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 中国华能集团有限公司
CHINA HUANENG GROUP CO., LTD.

2023

Environmental, Social and Governance Report

Responsibility, Original Aspiration

 中国华能集团有限公司
CHINA HUANENG GROUP CO., LTD.



Information Building

The Company made efforts to establish the "golden" brand of Huaneng Informatization, issued the Detailed Rules for the Implementation of Company Information Work, established and improved the three-level management system of "Headquarters Department-Regional (Industry) Company-Grootsroots Enterprise", thus to form a comprehensive "Big Information" working system. The Company attached great importance to the improvement of information work quality and efficiency, promptly reflected the prominent problems existing in the industry and the progress of its key projects, and completed 141 information documents throughout the year. 32 of which were adopted by the General Office of the CPC Central Committee and SASAC. With leading rank of its information work in the industry, the Company was awarded the title of "Excellent Enterprise on Information Work of Central SOEs".

Value Maintenance and Appreciation of Assets

The Company made efforts to retain and increase the value of state-owned assets. All major industries achieved profitability and increased profits year-on-year. Several 10-billion-level industries including renewable energy, hydropower, thermal power and coal, and several 5-billion-level regional (industrial) companies including Huaneng Lancang River Hydropower, North United Power, Huaneng Capital Services, Huaneng Renewables and Huaneng Eastern Inner Mongolia Energy were created. In 2023, the Company achieved a profit of RMB 42.11 billion yuan, ranking first in the industry, with a year-on-year growth of 85.3%, and its growth rate ranked first among central SOEs. The Company reached a net profit of RMB 31.19 billion yuan, net profit attributable to the shareholders of the parent company of RMB 11.54 billion yuan, and EVA of RMB 11.456 billion yuan, up 93%, 52.63% and 865.26% year-on-year, respectively. In addition, the Company had an operating cash ratio of 25.4%, up 2.3% year-on-year, and an asset-liability ratio of 70.06%, down 0.82%. The main indicators of the Company were better than the assessment target of SASAC, and profit, net profit, net profit attributable to the shareholders of the parent company, EVA, etc. reached the best level in history.

- In the renewable energy sector, the profit reached RMB 16.48 billion yuan, accounting for nearly 40% of the total profit.
- In the hydropower sector, the profit reached RMB 8.039 billion yuan by accelerating power generation and controlling cost.
- In the coal sector, the profit reached RMB 10.781 billion yuan in the whole year, which hit a new high and maintained the 10-billion level for two consecutive years.
- In the thermal power sector, the loss of RMB 18.403 billion yuan was reduced year-on-year.
- In the finance sector, the risks were effectively controlled, and the profit of RMB 6.384 billion yuan was achieved.
- The income from investment in overseas power projects was RMB 5.62 billion yuan, of which Tus Power made a profit of a record high of RMB 4.355 billion yuan.

Advancing the Reform of SOEs

The Company regarded high-level promotion of SOE reform as a major political task, insisted on fully leveraging the crucial move of reform, further strengthened the management and improved the vitality, and reinforced the results from the three-year action plan for SOE reform. Additionally, the Company developed the *Action Plan for Implementation of Deepening and Upgrading Reform*, clarified 106 reform measures, continuously improved the work promotion mechanism, defined responsible leaders and liaison personnel of each department, and strengthened horizontal coordination and vertical follow-up. Consequently, the action of deepening and upgrading reform led to active effectiveness. The Company was rated as Grade A in the annual reform evaluation by the SASAC for three consecutive years, and selected as a "Comprehensive Model" for central SOE reform. Its reform achievements were also included in the "Leading and Demonstration" case set.

- Organizing and participating in the special training on demonstration action of scientific and technological enterprise reform and plan formulation of SASAC.
- 545 people participated in the special promotion meeting with regard to the action of deepening and upgrading reform.
- Regularly participating in the SOE reform lectures for 4 times, and training more than 900 person accumulatively.
- More than 7,600 people participated in the online training on "deepening reform and striving for excellence".

High Level Promotion of Responsibility Layout

ESG Governance

The Board of Directors of the Company established some dedicated committees, including Strategy and Investment Committee, Remuneration and Appraisal Committee, Audit and Risk Committee, etc., to provide advice and suggestions to the Board of Directors on different ESG matters. The Company established a social responsibility leading group composed of key leaders of the Company and key persons in charge of relevant departments, to lead the consideration and decision-making of major issues, and direct key issue identification and risk analysis. Enterprise Management and Legal Compliance Department is assigned to take charge of ESG-related work promotion. A person in charge of social responsibility is assigned under every functional department, and the ESG liaison person is assigned in every subsidiary. This mechanism forms a top-down, horizontally and vertically combined ESG work system with clear division of labor.



ESG Planning

ESG Planning of Huaneng (2021-2025)

	Within the Company		Outside the Company	
Development Goals	Advancement of ESG management	Promotion of ESG integration	Creation of communication platform	Improvement of ESG image
Path of Implementation	Improvement of system of rules and regulations Enhancement of capability/development Promotion of ESG appraisal	Execution of ESG study and survey Construction of demonstration base Advocacy of report release	Establishment of reporting system Implementation of proposal survey Regular information disclosure	Participation of industry activities Communication arrangement Make the voice of ESG

ESG Regulations

Basic Management Regulations

Implementation Plan for Fulfilling Social Responsibility with High Quality in the New Era, Opinions on Actively Fulfilling Social Responsibility and Promoting the Construction of Harmonious Society, Guidelines for Action of Fulfilling Social Responsibility, Assessment and Evaluation Measures for the Party Building Work Responsibility System

Regulations of Related Issues

Measures for Management of Assistance Work, Regulations on Compliance Management, Measures on Staff Skill Competition, Measures for Management of Scientific and Technological Innovation Performance Assessment, Regulations on Safety Production, Measures for Management of Ecological Environment Protection, Supplier Management Measures, Measures for Management of International Development Strategic Planning, etc.

ESG Concepts



In 2023, the Company launched the "Lianxinqiao" brand, a public communication brand in nuclear power industry, and took the lead in launching the HTR-PM science education and application promotion manual in the industry.

The Company has integrated ESG with the cultural concept of "Three-Color Huaren" to create the enterprise's ESG brand image, promote all cadres and employees to perform their due responsibilities of being a great power, and promote the high-quality development of the Company in the new era.

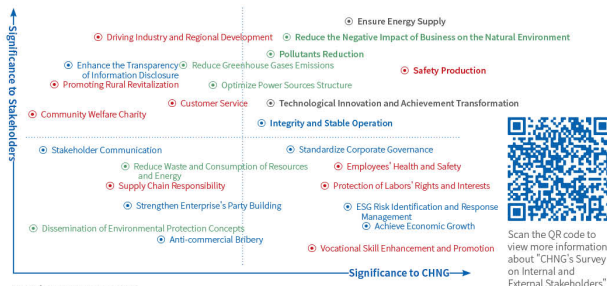
According to the requirements set forth in the Notice on Carrying out Brand-Leading Actions of Central SOEs issued by SASAC, the Company developed the Implementation Plan for Brand-Leading Actions, established a three-level brand management system, held brand management and communication business training, and promoted the implementation of the "1+4" brand management system. The Creating A World-class International Brand Image by Innovatively Building A Cross-cultural Communication Platform case was selected as a typical case of brand building of central SOEs. The Company's brand was incorporated into the list of "2024 China Brand Value Evaluation Information", with brand value of RMB 126.05 billion yuan, ranking 7th in the brand value list of China's energy and chemical industry.

Core Value	Strategic Orientation	Enterprise Style	Enterprise Spirit	
Adhere to integrity, and focus on cooperation Constantly innovate, and be proactive and enterprising Deliver results, and serve the nation	Power as the core business, synergy among various energy sectors, innovation as the leading force, finance as the supporting business, global layout	Entrepreneurship, Efficiency, Trustworthiness, Frugality	Professional dedication despite hardship Pioneering spirit to overcome challenges Entrepreneurial spirit in pursuit of excellence Initiative spirit of daring to be the first	
Development Strategy	Development Concept	Management Concept	Safety Concept	Integrity Concept
Focus on the "3 Guidelines" Achieve the "6 Adheres" Realize the "6 New Leadings"	Growing stronger, staying ahead	People-oriented, pragmatic and efficient	Safety contributes to efficiency, safety benefits from credibility, safety serves as competitiveness	Practicing the "Three Colors" mission, fostering an honest and self-disciplined life

Striving to Deepen Integration of Ideas

Core ESG Topics

Pursuant to the requirements of The 2030 Agenda for Sustainable Development by the United Nations, Unified Standard for the Sustainability Reporting by the Global Reporting Initiative (GRI), Guidelines for Sustainable Disclosure of Enterprises - Basic Guidelines (Draft for Comments) by the Ministry of Finance, Guiding Opinions on the High-standard Fulfillment of Social Responsibility by Central SOEs in the New Era by the SASAC, etc., we carried out the "China Huaren ESG Voting" activity (survey internal and external stakeholders) to understand the key concerns of stakeholders, identify and analyze the Company's operational risks based on national policies, industry, and enterprise actual situations, ultimately define the substantive issues of ESG, and scientifically determine the boundaries of the report content.



CHNG's Key ESG Topics 2023



Scan the QR code to view more information about "CHNG's Survey on Internal and External Stakeholders"

ESG Process

The Company attached great importance to ESG integration, encouraged subsidiaries to release ESG related reports, and especially promoted listed companies to strictly disclose non-financial information in accordance with the requirements of the Exchanges to facilitate engagement in stakeholder communication. All 5 listed companies affiliated, namely, Huaren Power International Inc., Huaren Lancang River Hydropower Inc., Shandong Xineng Taishan Power Generation Co., Ltd., Great Wall Securities Co., Ltd. and Inner Mongolia Menglian Huaren Thermal Power Corporation Ltd, publicly released ESG related reports to the public, realize full coverage of ESG reports for affiliated listed companies.

As a major state-owned backbone energy company of China, the Company has joined the activities of a number of domestic and foreign industry organizations including the International Electrotechnical Commission (IEC), Global Sustainable Electricity Partnership (GSEP), Global Energy Interconnection Development and Cooperation Organization (GEIDCO), Central Enterprise ESG Alliance, Chinese Society for Electrical Engineering, China Electricity Council, etc. to effectively interact with the stakeholders, and actively promote the fulfillment of ESG management and practice in China's power industry.

ESG Performances ▶

The Company incorporated ESG management into Assessment and Evaluation Measures for the Party Building Work Responsibility System to expedite the improvement of ESG management level of affiliated enterprises. Besides, the Company revised and improved the performance assessment system, including 1 regulation (assessment regulation), 2 main measures (annual and tenure) and 4 sub-measures (safety, operation, development, and science and technology), and formulated relevant detailed rules to initially form a "1+2+4+N" assessment system. Driven by the assessment system, the integration of ESG practices into the daily activities of the Company was promoted in all-around manner.

The Company held the 2nd Selection & Appraisal of Excellent ESG Cases and Selection Event of the Most Beautiful ESG Pictures, with cases and pictures submitted by subsidiaries. Through online voting and expert scoring, ultimately, the "2023 Annual Excellent ESG Cases and the Most Beautiful ESG Pictures" were selected, with the list of award winners included in the Company's ESG report for public disclosure, promoting subordinate units to better fulfill their ESG management and practice.

Huaneng actively participated in different ESG-related selection & appraisal activities in the society, with a lot of awards won for its outstanding performance in responsibility management and practice.

China Huaneng • Responsibility 2023

- ESG Report 2022 of China Huaneng Group Co., Ltd. was rated five-star (the highest level) by China Corporate Social Responsibility Report Rating Expert Committee, and thus the Company became the only domestic power generation company that has obtained five-star rating for twelve consecutive years.
- The Company's overseas responsibility performance case, *Lower Sesan II Hydropower Station Promotes Internationalization Development of Enterprise through Cross-cultural Communication*, was included into the Blue Book on Overseas Social Responsibility of Central SOEs (2023), a guidance subject result of the Bureau of Social Responsibility of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC).
- The case of the Company, *Implementing ESG Concept and Continuously Promoting High-quality Development of Enterprises*, won the "2023 ESG Excellent Case Award of China Enterprises" selected by China Enterprise Reform and Development Society, ESG Alliance of Central SOEs and other institutions.
- A total of 8 cases of the Company were selected as "2023 Excellent Cases of Social Responsibility and ESG of Electric Power Enterprises of China Electricity Council".
- Huaneng Power International Inc. won the "Special Contribution to Corporate Governance Award" of the 18th Gold Prize of the 18th "Gold Prize of Round Table" for Boards of Listed Companies in China, and the "Listed Company Award of Excellence" and "Best Listed Company" of the 13th China Securities Golden Bauhinia Awards".
- Inner Mongolia Mengdian Huaneng won the 14th "Tianma Award for Investor Relations of Listed Companies in China", the "ESG Golden Bull Award Carbon Neutral Top 50" of the First Guoxin Cup, the Excellent Practice Award of the Annual Reports Performance Briefing, and the 17th "Excellent Management Team Award" of the "Value Selection Award" of Listed Companies in China.
- Huaneng Lancang River Hydropower Inc. won the "China Top 100 Enterprises" Award of Listed Companies in China.

ESG Capability ▶

The Company attached great importance to improving its ESG capabilities by taking appropriate measures in the preparation of ESG reports. It has been conducting special training for six consecutive years from 2018 to 2023. The Company has adjusted and updated the training content and scope in a timely manner to adapt to changes in the internal and external environment. The special training, attended by employees from the headquarters and the secondary units to grassroots enterprises was conducted to be more focused on the ESG field. This training has effectively enhanced the ESG awareness among all employees, created an ESG work atmosphere, and further promoted the implementation of ESG management and practices in various departments and units across the Company.

The Company continuously strengthened ESG research, and developed thematic materials, e.g. *Preliminary Analysis on ESG System Construction, Thinking and Suggestions on Promoting ESG Management System of the Company, Concept of ESG Core Indicator System of the Company*. For ESG work in hydropower sector, Huaneng Lancang River Hydropower Inc., as a pilot, carried out research on "Building A Characteristic ESG System of Huaneng Lancang River Hydropower Inc.", and creatively proposed "ESG Responsibility Value Model of Huaneng Lancang River Hydropower Inc." and supporting indicator system. This model is composed of five ESG areas, i.e. responsibility management, environmental protection, contribution to the society, corporate governance and value creation, and covers 17 ESG issues and 95 indicators.

Expanding the Information Disclosure Channels

ESG Report ▶

The Company has innovated in communication methods, deepened communications with stakeholders, built a mechanism for ESG communication, expanded communication channels, and continuously improved the integrated system of "daily, regular, and special" communications to ensure comprehensive, timely and accurate disclosure of the Company's responsibility performance to the public.

In accordance with the relevant requirements of the SASAC, the Company has created a brand management and news publicity management system to continuously promote the construction of information disclosure system and mechanism, build the innovation information disclosure platform carriers, continuously improve corporate transparency, and push ahead the construction of a "Sunshine central SOEs". The 3 listed subsidiaries, namely, Huaneng Power International Inc., Huaneng Lancang River Hydropower Inc. and China Great Wall Securities Co., Ltd., have all been rated at Grade A information disclosure evaluations by the respective Exchanges.

Daily Communication

Building an All-Media Communication System
Providing a Social Responsibility Column on the Company's Official Website
Actively Participate in ESG related Communication Activities

Regular Communication

Preparation of Annual ESG Report by the Group and its Affiliated Listed Companies
Participate in the Report Issuance Conference of Central SOEs Organized by SASAC
Organize Internal and External Stakeholders to Participate in Power Plants' Open Day Activities

Special Communication

Preparing and Releasing Special Reports on Overseas Businesses Accountability and Rural Revitalization
Founding the Sino-Cambodia Cultural Exchange Network and Organizing a Cultural Exchange Forum
Organize Internal and External Stakeholders' Special ESG Investigations and Research Activities

Stakeholders Participation ▶

The Company has continued to strengthen communication with stakeholders, actively built communication platforms, and regularly organized grassroots power plants to carry out "SOEs Open Day" activities. The employees' families, local students, the public, etc. were invited to visit, fully demonstrating the Company's excellent ESG management and practice.

In 2023, the Company made continuous innovation in the mode of communication in some key business segments attracting the stakeholders' attention, such as renewable energy, nuclear power, overseas business, etc. For this end, we carried out various types of communication activities to listen to the expectations of stakeholders, and thus create a responsible corporate image.

Open Day Event of Electric Power Science Education in Haimen Power Plant



The Open Day Event of Electric Power Science Education

In December 2023, Haimen Power Plant, as an electric power science education base, held the open day event of electric power science education. This event invited over 90 students from Longtai Primary School and their families to visit the plant, allowing them to get up close and personal with the modern, clean, efficient and comprehensive energy service enterprise. During the event, the plant's employees led the students on a tour of the corporate culture exhibition hall, the electric power science education exhibition hall, and the coal transportation wharf. They explained the theories and processes of thermal power generation in simple and easy-to-understand terms, and shared basic knowledge about safe electricity usage in daily life. This event allowed the public to gain a deeper understanding of the power plant, which enhanced the image of Haimen Power Plant as a green and environmentally friendly enterprise and boosted its ESG brand influence.

Case

Media Open Day Event of Sahiwal Power Plant



Media Open Day Event in the Sahiwal Power Plant

In August 2023, the Sahiwal Power Plant in Pakistan hosted a Media Open Day Event, which was attended by a press journalists delegation consisting of 14 local mainstream media outlets, including The Nation and GeoTV. During the event, the journalists visited key production areas of the power plant, such as the top layer of the boiler, centralized control room, etc. The plant's employees introduced the Company's overseas layout, construction history of the plant, honors it had received, and efforts it had made in environmental protection, creating job opportunities and fulfilling social responsibilities. Members of the delegation expressed that the event gave them a new understanding of the plant and further strengthened the bond between China and Pakistan.

Case

Sahiwal Power Plant has changed my perception of coal-fired power plants. Not only does it have top-notch environmental protection measures, but its excellent construction quality and advanced equipment also make it stand out.

—Member of the Press Delegation

Stakeholders

Government

Shareholders

Employees

Customers

Environment

Industry

Business Partners

NGO

Community

Expectations for the Company

Responding to National Strategies
Conducting Operation in Compliance with Laws and Regulations
Securing Power Security

Preserving and Increasing the Value of Assets
Avoiding Economic Risks
Keeping Smooth Communication

Increasing Welfare Benefits
Guaranteeing Personnel Safety
Promoting Employees' Career Development
Balancing Work and Life

Guaranteeing Project Quality
Improving Customer Services
Innovating Engineering Technology

Supplying Clean Energy
Building Green Plants
Tackling Climate Change
Spreading Green Philosophy

Carrying out Technical Exchanges
Sharing Professional Experience

Complying with Business Ethics
Achieving Mutual Benefits and Win-Win Results

Participating in Social Groups
Abiding by Association Charters

Supporting Community Building
Carrying out Public Welfare Activities

The Response of the Company

Serving the National Strategies
Persisting in Steady Operation
Securing Power Supply

Increasing Economic Benefits
Strengthening Risk Prevention and Control
Conducting Regular Communications

Guaranteeing Basic Rights and Interests
Ensuring Production Safety
Carrying out Employee Training
Caring for Employees' Lives

Strengthening Quality Management
Improving Service Systems
Encouraging All-involvement Innovation

Adjusting Energy Structure
Carrying out Clean Production
Mitigating Greenhouse Gas Emission
Carrying out Environmental Public Welfare Campaign

Attending Industry Conferences
Strengthening Regular Liaison

Implementing Transparent Procurement
Building Cooperation Platforms

Actively Participating in Activities
Voluntarily Offering Advice and Suggestions

Promoting Rural Revitalization
Building Public Welfare Brand Image

Story of Original Aspiration



Striving to Be a Doer in Building a World-Class Enterprise

As a central SOE, the Company continued to study and implement Xi Jinping's important instructions on accelerating the building of world-class enterprises, actively carry out initiatives to create world-class enterprises, benchmark world-class to take actions for management improvement, strengthen strategic guidance, and deepen reform and innovation, to make great strides towards becoming a world-class enterprise. In 2023, Huaneng Group was included in the SASAC's list of demonstration of building the world-class enterprises. In the evaluation of value creation actions by benchmarking world-class enterprises, Huaneng Group was rated as Grade A, ranking in the forefront of SOEs and the power generation industry. Three subsidiary companies, i.e. Xi'an Thermal Power Research Institute, Clean Energy Research Institute and Lancang River Hydropower Inc. were selected as "Demonstration of Building World-Class Professionalized, Refined, Specialized, and Innovative Enterprises" and "Leading Professional Demonstration Enterprises", further consolidating the demonstration creation efforts.

The Company officially issued the *Guiding Opinions on Accelerating the Construction of World-class Enterprises and the Improvement Plan of Benchmarking the World-class Management*, providing direction for the next stage of work in building a world-class enterprise. To accelerate the implementation of the plan for building a world-class enterprise, the Company promptly convened a meeting to promote the building of a world-class enterprise. The meeting disseminated the guiding principles of the document on accelerating the building of world-class enterprises, interpreted the Company's plan for accelerating the building of world-class enterprises, and detailed the deployment of the work to achieve this goal.

Strengthening Communication and Training, and Improving Awareness

The Company's leadership introduced the Company's goals, measures and progress in building a world-class enterprise on the platforms of the "SOE Reform Lecture Series" and the "Special Seminar on Accelerating the Building of World-Class Enterprises" organized by the SASAC. The Company also established a learning and publicity platform, organized an online training session on "Deepening Reform and Striving for Excellence" and launched a column dedicated to striving for excellence in the corporate newsletter, to promote the initiative of "Striving for Excellence" among all employees.

Strengthening Demonstration and Leading by Example

The Company organized an expert review meeting to guide seven pilot units in improving their plans for striving for excellence. The Company also convened a promotion meeting for the pilot units, supervising them to optimize their plans for striving for excellence and promoting them to produce results and share experiences.

Enhancing Supervision and Evaluation to Drive Implementation

The Company gradually detailed its work plan, focused on key tasks for striving for excellence and formulated promotion plans for specific professional fields. The Company tracked the implementation of measures, established a work ledger for striving for excellence, and reported progress on a quarterly basis, to ensure the effective implementation of the initiative. The Company also improved the "1+M+N" evaluation system, initiated quarterly assessment for striving for excellence, and reviewed the achievement of key indicators and the progress of key tasks.

Enhancing Communication and Learning, and Extracting Typical Experiences

The Company actively participated in SASAC's exchange activities for building world-class demonstration enterprises, focusing on the theme of "Promoting the Construction of World-Class Demonstration Enterprises through Digital Development" for learning and experience sharing. The Company also took the lead in organizing exchanges for professional leading demonstration enterprises and hosted SASAC's events for building world-class professional leading demonstration enterprises. The Company conducted specialized research on topics such as "Value Creation", "Lean Management" and "Artificial Intelligence" to support its efforts in striving for excellence. The Company organized a work exchange and promotion meeting for these initiatives and hosted SASAC's special seminar on "Visiting World-Class Enterprises", to continuously drive the achievement of new results in the pursuit of excellence.

Plan for Accelerating the Construction of A World-Class Enterprise by China Huaneng Group Co., Ltd. (Summary)

Overall Requirements

Guiding Ideology

Guided by the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Company thoroughly implements the guiding principles of the 20th CPC National Congress, grounds the efforts in the new development phase, and integrally, precisely and comprehensively follows the new development concept and led the industry to foster a new development paradigm. The Company resolutely implements major decisions and plans, e.g. renewable energy security strategy featuring Four Reforms and One Cooperation, Carbon Peaking and Carbon Neutrality, building of new electricity system and renewable energy system, etc. Focusing on green and low-carbon transformation in the pursuit of high-quality development, the Company firmly implements the "3-6-6" development strategy, and continuously promotes a change in quality, change in efficiency and change in growth drivers to enhance the Company's core competitiveness and functions. By fully leveraging the role in scientific and technological innovation, industrial control and safety support in the construction of a modern industrial system and a new development paradigm, the Company accelerates the construction of a world-class enterprise characterized by "Excellent Products, Outstanding Brands, Leading Innovation and Modern Governance" with the aim of making greater contributions to realizing the Second Centenary Goal of building China into a great modern socialist country in all respects.

Basic Principle

Uphold Party Leadership and Strengthen Party Building
Uphold Green Development and Maintain Firm Strategic Resolve
Pursue Innovation and Strengthen Reform-driven Development Strategy
Put Quality First and Improve Efficiency and Benefit

Create Goals

Recent goal: Initially Building A World-Class Enterprise Featuring Excellent Products, Outstanding Brands, Leading Innovation and Modern Governance
Mid term goal: The Construction of A World-Class Enterprise Reaches A New Level
Long term goal: Building A World-Class Enterprise in An All-Round Manner

Main Measures

Comprehensively Improving Energy and Power Security Capability
Comprehensively Enhancing Brand Leading Capability
Comprehensively Improving Scientific and Technological Innovation Capability
Comprehensively Improving Governance Capability of A Modern Enterprise
Comprehensively Improving Value Creation Capability

Implementation Steps

Fulfilling and Implementing Responsibilities
Benchmarking and Continuous Advancement
Summarizing Achievements and Deepening Creation

Organizational Support

Strengthening Organization and Solidly Promoting
Benchmarking and Continuous Improvement
Creating A Good Atmosphere and Striving for Excellence

Looking Forward to 2024, ESG Leading the Future



In the future, the Company will thoroughly implement the guiding principles of the 20th CPC National Congress, and uphold the comprehensive leadership of the Communist Party. Guided by the new development concept, the Company will firmly adhere to the "Three Generals", always focus on the "Two Ways", and give full play to "Three Roles", resolutely implement the "3-6-6" development strategy, and put the emphasis on "Five Better Coordinations". By working harder and taking solid steps to deliver outcomes, the Company will resolutely accomplish all annual targets and tasks. By working together and striving for excellence, the Company will continuously make solid strides in exploiting new opportunities and opening up new vistas, to march in confident strides toward the goal of becoming a world-class enterprise, contributing more significantly in building China into a great modern socialist country in all respects and advancing the rejuvenation of the Chinese nation.

Performance Goals

- ◉ Renewable Energy
Installed Capacity Added
20 GW
- ◉ Renewable Energy Power Generation
Exceeds
159.7 Billion Kilowatt Hours
- ◉ Heating Capacity Exceeds
525 Million GJ
- ◉ R&D Investment Exceeds
3.2%
- ◉ Eliminating
Personal Fatality
Accidents
- ◉ Preventing Safety and
Environmental Protection
Accidents at Major or
Above Level



Appendixes

Selected outstanding corporate ESG cases in 2023

In January 2024, the Company launched the 2nd Selection and Appraisal of Excellent ESG Cases. Secondary companies and grassroots units actively participated and submitted nearly 120 cases, involving various issues such as excellence in main business, scientific and technological innovation, the Belt and Road, rural revitalization, public welfare and charity, green production, ecological and environmental protection, career development, health and safety, corporate governance, etc. After the initial review and two rounds of expert scoring, 20 outstanding cases reached the final. In the final session, the Company made the "ESG Poll of China Huaneng" open to the public. After a week of fierce competition, the results of excellent cases were finally obtained via voting.



Scan the QR code to view more information about the 2nd Excellent ESG Case Selection and Appraisal Event of CHNG

NO.1 Dynamic Monitoring and Early Warning System for Berthed Vessels China Huaneng Group Fuel Co., Ltd.



Investigating the Use of Dynamic Monitoring and Early Warning System for Berthed Vessels



Scan the QR Code, View the Full Text of the Case

NO.2 Building A 1,000 MW-level renewable energy Base to Advance Green and High-Quality Development of Huaneng Group China Huaneng Group Co., Ltd. Central China Branch



Aerial Photo of PV Project Site



Scan the QR Code, View the Full Text of the Case

NO.3 Gold Award of the 24th China Patent Award "A Carbon Dioxide Capture System and Process with Multi-stage Split Regeneration" China Huaneng Group Clean Energy Research Institute Co., Ltd.



Carbon Capture System of Shanghai Shidongkou Power Plant



Scan the QR Code, View the Full Text of the Case

NO.4	The Management Innovation Project <i>Cross-Field Integration Management to Realize the "Safe and Efficient" Operation of China's First IGCC Demonstration Power Plant</i> Won the Award	China Huaneng Group Co., Ltd. North China Branch
NO.5	Innovation and Practice of "Talent Sailing Plan" The Construction of Zero Waste Water Discharge Project Promotes the Ecological Protection of Yellow River Basin	China Huaneng Group Co., Ltd. East China Branch Huaneng Yangtze River Environmental Technology Co., Ltd.
NO.6	Artificial Intelligence Drives Intelligent Heating to Help Achieve the "Dual Carbon" Goal	China Huaneng Group Co., Ltd. Heilongjiang Branch
NO.7	Developing and Building An Independent and Controllable Huaneng Cloud Link Supply Chain Finance Platform, Creating A Digital Industry and Finance Ecology of the Supply Chain of Central SOEs in Electric Power, and Assisting the Group to Play the Main Role of the Chain	Huaneng Capital Services Co., Ltd.
NO.8	All Longdong Coal Bases Have Completed Construction and Put into Operation, and the Capacity to Increase Production and Ensure Supply Has Been Continuously and Steadily Improved	Huaneng Coal Industry Co., Ltd.
NO.10	Building the First Unattended Wind Farm in the Industry and Promoting the Construction of Digital and Lean O&M Management System	Huaneng Renewables Corporation Limited
NO.11	Developing Carbon Capture Technology for Flue Gas to Help Achieve Carbon Neutrality Goal	China Huaneng Group Co., Ltd. Hainan Branch
NO.12	Developing, Building and Operating the Country's First Large-Scale "Wind-Thermal-Storage" Energy Base with Integrated Power Transmission to the Outside Region, to Help the Country Accelerate the Realization of the "Dual Carbon" Goal	North United Power Co., Ltd.
NO.13	Building Huaneng Jiangsu Offshore Wind Power Technology Brand and Enabling the Sustainable Development of First-Class Clean Energy Enterprise in the Region	Huaneng Jiangsu Energy Development Co., Ltd.
NO.14	Lower Sesan II Hydropower Station Fulfills China Huaneng's Overseas Social Responsibility and Strengthens People-to-People Ties Between China and Cambodia	Huaneng Lancang River Hydropower Inc.
NO.15	Science and Technology Enable Mine Transportation to Create Zero-Carbon Intelligent Working Face	Huaneng Eastern Inner Mongolia Energy Co., Ltd.
NO.16	UAV Inspection Technology Innovation Promotes the Industry Development	Huaneng Shaanxi Power Generation Co., Ltd.
NO.17	Practicing the Concept of Ecological Environment Protection and Building A Commanding Height of Ecological Civilization	Huaneng Xizang Yarlung Zangbo River Hydropower Development Investment Co., Ltd.
NO.18	Ensuring Safety by Emergency Drill Reinforcing the ESG Management Culture of the Enterprise to Promote the Innovation Breakthrough of High-Quality Development	Huaneng Gansu Energy Development Co., Ltd. Inner Mongolia Mengdian Huaneng Thermal Power Corporation Ltd.
NO.19	Strengthening and Optimizing the Board of Directors, and Enhancing New Advantages for High-Quality ESG Development	Shandong Xinneng Taishan Power Generation Co., Ltd.

Excellence works selected in the appraisal of the Company's Most Beautiful ESG Pictures in 2023

In January 2024, the Company launched the second selection and appraisal of the most beautiful ESG pictures. All secondary companies and grassroots units actively participated and submitted over 300 pictures. After three rounds of internal review and one round of external expert scoring, 15 outstanding pictures reached the final. In the final session, the Company made the "ESG Poll of China Huaneng" open to the public. After a week of fierce competition, the results of the most beautiful ESG pictures were finally obtained via voting.



Scan the QR code to view more information about the 2nd Most Beautiful ESG Pictures Selection and Appraisal Event of China Huaneng.



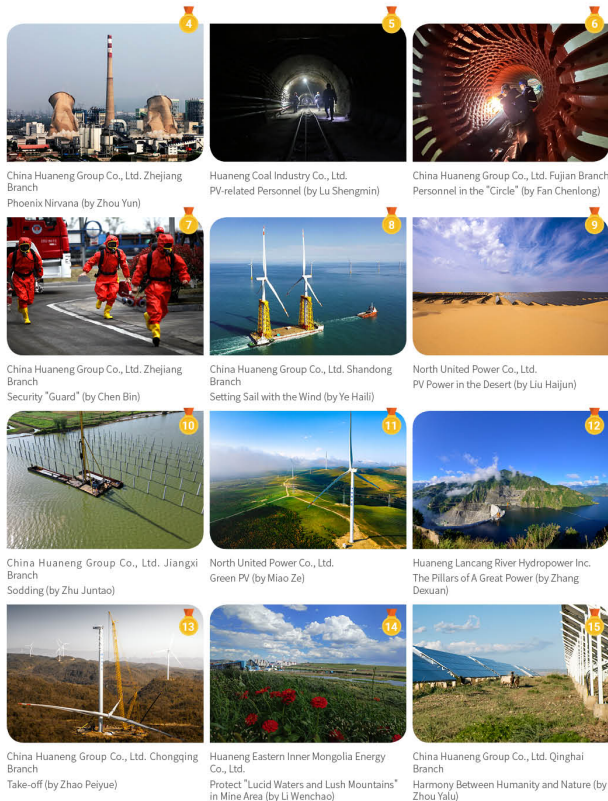
Huaneng Renewables Corporation Limited
Mountains Are Like Dynamic Silver Snakes (by Lv Jie)



NO.2
China Huaneng Group Co., Ltd. Zhejiang Branch
Developing Towards the PV Power (by Chen Yiqin)



NO.3
China Huaneng Group Co., Ltd. Shanxi Branch
Sunset (by Ren Jiening)



4
China Huaneng Group Co., Ltd. Zhejiang Branch
Phoenix Nirvana (by Zhou Yun)



5
Huaneng Coal Industry Co., Ltd.
PV-related Personnel (by Lu Shengmin)



6
China Huaneng Group Co., Ltd. Fujian Branch
Personnel in the "Circle" (by Fan Chenlong)



7
China Huaneng Group Co., Ltd. Zhejiang Branch
Security "Guard" (by Chen Bin)



8
China Huaneng Group Co., Ltd. Shandong Branch
Setting Sail with the Wind (by Ye Haili)



9
North United Power Co., Ltd.
PV Power in the Desert (by Liu Haijun)



10
China Huaneng Group Co., Ltd. Jiangxi Branch
Sodding (by Zhu Juntao)



11
North United Power Co., Ltd.
Green PV (by Miao Ze)



12
Huaneng Lancang River Hydropower Inc.
The Pillars of A Great Power (by Zhang Dexuan)



13
China Huaneng Group Co., Ltd. Chongqing Branch
Take-off (by Zhao Peiyue)



14
Huaneng Eastern Inner Mongolia Energy Co., Ltd.
Protect "Lucid Waters and Lush Mountains" in Mine Area (by Li Wenchao)



15
China Huaneng Group Co., Ltd. Qinghai Branch
Harmony Between Humanity and Nature (by Zhou Yalu)

About China Huaneng

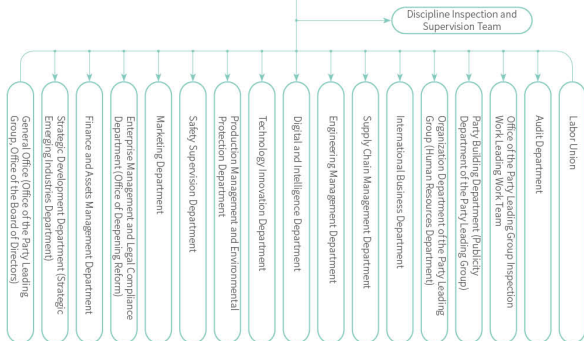
China Huaneng Group Co., Ltd. (referred to as China Huaneng) is a key state-owned enterprise established with the approval of the State Council, established in 1985. China Huaneng has emerged and grown up amid the reform and opening up. China Huaneng has a registered capital of 34.9 billion yuan, with the main business scope covering: power development, investment, construction, operation and management; electricity (heat) production and sales; development, investment, construction, production, sales of industries and products related to coal, finance, transportation, technology and environmental protection; and industrial investment, operation and management, continuously leading the progress of the power generation industry.

China Huaneng deeply implements the decisions and deployments of the Party Central Committee and the State Council, and promotes the continuous strengthening, optimization, and expansion of the company. Since the 18th National Congress of the Communist Party of China, China Huaneng has adhered to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for the New Era, firmly shouldered the mission and responsibility of central SOEs, and continuously took solid steps on the path of high-quality development.

The Company has a total of 120,000 employees, owns 57 secondary units, more than 480 tertiary enterprises, and 5 listed enterprises (namely, Huaneng Power International Inc., Inner Mongolia Mengdian Huaneng Thermal Power Corp. Ltd., Shandong Xinneng Taishan Power Generation Co., Ltd., Huaneng Lancang River Hydropower Inc., and China Great Wall Securities Co., Ltd.). At the end of 2023, the company's total asset was 1.56 trillion yuan. The total installed capacity of wholly-owned and majority-owned power plants was over 240 GW, heating area reaches 1.03 billion square meters, and the production capacity of coal was nearly 120 million tons per year. The Company was first to enter the Fortune Global 500 in the power generation industry, ranked 238th in 2024. SASAC has awarded the Company A-level performance assessment results for 19 times, and A-level tenure assessment results of the person-in-charge of central SOE for 6 times, being the top among comparable power generation enterprises in China.

Headquarters Organization

CHINA HUANENG GROUP CO., LTD.



Member Companies

Huaneng Power International Inc.	Huaneng Renewables Corporation Limited	Huaneng Nuclear Power Development Co., Ltd. (Nuclear Power Business Unit)
Huaneng Coal Industry Co., Ltd. (Coal Business Unit)	Huaneng International Power Development Corporation	China Huaneng Group Hong Kong Limited
Huaneng Capital Services Co., Ltd.	Huaneng Energy & Communications Holding Co., Ltd.	China Huaneng Group Fuel Co., Ltd.
China Huaneng Finance Co., Ltd. (China Huaneng Group (Hong Kong) Treasury Management Holding Limited)	China Huaneng Group Clean Energy Research Institute Co., Ltd.	Huaneng Yangtze River Environmental Technology Co., Ltd.
Xi'an Thermal Power Research Institute Co., Ltd.	Huaneng Nuclear Energy Technology Research Institute Co., Ltd.	Huaneng Properties Co., Ltd. (Huaneng Integrated Industry Co., Ltd.)
China Huaneng Group Co., Ltd. Xiong'an Branch (Huaneng Xiong'an Urban Comprehensive Energy Service Co., Ltd.)	China Huaneng Group Co., Ltd. North China Branch (GreenGen Co., Ltd.)	China Huaneng Group Co., Ltd. Northeast Branch
China Huaneng Group Co., Ltd. East China Branch (China Huaneng Group Co., Ltd. Maintenance Center)	China Huaneng Group Co., Ltd. Central China Branch	China Huaneng Group Co., Ltd. Southern Branch
China Huaneng Group Co., Ltd. Hebei Branch	China Huaneng Group Co., Ltd. Shanxi Branch	China Huaneng Group Co., Ltd. Jilin Branch
China Huaneng Group Co., Ltd. Heilongjiang Branch	China Huaneng Group Co., Ltd. Zhejiang Branch	China Huaneng Group Co., Ltd. Anhui Branch
China Huaneng Group Co., Ltd. Fujian Branch	China Huaneng Group Co., Ltd. Jiangxi Branch	China Huaneng Group Co., Ltd. Shandong Branch
China Huaneng Group Co., Ltd. Henan Branch	China Huaneng Group Co., Ltd. Hunan Branch	China Huaneng Group Co., Ltd. Guangxi Branch
China Huaneng Group Co., Ltd. Hainan Branch	China Huaneng Group Co., Ltd. Chongqing Branch	China Huaneng Group Co., Ltd. Guizhou Branch
China Huaneng Group Co., Ltd. Qinghai Branch	North United Power Co., Ltd.	Huaneng Jianguo Energy Development Co., Ltd. (China Huaneng Group Co., Ltd. Jianguo Branch)
Huaneng Lancang River Hydropower Inc. (Yunnan Branch, Huaneng Lancang River Upstream Hydropower Co., Ltd.)	Huaneng Eastern Inner Mongolia Energy Co., Ltd.	Huaneng Sichuan Hydropower Development Co., Ltd.
Huaneng Shaanxi Power Generation Co., Ltd. (Northwest Branch)	Huaneng Ningxia Energy Co., Ltd.	Huaneng Gansu Energy Development Co., Ltd.
Huaneng Xizang Yarlung Zangbo River Hydropower Development Investment Co., Ltd. (Xizang Branch)	Huaneng Xinjiang Energy Development Co., Ltd.	
Huaneng Tendering Co., Ltd.	Huaneng Information Technology Co., Ltd.	
China Huaneng Group Party School (Education and Training Center)	China Huaneng Group Co., Ltd. Energy Research Institute	China Huaneng Group Co., Ltd. Digital Intelligence Center
China Huaneng Group Co., Ltd. Enterprise Management Shared Service Center	China Huaneng Group Co., Ltd. News and Brand Management Center	China Huaneng Group Co., Ltd. Engineering Technical Economy Management Center
China Huaneng Group Co., Ltd. Operations Monitoring and Emergency Command Center	China Huaneng Group Co., Ltd. Finance Sharing Center	

As of December 31, 2023, the installed capacity of the Company's wholly-owned and controlled power plants amounted to

243.12 GW

including 239.39GW domestically and 3.73GW overseas

In 2023, the Company achieved a cumulative power generation of

845,974 GWh

including 830,553GWh domestically and 15,421GWh overseas

■ Installed Capacity (10MW)
■ Power Generation (100 GWh)



Industrial Distribution Map

Key Performance

	Indicator Name	Unit	2019	2020	2021	2022	2023
Main Business Value	Installed Capacity	10 MW	18278	19644	20592	22111	24312
	Thermal Power Installed Capacity	10 MW	13185	13712	14006	14224	14246
	Power Generation (domestic)	100 GWh	7057	7083	7744	7911	8305
	Coal Production Capacity	10,000 Tons/Year	8260	8500	8770	11380	11880
	Coal Production	10,000 Tons	7450	7607	8664	10108	10800
	Total Number of Personnel in Science and Technology	People	2388	1381	1493	1746	2100
	National Authorized Patents	Item	777	1785	6307	11629	8815
	Among Them: Patents for Invention	Item	121	135	251	1217	1982
	Scientific and Technological Achievements Award at Provincial/Ministerial Level and above	Item	21	39	66	63	68
	Total Investment in Environmental Protection	100 Million Yuan	24.82	10.20	13.00	16.95	16.80
	Total Investment in Energy-saving Technological Upgrading	100 Million Yuan	4.50	4.88	5.09	2.52	2.60
	Low Carbon Clean Energy Installed Capacity	10MW	6163	7192	7849	9203	11431
	Low Carbon Clean Energy Proportion	%	33.72	36.61	38.12	41.62	47.02
	Environmental Responsibility	Hydropower Installed Capacity	10MW	2697	2756	2756	2759
Wind Power Installed Capacity		10MW	1996	2530	2917	3393	3929
Photovoltaic Installed Capacity		10MW	400	645	912	1735	3358
Coal Consumption for Power Supply		g/kWh	297.55	295.34	294.04	292.02	294.91
Auxiliary Power Ratio		%	3.78	3.73	3.71	3.65	3.53
Ash Comprehensive Utilization Rate		%	75.92	75.64	77.10	73.69	73.60
Sulfur Dioxide Emission Performance for Thermal Power Generation		g/kWh	0.072	0.072	0.070	0.068	0.069
Nitrogen Oxide Emission Performance for Thermal Power Generation		g/kWh	0.141	0.139	0.137	0.137	0.137
Smoke and Dust Emission Performance for Thermal Power Generation		g/kWh	0.011	0.010	0.009	0.009	0.009
Installed Capacity of Ultra-low Emission Units		10MW	11526	11605	12300	12400	13165
Proportion of Ultra-low Emission Units		%	96.0	97.0	99.0	99.5	99.5
Fresh Water Consumption for Power Generation		10,000 Tons	57396	54021	59980	62847	57673
Unit Water Consumption for Power Generation		kg/kWh	1.06	1.00	1.02	1.08	0.99
Carbon Emissions		10,000 Tons	44798	47569	52436	52600	53720
Carbon Emission Intensity	g/kWh	650.00	634.99	635.35	623.00	613.60	
Wastewater Discharge Amount	10,000 Tons	4561.37	4485.81	3655.84	3382.24	3164.33	
Total Coal Consumption	10,000 Tons of Standard Coal	16734	16828	18404	18211	18870	

	Indicator Name	Unit	2019	2020	2021	2022	2023
Social Responsibility	Paid Taxes	100 Million Yuan	267	297	278	356	372
	Number of In-Service Employees	People	131579	124628	120927	121264	120304
	Number of New Employment throughout the Year	People	4222	4196	4366	5371	5737
	Number of Female Employees	People	30319	28783	27096	26054	25358
	Female Employees Ratio	%	23	23	22	21	21
	Female Manager Ratio	%	32	31	30	29	30
	Labor Contract Signing Rate	%	100	100	100	100	100
	Collective Contract Coverage	%	100	100	100	100	100
	Social Insurance Coverage	%	100	100	100	100	100
	Labor Union Membership Rate	%	100	100	100	100	100
	Employee Health Check and Health File Coverage	%	100	100	100	100	100
	Training Time per Employee	Hour	70	86	82	83	84
	Employee Training Coverage	%	79	80	76	79	82
	Total Amount of Donation	Ten Thousand Yuan	73120	28205	16062	21687	22037
Employee Volunteers	Person-times	80710	80055	78593	79012	79356	
Number of Corruption Lawsuits Filed against Companies and Concluded	Item	0	0	2	2	0	
Number of Suppliers Reviewed during the Reporting Period	Item	18377	24138	15653	17040	17040	
Investment in Production Safety (Technological Upgrading)	100 Million Yuan	11.00	9.80	5.97	8.50	25.76	
Major Equipment Accident	Case	0	0	0	0	0	
General Equipment Accident	Case	0	0	1	0	0	
General Accidents of Personnel Injury and Casualties	Case	6	10	7	7	7	
Category I Obstacle	Case	14	9	4	2	5	
Number of Unplanned Outages (hydro & thermal power)	Case	130	97	91	75	89	
Unit Equivalent Availability Factor (hydro & thermal power)	%	94.22	94.49	93.90	93.93	93.90	
Number of People who Died due to Work	People	4	6	5	4	1	
Proportion of People who died due to Work	%	0.03	0.04	0.04	0.03	0.01	
Lost Working Days due to Work-related injuries	Workday - People	24000	36000	30000	24000	6000	
Per Capita Duration of Safety Production Training	Hour	40	40	40	40	40	
Number of People Covered by Safety Production Training	People	125401	123710	120751	120056	119735	
Economic Contract Performance Rate (Group-level)	%	100	100	100	100	100	
Total Assets	100 Million Yuan	11261	11875	13399	14152	15608	
Total Operating Income	100 Million Yuan	3062	3142	3855	4245	4098	
Total Profit	100 Million Yuan	178	224	133	227	421	
Asset-Liability Ratio	%	73.70	69.61	72.74	70.90	70.08	

Social Responsibility

Corporate Governance

Indicator Index

Contents	GRI Standard	SASAC ESG System	CASS-ESG 6.0	Page	
About This Report	GR11, GR12		P1	Inside Front Cover	
Studying Guiding Thought, Opening a New Chapter		GL1		P01	
CHNG In High Quality Development	GR12			P02	
Message from the Chairman	GR12		P2	P08	
Reflecting on 2023, ESG Showing Its Commitment to Responsibility				P10	
[Responsibility Mission] Seizing the Opportunity to Write a Splendid Chapter	Aligning with Demand, Serving the Strategy, and Deeply Committed to Technological Innovation	S2.3	S2.1	P14	
	Aggregating Momentum and Empowering Others in an Open and Integrated Manner, Boldly Leading the Development of the Industry			P18	
	Optimizing the Core Business, Strengthening the Foundation, and Bravely Serving as the Pillar of Energy Supply		S3.3	P22	
With the aspiration for a low-carbon transition	Environmental (Chapter Page)	GR12, GR1302, GR1306		P28	
	Building a New Type of Power System		S4.4	P30	
	Effectively Saving Resources and Energy	GR1301-GR1303	E5.2	E3.1, E3.2, E3.3	P34
	Strict Control of Industrial Pollution	GR1301, GR1306	E2.1, E2.2, E2.3	E2.1, E2.2	P36
	Reduce Greenhouse Gases Emissions	GR1305	E3.1, E3.2, E3.3, ES.1, ES.3, ES.4	EL.1	P38
	Strengthen Ecological and Environmental Protection	GR1304	E4.1, E5.4, E5.6	E2.3, E2.4	P39
	[Story of Original Aspiration] Striving to Be the Architect of a Beautiful China			P42	

Contents	GRI Standard	SASAC ESG System	CASS-ESG 6.0	Page	
Pioneering in the Writing of the Report for the First Time with Bold and Resounding Footprints	Society (Chapter Page)	GR12, GR1404	E2.1	P46	
	Caring and Cultivating Employees	GR12, GR1201, GR1401, GR1403-GR1409	S1.1, S1.2, S1.3, S1.4, S1.5	S4.1, S4.2, S4.3	P48
	Firmly Holding the Bottom Line of Work Safety	GR1403	S2.1	S4.2	P52
	Joining Hands with Partners to Create Value	GR1414	S3.1, S3.2	S3.1	P57
	Building a Harmonious Relationship between Enterprises and Local Communities	GR1203, GR1413	S4.2, S4.3	S1.2	P60
	Achieving Comprehensive Rural Revitalization	GR1203, GR1413	S4.4	S1.1	P63
	[Story of Original Aspiration] Taking Actions to Contribute to the Belt and Road Initiative		S4.4		P66
Steady and sustained corporate governance	Governance (Chapter Page)	GR12, GR1205, GR1206	S1.4, S4.1	P70	
	Operation with Integrity, Compliance with Laws and Regulations	GR1205, GR1206	G2.1, G2.2, G5.1, G5.2	G2.1, G2.2	P72
	Improving the Management Quality and Effectiveness of the Company	GR12, GR1201	G1.2		P74
	High Level Promotion of Responsibility Layout	GR12		G1.1	P77
	Striving to Deepen Integration of Ideas	GR12		G1.1	P79
	Expanding the Information Disclosure Channels		G4.1, G4.2	G1.3	P81
	[Story of Original Aspiration] Striving to Be a Doer in Building a World-Class Enterprise				P84
Looking Forward to 2024, ESG Leading the Future				P86	
Appendices	Selected Outstanding ESG Cases in 2023			P88	
	Excellent works selected in the appraisal of the Company's Most Beautiful ESG Pictures in 2023			P90	
	About China Huaneng	GR12		P3	P92
	Key Performance	GR1201, GR1207, GR1301-GR1303, GR1305, GR1401, GR1404	E1.1, S4.1	A2	P96
	Indicator Index			A3	P98
	Rating Report	GR12		A5	P100
Feedback	GR12		A6	Inside Back Cover	

Rating Report

Rating Report for 2023 Environmental, Social and Governance Report of China Huaneng Group Co., Ltd.

Entrusted by China Huaneng Group Co., Ltd., experts have been selected from China Corporate Social Responsibility Report Rating Expert Committee to form a rating group to rate the 2023 Environmental, Social and Governance Report of China Huaneng Group Co., Ltd. (hereinafter referred to as the Report).

I. Basis of Rating
Guidelines for Corporate Social Responsibility Reporting (CASS-CSR4.0) of the Chinese Academy of Social Sciences and **China CSR Report Rating Standards (2020)** of China Corporate Social Responsibility Report Rating Expert Committee.

II. Rating Process

1. The rating team reviews and verifies the *Confirmation of Processes of the Corporate Social Responsibility Report* and relevant evidential documents submitted by the team that compiled the Report;
2. The rating team evaluates the process for writing the Report and the content of the Report, and drafts and finalizes this rating report;
3. The Vice Chairman of the Expert Committee, the team leader and experts of the rating team jointly review and sign the rating report.

III. Conclusion

Process (★★★★★)

The Company set up ESG management committee with the President and Deputy Secretary of the Party Leading Group as the person-in-charge to coordinate ESG work, the Enterprise Business Management and Legal Compliance Department took the responsibility to coordinate the preparation of the Report. Each functional department provided materials and relevant content, and the Company's Board of Directors was responsible for the final review. The Report's functional role and values were explicitly defined as an important instrument to disclose duty performance information in line with relevant requirements, improve ESG governance system, and build the corporate brand image. The substantive issues were identified according to international and domestic social responsibility standards, industry-wide benchmarking analysis, actual development of the company, stakeholder investigations, etc. The Report elaborates on the company's ESG planning, ESG issues, ESG reports, etc., highlighting the top-level design planning, and systematic promotion of the CHNG's ESG work from "High Level Promotion of Responsibility Layout" "Striving to Deepen Integration of Ideas" and "Expanding the Information Disclosure Channels". The Report will be published on the Company's official website and incorporated into the "Collective Issuance of Social Responsibility Reports of Central SOEs" and "Social Responsibility Report of 300 Excellent Enterprises" for general releases. It will be presented in different forms including electronic file, printed version, Chinese and English versions, and new media video edition. All these prove its outstanding process performance.

Materiality (★★★★★)
The Report systematically discloses key topics for discussion in the power industry, such as implementing macro policies, ensuring power supply, safety production, developing green electricity, building a responsible supply chain, saving energy resources, developing circular economy, reducing "three wastes" emission, factory and surrounding environmental governance, etc. with detailed narration and excellent materiality performance.

Integrity (★★★★★)
From the perspectives of "With the Aspiration for Lucid Waters and Lush Mountains, Firm Steps Towards Low-Carbon Transition", "Bearing in Mind the Wellbeing of the People, Forging Ahead Toward Prosperity with Bold and Resounding Footsteps", and "Steady and Sustained Corporate Development through Modern Governance", the main body of the Report discloses 88.24% of the core indicators of the power production industry with remarkable integrity performance.

Balance (★★★★★)
The Report discloses negative data including "number of corruption lawsuits filed against companies and employees and concluded", "number of major equipment accidents", "number of general equipment accidents", "number of safety production accidents", "number of employee casualties", etc., and elaborates on the response measures for the abnormal fluctuation of carbon monoxide in Yuwang Coal Mine No. 1 Well with excellent balance performance.

Comparability (★★★★★)
The Report discloses the comparative data for 5 consecutive years of 64 indicators, such as "Installed Capacity", "Coal Production Capacity", "Total Investment in Environmental Protection", "Coal Consumption for Power Supply", "Auxiliary Power Ratio", "Carbon Simulators", "Female Manager Ratio", "Total Amount of Donation", etc., comparing horizontally the situation of "The total labor productivity was RMB1.137 million yuan per person, maintaining the industry's leading position", making an excellent comparability performance.

Readability (★★★★★)
The Report is themed on "Responsibility, Original Aspiration", presents in three chapters a systematic display of CHNG's responsibility actions and achieve results. Cover design continues to use hand drawn illustration style, the cover creatively integrates the elements of main businesses such as wind power, PV, nuclear power and hydro power into special responsibility performance scenarios, highlighting industry characteristics, which contributes to an increased identification of the Report. Each chapter concludes with "Story of Original Aspiration", echoing the theme of the report and enhancing the storytelling and appeal of the report content. The report has concise language, rich case studies, and diverse forms of expression. QR codes are printed in the Report for extended reading of in-depth interpretation, third-parties testimony is referred to as support of effective performance of corporate responsibilities, achieving better readability.

Innovativeness (★★★★★)
The Report has set up special chapters of "Reflecting on 2023, ESG Showing its Commitment to Responsibility" at the beginning, which concentrate on showcasing major social responsibility events of the year, and echo each other with "Looking Forward to 2024, ESG Leading the Future". The thematic sections named "Seizing the Opportunity to Draw a Blueprint, Making Great Achievements to Write a Splendid Chapter" manifests CHNG's sense of responsibility as a centrally administered state-owned enterprise in terms of technological innovation, industrial development, energy supply guarantee, etc. Each chapter begins with a detailed disclosure of topic management methods, action and performance using "Analysis of Topic", "Background of Topic", "Current Status of Topic", "Performance Indicators", "Fulfilling Commitments Through Action", "Continuing the Glory", which is convenient for stakeholders to quickly grasp. The Company facilitated its subsidiaries including Huaneng Power International Inc., Huaneng Lancang River Hydropower Inc., Shangri Generation Co., Ltd., Great Wall Securities Co., Ltd and Inner Mongolia Mengjiafang Huaneng Thermal Power Corporation Ltd., to publish their respective reports, compiled and distributed special reports on overseas accountability and rural revitalization etc., and build a multi-level and multi-form reporting system. These four features contribute to the Report's excellence in innovativeness.

Overall Rating (★★★★★)
According to the rating team, the 2023 Environmental, Social and Governance Report of China Huaneng Group Co., Ltd. was rated five-star as an excellent corporate social responsibility report.

1. Suggestions for Improvement

1. Add more disclosure information about core industrial indicators to improve the Report's integrity.
2. Strengthen the disclosure of information on deficiencies in fulfilling responsibilities to further improve the Report's balance.



董国栋
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Vice Chairman of the Expert Committee

董国栋
董国栋
董国栋

Leader of the Rating Team

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Expert of the Rating Team

Date of Issuance: November, 2024
Scan the QR Code to View Enterprise Rating Files

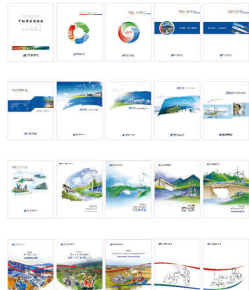
Feedback

Dear Readers:

Thank you for reading the 2023 Environmental, Social and Governance Report of China Huaneng Group Co., Ltd. We would like to improve the quality of both our ESG work and report. Scan the QR code below and send us any comments or suggestions you may have, which will be of great help for us. Thank you!



Sustainability (ESG) Report System



Interpretation of the Creativity of the Sustainability (ESG) Report 2021-2025

CHNG's five sustainability (ESG) reports to be released during the "14th Five-Year Plan" period are of continuous integrated design, with content presented with the aid of triple creative design techniques, i.e. "abstract vector lines + aerial photos of large scenes + warm hand-painted illustrations". As main elements running through the whole picture, the two ribbons in red, green and blue connect together five landforms, i.e. snow mountains, grasslands, fields, seas and cities. Besides, the picture also integrates elements such as wind power, PV, nuclear power, hydro power and electrical workers. These imply that CHNG, under the guidance of "Three-Color Culture", makes all-out efforts to develop new energy, nuclear power and hydro power, CHNG continuously creates high-quality power projects in China, turning energy into a "beacon of light"; CHNG will continue moving forward on the road of high-quality and sustainable development, and devote wholeheartedly to the successful conclusion of the "14th Five-Year Plan".