipment	10 thousand tonnes	87.0	94.6	99.6	
Products and services	Valid complaints	case	0	0	0	
	Percentage of products subject to recalls for safety and health reasons in sold or shipped products	%	0	0	0	
Technological innovation	Investment in science and technology	RMB100 million	26.83	45.33	44.78	
	Number of technological advancement awards above industry level	Award	22	25	29	
	Number of patents received	Patent	205	279	257	
Production safety	Safety production expenses	RMB100 million	21.67	18.76	19.21	
Supply Chain Management	Total number of suppliers	Supplier	41,061	73,823	105,739	
	Number of overseas suppliers	Asia (excluding China)	Supplier	8	6	35
		North America	Supplier	12	28	20
		Europe	Supplier	9	25	37
	Number of domestic suppliers	Northeastern China	Supplier	1,587	2,719	3,595
		Northern China	Supplier	17,234	28,690	42,938
		Eastern China	Supplier	12,307	23,394	31,786
		Southern China	Supplier	624	1,459	2,267
		Central China	Supplier	3,187	5,871	7,996
		Northwestern China	Supplier	5,566	10,289	15,040
Southwestern China		Supplier	556	1,342	2,025	

1. Content marked with “*” means that the indicator is not disclosed in the ESG report of the year.

2. The integrated energy consumption per RMB10,000 worth of production output, fresh water consumption per RMB10,000 worth of production output, amount of hazardous waste produced per RMB10,000 worth of production output, the production output in greenhouse gas emission intensity are comparable values against 2020



中国中煤能源股份有限公司
CHINA COAL ENERGY COMPANY LIMITED

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请联系我们

公司名称：中国中煤能源股份有限公司

总部地址：北京市朝阳区黄寺大街1号

邮政编码：100120

联系部门：宣传中心

联系电话：(010) 82256630

传真电话：(010) 82236454

电子邮箱：csr@chinacoal.com

公司网站：www.chinacoalenergy.com

China Coal Energy welcomes your suggestions and opinions on this report

Please contact us

Company's name: China Coal Energy Company Limited

Address of Head Office: No. 1, Huangsidajie, Chaoyang District, Beijing, China

Postal code: 100120

Department for contact: Publicity and Education Centre

Telephone number: (010) 82256630

Fax number: (010) 82236454

Email address: csr@chinacoal.com

Company's website: www.chinacoalenergy.com

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