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

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2025
Environmental, Social and Governance Report
(Corporate Social Responsibility Report)

Embark on a New Journey · Toward the Future



This report, the 20th consecutive sustainability-related report released to the public by CHNG since 2006, is the second special report named as "Environmental, Social and Governance Report(Corporate Social Responsibility Report)". Based on the principles of objectivity, standardization, and comprehensiveness, this report fully incorporates the latest policies and corporate strategy, and delves into the ESG concept embedded in its "three-color" mission, internalized in its main business, and coexisting with its development goals. Besides, this report explores an ESG management and practice system with "CHNG characteristics", systematically sorts out and truthfully discloses information concerning its fulfillment of ESG indicators, demonstrates corporate responsibility, and shapes a good image of corporate citizen that pushes the higher-quality and more sustainable corporate development.

The logo of China Huaneng Group consists of the deformation of letters "H" and "N".
"H" and "N" are the first letters of Chinese phonetic transcription of "Huaneng", and the meaning of the combination is: contributing energy and adding momentum for national rejuvenation while creating happiness.
Letter "H" adopts a bold font, which is powerful and vigorous, presenting a visual image of safety, reliability and steadiness; letter "N" connects letter "H" with three rays to form a lightning font, symbolizing perpetual and unlimited power; and dark blue is chosen as the base color, demonstrating solemnness, rigor, serenity and harmony, as well as broad-mindedness and lofty ambition.
The shape of the letters resembles mountain peaks, emitting a grand atmosphere; the composition of the logo is neat and orderly, giving a sense of solemnness; and the superposition effect is concise and lively, full of vitality, exhibiting the sacred mission and demeanor of CHNG as a key state-owned backbone enterprise.

About This Report

Reporting Period

January 1, 2025 to December 31, 2025. Some of the contents go beyond the above range.

Reporting Cycle

This report is an annual report released to the public in the third quarter of each year.

Main Contents

This report discloses CHNG's policies, practices and performance in 2025 in environmental, social and governance aspects. Its relevant basic source materials are all drawn from relevant company documents, statements and grassroots enterprises.

Compilation Basis

The Ten Principles of the UN Global Compact by the United Nations
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 (Trial) by 9 Departments Including the Ministry of Finance
Guidelines for Sustainable Disclosure of Enterprises No.1- Climate (Trial) by 9 Departments Including the Ministry of Finance
Guiding Opinions on the High-standard Fulfillment of Social Responsibility by Central SOEs in the New Era by the State-owned Assets Supervision and Administration Commission of the State Council
ISO26000: Guidance on Social Responsibility by the International Organization for Standardization
Guidelines on Social Responsibility (GB/T36000) by the Standardization Administration of the People's Republic of China

Title Description

For convenience of expression, in this report, "CHNG", "Huaneng Group", "Huaneng", "the Company" and "We" refer to "China Huaneng Group Co., Ltd.".

Online Access to the Report

The Report is available in Chinese and English. The video version is also available. The Chinese version and the video version are released at the same time. Please visit our website at http://www.chng.com.cn, or call 010-63226843 to request for the Report.
E-mail: hnshzr@chng.com.cn
Address: No. 333, Xiong'an Avenue, Starting Area of Xiong'an New Area, Hebei Province
Postal Code: 070001
Scan the QR code to access the video version of the Report.

Leading the Way, Advancing with Speed and Stability



On March 23, 2026, President Xi Jinping's visit to China Huaneng during his inspection tour of the Xiong'an New Area is a major, significant, and momentous event in the history of the Company's development, holding important milestone significance.

At the Group's headquarters, President Xi Jinping walked into the Operation Monitoring and Emergency Command Center. He listened to briefings on the enterprise's relocation, industrial layout, and innovation development, and examined the Company's real-time operational data and remote video feeds. In the first-floor lobby of the Company, President Xi Jinping had cordial exchanges with representatives of cadres and employees from enterprises stationed in or under construction for relocation to the Xiong'an New Area. He inquired about their work and daily lives, affirmed their dedicated efforts to the construction and development of the new area, and expressed his hope that they would put down roots in the fertile soil of the new area and actively contribute their wisdom and talent.

Important Speech by President Xi Jinping during His Inspection at China Huaneng

- As state-owned enterprises, your fundamental mission is to serve the national development strategy. Your relocation here is a response to national deployment, and you should follow this strategic direction; meanwhile, this national strategy has also created new conditions and broader space for your own development.
- Your company's energy structure has undergone tremendous changes, with hydropower, solar photovoltaics, and wind power all thriving. Energy is a strategic issue in our development. We took the lead in developing wind and PV, and with hindsight, this path has proven to be highly forward-looking. At the same time, coal power remains the bedrock of our energy supply, and it must play its role in providing a safety net. We must unswervingly pursue a path of clean and low-carbon development.
- We must take the relocation to the Xiong'an New Area as a prime opportunity to inspire the enthusiasm and initiative of all our staff in innovation and entrepreneurship, and make new contributions to accelerating the building of a new energy system and building China into a great power in energy.
- As the first wave of pioneers, you have responded to the call of the Party. You mobilized at a moment's notice and made significant contributions to Xiong'an and the coordinated development of the Beijing-Tianjin-Hebei region.
- You should all take great pride in being Xiong'an residents. We must take the lead in our work, advancing with both speed and steady progress, and work together to create a bright future for Xiong'an.

President Xi Jinping's important speech is strategically visionary, profound in thought, rich in content, and highly inspiring. It possesses a high degree of ideological, strategic, and guiding significance. The speech fully reflects the deep care of the Party Central Committee with Comrade Xi Jinping at its core for China Huaneng and serves as a tremendous encouragement to all employees. It has pointed out the direction and provided fundamental guidance for the Company as it stands at the new starting point of relocating to Xiong'an and embarks on a new journey of pursuing high-quality development.

——Chairman of the Board of Directors of China Huaneng Group Co., Ltd.: Wen Shugang

Forty Years of Glorious Achievements, Forging Ahead with Determination, and Achieving Leapfrog Development

In June 1985, the CPC Central Committee and the State Council made the decision to establish China Huaneng. Over 40 years of dedicated effort and remarkable achievements, Huaneng has consistently strived toward the goals of "becoming stronger, better, and larger, making people's lives better, and making the motherland more prosperous" within the great endeavor of building socialism with Chinese characteristics. With unwavering dedication and ceaseless struggle, we have loyally fulfilled our mission of "building a "Three-Color Concept" Company and serving the goal of building China into a great power in energy." We have written a glorious chapter of power generation characterized by pioneering the tide and breaking new ground, delivering an outstanding report card to the Party and the people.

Over the past 40 years, we have unswervingly listened to the Party and followed its guidance, always forging ahead steadily in the direction pointed out by the Party.

We must always keep in mind the fundamental attribute that "central SOEs should firmly uphold the Party's leadership," and place the Party's political development at the forefront. We will fully implement the "Two Unswerving Principles," integrating the Party's leadership and the strengthening of Party building into modern corporate governance. By launching the "Party building+" initiative, we have created the Party building brand of "Party Flag Leading the Way with Three-Color Commitment." We are accelerating the development of a cadre team that is "Five Goods and Five Strengths" and a talent team with "Three Excellences and Three Capabilities," building an outstanding workforce dedicated to patriotism, devotion, innovation, and creation. Consequently, we have repeatedly received an 'A' rating in the assessment of Party building accountability conducted by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC).

Over the past 40 years, we have steadfastly kept in mind the "Top Priorities of the Country," and shouldered our political responsibility with determination to ensure a secure and reliable energy supply.

We regard energy supply assurance as a paramount political responsibility, committed to ensuring power generation, safeguarding people's livelihoods, and maintaining heating supply. From Genhe, the coldest place in China, to Sanya in Hainan; from the cascade development of the Lancang River to the construction of three major nuclear power bases; from the gobi desert base in the north region to the offshore wind power corridor, our power generation industry spans all 31 provinces, autonomous regions, and municipalities. Our installed capacity has exceeded 300 GW, with annual power generation accounting for nearly one-tenth of the national total, and our heating coverage surpasses 1 billion square meters. We have played a vital role in critical moments such as the Beijing Olympic Games and Winter Olympics, and the Two Sessions. We have stepped forward in times of natural disasters and emergencies, demonstrating our steadfast responsibility as a pillar and ballast.

Over the past 40 years, we have steadfastly advanced our transformation and upgrading, consistently maintaining an industry-leading position in overall corporate strength.

We have always adhered to transformation and upgrading, continuously optimizing our industrial structure to forge a development pattern centered on power, based on coal, characterized by multi-energy synergy, and driven by scientific and technological innovation. We have steadfastly pursued a path of green development, focusing on large-scale, base-oriented development. We are comprehensively building the "Three pillars" of new energy, hydropower, and nuclear power, optimizing the clean and efficient utilization of coal power, and promoting the joint construction of the Belt and Road Initiative. As a result, the "gold content", "green quotient," and "innovation intensity" of our development have continuously improved. Furthermore, we have promoted coordinated industrial development. Our annual coal production capacity has exceeded 120 million tons, and the self-owned and managed assets in our financial sector have surpassed one trillion yuan. Having received an 'A' rating in the annual performance assessment by the State-owned Assets Supervision and Administration Commission of the State Council for nearly 20 consecutive times, our comprehensive strength remains at the forefront of the industry.

Over the past 40 years, we have steadfastly accelerated scientific and technological innovation, continuously leading the technological progress of the energy and power industry.

We have consistently placed technological innovation in a prominent position. Grounded in the needs of the nation, the trends of the industry, and the capabilities of the enterprise, we have pooled our resources to tackle core technologies. We have successfully built and operated the nation's first domestically produced GW-level ultra-supercritical coal-fired generating unit and the world's first high-temperature gas-cooled reactor (HTR-PM) nuclear power plant featuring fourth-generation nuclear technology. We have successfully developed the nation's first secure and trustworthy DCS, and taken the lead in establishing a CCUS innovation consortium among central SOEs. We have also made major breakthroughs in international standardization. As the only power generation group on the inaugural list of outstanding technological innovation enterprises selected by SASAC, we continue to lead the technological progress of the power industry.

Over the past 40 years, we have steadfastly deepened corporate governance, making solid strides toward building a world-class enterprise.

With adhering to and strengthening the Party's leadership as the fundamental principle, improving corporate governance as the focal point, and reform and innovation as the driving force, we have continuously refined the modern enterprise system with Chinese characteristics. Our corporate governance structure has become increasingly sound, our market-oriented operating mechanisms more robust, and our scientific management standards further elevated. The intrinsic motivation and innovative vitality of the enterprise have been fully unleashed, driving our operational performance to continuously reach new heights. Consequently, we have been designated by SASAC as a demonstration enterprise in the creation of world-class enterprises.

Over the past 40 years, we have steadfastly promoted the "Three-Color" culture, and the spirit of our staff in pursuing their careers and undertaking their tasks has always remained highly motivated and uplifting.

By implementing the "Culturally Strong Enterprise" strategy, we have formed the "Three-Color" cultural concept with distinctive Huaneng characteristics. It has become the most prominent spiritual emblem and the most widely shared value consensus among all Huaneng employees. By consistently using our cultural philosophy to guide practice, we have continuously enhanced the sense of belonging, sense of mission, and sense of responsibility among our staff. This has provided a solid ideological guarantee, strong spiritual driving force, and favorable cultural conditions for high-quality development.

A magnificent new era, a new journey of carrying forward our cause. As we envision the big picture, the grand blueprint of Chinese modernization is unfolding, rendering us a solemn responsibility to consolidate the "Two foundations"; as we seize opportunities, the surging tide of technology is upon us, making it a challenging task to fully leverage our role as a national strategic force in science and technology; as we march on the right path, new quality productive forces are thriving, presenting boundless prospects for the mutual promotion of industry and technology. Carrying forward the Huaneng cause that generations of our people have dedicated themselves to, and as we set out toward new goals, we are filled with heroic passion and absolute confidence.



Empowering with Responsibility, Urging with Mission, Planning for High-quality Development

Mission-driven

Corporate Mission: To uphold the "Three-Color Concept" and serve the building of China into a great power in energy

A "red" company that serves the Party and the people, safeguards energy security, and contributes to the Chinese path to modernization

A "green" company that prioritizes ecology, facilitates energy revolution, and empowers people for a better life

A "blue" company that focuses on technological innovation, promotes energy cooperation, and contributes to building a community with a shared future for mankind

Strategic Guidance

The "1363" Development Strategy

1 Strategic Mission

To uphold the "Three-Color Concept" and serve the building of China into a great power in energy

3 Strategic Orientation

Adhering to the "Three Unswerving Commitments"

Unswervingly upholding the main theme of promoting high-quality development
Unswervingly maintaining the direction of accelerating green and low-carbon development
Unswervingly maintaining the goal of accelerating the building of a world-class enterprise

6 Strategic Principles

Adhering to the "Six Commitments"

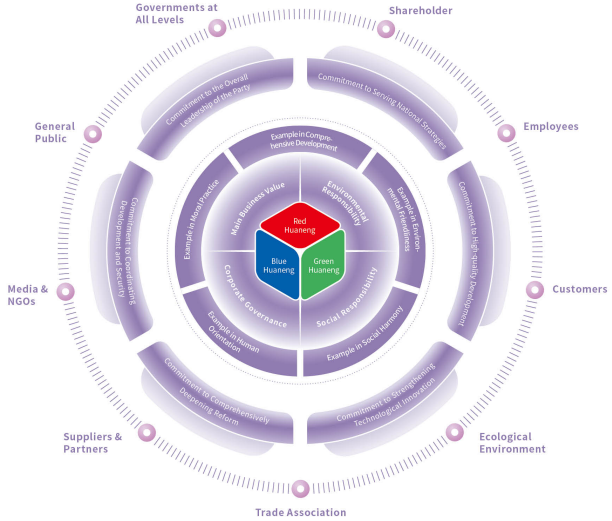
Commitment to the overall leadership of the Party
Commitment to serving national strategies
Commitment to high-quality development
Commitment to strengthening technological innovation
Commitment to comprehensively deepening reform
Commitment to coordinating development and security

3 Strategic Pathway

Deepening the "Three Drivers"

Deepening innovation-driven development
Deepening the "Dual Carbon" driven strategy
Deepening digital and intelligent driven development

System First



Persisting in serving national interests and development strategies, serving as an example in promoting economic and social development in all respects
Persisting in scientific development and technological innovation, serving as an example in building a resources-conserving and environmentally friendly society
Persisting in pursuing enterprise value in a rational way, serving as an example in promoting harmonious progress of both the enterprise and society
Persisting in the principle of relying on employees and working with the public to develop the enterprise, serving as an example in putting people first and sharing benefits
Persisting in giving back to society and benefiting the people, serving as an example in practicing social ethics

[Board of Directors]



Wen Shugang
Chairman of the Board of Directors



Zhong Guodong
Board Director, President



Hao Jinyu
Board Director



Wu Weizhang
External Board Director



Liu Yuezhen
External Board Director



Wang Yidong
External Board Director



Liu Zehong
External Board Director



Zhao Yongfeng
External Board Director



Hu Yunrui
Employee Director

[Management Team]



Wen Shugang
Chairman of the Board of Directors



Zhong Guodong
Board Director, President



Hao Jinyu
Board Director



Si Weiguo
Vice President



Li Qizhao
Vice President



Li Ying
Chief Financial Officer



Zhang Jun
Chief Compliance Officer



Dong Changqing
Vice President



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Message from the Chairman



Chairman of the Board of Directors: Wen Shugang

The year 2025 marks the conclusion of the "14th Five-Year Plan" and the strategic planning phase for the "15th Five-Year Plan," as well as the 40th anniversary of China Huaneng. Under the strong leadership of the Party Central Committee with Comrade Xi Jinping at its core, the Company as a whole has centered its efforts on the "12-character" general requirement for the year's work. By focusing on shouldering the "Six Major Responsibilities" and achieving the "Six New" goals, we have forged ahead with determination and overcome numerous difficulties. As a result, remarkable achievements have been made in all areas, and the annual targets and tasks have been successfully accomplished.

The Company adheres to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as its guide and has launched study and education campaigns to thoroughly implement the spirit of the Central Committee's Eight-point Regulation. We earnestly shoulder our political responsibilities and strengthen our political commitment. Members of the Party leading group have taken the lead in studying and promoting the spirit of the Fourth Plenary Session, sparking a company-wide upsurge in learning and implementation. Furthermore, we have solidly carried out the special campaign of the Year of Party Building Brand featuring "Party Flag Leading the Way with Three-Color Commitment", systematically advancing our party building work towards a more structured approach. **Steady and Positive Progress, Highlighting Huaneng's Distinctive Modern Governance.** The Company has consolidated the foundation of compliance-based operations, achieving a total profit of RMB 56.9 billion and a net profit of RMB 44.3 billion, both representing a year-on-year growth of approximately 11%. Key operational and development metrics have hit new historic highs; we have effectively enhanced management efficiency, successfully completed the annual key tasks for implementing the spirit of the Third Plenary Session, and achieved a high-quality conclusion to the action plan for deepening and upgrading state-owned enterprise reform; furthermore, we have continuously improved our ESG framework, deeply integrating ESG concepts into the entire process of production and operations, and were honored with the title of "ESG Model Demonstration Base". **Optimizing Core Business of Power, Driving Industry Progress.** The Company has continuously strengthened its energy supply capacity, effectively responding to multiple challenges including peak load demands, heavy rains and typhoons, and earthquakes. We successfully generated 862.6 TWh of electricity and supplied 524 million GJ of heat domestically, perfectly fulfilling our energy supply missions during critical periods. Adhering to the principle of "putting lives first and prioritizing safety", we have systematically promoted the comprehensive enhancement of the guarantee capabilities for the "Five Safeguards". The "1+10" emergency response plan system has been continuously strengthened, and the three-tier response and handling mechanism operates effectively. The number of unplanned unit outages has seen a significant decrease, with no major or above safety incidents occurring throughout the year. Additionally, we have been approved to establish a national-level cybersecurity testing ground for the power industry. Adhering to serving the strategic needs, we have continuously unleashed the momentum of scientific and technological innovation. We have taken the lead in a batch of core technology research projects, achieving breakthrough progress. We have won 10 first prizes in provincial and ministerial-level science and technology awards. The Shidao Bay HTR-PM Demonstration Project has successfully passed the national major special project acceptance. Key tasks such as the "Artificial Intelligence+" special action have been accelerated, and we have been recognized as an Outstanding Enterprise for Industrial Renewal. **Harmony and Prosperity, Showcasing the Sincere Commitment to Our Country and People.** The company places the common growth with important stakeholders such as employees, partners, and the public at the core, creating value and sharing achievements with them. The Company has further strengthened the development of its cadre and talent teams, and solidly advanced the reform of the position and rank system. We have established a comprehensive, three-dimensional employee growth system that encompasses the entire organization and all staff, known as the "Five-Track, Six-Tier"; we actively support major regional strategies and deepen external cooperation. Adhering to the principle of mutual benefit and win-win outcomes, we are advancing open cooperation with local governments, upstream and downstream enterprises, and other partners on a broader scale and in wider fields. Actively leveraging our driving effect, we give back to society by engaging in public welfare and charity, supporting rural revitalization, and participating in the joint construction of the "Belt and Road Initiative". Our targeted assistance work has received the highest national assessment rating for the ninth consecutive year, fully demonstrating the sense of responsibility and commitment of a central SOE.**Pursuing Green Development and Embracing Innovation, Enriching the Ecological Foundation of a Beautiful China.** The Company unswervingly implements the new energy security strategy, continuously deepens the "Dual Carbon" drive, focuses on building a new power system, and coordinates efforts to reduce carbon emissions, cut pollution, expand green development, and promote economic growth. The green and low-carbon transition has accelerated in both pace and quality. The newly commissioned capacity of new energy has surpassed 26 GW, hitting a new historic high. Furthermore, the 9.64 GW of projects included in the "First Batch of Large-Scale Wind and PV Base Construction Projects in Desert, Gobi, and Wasteland Regions" list issued by the National Development and Reform Commission and the National Energy Administration have all been successfully connected to the grid. The development of hydropower and nuclear power is being advanced in a proactive and orderly manner, and the development of clean thermal power continues to be optimized. The proportion of installed low-carbon and clean energy capacity has reached 56.63%, with 100% of the thermal unit capacity achieving ultra-low emissions. Furthermore, the carbon emission intensity has decreased by 34.7 g/kWh year-on-year.

The future is here, and the destination is within reach. The Fourth Plenary Session of the 20th Central Committee of the Communist Party of China has drawn up a magnificent blueprint for China's economic and social development during the "15th Five-Year Plan" period. The year 2026 marks the inaugural year of the "15th Five-Year Plan," and is therefore of profound significance. The Company will further unify its thinking, take proactive actions, and build on the momentum to embark on a new journey of high-quality development during the "15th Five-Year Plan" period. We will accelerate the building of a world-class enterprise and contribute greater strength to advancing Chinese modernization.

Mission inspires us to forge ahead, and hard work will create a glorious future. Let us rally more closely around the CPC Central Committee with Comrade Xi Jinping at its core, firmly uphold the "Two Establishments", and resolutely practice the "Two Upholds". With the spirit of historical initiative, we will overcome all difficulties and forge ahead with resolve, ensuring the full completion of this year's objectives and tasks. Through more robust actions, we will steadily translate the blueprint of the "15th Five-Year Plan" into a tangible reality, and make new and greater contributions to the comprehensive advancement of building a great country and national rejuvenation!

Overcoming Difficulties to Achieve a Successful Conclusion, and Delivering an Outstanding Scorecard for the 14th Five-Year Plan

The past five years have been truly extraordinary. During the 14th Five-Year Plan period, China Huaneng fully implemented the guiding principles of the 20th National Congress of the CPC and all plenary sessions of the 20th Central Committee, and resolutely carried out the new energy security strategy featuring Four Revolutions and One Cooperation. Firmly executing the Company's "366" development strategy, we have seen our key operational and development metrics hit record highs time and again, achieving historic and better-than-expected results. We were included in the list of "World-Class Demonstration Enterprises" issued by the State-owned Assets Supervision and Administration Commission of the State Council, with key metrics reaching world-leading levels. The "gold content", "green quotient," and "innovation intensity" of our development has all risen comprehensively. Stepping onto a new height of high-quality development, we have demonstrated the strong sense of mission and responsibility of central SOEs in the new era and new journey through solid actions and outstanding achievements!

Firmly Shouldering the Major Responsibility of Safeguarding National Energy Security, Better Demonstrating the "Pillar" Role

- Surpassed 300 GW in power generation capacity, up 53.4% from the end of the 13th Five-Year Plan period, ranking second globally
- Reached 862.6 TWh in power generation volume, an increase of 21.8% compared to the end of the 13th Five-Year Plan period
- Hit 524 million GJ in heat supply volume, up 33.9% from the end of the 13th Five-Year Plan period, maintaining the position of the nation's largest enterprise for people's livelihood heating
- Stood at 124.7 million tons/year in coal production capacity, growing by approximately 50% from the end of the 13th Five-Year Plan period, with annual output surpassing the 100-million-ton milestone for four consecutive years

Firmly Shouldering the Major Responsibility of Accelerating Green and Low-Carbon Development, Further Optimizing the Development Structure

- Reached 56.63% in the share of low-carbon and clean energy capacity, up 20 percentage points from the end of the 13th Five-Year Plan period
- Surpassed 120 GW in the renewable energy installed capacity, 3.8 times the figure at the end of the 13th Five-Year Plan period
- Firmly maintained in the first tier in offshore wind power development
- Entered a new phase of comprehensive construction across the three pressurized water reactor (PWR) nuclear power bases
- Broke through the 30 GW milestone in hydropower installed capacity

Firmly Shouldering the Major Responsibility of Taking the Lead in Scientific and Technological Innovation, Further Strengthening the Momentum of Development

- Took the lead in undertaking 15 key R&D programs and "2030 Major Projects", and cumulatively undertook 14 first-set (or first-unit) projects in the national energy sector
- Successfully achieved breakthroughs in a batch of key core technologies, including Generation IV nuclear power, the world's largest coal-fired power carbon capture demonstration project, and the nation's first safe and credible DCS, as well as the world's first 650°C high-efficiency ultra-supercritical coal-fired generating unit
- 15-fold increase in valid invention patents from the end of the 13th Five-Year Plan period, 4 consecutive Grade A ratings in central SOEs patent quality evaluation, and the top industry ranking
- 26% revenue share of strategic emerging industries in 2025, over 13 percentage points increase from 2022
- Sole power generation central enterprise on SASAC's inaugural annual list of outstanding sci-tech innovation enterprises

Firmly Shouldering the Major Responsibility of Deepening State-owned Enterprise Reform, Further Enhancing Development Vitality

- High-quality completion of the Three-Year SOE Reform Action and the Reform Deepening & Upgrading Action, recognized as a "model" of central enterprise reform
- Grade A in SASAC special reform evaluation for 5 consecutive years
- Grade A in SASAC world-class value creation evaluation for 2 consecutive years

Firmly Shouldering the Major Responsibility of Promoting High-Quality and Steady Growth, Further Improving Development Quality

- 2.5-fold increase in total profit in 2025 compared to 2020, maintaining top-tier growth rate among central SOEs
- Multiple ten-billion-yuan-profit business sectors formed across renewable energy, hydropower, thermal power, and coal sectors
- Continuous optimization of overseas project asset structure with steady improvement in operational performance
- Asset-liability ratio dropped to a 20-year low
- Consecutive Grade A ratings in both annual and term performance evaluations by SASAC

Firmly Shouldering the Major Responsibility of Exercising Full and Rigorous Party Self-Governance, Providing Stronger Party Building Guidance and Assurance

- Unremittingly strengthening convictions and forging the soul with the Party's innovative theories, with more firm and conscious practice of the "Two Upholds"
- Coverage rate of Party group inspections in the current term of the 20th CPC Central Committee reaching 84.2%
- Integrated and coordinated "Big Supervision" system with a stronger atmosphere of comprehensive and strict Party self-governance
- Huaneng Party School recognized as an outstanding teaching organization among central SOE party schools for 4 consecutive years
- Awarded the highest national evaluation rating for targeted assistance work for 9 consecutive years



Total Operating Income RMB

387 Billion

Total Profit RMB

56.9 Billion

Total Assets RMB

1809 Billion

Asset-Liability Ratio

68.15%

18 Consolidating the Cornerstone of Compliant Operations

21 Effectively Enhancing Management Effectiveness

23 Improving the ESG Framework

27 Building Communication and Dissemination Platforms

32 [Top-down Promotion] Party Building Leading the Way with Three-Color Commitment

Steady and Positive Progress

Highlighting Huaneng's Distinctive Modern Governance

From December 22 to 23, 2025, the Central SOE Responsible Persons Meeting was held in Beijing, where General Secretary of the Communist Party of China (CPC), President of the State, and Chairman of the Central Military Commission, Xi Jinping's important instructions on the work of central SOEs were conveyed. President Xi Jinping emphasized that central SOEs must further deepen reforms, improve the modern enterprise system with Chinese characteristics, enhance corporate governance structures, focus on resolving deep-seated issues constraining corporate development, and strive to build world-class enterprises.

Penetrating Disclosure
Key Topics · Core Elements



•Core Elements•

Governance

The Enterprise Management and Legal Compliance Department (Office of Deepening Reform) serves as the lead management body for this issue. Its primary responsibilities include, but are not limited to: establishing the risk management system, and conducting risk assessment and monitoring; developing the internal control and compliance management systems; valuating compliance effectiveness; researching and improving management systems and mechanisms; and building the institutional framework. Relevant work on this issue has been incorporated into the Company's "Headquarters Key Work Assessment".

•Core Elements•

Strategy

In recent years, the market and business environment has undergone significant changes, resulting in an upward trend in both the frequency and the amount involved in legal disputes; the compliance risk awareness of some units and staff members needs to be further strengthened, with compliance risks at key early-stage links of projects increasing. There are potential hidden dangers that, if not properly handled, could lead to losses of state-owned assets.

We must adhere to the case management principle of "unified management, categorized guidance, and tiered responsibility". We comprehensively implement the primary responsibilities for legal dispute cases at all levels to ensure high-quality case resolution; strengthen compliance management at key links in project development and construction, conduct strict compliance reviews at every stage, and promote project development in accordance with laws and regulations.

•Core Elements•

Risk and Opportunity Management

- Based on a comprehensive assessment of the Company's internal and external situation, we evaluate major and important risk issues, analyze the risk landscape on a case-by-case basis, and formulate targeted disposal plans and countermeasures.
- In light of the Company's management practices, we regularly organize risk screening and assessments across all levels, giving full play to the warning and reminder functions of risk management.
- We have compiled the *Indicator System Table for Monitoring and Warning of Major Operational Risks* to establish a risk warning indicator system, and conduct monthly monitoring of these risk indicators.

•Core Elements•

Indicators and Targets

Targets: The number and financial amount of major legal disputes shall decrease year-on-year, and no major compliance risk incidents shall occur.

2,129 Compliance Training Sessions, a Total of **71,144** Participants Attended

1,135 Audit Projects were Conducted Throughout the Year

Organized Risk Screening and Rectification Across all Levels, and Improved **355** Internal Regulations

Optimized Compliance Control Processes and Measures in **12** Key Areas

The Cumulative Number of Identified Defects Decreased by **3.45%** Year-on-year

- The Company has developed distinctive practices such as the "Three Synergies" working mechanism integrating risk management, internal control, and institutional norms, which have been fully recognized by SASAC.
- The Company received a Grade A in SASAC's special reform evaluation for the fifth consecutive year, achieving the best-ever ranking. Its reform achievements were selected as a "model" of central SOE reform.
- The Company received a Grade A in SASAC's evaluation for the Value Creation Action of Benchmarking against World-Class Enterprises for the second consecutive year.

01 Consolidating the Cornerstone of Compliant Operations

We must adhere to the comprehensive rule of law, and collaboratively promote scientific legislation, strict law enforcement, impartial justice, and universal law observance. We must bring into full play the important role of the rule of law in consolidating the foundation, stabilizing expectations, and benefiting long-term development, so as to build a socialist country under the rule of law at a higher level.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Giving Full Play to Institutional Advantages

The Company strictly implements the regulatory requirements for optimizing its corporate governance structure. With the goal of improving the modern enterprise system with Chinese characteristics, we strive to better transform the institutional advantages of state-owned enterprises into governance effectiveness. Relying on the treasury management system to strengthen penetrating oversight, the Company has developed distinctive practices such as the "Three Synergies" working mechanism integrating risk management, internal control, and institutional norms, which have been fully recognized by SASAC.

In accordance with the relevant provisions of the *Company Law of the People's Republic of China*, the Company has implemented the requirements of the *Guidelines for Articles of Association of Central SOEs*. In March 2025, the Company's Articles of Association were approved by SASAC and officially registered. Furthermore, we formulated four categories of guidelines for the Articles of Association across the Company, coordinated the revision of the articles for affiliated units, and basically completed their implementation. By leveraging the core role of the Articles of Association in corporate governance, the Company continues to improve its internal institutional framework based on them, continuously enhancing the systematicness, integrity, and synergy of internal governance systems.

Promoting Risk Control Compliance

The Company has vigorously strengthened risk and compliance management by formulating the *Measures for Risk and Internal Control Management*, improving risk prevention and control mechanisms, and further refining the reporting mechanism for risk events and hidden dangers. We have optimized compliance control processes and measures in 12 key areas, including investment, bidding and tendering, environmental protection, and finance and accounting, continuously improving the compliance system. In 2025, the Company continued to promote the resolution of compliance risks at the source, organized risk screening and rectification across all levels, and improved 355 internal regulations.

The Company has continuously improved its compliance training mechanism. Focusing on 12 key areas such as anti-monopoly and anti-unfair competition, bidding and tendering, and ecological and environmental protection, we organized 2,129 compliance training sessions tailored to the characteristics of our core businesses. A total of 71,144 participants attended, effectively enhancing compliance awareness in business operations.

Organized

2129

Compliance Training Sessions

Case Regularized Compliance Training

Focusing on the compliance management system and key management points, Hunan Branch invites internal compliance experts and external industry lawyers to deliver professional training, striving to establish a regularized compliance training mechanism. During the sessions, lecturers interpret policies and regulations, summarize key compliance control points, and analyze non-compliance cases based on specific business scenarios such as procurement, bidding, and land use for renewable energy projects. This has effectively enhanced the compliance awareness of the participants.



Regularized Compliance Training

Internal Audit Supervision

Resulting in a Reduction of RMB

281

Million in Project Settlement Payments

The Company has solidly advanced the construction of a standardized internal audit system, actively mobilized audit resources at all levels, and focused on the compliant construction and cost control of engineering projects. By deeply carrying out the "Year of Strengthening Engineering Project Audit Management" initiative, we steadily advanced various annual tasks. Throughout the year, 1,135 audit projects were conducted, resulting in a reduction of RMB 281 million in project settlement payments.

The Company has strengthened risk control in key areas and critical links, completed a full-coverage internal control supervision and evaluation across all affiliated units, and reinforced the rigid enforcement of internal controls. As a result, the cumulative number of identified defects decreased by 3.45% year-on-year.

Building Huaneng's Rule of Law

The Company formulated and implemented the *Five-Year Plan for the Construction of a Rule of Law in Huaneng (2021-2025)*, further improving the leadership responsibility system for the rule of law. The primary persons in charge actively fulfilled the duties as the primary responsible person for the construction of the rule of law. In 2025, the Company launched the special action of "Promoting Management through Cases, Improving Quality and Creating Value". We handled major cases properly in accordance with the law and actively carried out rights protection and loss recovery efforts, further leveraging the role of cases in promoting management and generating value. The Company has continuously strengthened legal reviews of contracts and projects, and constantly enhanced its ability to identify, prevent, and resolve legal risks, providing a solid guarantee for high-quality development.

The Company has continuously carried out learning and publicity on Xi Jinping Thought on the Rule of Law, systematically summarized the achievements of the 8th Five-Year Plan for Publicity and Education on the Rule of Law, and actively organized relevant activities. As a result, the overall legal awareness of all employees has significantly improved, effectively consolidating the foundation for the Company's development.

Case "Explaining the Law through Cases and Bringing the Law into Work Teams" Series Publicity and Education Activities

From February to March 2025, Jiangxi Branch built a "Four Ones" publicity and education system, which includes delivering one rule of law lecture, watching one warning film, taking one legal knowledge test, and distributing one batch of legal books. Throughout the year, 6 special rule of law lectures and multiple sessions of warning film screenings were organized. A total of 1,572 personnel participated in the legal knowledge tests, and 1,041 legal books were distributed. These series of publicity and education activities achieved full coverage of all employees, effectively enhancing their rule-of-law thinking and awareness.



Organize Special Rule of Law Lectures

Case Diversified Activities Empower the Building of a Law-Based Huaneng

Jiangsu Branch attaches great importance to law-based corporate governance. By carrying out diversified activities integrating "skill competitions, legal seminars, and professional training," we are helping to elevate the building of a Law-Based Huaneng to a new level.

- Hosted the 1st Legal Skill Competition to enhance the professional competence and performance capabilities of legal professionals.
- Organized special seminars to analyze typical cases and exchange practical experience.
- Conducted specialized training to analyze the new situation and promote new concepts from four perspectives: rule of law awareness, contract management, legal disputes, and team building.



The 1st Legal Skill Competition

Upholding Integrity, Discipline, and Anti-corruption Measures

Adhering to strict and practical standards, the Company has thoroughly implemented the primary responsibility for Party conduct and integrity building. We have formulated an implementation plan for the *Opinions on Advancing the Comprehensive Stationing of Disciplinary Inspection and Supervisory Teams in Centrally-Administered Enterprises*, and effectively carried out the reform of stationing disciplinary inspection and supervisory teams. In 2025, the Company convened a conference on Party conduct and integrity building and the fight against corruption, identifying 24 key tasks across 7 areas, and promoting the implementation of each task step by step.

02 Effectively Enhancing Management Effectiveness

Strengthening, doing better, and growing bigger state-owned enterprises (SOEs) and state capital, enhancing the SOE's core functions and elevating core competitiveness. Improving market-oriented operating mechanisms to boost value creation capabilities.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Standardizing Governance Entities

The Company has standardized and improved its three major governance entities—the Party Leadership Group, the Board of Directors, and the Management. By clarifying the boundaries of rights and responsibilities for each entity, we have formed a governance closed-loop featuring "core leadership by the Party Leadership Group, strategic decision-making by the Board of Directors, and independent operation by the Management", continuously elevating the modernization level of the governance system and governance capabilities.

Party Leadership Group

We fully leverage the leadership role of "setting the direction, managing the overall situation, and ensuring implementation". We continuously improve the dynamic evaluation and optimization mechanism for the preliminary review list of the Party Leadership Group, deeply integrating Party leadership into all aspects of corporate governance.

Board of Directors

As the decision-making entity, the Board of Directors effectively fulfills the functions of "setting strategies, making decisions, and preventing risks", with specialized committees such as the Strategy and Investment Committee and the Audit and Risk Committee established to provide professional support.

Management

As the executive body, the Management strictly implements Board resolutions, efficiently leveraging its role in "planning operations, ensuring implementation, and strengthening management".

In 2025, the Company revised the *Management Measures for the Operation of Shareholders' Meetings and the Board of Directors* to ensure the highly efficient and smooth operation of the Group's Board of Directors. Furthermore, we formulated the *Management Measures for the Operation of Shareholders' Meetings and the Board of Directors of Subsidiaries*, organized cross-attendance at subsidiary boards, and completed the "one enterprise, one policy" performance evaluation for the boards of subsidiaries.

Expanding and Upgrading the Reform

The Company has implemented the "Five Major Mechanisms" for reform organization and promotion to high standards. The annual key tasks for implementing the spirit of the Third Plenary Session of the 20th CPC Central Committee have been fully completed. Market-oriented operating mechanisms have become more flexible and efficient, and the Deepening and Upgrading Action for SOE Reform has achieved a high-quality conclusion. In 2025, the Company received a Grade A in SASAC's special reform evaluation for the fifth consecutive year, achieving the best-ever ranking. Its reform achievements were selected as a "model" of central SOE reform; Furthermore, in SASAC's special evaluation for the "Double Hundred Action" among central SOEs, three of the Company's affiliated "Double Hundred" enterprises achieved outstanding results: Huaneng Renewables Corporation was awarded the "Benchmark" rating, while Jilin Branch and Huaneng Capital Services Company received the "Excellent" rating.

The Company has vigorously advanced the creation of world-class enterprises and deepened value creation. We have strictly implemented the closed-loop management mechanism of "benchmarking, meeting standards, and setting standards" for world-class creation, and continuously optimized the benchmarking system. In 2025, the Company's achievements in world-class creation were fully recognized by SASAC. We received a Grade A in SASAC's evaluation for the Value Creation Action of Benchmarking against World-Class Enterprises for the second consecutive year. Furthermore, our practical case, *Focusing on Value Creation, Boosting Development Momentum, and Building Singapore's Most Competitive Comprehensive Energy Enterprise*, was selected as an "Outstanding Case of the Value Creation Action of Benchmarking against World-Class Enterprises by State-owned Enterprises" by SASAC.

Value Maintenance and Appreciation of Assets

Profit Increased by

11%

Year-on-year

In 2025, the Company achieved high-quality fulfillment of the "One Profit and Five Ratios" indicators. Total profit reached RMB 56.9 billion, a year-on-year increase of 11%, surpassing the annual target and setting a new all-time high; Key indicators such as net profit, net profit attributable to the parent company, and Economic Value Added (EVA) all hit record highs, marking a leapfrog growth in operational performance.

All major industrial sectors achieved profitability, and dozens of billion-yuan regional and industrial companies expanded their scale and improved their quality. Seven entities, including Yunnan, Northern, Capital, Mengdong, New Energy, Shandong, and Jiangsu, each posted profits exceeding RMB 3 billion. Notably, Yunnan Company's profit surpassed RMB 10 billion, while Northern Company firmly established itself above the RMB 8 billion threshold.

Reducing Cost, Improving Quality and Increasing Efficiency

Standard Coal Procurement Saves Nearly RMB

20

Billion in Costs

The Company has scientifically formulated the "1+4+2" action plan system for quality and efficiency improvement, establishing a multi-department joint collaboration model to efficiently resolve bottlenecks and difficulties in operations, yielding remarkable results in turning around losses.

Through multiple measures, the Company has broadened cost-reduction channels. By engaging with the China Development Bank and the Agricultural Development Bank of China, RMB 1.745 billion in new policy-based financial instruments was successfully implemented; Additionally, the Company actively applied for policy-based loans for "Major National Strategies and Key Security Capacity Building" and "Large-Scale Equipment Renewal and Consumer Goods Trade-in Programs," successfully securing RMB 1.8 billion. In 2025, the Company's procurement unit price of standard coal decreased by RMB 126.7 per ton year-on-year, saving nearly RMB 20 billion in costs. The comprehensive financing cost dropped to 2.47%, maintaining a leading position in industry benchmarking; and the procurement cost-saving rate exceeded 15%.

03 Improving the ESG Framework

The environmental, social, and corporate governance (ESG) efforts should be effectively strengthened. We should integrate the ESG efforts into the overall management of social responsibility work, and actively seize and address the opportunities and challenges brought about by ESG development.

——*Guiding Opinions on the High-standard Fulfillment of Social Responsibility by Central SOEs in the New Era* by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

ESG Cultural Concept

The Company established a "Three-Color" cultural concept system, centering around the corporate mission "To uphold the 'Three-Color Concept' and serve the building of China into a great power in energy". With the strategic vision of "Leading China's Power Industry and Striving for World Class Excellence", and the strategic positioning as the "national team" in technological innovation, the "leader" in industrial development, and the "pillar" in energy supply guarantee, the Company focused on the core responsibilities in the energy sector and showcased the corporate functional values. Meanwhile, the Company adopted a multidimensional ESG concept to facilitate the mutual complementarity, co-existence and co-development between ESG efforts and the Company's operation, advance the high-quality development of the Company in the new era.

Enterprise Value Guidelines	Loyalty, Creation, Leadership and Sharing
Enterprise Spirit	Reform, Innovate, Strive and Lead
Enterprise Style	Bold to Explore, Courageous to Take Responsibility, Capable to Deliver, and Willing to Contribute
Development Concept	Green and Low-Carbon, Innovation-Driven, Collaborative and Efficient
Safety Concept	All Risks Can be Controlled, and All Accidents Can be Prevented
Management Concept	Corporate Governance in a Law-abiding, Scientific and Strict Manner
Operation Concept	Integrity as Foundation, Value as Principle, Thrift as Discipline
Service Concept	Energize Where You Are
Work Concept	Act Promptly, Deliver Excellence
Integrity Concept	Fulfill the "Three-Color Concept", Foster a Life of Integrity
Talent Concept	Bring Out the Best in Everyone
Team-work Concept	Collaboration, Healthy Competition and Mutual Success
Employee Concept	Love Our Country, Company and Post; Be Dedicated, Passionate and Professional

The Company has solidly advanced brand building, improved the "1+4" brand management system, and vigorously implemented the "Joint Efforts to Tackle Challenges Year" action for brand building, resulting in a significant enhancement of brand value. The China Huaneng brand entered the Top 30 in SASAC's benchmarking evaluation of brand building capabilities for the first time, and was ranked among the Top 50 central enterprise brands in 2025. The Company's "Three-Color Bloom" brand strategy was selected as an outstanding typical case of Chinese brands. The sub-brand "HN Revival" was included in the second batch of outstanding achievements of the Central Enterprise Brand Leadership Initiative; Huaneng Power International, Inc. was awarded as one of the "Top 10 Leading Enterprises for Chinese Brands Going Global"; 46 affiliated units were awarded and maintained the title of National Civilized Unit.

ESG Organizational Framework

The board of directors of the Company is the highest level supervisory body for ESG, with an ESG leading group composed of the key leaders of the Company and key persons in charge of relevant departments, to lead the consideration and decision-making of major issues. Enterprise Management and Legal Compliance Department Office of Deepening Reform) serves as the competent authority, is assigned to take charge of ESG-related work. The business departments at the Company's headquarters serve as collaborative units, assisting in the management and practice of specific ESG issues; The affiliated secondary companies and grassroots enterprises act as practice units, deeply integrating ESG concepts into their business development. Gradually, the Company has built a "multi-tiered and comprehensive coverage" framework anchored by a mainline consisting of the "supervising body, centralized management department, collaborative units, and practice units". This mechanism forms a top-down, horizontally and vertically combined ESG work system with clear division of labor.

Supervising Body

The Company's Board of Directors

Centralized Management Department

Enterprise Management and Legal Compliance Department (Office of Deepening Reform): Compliance Risk Management, Anti Commercial Bribery and Anti-Corruption, ESG Management

Collaborative Units

General Office (Office of the Party Leading Group, Office of the Board of Directors	Modern Corporate Governance
Strategic Development Department (Strategic Emerging Industries Department)	Power Source Structure Optimization, Drive Regional Development, Partnership Cooperation, Rural Revitalization
Finance and Assets Management Department	Preservation and Appreciation of State-owned Assets
Marketing Department	Customer Services, Ensure Energy Supply
Safety Supervision Department	Safe Production, Ensure Energy Supply
Production Management and Environmental Protection Department	Responding to Climate Change, Environmental Compliance Management, Protection and Utilization of Resources and Energy, Pollution and Waste Reduction and Disposal, Ecosystem and Biodiversity Conservation, Ensure Energy Supply
Technology Innovation Department	Scientific and Technological Innovation
Digital and Intelligence Department	Scientific and Technological Innovation
Engineering Management Department	Quality Assurance
Supply Chain Management Department	Supply Chain Responsibility
International Business Department	Overseas Development and Layout
Organization Department of the Party Leading Group (Human Resources Department)	Protection of Labors' Rights and Interests, Vocational Skill Enhancement and Promotion
Party Building Department (Publicity Department of the Party Leading Group)	Party Building
Office of the Party Leading Group Inspection Work Leading Work Team	Petition Reporting and Handling
Audit Department	Business Ethics
Labor Union	Occupational Health and Employee Care

Practice Unit

Affiliated Secondary Companies and Grassroots Enterprises

ESG Regulations and Planning

Basic Management

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

Related Issues

Regulations on Compliance Management, Measures for Management of Assistance Work, Regulations on Safe Production, Measures for Management of Ecological Environment Protection, Measures for Management of Scientific and Technological Innovation Performance Assessment, Supplier Management Measures etc.

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	Execution of ESG study and survey	Establishment of reporting system	Participation of industry activities
	Enhancement of capability development	Construction of demonstration base	Implementation of proposal survey	Communication arrangement
	Promotion of ESG appraisal	Encouraging report release	Regular information disclosure	Publicity of ESG practices

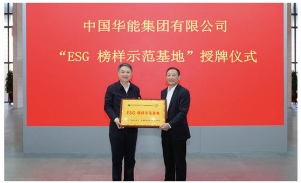
ESG Performance Evaluation

The Company revised and improved the performance assessment system, including 1 regulation (assessment regulation), 2 main measures (annual and tenure) and 4 submeasures (safety, operation, development, and science and technology), and formulated relevant detailed rules to form a "1+2+4+N" assessment system, and assist in the comprehensive improvement of ESG management level.

The Company held the 4th 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 "2025 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, so as to establish a pioneering model, better showcase our ESG management and practice, and comprehensively promote the integration of ESG concepts into the company's production and operation.

The Company actively organized our subordinates to jointly participate in ESG-related selection activities initiated by various social sectors, including the SASAC and the China Enterprise Reform and Development Society. These selection activities stimulated the enthusiasm of all units, and promoted the deep integration of the ESG concept into the entire production and operation process. This effectively enhanced the Company's brand reputation.

ESG Honors & Awards in 2025



Presentation Ceremony for the "ESG Model Demonstration Base" Plaque

- The Company was awarded the title of "ESG Model Demonstration Base" jointly conferred by China Media Group (CMG) and the China Enterprise Reform and Development Society (CERDS).
- ESG Report of China Huaneng Group Co., Ltd. was rated five-star (the highest level) by China Corporate Social Responsibility Report Rating Expert Committee for fourteen consecutive years.
- The Company's case study, *Empowering Green River Development through the "Five Ones" Concept: Huaneng Lancang River Hydropower Inc. Building a World-Class Modern Green Power Enterprise with ESG Concepts*, won the ESG Outstanding Practice Award from CERDS.
- Additionally, Huaneng Power International Inc.'s ESG case was selected as one of the "Best Practice Cases for Sustainable Development of Listed Companies in 2025" by the China Association for Public Companies (CAPCO).
- The ESG case study of Xineng Taishan was selected as an "Outstanding Practice Case for Sustainable Development of Listed Companies in 2025" by the China Association for Public Companies (CAPCO).
- Furthermore, the ESG case studies of Huaneng Power International Inc., Heilongjiang Branch, Hainan Branch, Lancang River Hydropower Inc., Bidding Company, and Information Company were jointly selected as "Outstanding ESG Cases of Chinese Enterprises" by the China Enterprise Reform and Development Society (CERDS) and Semimonthly Talk magazine.



Presentation Ceremony for the ESG Outstanding Practice Award

ESG Capability Building

The Company attached great importance to enhancing our own ESG capabilities, strove to raise awareness of social responsibility among all staff, and popularized professional knowledge on ESG. Internally, the Company has conducted embedded ESG special training for nine consecutive years during the report preparation process. The company updates training content in a timely manner based on internal and external policies and situational changes. The scope of trainees covers the group company, secondary units, and key grassroots enterprises. 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. Externally, the Company has actively participated in various ESG training courses organized by professional institutions and associations, accurately capturing the latest developments and compliance requirements in the ESG field. In 2025, Lancang River Hydropower Inc. successfully hosted the 8th ESG Senior Management Talent Training and Qualification Evaluation Class organized by the China Enterprise Reform and Development Society (CERDS). This initiative provided a learning platform for over 150 ESG professionals, demonstrating the Company's professional strength and commitment in ESG talent development.

The Company has continuously deepened its participation in and execution of ESG research. Through these efforts, we have developed an ESG management model and indicator system with Huaneng's distinctive characteristics, and built an ESG digital platform. These measures promote the integration of ESG elements throughout the entire business operation process, driving ESG practices to a higher level.

04 Building Communication and Dissemination Platforms

Central SOEs should enrich the forms and content of social responsibility dissemination, strengthen the dissemination of domestic and international responsibility performance, deepen communication with stakeholders, and establish a responsible corporate image.

——*Guiding Opinions on the High-standard Fulfillment of Social Responsibility by Central SOEs in the New Era* by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

ESG Information Disclosure

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 featuring daily, regular, and special communications to ensure comprehensive, timely and accurate disclosure of the Company's responsibility performance to the public. In October 2025, the Company participated in the ESG China Innovation Annual Conference (2025) and the 1st ESG International Expo. By fully leveraging this platform to share the Company's ESG management practices and showcase its practical case studies, we have effectively enhanced the influence of the Company's ESG initiatives.

The Company continuously strengthened the management over ESG information disclosure of our listed companies. The affiliated listed company shall complete the non-financial information disclosure of the enterprise in accordance with the requirements of the exchange. All five listed companies, namely Huaneng Power International Inc., Inner Mongolia Mengdian Huaneng Thermal Power Corporation Ltd., Shandong Xinneng Taishan Power Generation Co., Ltd., Huaneng Lancang River Hydropower Inc., and Great Wall Securities Co., Ltd., publicly released ESG reports to the public in high quality. Among them, Huaneng Power International, Inc., Inner Mongolia Mengdian Huaneng Thermal Power Corp. Ltd., Huaneng Lancang River Hydropower Inc., and China Great Wall Securities Co.,Ltd. received an A-grade rating for information disclosure from their respective stock exchanges.

Daily Communication

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

Regular Communication

- Preparation of Annual ESG Report
- Conducting annual online stakeholder surveys to understand the genuine needs of stakeholders
- Establishing a regular consultation mechanism and smooth information reporting channels

Special Communication

- Preparing and Releasing Special Reports on Rural Revitalization
- Founding the China-Cambodia Cultural Exchange Network
- Organizing Stakeholders to conduct ESG special research in enterprises



Huaneng's Voice in 2025

The Company's management attaches great importance to ESG initiatives and actively engages in various ESG events. By proactively sharing ESG management and practical experience on public platforms, the Company has enhanced its reputation in the ESG field and effectively driven the in-depth implementation of its ESG work.

January On the 20th, Chairman Wen Shugang attended the 2025 Annual Meeting of the World Economic Forum, noting in his remarks that the international community increasingly recognizes the low-carbon attributes of nuclear power. Furthermore, more advanced technologies, stricter safety regulatory systems, and engineering standards have continuously enhanced the operational safety of nuclear power.

March On the 24th, Chairman Wen attended the "ESG Empowering Sustainable Development" seminar at the 2025 China Development Forum. He stated that China Huaneng is willing to join hands with global partners to continuously deepen ESG practices and jointly paint a new picture of sustainable development, thereby contributing Huaneng's wisdom and solutions to global energy governance.

On the 25th, Former General Manager Zhang Wenfeng attended the 2025 Boao Forum for Asia (BFA) Annual Conference. In his remarks, he stated that China Huaneng is willing to engage in pragmatic cooperation with all parties to jointly strengthen Asia's energy and power infrastructure, build robust energy industry and supply chains, and work together to advance the green and low-carbon energy transition in Asia.

April On the 15th, Former General Manager Zhang attended the main event of the "10th Anniversary of Deepening National Security Education" focusing on nuclear safety, and the 3rd "Guohe Action" public communication event. He emphasized that China Huaneng has always regarded nuclear safety as the lifeline of high-quality development, and expressed the Company's willingness to work with all parties to contribute greater Huaneng strength to enhancing the nuclear safety culture and promoting the high-quality development of the nuclear power industry.

June On the 23rd, Former General Manager Zhang Wenfeng attended the 32nd International Conference on Nuclear Engineering (ICONE32). In his remarks, he stated that China Huaneng is willing to join hands with all parties to deepen pragmatic cooperation in areas such as the operation and maintenance of nuclear power plants, high-level nuclear safety assurance, and collaborative innovation in advanced nuclear energy technologies, thereby making new and greater contributions to building a clean and beautiful world.

July On the 6th, Chairman Wen Shugang attended the 31st China Lanzhou Investment and Trade Fair. In his speech, he pointed out that looking ahead to the next five years, China Huaneng will focus more closely on the needs of the nation, the aspirations of local communities, and its own strengths. The Company will step up investment efforts to better leverage its leading role as a central state-owned enterprise.

September On the 17th, Chairman Wen Shugang attended the 2025 World Energy Storage Conference. In his remarks, he stated that China Huaneng will vigorously promote the high-quality development of energy storage, focusing on optimized layout, leading with technological innovation, and deepening cooperation as a bond, to contribute new and greater strength to the green transition of the global energy and power sector.

On the 23rd, Chairman Wen attended the 2025 Chongli Forum on the Development of New Power Systems. He pointed out that China Huaneng is willing to work with all parties to jointly advance the green transition and deepen cooperation in scientific and technological innovation, thereby providing safe and reliable green energy guarantees for the advancement of Chinese modernization.

On the 24th, Chairman Wen Shugang attended the 6th China Liaoning International Investment and Trade Fair. In his remarks, he pointed out that looking ahead to the 15th Five-Year Plan period, China Huaneng will comprehensively implement General Secretary Xi Jinping's important instructions on promoting the comprehensive revitalization of Northeast China in the new era, deeply practice the new energy security strategy, and promote the integrated development of central state-owned enterprises and local governments.

October On the 29th, Former General Manager Zhang Wenfeng attended the 2025 China Brand Forum. In his speech, he stated that China Huaneng resolutely implements the spirit of General Secretary Xi Jinping's important instructions on brand building. The Company has issued the "Three-Color Bloom" brand strategy plan to forge a world-class power brand.

November On the 3rd, Chairman Wen Shugang attended the 8th China Enterprise Forum. In his remarks, he stated that China Huaneng will take the creation of world-class enterprises as its goal, vigorously promote the green and low-carbon transition, and facilitate the building of a new energy system, thereby better serving the building of an energy powerhouse and a Beautiful China.

ESG Issues Selecting

Pursuant to the requirements of *Guidelines for Sustainable Disclosure of Enterprises - Basic Guidelines (Trial)* by 9 Departments Including 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., the Company has optimized and upgraded its ESG issue screening principle from "Single Materiality" to "Double Materiality" to ensure the advancement of its ESG practices. By integrating national policies with industry and corporate realities, and understanding the genuine needs of stakeholders, the Company has identified and analyzed the impact materiality and financial materiality of each ESG issue. This process confirmed the double materiality of China Huaneng's ESG issues for 2025, scientifically defining the content boundaries of the Company's ESG information disclosure.

Step 1: Understanding the Background of Company Activities and Business Relationships. Through internal research, policy analysis, and stakeholder identification, the Company has gained a comprehensive understanding of its activities and business relationships, the external objective environment (including relevant laws and regulatory policies), and the primarily affected stakeholders. This has laid a solid foundation for the subsequent establishment of the ESG issue list.

Step 2: Establishing the Issue List. Taking into comprehensive consideration the ESG policies issued by relevant authorities including the Ministry of Finance and SASAC, and combining the characteristics of the power industry, the realities facing central state-owned enterprises, as well as China Huaneng's corporate strategy and business model, the Company has analyzed, sorted out, and formed an ESG issue list comprising 23 topics.

Step 3: Assessment and Confirmation of Topic Materiality. Impact Materiality Assessment: The Company distributed questionnaires to relevant stakeholders, including governments at all levels, shareholders, employees, customers, suppliers and partners, the public and communities, media and NGOs and industry associations. Concurrently, the Company consulted industry experts to conduct an in-depth assessment of the impact materiality of the 23 issues from the perspectives of scale, scope, irremediability, and likelihood. This assesses whether the Company's performance on these issues has a significant impact on the economy, society, and the environment. Financial Materiality Assessment: The Company organized core stakeholders, including internal financial professionals, relevant business department staff, and management, to conduct an in-depth analysis and assessment of the financial materiality of the 23 issues through seminars and questionnaires. From the perspectives of dependence on and impact on resources and relationships, the Company evaluated the significance of the financial impact of each issue. This assesses whether the issues are expected to have a significant impact on the Company's business model, operations, development strategy, financial position, operational results, cash flows, financing methods, and costs in the short, medium, and long term.

Step 4: Disclosure of Topic Materiality. Based on the assessment of the Company's integrated impact materiality and financial materiality, the following "China Huaneng 2025 ESG Double Materiality Identification and Analysis Results" have been derived.



The Double Materiality of China Huaneng's ESG Issues for 2025

Scan the QR code to View More Information about the Stakeholder Engagement Activities for Impact Materiality Assessment of China Huaneng's 2025 ESG Issues

Communicate with Stakeholders

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.

The Company actively established platforms for stakeholders, continually innovated communication models and organized grassroots power plants to conduct "A Joint Earnings Briefing" "Visit and Research" activities on a regular basis, fully demonstrating our ESG management and practices, comprehensively listening to stakeholders' expectations for the Company, and building an image of a responsible enterprise.

Case Joint Earnings Briefing of Listed Companies on the Shanghai Stock Exchange under the Company's Control

In May 2025, the Company, together with its three controlled companies listed on the Shanghai Stock Exchange—— Huaneng Power International, Inc., Inner Mongolia Mengdian Huaneng Thermal Power, and Huaneng Lancang River Hydropower Inc.—— held a joint earnings briefing at the Shanghai Stock Exchange to collectively address investor concerns. At the briefing, the three listed companies each provided detailed introductions on their respective operational performance, green transition, technological innovation, and shareholder returns, and engaged in in-depth exchanges with investors, further enhancing capital market recognition of and confidence in these listed companies.



A Joint Earnings Briefing

Case Pakistan Media and Think Tank Delegation's Visit to China

In June 2025, the first stop of the "Pakistan Media and Think Tank Delegation's Visit to China," organized by China International Communications Group (CICG), was held at the Huaneng Clean Energy Research Institute (CERI). The delegation visited key facilities including the Hydrogen Energy Technology Laboratory and the Greenhouse Gas Emission Reduction Laboratory, and held discussions with relevant executives and experts from CERI to gain an in-depth understanding of Huaneng's technological innovations in green and low-carbon development.

China and its enterprises are vigorously promoting the development of clean energy, fully taking into account global needs, international standards, and the requirements of modernization. Pakistan should take China as a role model.

——Javed Hussain, Senior Reporter at Pakistan's 92 News TV



Pakistan Media and Think Tank Delegation Visits the Huaneng Clean Energy Research Institute (CERI)

Stakeholders	Expectations for the Company	The Response of the Company
Governments at all Levels	**Safeguarding Energy Security**: Ensuring a stable power supply to serve macroeconomic development and social stability. **Implementing National Strategies**: Taking the lead in advancing the "Dual Carbon" goals and meeting renewable energy consumption targets. **Promoting Local Development**: Operating and paying taxes in compliance with the law, creating jobs, and driving regional economic growth.	**Fulfilling Power Supply Responsibilities**: Prioritizing power generation safety and reliability, optimizing unit operations, and resolutely completing power guarantee tasks. **Leading the Green Transition**: Actively adjusting the energy mix and significantly increasing investments in and installed capacity of clean energy. **Integrating into the Local Economy**: Giving priority to local procurement, carrying out joint enterprise-community development projects, and being a responsible corporate citizen.
Shareholders	**Asset Preservation and Appreciation**: Delivering steady financial returns and value growth. **Optimizing Corporate Governance**: Enhancing decision-making efficiency and preventing major risks.	**Improving Operational Performance**: Strengthening refined management practices. **Perfecting the Governance System**: Standardizing board operations and strengthening compliance management.
Employees	**Safety and Well-being**: Providing an absolutely safe working environment and competitive compensation and benefits. **Development and Fairness**: Offering clear career development pathways and a fair promotion and evaluation system. **Respect and Participation**: Establishing open communication channels and respecting employees' opinions and democratic rights.	**Upholding Safety Red Lines**: Implementing an intrinsically safe management system, continuously improving frontline working conditions, and optimizing compensation and incentive schemes. **Building Growth Platforms**: Conducting comprehensive training programs, establishing a dual-track promotion mechanism for "management and professional" roles, and ensuring open and fair performance appraisals. **Deepening Democratic Management**: Holding workers' congresses in a standardized manner, organizing worker representatives to participate in corporate governance, and effectively implementing resolutions and replying to proposals.
Customers	**Reliable Power Supply**: Providing continuous, stable, and high-quality power services. **Reasonable Costs**: Ensuring stable and transparent electricity pricing. **Premium Services**: Responding to and resolving issues in a timely and efficient manner.	**Ensuring Energy Stability**: Strengthening emergency management and equipment maintenance. **Controlling and Reducing Generation Costs**: Passing on the benefits to the public within the policy framework. **Optimizing Service Experience**: Adopting a customer-centric approach to meet customer needs.
Suppliers and Partners	**Credit Assurance**: Optimizing payment processes and cycles, and establishing a fair and transparent dispute negotiation mechanism. **Fair Procurement**: Maintaining consistent bidding and evaluation criteria with open processes, providing timely feedback on results, and making appeal channels accessible. **Reliability and Mutual Trust**: Acting as a reliable power supplier and strictly honoring commercial commitments.	**Upholding Business Credit**: Strictly executing contract terms, ensuring timely payments, and establishing a strategic supplier roster. **Standardizing Procurement Processes**: Comprehensively utilizing e-bidding platforms, making evaluation criteria public, and accepting supervision. **Maintaining Cooperative Reputation**: Strictly fulfilling cooperation agreements and maintaining regular mutual visits.
Public and Communities	**Community Co-building**: Participating in and supporting local public welfare initiatives such as education, infrastructure, and culture. **Right to Information and Communication**: Having the right to understand the potential impacts of corporate operations and have channels to voice demands.	**Fulfilling Community Responsibilities**: Carrying out public welfare actions such as the "Three-Color Sail" initiative, and supporting local livelihood projects. **Open and Transparent Communication**: Regularly hosting public open days and promptly responding to community concerns.
Media and NGOs	**Information Transparency**: Proactively and truthfully disclosing environmental and social impact information, and accepting supervision. **Responding to Concerns**: Providing positive and timely responses to key ESG issues of public interest.	**Proactive Information Disclosure**: Regularly publishing ESG reports and special reports on key issues to the public. **Establishing Response Mechanisms**: Appointing official spokespersons and providing unified, professional replies to general inquiries through official channels.
Industry Associations	**Shared Growth and Progress**: Participating in standard-setting, sharing advanced technologies and management expertise, and elevating industry standards.	**Contributing Professional Expertise**: Dispatching experts to participate in the formulation and revision of national and industry standards, and sharing best practices at industry conferences.
Ecological Environment	**Mitigating Climate Change**: Continuously reducing greenhouse gas emission intensity to support the achievement of the "Dual Carbon" goals. **Reducing Pollution Loads**: Minimizing the emissions of various types of pollutants to the greatest extent possible. **Protecting Biodiversity**: Paying attention to the impacts on local ecosystems during project construction and operation, and carrying out ecological restoration.	**Practicing Deep Decarbonization**: Vigorously developing renewable energy and actively exploring cutting-edge technologies such as Carbon Capture, Utilization, and Storage (CCUS). **Pursuing Near-Zero Emissions**: Implementing whole-process clean production management. **Implementing Ecological Compensation**: Conducting ecological assessments around power plants, and carrying out long-term biodiversity conservation projects such as vegetation restoration and fish protection.

Top-down Promotion

Party Building Leading the Way with Three-Color Commitment

The Company has thoroughly implemented the *special action for the "Party Building Brand Development Year" under the theme of "Party Flag Steering, Three-Colored Commitment"*, organized thematic research and promotion meetings, and established demonstration sites across 24 grassroots units. These initiatives have continuously enhanced the quality of Party building and strengthened its leading role, providing a robust guarantee for the successful conclusion of the 14th Five-Year Plan.

• *Action Plan for the Special Action of the "Party Flag Leading the Way, Three-Color Commitment" Party Building Brand Development Year of China Huaneng Group Co., Ltd.* (Abstract) •

General Requirements

Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we will thoroughly study and implement General Secretary Xi Jinping's important thoughts on Party building and on the Party's self-reform. We will adhere to focusing on the central tasks and serving the overall situation, uphold fundamental principles while breaking new ground and advancing with the times, apply systems thinking to ensure balanced planning, and integrate Party building into our daily operations to deliver tangible results. By incorporating brand concepts into Party building, we will strive to build the distinctive "12345" Party building brand system with Huaneng characteristics, driving Party building to upgrade from standardized and normalized practices to a systematic and branded approach.

Adhering to the Core Theme and Main Thread:
Deepening and solidifying the theoretical armament of the Party's innovative theories

Driving Focused Breakthroughs:
Mobilizing the "two roles"-the fighting fortress of Party organizations and the vanguard-and-model role of Party members

Strengthening Grassroots Organizations:
Deepening the "Three Initiatives": the Party Committee's "Leading Goose" steering initiative, the Party branch's foundation strengthening and empowerment initiative, and the Party members' pioneering value creation initiative



Perfecting the Party Building Framework:
Improving the "four mechanisms" of responsibility integration, work coordination, supervision linkage, and assessment alignment

Elevating the Quality of Party Building:
Deepening the "five major constructions": ideological and political work, grassroots organizations, cadre and talent teams, corporate culture, and Party conduct and clean governance

Implementation of Various Tasks

Strengthening Organizational Leadership

Closely Integrating with Practical Realities

Effectively Promoting Publicity and Communication

• Establishing Demonstration Sites •

China Huaneng Group Hong Kong Limited

Carrying out the "Party Flag Leading the Way, Three-Color Commitment" brand development activities: Centering on "classroom empowerment, forum brainstorming, and branch innovation," we are building a support system that deeply integrates the "Pioneering Voice Classroom" and the "Knowledge and Action Forum" with project development, making the Party building brand a vital vehicle for serving strategies and rallying synergy.

- "Pioneering Voice Classroom": Focusing on policy interpretation and theoretical lectures, this program conducts 5 sessions annually to help employees update their knowledge reserves and bridge capability gaps, laying a solid foundation for high-quality work.
- "Knowledge and Action Forum": Focusing on business exchange and experience sharing, this program has organized 25 cross-role and cross-branch seminars, cumulatively covering over 600 Party members and employees, effectively promoting the two-way sharing of Party building and business operations.

China Huaneng Group Co., Ltd. Southern Branch

The Company convened the kickoff and deployment meeting for the demonstration site development of the "Party Committee Leadership at the Helm" initiative under the "Party Flag Leading the Way, Three-Color Commitment" Party building brand development year special action plan, to ensure that Party committees at all levels steer the direction, manage the overall situation, and ensure implementation, and to build Party committees that are strong in political guidance, development driving force, reform and innovation capability, and cohesive support. Through the exemplary leadership of the "head geese," we will promote the timely realization of the Company's "Two-Step" strategy.

China Huaneng Group Co., Ltd. Hebei Branch

The Company has diligently implemented the special action plan for the "Party Flag Leading the Way, Three-Color Commitment" Party building brand development year, actively advanced the building of the "Ji Pioneer" Party building sub-brand, issued the implementation plan for the demonstration site development of the Party building sub-brand, and effectively managed the "Three Determinations" (fixed posts, fixed personnel, fixed responsibilities). Through the "Ji Pioneer" Party building sub-brand, the Company was recognized as a typical enterprise with influential Party building brand value in the power industry.

China Huaneng Group Co., Ltd. Guizhou Branch

Closely following the deployment of the "Party Flag Leading the Way, Three-Color Commitment" Party building brand development year, and through a four-dimensional synergy of "Party committee leadership at the helm, Party branches strengthening foundations and empowering operations, Party secretaries spearheading breakthrough projects, and Party members striving for excellence and efficiency," we have transformed the strengths of Party building into drivers of development, ensuring steady and sustained progress in green development.

- Specifically, the "Party Committee Leading Goose Navigation" focused on tackling key annual goals such as the "5+31" commissioning, quality and efficiency enhancement, and the "tea-solar complementary" development.
- The "Party Branch Foundation Strengthening and Empowerment" deepened the creation of the "One Party Branch, One Characteristic" initiative.
- The "Secretary Breakthrough Project" established 19 "Secretary Projects" to solve development bottlenecks through practical actions and deliver tangible results.
- Furthermore, the "Party Member Pioneering Value Creation" selected 32 outstanding Party member demonstration zones, posts, teams, and groups, with 127 Party members taking the lead on the frontlines of urgent, difficult, dangerous, heavy, and new tasks, injecting red momentum into high-quality development.

North United Power Co., Ltd.

The Company held a meeting on the "Party Flag Leading the Way, Three-Color Commitment" brand development initiative to deeply explore the integration points between Party building and key areas such as safe power supply, green transition, technological innovation, and quality and efficiency enhancement. Through brand building, we continuously strengthened the cohesion and combat effectiveness of grassroots Party organizations, transforming Party building outcomes into tangible business development results, thereby providing robust political guidance and organizational support for the Company's high-quality development and fulfillment of social responsibilities.



The Meeting on the "Party Flag Leading the Way, Three-Color Commitment" Brand Development Initiative

Optimizing Core Business of Power Driving Industry Progress

Domestic Power Generation
862.6 TWh

Heating Capacity
524 Million GJ

Coal Production Capacity
124.7 Million Tons/Year

R&D Investment Intensity
3.25%

38 Continuously Enhancing Power Supply Capability

42 Life First, Safety Foremost

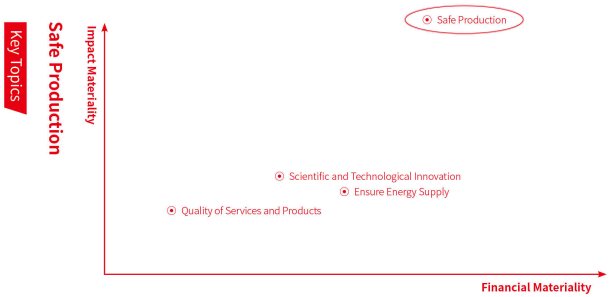
46 Unleashing the Momentum of Scientific and Technological Innovation

50 Building Momentum through Industrial Synergy

52 [Focusing on the Frontiers] Consolidating the Foundation for Digital and Intelligent Transformation

From December 22 to 23, 2025, the Conference of Heads of Central SOEs was held in Beijing, where an important instruction by Xi Jinping, General Secretary of the Communist Party of China (CPC), President of the People's Republic of China, and Chairman of the Central Military Commission, on the work of central enterprises were conveyed. Xi Jinping emphasized that central SOEs must focus on their primary responsibilities and core businesses, continuously optimize the layout of the state-owned economy, and effectively enhance our core functions and competitiveness. Grounded in the real economy, we will strengthen breakthroughs in key core technologies and promote the deep integration of technological innovation with industrial innovation.

Penetrating Disclosure
Key Topics · Core Elements



•Core Elements•

Governance

The Safety Supervision Department serves as the lead management department for this issue. Its main responsibilities include, but are not limited to, safety supervision and performance management; the construction of the safety production management system; safety risk control and hazard investigation and remediation; as well as the formulation and implementation oversight of safety supervision regulations. Relevant work for this issue has been incorporated into the Company's safety performance evaluation system.

•Core Elements•

Strategy

Due to the large volume of hazardous major engineering projects and high-risk operations in production, infrastructure construction, and maintenance, related enterprises have long relied on outsourced teams. These teams are large in scale and vary significantly in safety awareness and competence, posing potential safety hazards to both equipment and personnel. In the event of a safety incident, it could easily lead to equipment damage, casualties, and consequent economic losses.

To address these challenges, the Company strictly implements the comprehensive safety production responsibility system for all employees and standardizes outsourced management. We rigorously control the entry threshold for outsourced contractors and continuously strengthen the dual prevention mechanism. Our ultimate goal is to strive to eliminate major equipment damage accidents and fatal personnel accidents.

•Core Elements•

Risk and Opportunity Management

- Based on a comprehensive assessment of the Company's internal and external situation, we evaluate major and important risk issues, analyze the risk landscape on a case-by-case basis, and formulate targeted disposal plans and countermeasures.
- In light of the Company's management practices, we regularly organize risk screening and assessments across all levels, giving full play to the warning and reminder functions of risk management.
- We have compiled the *Indicator System Table for Monitoring and Warning of Major Operational Risks* to establish a risk warning indicator system, and conduct monthly monitoring of these risk indicators.

•Core Elements•

Indicators and Targets

Targets: Adhere to the goals of "zero safety accidents" and "zero personal deaths", and avoid major or above safety accidents.

Safety Investment (Technological Upgrading) RMB **1.407** Billion

13 units were awarded as demonstration enterprises for safety culture development

the Company conducted **41,000** safety training sessions, achieving **100%** coverage

Equivalent Availability Factor (hydro & thermal power) **93.90%**

Unplanned Outage Frequency (hydro & thermal power) **51** times, with a significant decrease

- Throughout the year, no major or above safety incidents occurred, resulting in a stable and improving safety production landscape.
- The unified safety production management platform has achieved a three-tier integration across the "Group Headquarters—Regional Companies—Grassroots Enterprises," forming a fully online closed-loop management for key safety production business areas.
- We have built the first group-level power generation reliability management platform in China based on real-time data, enables full-time monitoring of unit conditions and comprehensive, whole-process analysis of unplanned outages and abnormal events.

01 Continuously Enhancing Power Supply Capability

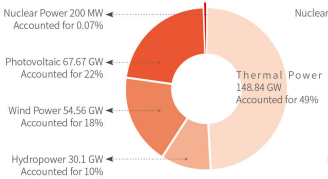
Adhering to the principles of being domestically oriented, addressing weaknesses, ensuring diversified supply, and strengthening reserves, the Company has continuously enhanced the construction of its energy production, supply, storage, and marketing system.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

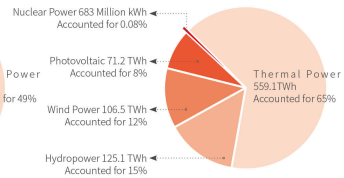
Ensure Energy Supply

Always bearing in mind the "Top Priorities of the Country", the company resolutely shouldered its primary responsibility for ensuring energy supply, and strictly implemented the decisions and plans of higher-level authorities regarding safe and reliable supply. By formulating the *Special Action Plan for Enhancing Energy Security under Extreme Conditions*, the Company successfully coped with extreme weather events such as typhoons, rainstorms, and blizzards. It also flawlessly fulfilled its energy supply missions during crucial periods, including the peak summer and winter seasons, the Two Sessions, and the commemoration of the 80th anniversary of the victory in the Chinese People's War of Resistance Against Japanese Aggression and the World Anti-Fascist War, and spares no effort to guarantee power generation, heating supply, people's livelihoods, and operational safety. All available generating units were brought online at full capacity with stable output, while heating units operated at maximum load to ensure uninterrupted supply, ultimately accomplishing all electricity and heating supply missions with e xcellence. Fully Demonstrating the Role as the "Mainstay" of Energy Supply Guarantee.

As the world's second largest power generation group, the Company has a controllable installed capacity of 301 GW, including 298 GW within China. In 2025, the Company generated a total of 862.6 TWh of electricity domestically, marking a year-on-year increase of 0.84%, with industry-leading comprehensive utilization hours.



Installed Capacity by Unit Type and Share (Global)



Electricity Generation by Unit Type and Share (Within the Country)

Case Flawlessly Completing the Power Supply Task for the 2025 Chengdu World Games

The Chengdu World Games coincided with the critical peak summer period, making power supply tasks even more demanding. Sichuan Branch stepped forward to take on responsibilities and took proactive measures, building a solid defense line for energy supply through full-chain initiatives.

Anchored by the goal of "zero unplanned outages," over 1200 kilometers of transmission lines and 60 hydropower units were fully mobilized for the supply guarantee. In July 2025, the Company's daily power generation hit a record high of 70 GWh. As of August 5, the cumulative power generation increased by 24.82% year-on-year. By providing clean and stable power, the Company injected green momentum into the Chengdu World Games and flawlessly fulfilled the event's power supply mission.

As China's largest residential heating provider, the Company is consistently the first utility nationwide to begin the heating season annually when winter arrives—— demonstrating "Huaneng Pace" and delivering "Huaneng Warmth." The Company has implemented the "Warmth Project," continuously upgrading aging heating pipe networks, which has significantly enhanced the heating capacity of its units during extremely cold weather. In 2025, the Company supplies heating services across 11 billion square meters, accumulated 524 million GJ of heat supply.

Case All-Staff Dedication Amidst Wind, Snow, and Bitter Cold

During the Spring Festival in 2025, Huating Coal Industry Company faced severe wind, snow, and freezing temperatures. Demonstrating a strong sense of responsibility to ensure "no shutdown during the holiday, no drop in transport volume, uninterrupted service, and stable profitability," all employees steadfastly held their posts on the frontlines of coal supply and transportation. This ensured the stable and efficient operation of transport channels throughout the holiday. From dispatch coordination and mine loading to road transportation and internal coal flow operations, frontline workers braved the snowstorm to tackle challenges across the entire supply chain. As a result, coal sales achieved steady growth during the holiday period, and the "lifeline" of energy supply was firmly secured through highly efficient operations.



At the Coal Transportation Site for Winter Energy Supply Guarantee

Crafting Projects of Excellent Quality

The Company has always attached great importance to quality management in infrastructure projects. With the goal of creating projects of exceptional craftsmanship, we have formulated the *Guidelines for Infrastructure Project Management* to provide guidance and reference for orderly construction. A total of 34 infrastructure-related regulations have been established, forming a comprehensive engineering management system tailored to practical operational needs.

In 2025, the scale of power projects under construction reached 46.57 GW; there are 3 coal projects under construction, with a total capacity of 10 million tons per year.

Whole-Process Quality Control in Infrastructure Engineering

Executing the "Design DNA" Initiative

The Company has issued guidelines for optimizing thermal power design and completed the updated typical designs for new energy booster substations. This approach leverages technical standards and typical experiences to play a leading and driving role in engineering practices.

Strengthening Design Optimization and Equipment Management

We have intensified the review process for preliminary designs, strictly controlling the comparison and selection of equipment technical solutions, as well as the review of technical specifications.

Ensuring Quality Supervision and Assurance Systems

The Company continuously strengthens whole-process supervision and tracking, strictly controls the equipment manufacturing quality, and effectively enhances engineering construction quality and management-control efficiency.

Enhancing Quality and Price Control in Key Phases

We have reinforced the whole-process management of completion acceptance to ensure that all projects comply with regulations and meet required standards.

The Company has continuously advanced engineering excellence initiatives, ranking among the top in both the quality and quantity of awards received compared to peer power enterprises. In 2025, eight projects were awarded the "Electric Power Quality Project" title, including the Horqin Right Banner 200 MW Wind Power Project, Phase I of the Tuquan Million-Kilowatt Wind Power Base (300 MW), the Alxa Base 400 MW Wind Power Project, the Bairin Right Banner 200 MW Wind Power Project, the Hunan Rangjiaxi Wind Power Project, the First Batch of the Yingcheng Million-Kilowatt Base (400 MW PV), the Yangpu Natural Gas Cogeneration Project (2×495 MW), and the Shidongkou No.1 Power Plant 2×650 MW Capacity-Replacement Coal Power Project. Notably, the Shidongkou First Power Plant project was also shortlisted for the National Quality Engineering Award.

Furthermore, the Shidongkou No.1 Power Plant 2×650 MW Capacity-Replacement Coal Power Project, the Huihe River Power Plant Cogeneration Project (350 MW + 50 MW), and the Beijing Thermal Power Plant's Gas Turbine Flue Gas Waste Heat Utilization Project won the First, Second, and Third Prizes, respectively, in the 2024 Outstanding Engineering Design Awards of the Electric Power Industry. Additionally, two QC group achievements from the Changjiang Nuclear Power Plant were awarded the Gold and Silver Medals at the 50th International Convention on Quality Control Circles (ICQCC).



The Yangpu Natural Gas Cogeneration Project



The Shidongkou No.1 Power Plant

Optimizing Customer Services

The Company remains committed to serving the construction of a unified national power market. We have implemented the *Plan for Deepening the Reform of the Marketing System and Mechanism*, successfully advancing core tasks such as adding specialized marketing departments at the headquarters level, optimizing the provincial "One Body, Two Wings" system, and establishing grassroots marketing institutions based on actual needs. These efforts have established a three-tier marketing management framework tailored to the new power market, laying a solid institutional foundation for the efficient operation of marketing businesses and the enhancement of market competitiveness.

Guided by market demands and centered on customer service, the Company continuously elevates its service standards. In the electricity retail sector, we have built a strong retail brand and explored new service pathways to provide customers with integrated energy solutions. In 2025, the Company achieved key breakthroughs in cooperation with major industrial users by signing transaction framework agreements with prominent enterprises such as China State Railway Group and Kingfa Sci. & Tech., significantly consolidating its fundamental power sales volume. In the heating customer service sector, the Company developed a dedicated customer service ticketing module to address user demands. This module enables a three-tier closed-loop management function, continuously enhancing heating service capabilities and building a distinguished Huaneng heating brand.

Case Huaneng Green Power Serves the Summer Davos Forum

In June 2025, the 16th Annual Meeting of the Summer Davos Forum was held in Tianjin. This marked Tianjin's first major event where all venue energy consumption was covered via green certificate transactions. During the forum, the Company completed a transaction of 400 green certificates with the venue operator, equivalent to 400,000 kWh of green power, helping the Davos achieve its low-carbon goal of 100% green power. This transaction represents a significant practice of Huaneng's green certificate trading, following RE100's unconditional recognition of China's green certificates. Itcontributes to the internationalization of green certificates and global climate governance.

Case Actively Addressing Customer Demands to Optimize Service Quality

Lingang Heating Company actively responds to customer demands, continuously standardizes the complaint handling process, and has established a fully closed-loop mechanism for resolving customer appeals. In 2025, the company maintained high rates in both complaint resolution and follow-up satisfaction, effectively resolving service conflicts and continuously enhancing the credibility and brand image of its heating services.

- The Company has integrated multiple service channels, including hotlines and on-site reception, to achieve unified reception, rapid dispatch, and time-bound handling of customer complaints.
- It strictly implements a complaint handling responsibility system, ensuring immediate response and proactive communication with users regarding progress and explanations.
- Furthermore, a tracking and supervision mechanism for complex complaints has been established to ensure root-cause resolution without leaving hidden risks; after a complaint is resolved, the Company carefully listens to user feedback to continuously optimize areas needing improvement in its services.

02 Life First, Safety Foremost

The Company firmly implements the holistic approach to national security, accelerates the construction of a new security framework, and enhances its strategic initiative in safeguarding national security. By following the path of social governance with Chinese characteristics, we strive to ensure a vibrant yet orderly society.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Work Safety Management

Resolutely implementing General Secretary Xi Jinping's important instructions on comprehensively enhancing power generation and supply capabilities, as well as the relevant requirements of the *Work Safety Law of the People's Republic of China*, the Company strictly enforces the safety production responsibility system. We have established and improved the *Headquarters Safety Production Responsibility System*, clearly defining the safety responsibility lists for leaders at all levels, various departments, and individual positions. This has formed a safety production responsibility system characterized by "top-down leadership and seamless vertical integration." The Company continuously promotes safety standardization by establishing safety standardization studios and compiling safety management guidelines to elevate overall safety management levels.

The Company vigorously promotes the application of technology to enhance safety. Building upon the full coverage of thermal power grassroots units on the unified safety production management platform, we have further expanded its application to new energy, hydropower, and port navigation sectors. This has achieved a three-tier integration across the "Group Headquarters——Regional Companies——Grassroots Enterprises," forming a fully online closed-loop management for key safety production business areas and significantly improving safety supervision efficiency; we have built the domestic new energy big data platform with the highest number of connected projects and the largest data volume, achieving full coverage of station data access. With 75 developed and applied functions, our production monitoring capabilities have been substantially strengthened.

In 2025, the Company achieved a comprehensive enhancement in its "Five Safeguards" capabilities: supply security, operational security, emergency security, supply chain security, and technological security. Throughout the year, no major or above safety incidents occurred, resulting in a stable and improving safety production landscape.

Steady Advancement of the Three-Year Action Plan for Fundamental Safety Production

The Company is actively promoting the creation of intrinsically safe enterprises. We have formulated evaluation standards for intrinsically safe systems covering thermal, hydro, and new energy power generation, and have deepened the application of these systems across 12 units.

Comprehensive Implementation of the "Thunderbolt Action" for Safety Production

We have formulated the *Plan for the "Thunderbolt Action"* on Safety Production along with seven sub-plans, rigorously investigating and addressing issues such as inadequate implementation of the responsibility system and insufficient risk and hazard screening.

In-Depth Execution of the "Four Specialized Tasks" in Safety Production

The Company has organized four specialized actions: "Daily Plan" management, "Anti-Three Violations and Hazard Remediation," "Assessment-Promoted Training," and "Safety Supervision." We issued the *Special Action Plan for Investigating and Remediating Risks and Hazards in Safety Facilities*, carrying out comprehensive hazard screening and remediation across sectors including electric power, coal mining, hazardous chemicals, and transportation.

Ensuring Equipment Safety

The Company attaches great importance to equipment safety to further consolidate the foundation for energy supply. We have deeply advanced condition-based maintenance for equipment, strictly implementing the *Implementation Guidelines for Standardized Management of Power Equipment Maintenance*. By establishing a condition-based maintenance standard system centered on the *Measures for the Administration of Condition-Based Maintenance of Power Generation Equipment*, we are leading the transformation of maintenance models in the industry. In 2025, our units achieved long-term safe and stable operation post-maintenance, and the excellence rate of major overhauls remained consistently high.

The Company has continuously elevated its equipment management level, with zero Category I equipment failures recorded throughout the year. Through the specialized action of "Reducing Defects and Controlling Unplanned Unit Outages," unplanned unit outages for hydro and thermal power units dropped by more than 35 times year-on-year in 2025, showing a significant decline. Furthermore, 93 thermal power plants achieved zero unplanned outages, and 35 renewable energy stations operated fault-free for the entire year (including 9 wind farms and 26 PV power stations). By strengthening unit reliability management, the equivalent availability factor for hydro and thermal units reached 93.90%, remaining stable year-on-year. Additionally, seven thermal power units were awarded the title of "National Benchmark Units for Generation Reliability" by the China Electricity Council (CEC).

93

Thermal Power Plants Achieved Zero Unplanned Outages

The Company has strengthened data monitoring and analysis on its real-time supervision platform. We have built the first group-level power generation reliability management platform in China based on real-time data, taking the lead in reporting group-level real-time reliability indicators to the CEC. This enables full-time monitoring of unit conditions and comprehensive, whole-process analysis of unplanned outages and abnormal events.

Lessons from the Frontlines: A Case Study

Course of the Accident

Around 17:00 on September 24, 2025, Super Typhoon Ragasa made landfall on Hailing Island, Yangjiang, Guangdong Province, with sustained winds of 40 m/s (Force 13). It was one of the most intense and widespread typhoons to hit Guangdong in the past two decades, causing varying degrees of damage to multiple wind turbines at the Huaneng Leiping Wind Farm.

A full week before landfall, the wind farm's parent company held a specialized meeting on typhoon and flood prevention, formulating a targeted response plan for Ragasa. An emergency response was activated two days prior, with hourly rolling updates on the typhoon's status issued starting one day before landfall. Throughout the entire event, over 40 warnings and dynamic situation reports were released. As required by dispatchers, the wind turbines were shut down in batches and all switched to "typhoon mode." Despite the direct confrontation with the super typhoon, the wind farm achieved zero casualties and prevented any secondary disasters.

Causes of the Accident

Located in the core path of the typhoon, the Huaneng Leiping Wind Farm was directly hit, coming as close as 12 kilometers to the typhoon's center. The wind farm sustained a direct assault, enduring Force 12 winds for 5 consecutive hours and Force 10 winds for 9 hours. The maximum instantaneous wind speed recorded at the site reached 75.0 m/s (hitting the upper design limit of the meteorological tower), with individual turbine sites experiencing gale-force winds for over an hour.

Handling of the Accident

- At 23:00 on September 24, a special post-disaster recovery meeting was convened to establish an emergency leadership group for rescue and relief efforts. The head of the organization served as the group leader, overseeing six specialized task forces, including rescue and repair, and external coordination, to formulate a *Post-Disaster Recovery Plan*.
- In the early hours of September 25, a team of over 80 professionals——including line repair crews, technical analysts, and specialists for damaged turbine handling——departed overnight, braving the elements to converge on Yangjiang.
- Once the main access roads were cleared, expert teams from the local government, the power grid company, insurance providers, and emergency communications arrived on-site to conduct field surveys and jointly develop a comprehensive repair strategy.

Key Area Safety

Safety in Coal

- We have firmly implemented the accountability system for major disaster prevention and control, clearly defining the mine manager as the primary responsible person, the chief engineer as the technical lead, the production deputy manager as the engineering lead, and the safety deputy manager as the supervisory lead. In-depth surveys have been conducted to identify hidden disaster-causing factors.
- As a result, 19 coal mines and coal chemical projects achieved "zero injuries," and 11 coal mines maintained continuous safe production for over 3,000 days.

Safety in Nuclear Power

- In the nuclear power sector, the *Measures for the Management of Nuclear Safety Responsibilities* and the *Measures for the Management of Nuclear Radiation Safety* have been formulated to advance the establishment of nuclear safety and health records.
- The self-developed large-scale nuclear power production management system (HAP System) has been fully launched and put into operation.
- A special initiative to improve the availability of high-temperature reactors has been implemented, achieving breakthroughs in major technical issues. The availability rate is now showing a positive upward trend, with units maintaining stable operation for 170 consecutive days, setting a new historical record.
- Since the commencement of the high-temperature reactor project, the three major nuclear power industrial bases have maintained continuous safe production.

Safety in Outsourcing

- We are steadily advancing whole-chain management of outsourced operations. The *Guidelines for Whole-Chain Management of Outsourced Operations in Power Production (Trial)* has been compiled and issued to promote the standardization of outsourced safety management systems and the normalization of operational processes; furthermore, the *Pilot Work Plan for Whole-Chain Outsourced Management* has been formulated and implemented to elevate overall outsourced management capabilities.
- Great emphasis has been placed on construction safety management. The *Guidelines for Standardized Safety Management* has been issued, and four specialized safety improvement campaigns have been launched, targeting fall prevention, electrical shock prevention, confined space operations, and power transmission line safety, ensuring no blind spots in safety production.
- To strengthen the management of outsourced teams, we strictly enforce the "no work without supervision" rule and the requirement that "no video surveillance, no operation" for significant and above-level risks. Typical case studies are regularly organized for training and dissemination to enhance the safety awareness and professional skills of construction personnel.

Safety in Overseas

- Three regulations, including the *Measures for the Management of Emergency Responses to Overseas Public Safety*, have been issued and implemented, making the safety management system for overseas projects more scientific and complete.
- Regular emergency drills have been carried out. A total of 51 emergency drills for various overseas projects were completed throughout the year, effectively enhancing the emergency response capabilities of overseas operations.
- Personnel rotations have been carried out safely and orderly. Throughout the year, 175 official overseas business delegations comprising 739 person-trips were processed. The rotation of 282 personnel across 11 batches in Pakistan and Myanmar was successfully completed.

Network Security

- The systematic working mechanism for cybersecurity operations has been continuously improved. The Group has fully promoted a cybersecurity protection capability and independent operation and maintenance (O&M) system centered around the Network Situational Awareness Security Operations Platform.
- A centralized cybersecurity operations center has been established to achieve routine "24/7" operations.
- Furthermore, the Company was approved as a national-level power cybersecurity testing ground, and no cybersecurity incidents occurred throughout the year.

Enhance Safety Awareness

Adhering to the safety philosophy that "all risks are controllable and all accidents are preventable," the Company has focused on creating a favorable atmosphere for safe production and continuously raising the safety awareness of all employees through safety education, training, and safety culture initiatives. In 2025, the Company conducted 41,000 safety training sessions, achieving 100% coverage, and 13 of its subsidiaries were recognized as demonstration enterprises for safety culture development.

In accordance with the *Measures for the Management of Emergency Response Plans for Emergencies*, the Company has continuously advanced the construction of its emergency plan system, establishing a "1+10" emergency response plan framework. The Plan for the *Development of Power Emergency Response Teams* was formulated, leading to the establishment of 225 emergency repair teams at various levels, including national, group, secondary unit, and grassroots enterprise levels. This has built an emergency team system with clear hierarchies and well-defined division of labor, laying a solid institutional and talent foundation for the standardization of the Company's emergency command work. In 2025, the Company conducted a cumulative total of 260 safety emergency drills involving 15,660 participants, effectively strengthening the safety awareness and practical capabilities of all employees.

The Company formulated the *Special Enhancement Plan for Energy Security under Extreme Conditions* and built a unified emergency command platform. By integrating data from the China Meteorological Administration and the China Earthquake Administration, the platform has achieved seamless vertical integration, coordinated response, and unified, highly efficient emergency command. In 2025, the Company successfully responded to a total of 14 natural disasters, including Super Typhoons Ragasa and Matmo, as well as the Myanmar earthquake, and successfully fulfilled the critical task of ensuring energy supply during key periods.

Case A Vessel Oil Spill Emergency Drill

In October 2025, Dalian Thermal Power Plant conducted a vessel oil spill emergency drill. This practical exercise validated the scientific nature and applicability of the plant's *Comprehensive Emergency Response Plan for Port Production Safety Accidents* and the *Emergency Response Plan for Preventing Marine Environmental Pollution from Vessels and Related Operations*. It also tested the coordinated collaboration capabilities of various units and further enhanced the safety and responsibility awareness of the plant's staff, safeguarding the high-quality development of the enterprise.



A Vessel Oil Spill Emergency Drill

Case Special Safety Training for All Staff

The Heilongjiang Branch has innovatively adopted a training model that integrates "theoretical instruction, on-site practical operations, and case analysis." Closely aligned with the actual production needs of the enterprise, the branch conducted comprehensive safety training for all employees, focusing on key areas such as safety specifications for equipment operation and protective techniques for high-temperature operations.

This training covered three core production departments, 255 regular employees, and 79 personnel from long-term outsourced teams. Accumulating a total of 16 credit hours, the training achieved a 98.7% pass rate in assessments. The significant outcomes of this training have effectively enhanced the safety protection awareness and practical operational capabilities of all personnel, building a solid safety foundation for production and operations.

03 Unleashing the Momentum of Scientific and Technological Innovation

We are reinforcing the leading role of enterprises in decision-making for technological innovation, R&D investment, research organization, and the application of research outcomes, thereby promoting the deep integration of the innovation chain, industrial chain, capital chain, and talent chain.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Management of Technological Innovation

The Company has thoroughly implemented the important instructions by General Secretary Xi Jinping on scientific and technological innovation, as well as the various requirements issued by the State-owned Assets Supervision and Administration Commission(SASAC) of the State Council. We are committed to strengthening innovation, promoting commercialization, and leveraging the principal role of technological innovation. By continuously enhancing our independent innovation capabilities and shouldering the major responsibility of being a pioneer in technological innovation, we are driving new progress and breakthroughs in our technological innovation efforts.

Focusing on major demands for serving national strategies and high-quality development, the Company has strengthened the overall planning for scientific and technological innovation and kept refining the institutional mechanisms.

- **Strengthening Institutional Development and Enhancing Management Efficiency:** The Company has revised 13 management systems, including the *Management Measures for the Demonstration Application of First-Set Major Technical Equipment*, to further standardize the management of national tasks and platforms, first-set major technical equipment, science and technology awards, R&D investment, technical standards, and intellectual property.
- **Reinforcing Basic Research and Original Innovation:** The Company has completed the approval of 40 applied basic research projects with a total funding of RMB 130 million. Furthermore, the Company has joined the Enterprise Innovation and Development Joint Fund of the National Natural Science Foundation of China (NSFC), committing an annual investment of RMB 40 million to conduct cutting-edge basic research in relevant fields.
- **Optimizing the Management Process of S&T Projects:** Dedicated personnel have been assigned to oversee the acceptance and evaluation of major S&T projects, thereby strengthening the role of S&T project outcomes in supporting the Company's industrial development.



Nurturing Strategic Emerging Industries

The Company has progressively strengthened the overall management of strategic emerging industries and vigorously implemented the *Action Plan for Accelerating the Development of Strategic Emerging Industries (2024-2027)*. A reserve pool for strategic emerging industry projects has been established, and a full-lifecycle management mechanism covering "S&T innovation, technology demonstration, project approval, infrastructure construction, and operational optimization" has been preliminarily constructed. The industrialization and demonstration of S&T achievements are being actively and orderly advanced. In 2025, the Company's strategic emerging industries continued to grow and expand. Positive progress was made in 3 of the "Top 100 Projects" and 34 tasks of the Renewal Action. The annual revenue from strategic emerging industries accounted for 26% of the total, representing a 4-percentage-point increase from the beginning of the year.

- Achieving Breakthroughs in Demonstration Projects such as Energy Storage: Construction of the Phase II Jintan Salt Cavern Energy Storage Project has commenced, and the Huaneng Wuhan Supercapacitor-Coupled Thermal Power Frequency Regulation Energy Storage Station has officially entered commercial operation.
- Expanding the Scale of Virtual Power Plants: *The Work Plan for the Development and Construction of Virtual Power Plants* has been formulated and implemented, with the first batch of 11 virtual power plant demonstration projects deployed.
- Accelerating the Expansion of the Geothermal Industry: The Henan geothermal project successfully completed its first heating season, and the Brilliance BMW deep geothermal project in Liaoning Province has been put into operation.
- Leading the Application Demonstration in Emerging Fields: The Company is focusing on research into supercritical carbon dioxide cycle power generation and other advanced technologies, exploring an industrialization path with distinctive features of the Company.

Research and Development of Core Technologies

The Company adheres to serving national strategic needs, taking the lead in undertaking a batch of major national S&T missions. It has successfully completed Phase II of the "1025 Special Project" and all 13 tasks of Phase I of the "BDB Project" with high quality, and newly assumed over 20 major national S&T missions. In 2025, the Company achieved breakthrough progress in tackling a batch of key core technologies.

- The Shidao Bay HTR-PM Demonstration Project passed the acceptance evaluation of the national major S&T project and was approved by the National Energy Administration for the project on compiling the high-temperature reactor construction and operation experience.
- Breakthroughs have been made in the manufacturing technologies for 10-ton large-diameter thick-walled pipes, 10-ton triple-metallurgy process rotors, and 15-ton high-temperature castings.
- Solid progress has been made in the development of low-cost carbon capture technologies, with the completion of China's first pilot verification platform for a calcium-based carbon capture system coupled with thermochemical energy storage.
- For the first time, the domestically owned first-stage turbine blades of the 9FA gas turbine achieved "72+24" hours of continuous high-load operation.
- The world's largest direct-drive floating offshore wind turbine, featuring a single-unit capacity of 17 MW and the largest rotor diameter, has rolled off the production line.
- China's first offshore wide-area multi-dimensional and multi-element high-precision comprehensive resource analysis and forecasting system has been developed.
- The independently developed first domestic Anion Exchange Membrane (AEM) water electrolysis hydrogen production system has achieved its first engineering application in a generator hydrogen cooling scenario in China.
- The world's first 5 MW commercial-grade perovskite photovoltaic demonstration base has been completed and put into operation.
- The safety sandbox pilot manufacturing and testing plan for the independently developed HT700 new material has passed the review.
- The independently developed fully domestic digital Turbine Monitoring System (TMS-T316) completed a 168-hour trial operation at Unit 6 of the Laiwu Power Plant, marking its first successful deployment on a million-kilowatt unit.

Commercialization of Scientific and Technological Achievements

The Company continues to see a steady stream of S&T innovation achievements, and the commercialization of these achievements is advancing steadily. In 2025, one of the Company's achievements was included in the *Catalogue of Recommended S&T Innovation Achievements of Central Enterprises (2024 Edition)*, five achievements were selected as the first-set major technical equipment in the energy sector (5th batch), and three achievements were included in the inaugural "China Energy Good Products" list by the National Energy Administration. These accomplishments have effectively led and promoted technological progress in the industry.

- One hundred "Huaneng Ruichi" unmanned electric mining trucks have been put into operation at the Yimin Open-pit Mine, marking the world's first deployment of a 100-truck fleet of pure electric unmanned mining trucks.
- The largest single-capacity PV-adaptive water electrolysis hydrogen production system in China has successfully produced hydrogen at full load at the Huaneng Zhangye Green Electricity Hydrogen Production Demonstration Station.
- The world's largest 16 MW all-supercapacitor energy storage frequency regulation system, developed by the Company, has been completed and put into operation at the Yimin Coal-Power Plant. This marks the first engineering application of string-type energy storage power converter technology in the field of energy storage frequency regulation.
- The world's first demonstration project integrating supercapacitor hybrid solid-state energy storage with a gas turbine for one-key black start, constructed by the Company, has officially commenced. This project is dedicated to advancing the development and application of energy storage technologies that actively support grid-forming in the new power system.
- The joint R&D and commercialization demonstration of the "China-UK CO 2 Electro-Thermal Coupling Catalytic Technology for High-Purity Ethylene Production," conducted jointly with the University of Manchester in the UK, has been selected as a typical case in the first batch of China-EU Energy Cooperation projects.



Scan the QR Code to Watch the CCTV report titled *China's First 100-Unit Pure Electric Unmanned Mining Truck Fleet Put into Operation*

Build a Platform for Technology Research and Development

The Company has made solid progress in advancing and accelerating the construction of national-level innovation platforms such as national key laboratories. The Company has continuously participated in the construction of the Huairou National Laboratory and completed the restructuring of the National Engineering Research Center for "System Integration, Operation and Maintenance of Clean and Low-Carbon Thermal Power Generation"; also successfully hosted the Academic Committee Meeting of the National Key Laboratory for Efficient and Flexible Coal-Fired Power and CCUS. The research outcomes received high recognition from the academicians and experts; the Company joined forces with Sinopec and other entities to initiate the establishment of the "International Innovation Cooperation Organization for Carbon Capture, Utilization and Storage (CCUS)," building an international exchange platform for CCUS.

Encourage Employees to Innovate in Technology

The Approval of **217** Mass Innovation Projects

The Company has deeply promoted mass innovation initiatives by formulating institutional documents such as the *Management Measures for Mass Innovation Projects*, the *Management Measures for the Promotion and Commercialization of Employees' Technological Innovation Achievements*, and the *Management Measures for the Alliance of Employee (Model Worker, Maker, and Craftsman) Innovation Studios*. The Company has deepened the promotion and commercialization of employees' technological innovation achievements and strengthened the construction and management of platforms including the Employee Innovation Studio Alliance and grassroots enterprise technological innovation studios. These efforts have effectively stimulated the vitality and potential of employees' technological innovation, transforming their innovative power into real productivity. In 2025, the Company completed the approval of 217 mass innovation projects, creating a favorable atmosphere for "innovation by all".

- **The Company continues to promote the commercialization of employees' technological innovation achievements:** The 2025 Catalogue for the Promotion and Commercialization of Achievements has been released, and commercialization contracts totaling over RMB 30 million have been signed.
- **The management of employee innovation studios and alliances has been continuously strengthened:** Evaluations have been conducted for 113 technological innovation studios at grassroots enterprises and 33 Huaneng Maker (Huaneng Craftsman) studios.

Huaneng Technology Innovation Abundant Achievements in 2025

- Won **86** provincial and ministerial-level S&T awards for projects led by the Company
- Awarded **3** national first prizes and **1** industry grand prize for management innovation achievements
- Recognized as an **Outstanding Enterprise for Industrial Renewal**; successfully included in the first batch of **Outstanding S&T Innovation Enterprises** list by the State-owned Assets Supervision and Administration Commission of the State Council, as the only power generation enterprise selected
- Xi'an Thermal Power Research Institute, a subsidiary of the Company, Rated as a "Benchmark" enterprise in the **SASAC's S&T Reform Demonstration Program** for the fifth consecutive year; included in the first batch of candidate list for **Leading S&T Pioneer Enterprises** by SASAC, both being "the only one in the industry"
- Beijing Huaneng Xinrui Control Technology Co., Ltd., a subsidiary of the Company, has been selected as a **"Little Giant" enterprise** in the seventh batch of "Little Giant" enterprise that uses sophisticated technologies to produce novel and unique products

Standard Release and Formulation

- Led the publication of **6** international standards and initiated **11** new international standard projects
- Established **2** international standard working groups and served as the convener for both
- Won **2 ISO Outstanding Contribution Awards** and secured **2 pilot projects for the overseas application of Chinese standards**
- Led the development of **two IEC white papers**——*Emerging Photovoltaic Materials and Technologies* and *Smart Hydropower*——which were officially released

Intellectual Property Protection

- Filed **13,015** new patent applications and received **3,854** patent grants throughout the year
- Received **3,588** invention patent grants, marking a significant increase in both volume and proportion, plus rapid growth in the number of overseas patent grants
- Won **3 gold awards** and **1 silver award** at the International Exhibition of Inventions of Geneva
- Secured 7 gold awards for patent achievements at the **IDUSA International Invention Exhibition**

Employee Technological Innovation

- Nominated 97 achievements for the 2024 Outstanding Employee Technological Innovation Achievements Evaluation, with **56** winning the National Energy & Chemical System Awards
- Recommended 50 achievements for the 2025 China Electricity Council (CEC) Power Innovation Award evaluation, with **10** winning awards
- Recommended 51 achievements for the Chinese Workers' Technical Association Employee Technological Innovation Award evaluation, with **32** winning awards
- Nominated 50 projects for the 5th Power Enterprise Team Innovation and Efficiency Project evaluation by the China Energy, Chemical and Geology Trade Union, with **15** winning awards

04 Building Momentum through Industrial Synergy

The Company has improved the industrial regulation and policy framework, optimized the industrial layout, and strengthened the coordinated support for key production factors.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Focusing on the Development of Power Sector

The Company's power industry adhered to the principles of green development, continuously accelerating structural adjustments and establishing a new transformation framework supported by renewable energy, hydropower, and nuclear power. We vigorously promoted the high-quality development of wind and solar energy, actively advanced hydropower projects, and pursued safe and orderly nuclear power expansion, consistently increasing the share of low-carbon clean energy in our installed capacity while optimizing thermal power development to maintain our power supply guarantee role. In 2025, the Company achieved a significant breakthrough in growth, with the total installed capacity of wholly-owned and controlling power plants, both domestically and internationally, reaching 301 GW. Among this, low-carbon clean energy accounted for 171 GW, representing 56.63%. This reflected an increase of 4.8 percentage points year-on-year and a rise of 20 percentage points compared to the end of the 13th Five-Year Plan.

Driving High-Quality Development Through Scientific and Technological Innovation

The Company formulated and implemented the *Special Plan for Scientific and Technological Innovation* and the *Implementation Plan for the Reform of the Scientific and Technological Innovation System and Mechanism*, to continuously improve the technological innovation system that focuses on the Company, internal and external coordination, and full coverage of main business. The technological innovation provided more support and service for the development, engineering, construction, and production of projects, and other fields of the power industry, to speed up the formation of a good development pattern in which the the scientific research is guided and financed by the industry and the industrial upgrading is supported by scientific research. In 2025, the Company's science and technology sector achieved an operating revenue of RMB 9.138 billion, representing a year-on-year growth of 21%.

Deepening Finance-to-Industry Integration to Empower Core Businesses

Adhering to its positioning in industrial finance, the Company has focused on the main objectives of "risk prevention, enhanced regulation, and promotion of high-quality development." Centering on its core responsibilities and main businesses, the Company has continuously deepened industry-finance synergy, effectively leveraging the three supporting functions of industrial finance: functionality, value, and service. By the end of 2025, the assets under management of the Company's industrial finance reached RMB 2.65 trillion.

- **Functional Support :** Focusing on serving core businesses, empowering industries, and facing the market, the Company has built a differentiated, synergistic, and professional business system. By participating in market competition, the Company has effectively leveraged the resource allocation function of industrial finance to serve national strategies and core industrial businesses. Throughout the year, the Company provided services for the Group's newly added renewable energy capacity of over 4.3 GW; Through financial functions such as think tanks, investment banking, and consulting, the Company has delivered stable functional support for traditional industry upgrading, emerging industry expansion, and future industry cultivation. This has effectively transferred and hedged operational risks, contributing to the preservation and appreciation of state-owned assets.
- **Value Support:** In 2025, the Company achieved an operating revenue of RMB 14.432 billion and a profit of RMB 6.78 billion, effectively helping the Company smooth out business cycle fluctuations and making the value support role more solid and robust.
- **Service Support :** The Company has actively utilized asset securitization, perpetual trusts, bond underwriting, financial leasing, factoring, private equity funds, and supply chain finance to raise over RMB 122 billion for the Company and its upstream and downstream enterprises. Through coordinated insurance marketing, 126 electricity sales contracts were signed, with a total transaction volume of 0.97 TWh.

Optimizing the Development of Coal Sector

The Company continued to improve our coal industry development strategy, preparing an *implementation plan for clean and efficient coal utilization from 2024 to 2027, alongside a large-scale equipment renewal plan*. We actively advanced project construction. By the end of 2025, the Company's total coal production capacity reached 124.7 million tons per year. Coal output was recorded at 108.67 million tons. In 2025, the total profit from the coal industry reached RMB 6.61 billion. Coal sales reached 92.96 million tons, an increase of 3.04 million tons year-on-year.

The company is accelerating the construction of a three-level intelligent control system consisting of a group company, a coal industry company, and a coal mine. Huating Coal Mine, Qinggangping Coal Mine, and Lingdong Coal Mine have passed the intelligent acceptance, completed the preliminary design of the L3 level enterprise architecture for the coal domain of the Smart Huaneng Enterprise, and the independently developed coal mine safety risk monitoring and early warning system has officially begun operation.

Building a New Supply Chain System

The Company fully ensured the transportation and supply of coal for power generation within the Company. Through the coordinated efforts among the coal, electricity, port, and shipping sectors, our collective ability to withstand market risks was significantly enhanced. In 2025, the Company supplied a total of 96.57 million tons of coal, achieving a freight volume of 54.73 million tons and a port throughput of 66.07 million tons. The average benchmark price for coal transported via waterway was RMB 880.9 per ton, reflecting a year-on-year decrease of RMB 152.5 per ton, which exceeded the annual budget target of 106.3 yuan/ton, maintaining the top spot among comparable power generation groups.

- The Company successfully fulfilled the critical fuel supply assurance tasks during key periods such as the summer peak power consumption season, making every effort to meet the demands of hydropower plant peak shaving and increased power generation. A total of 19 emergency transport voyages involving 940,000 tons of coal were organized.
- The Company has created a port and navigation safety management model with distinctive Huaneng features, completing the trial implementation of the *Navigation Safety Regulations*, which marks a first in the safety management field of domestic shipping enterprises.
- The coal reserve operation system has been improved, with steady progress made in the construction of national coal reserve bases at Yingkou Port and Taicang Port.
- The Company is actively advancing the construction of smart ports. The automatic feeding project for the car dumper at Caofeidian Port has been completed and put into operation. The stacker-reclaimers have fully achieved domestic upgrades with BeiDou positioning, reaching a centimeter-level positioning accuracy.
- The Company is steadily promoting the green transformation of its ports. Caofeidian Port was certified as a "Four-Star Green Port" by the China Ports Association, ranking first in its cohort; Taicang Port has achieved 100% shore power coverage for vessels; in October, the shore power usage reached 100,816 kWh, setting a new record for single-month usage; Hualu Shipping connected shore power for 118 vessel calls, saving RMB 600,000 in fuel costs.



Focusing on the Frontiers
Consolidating the Foundation for Digital and Intelligent Transformation

From early-stage digital exploration to today's comprehensive and in-depth digital-intelligent development, the Company has consistently stayed at the forefront of the wave. By steadily advancing the digital and intelligent layout across various business sectors with outstanding innovation capabilities and forward-looking vision, the Company is leading the trend of digital and intelligent transformation in the energy industry.

In 2024, The release of the *Outline of the "139" Major Special Action Plan for Digital and Intelligent Huaneng (2025-2027)* has clarified the development direction, goals, key tasks, and safeguard measures for the Company's digital and intelligent transformation over the next three years. It promotes the deep integration of various industries with digital and intelligent technologies, charting a clear course for the Company's digital and intelligent development. The Company's digital and intelligent exploration serves as an "escort" for its high-quality development, and represents a solid leap forward at the critical juncture between the "14th Five-Year Plan" and the "15th Five-Year Plan."

Outline of the "139" Major Special Action Plan for Digital and Intelligent Huaneng

Guiding Principles

Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we will fully implement the guiding principles of the 20th National Congress of the Communist Party of China (CPC) and the Second and Third Plenary Sessions of the 20th CPC Central Committee. Grounded in the new stage of development, we will apply the new development philosophy in full, accurately, and comprehensively, and accelerate the creation of a new development paradigm. We will thoroughly implement the strategies for building a cyber powerhouse and a Digital China. Furthermore, we will improve the institutional mechanisms for the digital and intelligent development of Huaneng, strengthen organizational leadership, enhance top-level design, and refine the institutional framework, thereby contributing digital and intelligent strength to the high-quality development of the Group.

Basic Principles

- Strategy-led, Building on Heritage
- Value-driven, Data-empowered
- Standards First, Iterative Practice
- Demand-oriented, Business-Technology Integration
- Focused Initiatives, Practical Implementation
- Horizontal Coordination, Vertical Integration

1 Brand

Huaneng Ruizhi

3 Major Platforms

Infrastructure Platform
Network Security Platform
Technology R&D Platform

9 Major Tasks

- Unified Group Operation Platform
- Artificial Intelligence Special Initiative
- Blue Shield Action
- Smart Power Plant
- Intelligent Coal Mine
- Smart Infrastructure
- Technology-Empowered Safety Production
- Source-Grid-Load-Storage Integration
- Smart Operation Management

·Digital and Intelligent Huaneng · New Progress·

Unified Group Operation Platform

- The Company has built a three-tier cloud infrastructure architecture spanning the Group, regional, and grassroots enterprise levels. Guidelines for enterprise cloud security management have been issued to standardize the security management of cloud-based businesses.
- Closely aligned with the "Five Centers" positioning——image display, production supervision, operational decision-making, emergency command, and video surveillance——the real-time production and operation supervision system covering power generation, heating, fuel, and other fields has been put into operation at the Huaneng Xiong'an Headquarters, based on the Unified Production and Operation Supervision Platform.

Artificial Intelligence Special Initiative

- The Company is accelerating the implementation of the "AI+" special initiative, issuing the *Work Plan for Artificial Intelligence* to clarify the pathway for building the AI governance system.
- The Company is speeding up the implementation of AI infrastructure projects. The first phase has been launched with 70P computing power leased, consolidating the foundational support for AI development.
- The Company is carrying out AI application R&D. The localized deployment of the DeepSeek series models has been completed. The AI assistant "Ruizhi Xiaoneng" has been developed and integrated into the "iHN+" platform to empower daily office work and management.
- The Company has launched the first batch of AI "open competition for key projects" initiatives, aiming to create a group of demonstration applications with solid foundational conditions, high application value, and strong potential for widespread promotion.

Blue Shield Action

- The "Huaneng Blue Shield" network situational awareness operations platform has achieved full coverage and promotion, with centralized operations implemented across 30 internet gateway units and 6 key grassroots enterprises.

Smart Power Plant

- The Company is advancing the construction of smart renewable energy stations, and the smart infrastructure supervision platform for wind, solar, thermal, and hydropower has made phased progress.

Intelligent Coal Mine

- The coal industry has built 18 intelligent mining faces, and the Yanbei Coal Mine has passed the national acceptance evaluation as an intelligent demonstration coal mine.

Smart Infrastructure

- The construction of the "Dual Platforms" for smart infrastructure and smart O&M in the renewable energy sector has entered the stage of comprehensive promotion. The "smart construction site" system for nuclear power has been implemented at the Hainan Changjiang and Shidao Bay nuclear power plants.

Technology-Empowered Safety Production

- The Company is advancing the Health, Safety and Quality Integrated Management Platform (HSQ365) project. Smart equipment, such as intelligent safety harnesses and smart scaffolding, has been deployed in pilot applications at the Gansu Branch.
- The construction of Phase III of the Safety Production Platform is advancing in an orderly manner, comprehensively standardizing safety production management processes and driving the implementation of safety responsibilities at all levels.

Source-Grid-Load-Storage Integration

- The Company is promoting the construction of a digital and intelligent professional technical standards system. The first national standard in the digital and intelligent field, drafted with the Company's participation, has been officially implemented.
- The Company is accelerating the integration of energy storage data into the real-time production data management platform. This has now covered 98 energy storage stations, and risk monitoring and warning functions have been deployed.

Smart Operation Management

- The new-generation digital and intelligent financial operation and management control platform has been launched for pilot operation at the renewable energy "showcase" project.
- The Company is deepening the comprehensive data governance of unified enterprise management systems. A data asset management platform and a master data platform have been established, significantly improving the efficiency and quality of data sharing.

Paid Taxes RMB

42.8 Billion

Total Amount of External Donations RMB

207 Million

Total Investment Amount for Rural Revitalization RMB

167 Million

Overseas Operating Income RMB

25.973 Billion

58 Building a Highly Professional Talent Workforce

63 Embarking on a New Era of Shared Value

66 Writing a New Chapter for a Better Life

71 Active Participation in the Belt and Road Initiative

74 [The Xiong'an Story] Stepping Up to Shoulder Major Responsibilities and Leading the Charge

Harmony and Prosperity

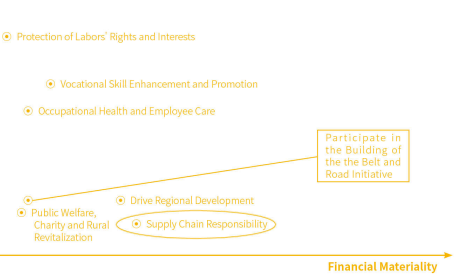
Showcasing the Sincere Commitment to Our Country and People

From December 22 to 23, 2025, the Central Enterprise Responsible Persons Meeting was held in Beijing, where General Secretary of the Communist Party of China (CPC), President of the State, and Chairman of the Central Military Commission, Xi Jinping's important instructions on the work of central enterprises were conveyed. Xi Jinping emphasized that central enterprises must fully recognize the responsibilities and missions they shoulder. They should better serve the overall work of the Party and the State, contribute to the high-quality economic and social development, and help ensure and improve people's livelihoods. By bravely assuming social responsibilities, central enterprises will contribute greater strength to the advancement of Chinese modernization.

Penetrating Disclosure
Key Topics · Core Elements

Key Topics

Supply Chain Responsibility



•Core Elements•

Governance

The Supply Chain Management Department serves as the lead management department for this topic. Its main responsibilities include, but are not limited to: engineering, materials, and services procurement, as well as bidding management; coordinating the implementation of green procurement; procurement plan management; materials warehousing and logistics management; allocation of idle materials; disposal of scrap materials; and centralized materials supply management; supply chain process supervision; supply chain supervision, assessment, and evaluation. The work related to this issue has been incorporated into the Company's "Headquarters Key Work Assessment."

•Core Elements•

Strategy

The current international environment is highly complex, with frequent fluctuations in the operation of global supply and industrial chains. Occasional disruptions in local supply and rising external instability are evident. The Company is currently in a critical phase of accelerating its transformation toward modern supply chain management. As regulatory requirements continue to become more detailed and stringent, higher standards are being imposed on supply chain resilience and whole-chain management. These factors may lead to cost and price fluctuations in fuel and equipment, thereby easily triggering risks in supply chain cost control and refined financial management.

We will deepen the special campaign to prevent supply chain disruptions, systematically expand the coverage of framework agreements for domestic brands, and continuously enhance supply chain resilience; Furthermore, we will advance the "Integrated Procurement" initiative vertically, optimize and upgrade the "Comprehensive Supply" services, and keep strengthening our procurement and supply assurance capabilities, thereby steadily driving end-to-end integration across the entire supply chain management.

•Core Elements•

Risk and Opportunity Management

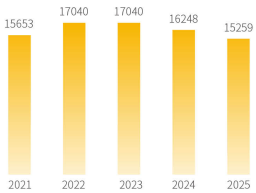
- Based on a comprehensive assessment of the Company's internal and external situation, we evaluate major and important risk issues, analyze the risk landscape on a case-by-case basis, and formulate targeted disposal plans and countermeasures.
- In light of the Company's management practices, we regularly organize risk screening and assessments across all levels, giving full play to the warning and reminder functions of risk management.
- We have compiled the *Indicator System Table for Monitoring and Warning of Major Operational Risks* to establish a risk warning indicator system, and conduct monthly monitoring of these risk indicators.

•Core Elements•

Indicators and Targets

Targets: **Forge a resilient supply chain with Huaneng's distinctive characteristics, featuring the integration of six key flows: business, logistics, information, capital, technology, and talent.**

Number of Suppliers Reviewed during the Reporting Period (Item)



- A Total of **242,100** Procurement Projects
- A Cumulative Procurement Amount of RMB **190.639** Billion
- A Capital Saving Rate of **17.63%**
- Material Warehousing Management Services Cover **196** Grassroots Enterprises

- The Company was awarded an "A" rating in the Central Enterprises Procurement and Supply Chain Management Benchmarking Assessment by SASAC for the second consecutive year, ranking first in the power generation industry.
- The Company has intensified the application of AI technologies by deploying large AI models across the entire procurement and bidding business chain. These achievements were recognized as a "Special Typical Case" in the 2024 Power Industry Material Supply Chain Innovation and Application Awards by the China Electricity Council (CEC).
- The case study *Empowering High-quality Development of Energy and Power Supply Chains Through Smart Green Logistics Platforms* was recognized as a typical case of China's supply chain transformation and development.

01 Building a Highly Professional Talent Workforce

Aligning with innovation demands, we will accelerate the building of national strategic talent forces. This includes intensifying the cultivation and support for strategic scientists, leading sci-tech talents, basic research personnel, and young sci-tech talents.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Protection of Employee Rights and Interests

According to *the Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China*, the Company has formulated series of enterprise policy documents such as *the Guiding Opinions on Standardizing Labor Employment and Labor Contract Management, Employee Recruitment Management Measures, Management Measures for the Recruitment of College Graduates, the Guiding Opinions on Improving Market-oriented Labor Management* to lay a solid institutional foundation for safeguarding employee rights and interests.

The Company strictly standardizes employment practices to ensure equal opportunity policies are implemented throughout the entire employee's career. The Company was committed to providing equal employment opportunities and labor security for employees of different nationalities, races, genders, religious beliefs, and cultural backgrounds, upholding equal pay for equal work regardless of gender. The Company strictly implemented national laws and regulations regarding the minimum working age and worked to eliminate forced labor, employment discrimination and child labor, while continuously improving fundamental labor management systems. As of the end of 2025, the Company had 122,618 employees, with an employee turnover rate of 0.28%.

Guaranteeing Remuneration and Welfare

- The Company adhering closely to the *Management of Central SOEs Leaders and the Interim Measures for the Salary Management of Full-time External Directors of Central SOEs*. It ensured timely public disclosure of relevant information.
- We will drive high-quality reforms of the compensation mechanism, establishing and improving a distribution system that aligns with market rules while reflecting the company's unique characteristics. Furthermore, we will continuously strengthen the supervision and management of employee welfare and protections.
- The Company promoted income distribution to serve as a guiding principle of enticement, increasing wages for scientific and technological talents, urgently-needed professionals, and employees in challenging, hazardous, or demanding front-line positions.
- We will build a high-standard compensation information system, bringing all 120,000 employees across all organizational levels under comprehensive penetrating supervision, and create a data-driven and intelligent platform for payroll analysis and decision-making.

Deepening Democratic Management

- We continuously deepen democratic enterprise management and build a "four-in-one" democratic management mechanism and working framework. This framework takes the Workers' Congress as its basic form, factory affairs disclosure as its foundational system, employee directors as a key channel, and other forms of democratic management as important supplements.
- The first session of the third Workers' Congress was convened, resulting in five resolutions. We achieved a 100% satisfaction rate in responding to meeting proposals; and all filed proposals were fully implemented, reaching a 100% processing rate. The establishment rates for Workers' Congresses and factory affairs disclosure systems at secondary and tertiary units approached nearly 100%, ensuring the effective operation of the three-tier democratic management system.

Building the Home for Employee

- We have deepened the development of "Staff Homes." A total of 154 historically recognized Model Staff Homes passed their periodic reviews. Additionally, 30 outstanding union workers and 40 excellent union work projects were selected and commended for the year.
- A special fund of RMB 1.1 million was allocated to support the development of 29 grassroots "Staff Homes." This initiative specifically caters to the needs of staff at small, scattered, and remote places in high-altitude and harsh border areas, aiming to improve the working, living, and learning conditions for frontline employees.

Caring Female Employees

- **Promoting "Women Making Contributions" Initiatives and Empowering Female Employee Growth:** We organized training classes for directors of the Women's Committee and convened symposiums for female employees. In implementing the SASAC's notice on the "*Women's Innovation in Science and Technology Action*" for central enterprises, we invited experts from the All-China Women's Federation to deliver specialized lectures on "Women's Innovation in Sci-Tech and the Protection of Female Employees' Rights," thereby enhancing the professionalization of women's union work. In 2025, two female employees were awarded the title of National Labor Model, one was selected as a target for the first batch of central enterprise craftsman cultivation program, and the Comprehensive Testing Team of the Operations Department at Tianjin Yangliuqing Thermal Power Plant was honored as a National March 8th Red Banner Collective.
- **Enriching Cultural Life and Showcasing Female Elegance:** We organized themed symposiums to celebrate the "March 8th" International Women's Day, along with recreational activities such as walking events and Yoga Day. In the 13th National "Fragrant Books for March 8th" campaign, 176 works submitted by our female employees won awards.
- **Delivering Genuine Care and Optimizing Service Guarantees:** We prioritize the health of female employees by providing screenings for breast and cervical cancer and mental health services. Furthermore, we have established "Mommy's Rooms" and launched holiday childcare programs to create a maternity-friendly work environment.

Safeguarding Health & Safety

Invested RMB

2.9

Million in Occupational Health Guarantees

According to *the Law of the People's Republic of China on Prevention and Control of Occupational Diseases, the Measures for Administration and Supervision on Occupational Health Surveillance of Employers* and other laws and regulations, the Company has formulated series of enterprise policy documents, including *the Occupational Health Management Standards, Occupational Disease Hazard Management Standards* and established an occupational health management system with clear division of responsibilities, hierarchical responsibilities, and departmental collaboration.

The Company has established a sound occupational disease prevention and control responsibility system, along with files for monitoring, testing, and evaluating occupational hazard factors affecting employees. The Company has also created occupational health monitoring management files and personal occupational health records for workers, enabling real-time dynamic maintenance, ensuring the health and safety of employees during their work processes.In 2025, the Company invested RMB 290 million in occupational health guarantees, focusing on early screening and prevention for severe diseases, as well as daily health management. We are gradually establishing a new assistance model featuring multi-channel and diverse support methods, achieving a 100% coverage rate for occupational health training for employees.

The Company is actively advancing the construction of "Health Huts" and the "Bringing Medical Services to Grassroots Units" initiative. For remote stations with poor transportation and scarce medical resources, we have built 14 "Health Huts" to provide employees with routine health monitoring and management services; organized medical expert teams to visit eight grassroots enterprises, including Changdu in Tibet, to carry out medical outreach activities. These efforts provided on-site free clinics, health consultations, and specialized lectures for over 2,000 people, benefiting both employees in remote areas and the surrounding local communities.

Case The Training Program Themed "Occupational Health and Safety"

In September 2025, Hetaoyu Coal Mine organized a training program themed "Occupational Health and Safety," which was attended by over 200 participants from various departments, mining teams, and construction contractors. The instructors provided detailed cause analyses and shared practical experiences regarding typical occupational health and safety incidents in the energy sector. Through this training, participants gained a deeper understanding of occupational health, effectively safeguarding the occupational health rights and interests of our employees.



The Training Program Themed "Occupational Health and Safety"

Facilitating Career Development

Optimizing Talent Team Development

The Company builds a talent team characterized by "high quality, optimal structure, and excellent efficiency," with "capabilities in innovation, research, and tackling challenges", referred to as the "Three Excellence and Three Competence" framework. The goal is to coordinate the top-level design of talent development planning and establish a strategic talent echelon pattern of "ten-hundred-thousand." We are further advancing the development of the industrial workforce and implementing the "*Opinions of the CPC Central Committee and the State Council on Deepening the Reform of the Industrial Workforce.*" Through practical application, we are forging a cadre of talents who are dedicated, resilient, and highly professional. In 2025, 11 employees from our company were awarded the title of National Labor Model and received grand commendations from the CPC Central Committee and the State Council. This marks a historic high for Huaneng, ranking first among all peers nationwide in the same industry.

The Company is steadily advancing the reform of its job and rank systems. We have established a comprehensive, three-dimensional employee growth system featuring "five career tracks and six hierarchical levels" that covers all staff, systematically resolving the bottlenecks and pain points in talent development. In 2025, the Company issued the "*Detailed Rules for the Selection and Appointment of Technical and Skilled Talents,*" organizing talent recruitment across all levels. Key industries and major enterprises have successfully completed the job classification and placement.

- **Enhancing Innovation Momentum of Sci-Tech Talents:** The Company conducted its first-ever special assessment for high-level sci-tech talents; the number of high-level talents selected for prestigious programs, such as the "Experts Directly Contacted by the Party Committee of SASAC," reached a historic high; the Clean Energy Research Institute was selected as a participating unit for the second batch of the central enterprises' talent development special initiative, and the Energy Research Institute was approved to establish a postdoctoral research workstation.
- **Intensifying Overseas Talent Recruitment Efforts:** The Company established a dedicated task force for overseas talent recruitment led by the principal leadership, continuously consolidating the foundation for global talent acquisition.
- **Elevating AI Team Capabilities:** The selection mechanism achieved "three comprehensive coverages," encompassing trainees, their respective units, and project teams. Consequently, the Company won one second prize and one third prize in the team competition of the "National Vocational Skills Competition for New Power System Construction (Artificial Intelligence)."
- **Expanding the Technical and Skilled Talent Pool:** Throughout the year, the Company organized over 200 sessions for skill level certification, with more than 4,000 employees obtaining certificates, marking a new record for the total number of certified personnel.
- **Deepening the Reform of Engineering Master's and Ph.D. Training:** Students were arranged to participate in multiple major sci-tech projects and R&D breakthroughs under the Group. During their enterprise practice, 37 engineering master's and Ph.D. candidates produced a total of 59 high-level sci-tech papers, 15 patents, and 18 reports.

Case Leveraging the "Three-Star Talent" Program to Build a High-Level Workforce

The Nuclear Energy Research Institute implemented the "Three-Star Talent" program and issued a *Specialized Training Plan for the "Three-Star Talent" Program*. This initiative aims to build a workforce with an optimal age structure, high educational attainment, advanced professional titles, strong competitiveness, and high loyalty. In 2025, the Company completed its first batch of talent selection, awarding the "North Star Talent" title to 4 individuals and the "Morning Star Talent" title to another 4. This has effectively promoted the high-quality, large-scale development of Huaneng's nuclear power sector.

- **"Morning Star" Youth Talent Program:** This program selects and cultivates young talents who possess innovative thinking and problem-solving capabilities, demonstrate the potential to become top-tier experts, and are dedicated to in-depth research and business expertise at the frontline.
- **"North Star" Top-Tier Talent Program:** This program focuses on selecting and cultivating outstanding talents with a solid theoretical foundation, high technical proficiency, and strong leadership capabilities, enabling them to serve as the main force in tackling major tasks and breakthroughs.
- **"Beidou" Leading Talent Program:** This program targets the selection and cultivation of visionary leaders who possess profound professional knowledge, strong scientific literacy, and exceptional innovation capabilities, empowering them to lead teams in collaborative breakthroughs and scale new heights in science and technology.

Enriching Talent Training Content

The company is promoting talent training and establishing an intensive training system that vertically connects talents at all levels and horizontally covers various industries of the company.The Company has continuously consolidated its training management foundation and coordinated the construction of practical training bases (rooms). We have revised and updated the training specifications for six specialties, including relay protection, to ensure that training content closely aligns with practical operational needs.

In 2025, the Company organized 221 offline training sessions for Group-level Party cadres, management personnel, technical experts, and skilled workers, reaching a total of 14,700 person-times; 7,407 online training sessions were conducted via the "Huaneng e-Learning" platform, accumulating 4.46 million person-times; achieving a 100% completion rate for Group-level independent training programs. Furthermore, the Company hosted 186 Group-level production skill training classes, covering all core business areas; establishing 17 Group-level skilled talent practical training bases (rooms), including the Group-level Offshore Wind Power Practical Training Base jointly built by Huaneng Jiangsu Company and Hohai University.

Hosted
186
Group-level Production Skill Training Classes

Established
17
Group-level Skilled Talent Practical Training Bases (Rooms)



Group Level Wind Power Skills Training Base Established

Employee Skills Competitions

The Company has further expanded its employee skills competitions. Throughout the year, we actively organized teams to participate in three national-level competitions, including the National Electric Power Industry Vocational Skills Competition for Wind Power O&M Operators, the National Coal Industry Vocational Skills Competition, and the National Coal Industry Employee Vocational Skills Demonstration Competition. Additionally, we competed in 15 industry-level competitions, such as the National Electric Power Industry Thermal Automation Champion Skills Competition, achieving outstanding results. Within the Company's system, we also organized five "Huaneng Craftsman Cup" employee vocational skills competitions, including the Photovoltaic O&M and Maintenance Skills Competition. In 2025, these competitions produced 29 "Huaneng Craftsmen," 92 "Huaneng Technical Experts," and 37 "Technical Experts in the Electric Power Industry."

The Company coordinated participation in six nationally leading labor competitions, including the green development key project labor competition for new energy installations exceeding 80 GW. Furthermore, we organized four Group-level labor competitions, such as the high-value patent sci-tech innovation labor competition themed "Promoting Creation through Application and Strengthening Protection through Quality." These initiatives have continuously leveraged labor competitions to support our core business, inspiring their enthusiasm for making outstanding contributions, and driving operational performance to historic highs.

Caring for Employees' Lives

Assistance for Disadvantaged Workers

Adhering to the people-centered development philosophy, the Company has been transforming its assistance work for employees in need from post-event relief to proactive preventions, and from single-channel aid to multi-channel, diverse support methods. We have steadily improved the assistance mechanism to ensure it is highly targeted, routine, and long-term. In 2025, the Company invested RMB 4.9 million in this field, providing assistance to a total of 1,715 employees in need.

Work-Life Balance

The Company implements the requirements outlined in *the Guidelines on Building a Higher-Level Public Service System for National Fitness* by establishing 22 cultural and sports associations, including calligraphy and painting, photography, yoga, basketball, and cycling. The company leverages its role as a platform for cultural and sports activities, enriches employees' leisure cultural and sports life, regularly carries out cultural and sports activities, promotes employee exchanges, and effectively enhances the cohesion and centripetal force of the enterprise.

In 2025, the Company organized a series of cultural activities to celebrate the 40th anniversary of Huaneng's establishment. Both the participation scale and the quantity and quality of the submitted works reached historic highs, vividly demonstrating the sincere affection of our employees for Huaneng and their dedication to the Company's cause.





The Company regularly organizes sports activities, such as badminton and football, to facilitate communication among employees, effectively strengthening the cohesion and centripetal force of the enterprise.

02 Embarking on a New Era of Shared Value

The Company remains steadfast in implementing regional development strategies. By adapting measures to local conditions and adopting categorized policies for different regions, we encourage various areas to leverage their comparative advantages and play to their respective strengths. This promotes coordinated development across the eastern, central, and western regions, as well as between the north and the south, thereby achieving relative balance through development.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Supporting Major Regional Development Initiatives

"Hainan Province and China Huaneng have conducted extensive cooperation in fields such as energy and electric power, making the Company's enterprises in Hainan a crucial pillar for the construction of Hainan's Clean Energy Island. We hope both sides will continue to deepen their cooperation, explore new models for cross-border investment, and jointly build a model of central-local cooperation."

——*Gu Gang, Vice Governor of Hainan Province*

Cumulative Investment in Hainan has Exceeded RMB

700

Billion

The Company is actively implementing the national strategies for major regional development and coordinated regional development. Adhering to the principle of "meeting local needs and leveraging Huaneng's strengths," we have prioritized the planning of key projects and formulated implementation plans at the earliest opportunity. By closely integrating our industrial advantages with local resource endowments, we have achieved mutual promotion and progress in project development and energy services.

In the Beijing-Tianjin-Hebei region, the Company has focused on developing new energy projects. We have expedited the grid connection of 8,900 kW distributed photovoltaic projects, including the Langfang High-Speed Rail and Everbright Eco-Industrial Park projects; advanced the implementation of the "Wind Power Action for Thousands of Townships and Ten Thousand Villages," with the 37.5 MW wind power project in Gaobeidian becoming one of the first eight wind power projects approved in Baoding City.

In the Hainan Free Trade Port, the Company, as one of the earliest central power generation enterprises to establish roots in Hainan, has actively served the high-quality economic and social development of the region. To date, our cumulative investment in Hainan has exceeded RMB 70 billion, with a total installed generation capacity of over 5.42 million kilowatts. Since the establishment of Hainan Province, the Company's cumulative power generation has accounted for more than 54% of the province's total electricity consumption.



Xiong'an Everbright Eco-Industrial Park Distributed Photovoltaic Project



Strategic Cooperation Agreement Between the Company and Hainan Province

Expanding Strategic External Cooperation

The Company continued to deepen and expand its external cooperation, actively strengthening strategic partnerships with local governments, enterprises, universities and research institutions. It adhered to the principle of mutual benefit and win-win, and opened up cooperation in a broader scope and wider fields.

In terms of central-local cooperation, the Company regularly reviews the 32 strategic cooperation agreements signed with provincial and municipal governments during the 14th Five-Year Plan period to ensure that project resources are fully implemented. In 2025, the Company received active responses and support from local governments in accelerating the development of the Lanshang Base and advancing the approval and power transfer plans for the outbound channels of the Kubuqi Base.

In terms of enterprise-to-enterprise cooperation, the Company has continuously strengthened its engagement with upstream and downstream enterprises in the industrial chain, achieving resource sharing, complementary advantages, and mutual benefit. In 2025, the Company signed strategic cooperation agreements with China Certification & Inspection Group (CCIC), Chint Group, TotalEnergies, and CATL.

Integrated Procurement and Supply Management

Modern Supply Chain Management System

The Company has thoroughly implemented the *Guiding Opinions on Strengthening Supply Chain Management for Central Enterprises in Building World-Class Enterprises*. Focusing on its core business of energy supply, the Company has researched and built a modern supply chain management system, formulating key documents such as the *Plan for Building Huaneng's Modern Supply Chain Management System and the Special Reform Plan for Deepening the Transformation and Development of Supply Chain Business*. By actively leveraging the professional advantages of the Procurement Center and the Material Supply Center, and integrating the "Integrated Procurement" and "Comprehensive Supply" initiatives, the Company has deepened its procurement and supply chain management to ensure the solid implementation of all tasks. In 2025, the Company was awarded an "A" rating in the Central Enterprises Procurement and Supply Chain Management Benchmarking Assessment by SASAC for the second consecutive year, ranking first in the power generation industry.

The Company adheres to a digital and intelligent-led empowerment strategy, deepening data governance in the supply chain sector and launching the Smart Hub project for an integrated supply chain platform to enhance its intelligence level. We have consolidated the digital foundation of material management by completing the digital transformation of 265 forward warehouses, expanding the coverage from thermal and new energy enterprises to coal, port, and shipping enterprises. Furthermore, the Company has intensified the application of AI technologies by deploying large AI models across the entire procurement and bidding business chain. These achievements were recognized as a "Special Typical Case" in the 2024 Power Industry Material Supply Chain Innovation and Application Awards by the China Electricity Council (CEC).

Case **Organized and Held the First Special Meeting on Outsourced Contractor Operations**

To continuously strengthen the refined management of contractors, the Nuclear Power Company has gradually explored and established a regular communication mechanism to enhance high-efficiency collaboration with its contractors. In July 2025, the Company organized its inaugural specialized meeting on outsourced contractor operations, attended by over 70 participants, including heads of various departments and representatives from partner contractors. Through in-depth discussions on safety production and project management, this meeting effectively elevated the Company's contractor management standards and risk prevention capabilities, providing a solid guarantee for the high-quality implementation of engineering projects.

Standardizing the "Integrated Procurement" System

The Company has completed a new round of revisions to its standardized and structured bidding document templates, carrying out 411 targeted adaptations and issuing 3 new concise standard documents for procurement and bidding. Furthermore, the Company has introduced management regulations such as the *Guidelines for the Management of Non-Bidding Centralized Procurement* to continuously regulate and elevate procurement management. In 2025, the Company's supplier database reached 112,079 vendors, with a total of 242,100 procurement projects executed throughout the year. The Company completed a cumulative procurement amount of RMB 190.639 billion throughout the year, saving RMB 40.799 billion, with a capital saving rate of 17.63%. The three quantitative indicators of centralized procurement rate, open procurement rate, and electronic procurement rate required by the SASAC have all maintained an "advanced level".

627

Green Products have been Listed on Huaneng Mall

The Company actively embraces green and low-carbon concepts by advancing green procurement and evaluation processes. In the newly revised *Supplier Management Measures*, we have introduced scoring criteria for green and environmental protections, incorporating green environmental factors and green supply chain metrics into supplier onboarding reviews and comprehensive evaluations. For key procurement categories, the Company has formulated procurement strategies related to supplier carbon emission evaluations. Furthermore, "product carbon footprint" evaluation indicators and review standards have been added to framework procurement to lead the industry in accelerating the construction of green supply chains. Concurrently, the Company has vigorously promoted green products by listing 627 green items in the dedicated green and low-carbon zone of the Huaneng Mall, displaying green product certification certificates and product carbon footprint values.

Leveraging the digital and technical expertise of the Procurement Center, the Company has initiated the construction of a procurement service platform primarily targeting small and medium-sized enterprises (SMEs). This platform provides SMEs nationwide with convenient, cost-controllable procurement solutions and value-added services such as supply chain finance. By establishing a collaborative model of "integration among large, medium, and small enterprises" based on procurement business, the Company supports the digital transformation of SMEs and helps improve their overall business environment.

"Comprehensive Supply" Centralized Material Service System

The Company has strengthened its capacity to provide centralized material supply services and continuously optimized the "10 (Customer Service Centers) + M (Central Warehouses) + N (Forward Warehouses)" centralized material service system. We have steadily advanced the construction of the "Five Transformations" centralized on warehousing and distribution system, which includes unmanned forward warehouses, centralized central warehouses, centralized regional management, joint material reserves, and visible logistics distribution. The material warehousing management service has been applied in 94 power plants, with 8 central warehouses built and put into operation, covering 196 grassroots enterprises. This has effectively promoted joint storage and backup of materials and the continuous optimization of inventory structures.

The Company has accelerated the development of its green warehousing and logistics system by promoting the widespread application of "green and environmentally friendly paperless operations" across warehousing and logistics processes. We have significantly increased the use of packaging materials that are recyclable, degradable, or harmless; advanced the standardization of green reserve management and facility modernization by issuing the *Guidelines for the Construction and Management of Green Warehouses* and successfully obtaining "Green Warehouse" certifications for 5 central warehouses; continuously expanded the use of new energy vehicles in logistics transportation; 8 central warehouses have been equipped with new energy delivery vehicles, completing 711 material deliveries, which accounts for 30% of the total. In 2025, the digital and intelligent product carbon footprint management system developed by the Company was selected as a green supply chain case in the energy industry by the China Energy Research Society; the case study *Empowering High-quality Development of Energy and Power Supply Chains Through Smart Green Logistics Platforms* was recognized as a typical case of China's supply chain transformation and development.

711

Material Deliveries Completed by New Energy Delivery Vehicles



03 Writing a New Chapter for a Better Life

By learning from and applying the experience of the "Green Rural Revival Program," the Company is advancing rural revitalization in a categorized and orderly manner, as well as on a regional basis. We are deeply implementing rural development initiatives to steadily improve the completeness of rural infrastructure, the accessibility of public services, and the comfort of the living environment.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Committed to Public Welfare & Philanthropy

RMB **20** Million Donation for Earthquake Relief in Shigatse, Tibet

RMB **20** Million Donation for Flood Relief in Yuzhong County, Gansu

HKD **5** Million Contribution for Hong Kong Post-Fire Reconstruction

Adhering to the public welfare philosophy of "taking from society and giving back to society," the Company has continuously strengthened the management of employee volunteers and built youth volunteer service platforms. Through the in-depth implementation of the "Three-color Sail" youth volunteer service brand, our public welfare activities cover areas such as emergency rescue, educational assistance, and voluntary blood donation. These efforts carry forward the spirit of Lei Feng, spread the concept of charity, and fully demonstrate the responsibility and commitment of a central state-owned enterprise.





In 2025, the "Three-color Sail · Gesang Flower" Youth Volunteer Service Team of the Yajiang Company was selected for the National Volunteer Service "Four 100s" Outstanding Typical List by the Central Social Work Department, earning the title of Outstanding Volunteer Service Organization.

Case Nine Consecutive Years of the "Warming Winter with Youth" Volunteer Campaign

In December 2025, the "Three-color Sail" Youth Volunteer Service Team of Huating Coal Company traveled to Sihetown Central Primary School in Jingning County to carry out the "Warming Winter with Youth" volunteer campaign. The volunteers delivered brand-new winter supplies to the children, engaged in warm interactions with them, and encouraged them to study diligently, uphold firm ideals, and build strong convictions. As a branded youth volunteer project of the Company, the "Warming Winter with Youth" campaign has been held for nine consecutive years, consistently focusing on social concerns such as caring for left-behind children and assisting students in poverty. To date, the Company has donated a total of RMB 130,500 in learning, sports, and daily necessities to local students, effectively fulfilling its corporate social responsibility.

Case Using Love as the Pen and Blood as the Ink

From February to March 2025, the Southern Branch of the Company practiced the spirit of Lei Feng under the theme "Using love as the pen and blood as the ink." We organized grassroots units, including Haimen Power Plant and Shantou Power Plant, to jointly carry out voluntary blood donation campaigns. By passing on boundless love through the gift of blood, the Company highlighted the mission and responsibility of a central state-owned enterprise, serving as a vivid testament to the Company's efforts in deepening ESG practices and promoting a new era of social ethos.



Haimen Power Plant achieving 10,000 mL blood donation and receiving an honorary plaque from Shantou Central Blood Station.

Promoting Rural Vitalization

The Company has diligently studied and comprehensively grasped General Secretary Xi Jinping's important instructions and directives on agriculture, rural areas, and farmers ("Three Rural Issues"). We have formulated the *Management Measures for Assistance and Relief Work* and solidly carried out targeted assistance in Hengshan District, Yulin City, Shaanxi Province; Aheqi County, Kizilsu Kyrgyz Autonomous Prefecture, Xinjiang Uygur Autonomous Region; and Jianzha County, Huangnan Tibetan Autonomous Prefecture, Qinghai Province. Additionally, the Company has actively promoted local assistance programs in regions such as Yunnan, Tibet, and Sichuan. By working hand in hand with local governments and people who have been lifted out of poverty, we have jointly held the bottom line against large-scale returns to poverty, effectively consolidating and expanding the achievements of poverty alleviation and seamlessly integrating them with rural revitalization.

The Company has received the highest "Good" rating in the central government's targeted assistance performance evaluations for nine consecutive years, ranking among the top central state-owned enterprises. In 2025, the integration case of the Bideli Hydropower Station and the local sea buckthorn industry in Aheqi, Xinjiang, was successfully selected as one of the "Best Cases of the 5th Global Poverty Reduction Case Collection" and recognized as a typical case of targeted assistance by central enterprises; the "Northern Shaanxi Hengshan" regional public brand was honored as one of the Top 100 Rural Revitalization Cases in China by the China Media Group (CMG). The Company was the only power generation group to receive this distinction. This case was also included as a typical example in the *Report on Brand Building of Central Enterprises Assisting Rural Revitalization* issued by the State-owned Assets Supervision and Administration Commission (SASAC).

- **Building a Robust Institutional Framework :**The Company has officially issued the guiding document, *Opinions on Consolidating and Expanding Poverty Alleviation Outcomes, Assisting Rural Revitalization, and Delivering Targeted Support in the New Development Stage*. Each year, based on the specific circumstances of the time, we formulate foundational documents such as the *Annual Plan for Rural Support Projects and Funding* and the *Action Plan for Consumption-Based Assistance*. This "guiding + foundational" institutional framework lays a solid groundwork for our rural revitalization efforts.
- **Strengthening Organizational Structure:**The Company has established a Rural Revitalization Leadership Group, headed by the Party Group Secretary and Chairman, with the Deputy Party Group Secretary/General Manager and the Full-time Deputy Party Group Secretary serving as deputy heads. The Office of the Leadership Group is set up within the Social Responsibility Division of the Strategic Development Department. Meanwhile, secondary companies and grassroots enterprises have designated dedicated personnel and specific responsibilities for rural revitalization. Together, this forms a coordinated, three-tier organizational system to drive rural revitalization forward.

- **Strengthening Supervision and Assessment:** Senior leaders and management team members of the Company have conducted four on-site inspections to provide guidance and strategic planning for support initiatives; functional departments and the consumption-based assistance team have carried out 17 additional field visits, engaging in in-depth exchanges with governments at all levels and relevant departments to jointly optimize support strategies and measures; furthermore, targeted support work has been integrated into the Company's overall performance appraisal and evaluation system.
- **Dispatching Cadres for Temporary Assignments:** The Company has successively dispatched 10 outstanding cadres to designated support areas to serve in temporary positions or as First Secretaries. Specifically, 4 were assigned to Yulin City and Hengshan District, 4 to Kizilsu Kyrgyz Autonomous Prefecture and Akqi County, and 2 to Jianzha County.
- **Increasing Investment Efforts:** In 2025, the Company's total investment in rural revitalization reached RMB 167 million. In the designated support areas, the Company directly invested RMB 65.74 million in grant-based assistance funds and RMB 161.1378 million in interest-bearing assistance funds; attracted RMB 3.0388 million in external grant-based funds and RMB 23.9 million in external interest-bearing funds.

Powering Industrial Prosperity

In Hengshan District, Shaanxi Province, the Company is driving the high-quality development of the Hengshan white cashmere goat industry through the dual approach of the Yulin Rural Industry Support Fund and the Goat Industry Mutual Aid Fund; establishing standardized planting bases for specialty agricultural products such as mung beans and apples.

In Akqi County, Xinjiang Uygur Autonomous Region, the Company is advancing the construction of a megawatt-scale smart microgrid, continuing the construction of an integrated agriculture and photovoltaic (greenhouse) project, and promoting the cultivation and sales of medicinal garlic.



The Hengshan White Cashmere Goat Industry



Medicinal Garlic Cultivation In Akqi County

In Jianzha County, Qinghai Province, the Company supports the upgrading and development of the cultural tourism industry. It has enhanced the operational and management standards for the "Baimei Village • Jianzha Deqian Homestay Project" and is developing local photovoltaic resources through a combination of centralized and distributed approaches.



Baimei Village • Jianzha Deqian Homestay Project

In Jingchuan County, Gansu Province, the Company has funded the construction of new solar greenhouses. By adopting a "work-to-learn" approach, local vegetable farmers are organized to work in the greenhouses to improve their technical skills, thereby driving the development of the vegetable planting industry. This project has successfully linked with and supported 12 farming households comprising 35 individuals, increasing local residents' income by over RMB 50,000 and accelerating their path to prosperity.

Gathering Talent to Inject Vitality

CHNG carried out 4818 person-times of training for cadres and talents from **Hengshan District of Shaanxi Province, Aheqi County of Xinjiang Autonomous Region and Jianzha County of Qinghai Province,** including 1857 grass-roots cadres, 713 exemplary individuals for revitalization in the countryside and 2248 person-times for trainings on various special technical and employment skills .

In Fuyuan County, Yunnan Province, the Company has implemented a New Professional Farmer Cultivation Program based on local conditions and development needs. With the goal of "matching people to suitable roles and maximizing their potential," the program has trained a group of practical rural talents who are proficient in both technology and management, providing strong talent support for agricultural modernization.



Planting Skills Training in Fuyuan County

Cultural Prosperity as the Soul of Rural Revitalization

In Hengshan District, Shaanxi Province, the Company supports the Hengshan Yangge Song Intangible Cultural Heritage Project and organizes activities dedicated to the inheritance and protection of the traditional old waist drum dance.

In Akqi County, Xinjiang Uygur Autonomous Region, the Company has introduced the CCTV program *Deer Song Classroom* to build a cultural hub in Biedieli Village, and has launched a series of events themed "Culture Nurtures Tianshan, Spring Celebrates the Motherland."



A Series of Events Themed "Culture Nurtures Tianshan, Spring Celebrates the Motherland" in Akqi County

In Jianzha County, Qinghai Province, the Company supports the development of the "Lingxiu Jianzha" public cultural brand. It has organized the choreography of performances for the Angqianhu (Thousand-Household Chief of Angqian) and enriched the exhibitions at the Angqianhu Mansion Exhibition Hall.

In Deqin County, Yunnan Province, the Company has implemented an "Intangible Cultural Heritage Protection Plus" initiative. Employees were organized to meticulously create and choreograph a large-scale ethnic dance, *Knocking on the Door of the Three Parallel Rivers*, based on the traditional dance drama called *Achimu Gua*. This vividly showcases the harmonious coexistence of multiple ethnic groups along the Lancang River Basin, driving the inheritance and innovation of minority cultures.

Ecological Livability Painting a New Picture

In Hengshan District, Shaanxi Province, the Company supports the installation of solar streetlights in Boluo Ancient Town, a revolutionary holy site, to enhance the livability of the local living environment.

In Akqi County, Xinjiang Uygur Autonomous Region, the Company is carrying out the treatment and restoration of degraded buckthorn forests and upgrading the sewage pipe network in the new village. With 176 garbage bins put into use, the village's appearance and overall environment are continuously improving.

In Jianzha County, Qinghai Province, the Company supports the construction of low-carbon distributed photovoltaic projects and rooftop photovoltaic projects at off-site poverty alleviation resettlement sites.

In Xianju County, Zhejiang Province, leveraging its professional expertise in the energy sector, the Company has built rooftop distributed photovoltaic projects to optimize the local energy structure. The economic value generated by these projects has effectively broadened the channels for increasing the village's collective income.



The Construction of Low-carbon Distributed Photovoltaic Projects in Jianzha County



The Rooftop Distributed Photovoltaic Projects in Xianju County

Strong Organizational Leadership Building a Solid Foundation

In Hengshan District, Shaanxi Province, the Party branch of the Capital Construction Department of Shaanxi New Energy Company and the Party branch of Majiagou Village have engaged in paired co-building. This initiative aims to improve the party affairs capabilities of rural grassroots cadres and enhance their ability to connect with and serve the masses.

In Akqi County, Xinjiang Autonomous Region, the Party branch of the Planning Department of the Fujian Branch and the Party branch of the Akqi County Water Resources Bureau, along with the Party branch of the Planning Department of the Southern Branch and the Party branch of the Akqi County Bureau of Science, Technology, and Industry, have engaged in paired co-building. They share party affairs resources and assist in planning the development strategies for local advantageous industries.

In Jianzha County, Qinghai Province, the first and second Party branches of Baocheng Futures have engaged in paired co-building with the Party branches of 14 villages, including Lamao Village in Angqian Township, to jointly elevate the level of grassroots governance.

In Shixing County, Guangdong Province, the Company continues to innovate rural governance models by exploring and implementing a "Points Plus" program. This program empowers daily village affairs——such as grassroots party building, social ethos reform, and safe community development——through a points system. It fully leverages the pioneering and exemplary role of Party members, reinforcing the leadership position of grassroots Party organizations in rural governance.

Consumption-Based Assistance Boosting Income

A Total of

1056

Products from Poverty-stricken Areas have been Listed

The Company has meticulously carried out consumption-based assistance initiatives. A total of 1,056 products from poverty-stricken areas have been listed on the Huaneng Mall and the Huaneng e-Purchase Premium platform, covering 163 national key counties set for poverty alleviation and development across 21 provinces; the Company participated in seven thematic consumption-based assistance campaigns initiated by the SASAC, and led the inaugural "Dragon Boat Festival Market" joint procurement event among central state-owned enterprises, and organized participation in the "Energy Sector Consumption-Based Assistance Cooperation Initiative." These efforts have been highly recognized by SASAC and the National Energy Administration (NEA).

In 2025, the Company continuously helped farmers increase their income through various online and offline channels. The cumulative purchase and assisted sales of agricultural products from designated support counties reached RMB 140 million, while the cumulative purchase and assisted sales of agricultural products from other poverty-stricken areas reached RMB 120 million.

04 Active Participation in the Belt and Road Initiative

The Company coordinates multilateral and bilateral cooperation, innovates cooperation models under the Belt and Road Initiative (BRI), consolidates existing cooperation achievements, and expands space for win-win development.

——Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China

Expanding International Exchanges and Cooperation

The Company adheres to the principle that international corporate exchanges must serve and support the country's overall diplomatic strategy. With a diverse, resilient, and open pattern, the Company has delivered outstanding results, contributing "Huaneng's strength" to national diplomacy.

In 2025, the Company organized nearly 60 major foreign-related events, representing a year-on-year increase of 66%. The Company also successfully hosted the "China-Foreign Entrepreneurs Dialogue" for SASAC, fully demonstrating the international image of a key state-owned energy enterprise. Throughout the year, the Company received a record-breaking 15 letters of appreciation from higher-level authorities and industry associations; furthermore, the Company engaged in profound communications with senior government officials of the host countries, heads of authoritative international institutions, and executives from Fortune Global 500 companies, effectively promoting the "Huaneng Solutions" in the fields of energy transition, green development, and technological innovation.

Organized Nearly

60

Major Foreign-related Events

- The Company participated in 13 major home-court international events, including the China Development Forum, the Boao Forum for Asia, the International Congress on Nuclear Engineering, the SCO Energy Ministers' Meeting, and the China International Import Expo (CIIE).
- The Company successfully completed 11 outbound missions, including attending the Belt and Road Forum for International Cooperation in Hong Kong, China; participating in the APEC CEO Summit in South Korea; and attending the 30th Conference of the Parties to the *United Nations Framework Convention on Climate Change* (COP30) in Brazil.



The 8th China International Import Expo (CIIE) – China Huaneng Group Smart High-End Equipment and Services Procurement Signing Ceremony

- The Company hosted 22 visits by distinguished foreign guests. This included 14 diplomatic receptions, featuring meetings with the Director General of the International Atomic Energy Agency (IAEA), the Secretary General of the World Energy Council, and the Chairman of TotalEnergies. Additionally, the Company welcomed 8 delegations of political dignitaries for visits and exchanges, including the UK Secretary of State for Energy Security and Net Zero and the Special Envoy of Belgium for Climate and Environment.

Overseas Project Operation Management

The company has integrated into the new development pattern the double circulation from both domestic and international, and formulated and issued the *Management Measures for International Development Strategic Planning*, and actively participated in the construction of the "the Belt and Road". It has established 7 overseas representative offices, namely in the UK, Pakistan, Myanmar, Cambodia, Singapore, Australia, and Kazakhstan.By the end of 2025, the Company had accumulated an overseas investment of RMB 49.158 billion, with a total project capacity of 5.28 GW under its participation and management. In 2025, the Company achieved an overseas operating revenue of RMB 25.973 billion and a total profit of RMB 4.248 billion. No casualties or asset losses occurred throughout the year, and no environmental incidents were recorded. The generating units maintained excellent operating conditions, and the Company's international development continued to deepen.



In December 2025, the Shweli River Remote Centralized Control Center in Myanmar was officially put into operation, making the Shweli River I Hydropower Station the Company's first overseas power plant equipped with cross-border remote centralized control capabilities. As of the end of 2025, the Shweli River I Hydropower Station in Myanmar has maintained a zero-safety-incident record for four consecutive years, achieving 6324 days of continuous safe and stable operation since commissioning. The station has cumulatively generated 58.1 TWh of electricity.



As of the end of 2025, the Lower Sesan II Hydropower Station in Cambodia has maintained a "Zero-Safety-Incident" record and achieved 2945 consecutive days of safe and stable operation since commissioning. The power station has cumulatively generated 14.6TWh of electricity.



The Sahiwal Power Station in Pakistan generates approximately 5TWh of electricity annually, accounting for 10% of the country's total power production, providing reliable electricity to 4 million households (serving more than 20 million people).

Win-Win Community Engagement

The Company places high importance on overseas ESG initiatives, Strictly study and implement the *Guidelines for Overseas ESG Work of Energy Central Enterprises* issued by the State owned Assets Supervision and Administration Commission of the State Council, adhering to the principle of "Building a power station to boost local economy, protect the environment, benefit communities, and foster shared harmony." We proactively integrate into the host countries, embracing compatibility and inclusiveness, and pursue win-win cooperation, creating a sustainable ecosystem of mutual integration and harmonious development with local stakeholders.



Huaneng Pakistan Training Institute Women's Computer Secretarial Training Program

In Pakistan, the Company remains committed to running the Huaneng Pakistan Training Institute, which trains hundreds of people annually and serves as a hub for cultural and technical exchanges between China and Pakistan. Upholding the principles of inclusivity, the Institute prioritizes women's empowerment by offering free computer secretarial training courses to young women in neighboring communities, thereby promoting gender equality and social development. The Sahiwal Power Station has won four social responsibility awards, including the "Sustainable Development Award", for the seventh consecutive year.

In Cambodia, the Company has introduced "China-style poverty alleviation" management experience to improve the production and living conditions of reservoir area residents through various initiatives, including resettlement village construction, the "Lancang-Mekong Sweet Water" public welfare project, and cafeteria procurement assistance. On July 1, 2025, coinciding with Cambodia's National Fish Release Day, the Lower Sesan II Hydropower Station hosted its largest-ever native fish restocking event since commencing operations. A total of 100,000 fry of over 10 rare and economically valuable native species were released. For the fifth consecutive year, the Company was honored with the "Fish Conservation Contribution Award," further highlighting its environmental influence and green hydropower image.

In Myanmar, the Company has proactively assisted in building local schools, leveling roads, and constructing hospitals to boost local economic development. In 2025, the Company was awarded the title of "Outstanding Enterprise for Harmonious Community" by Myanmar Electric Power Enterprise (MEPE).

In Singapore, the localization rate of the Company's workforce exceeds 97%, effectively boosting local employment. The Company ranks first in consumer service quality according to the Energy Market Authority of Singapore and was named "Singapore's Best Employer 2025" by *The Straits Times*.



Assist in Building Schools Locally in Myanmar

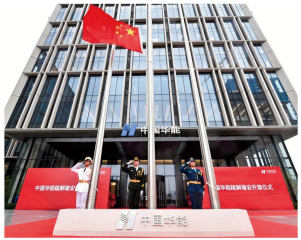


Native Fish Restocking Event by the Lower Sesan II Hydropower Station

The Xiong'an Story

Stepping Up to Shoulder Major Responsibilities and Leading the Charge

The Company has firmly implemented the CPC Central Committee's major strategy of advancing the construction of the Xiong'an New Area to high standards and with high quality. As one of the first central state-owned enterprises to relocate its headquarters, the Company successfully and safely relocated over 1,000 employees from its headquarters and affiliated subsidiaries to the Xiong'an New Area in October 2025. This orderly transition fully demonstrates the strong sense of political responsibility and big-picture awareness of the Company's cadres and staff.



In recent years, China Huaneng has actively integrated into the construction and development of the Xiong'an New Area, comprehensively serving the country's major strategic initiatives and demonstrating the responsibility of a first-batch relocated central enterprise through practical actions. The Company's official establishment in the new area will undoubtedly usher in a new chapter of high-quality development for both China Huaneng and the Xiong'an New Area.

——Zhang Guohua, Secretary of the Party Working Committee and Director of the Management Committee of Xiong'an New Area

During this critical period in the construction and development of the Xiong'an New Area, China Huaneng has resolutely implemented the decisions and deployments of the CPC Central Committee. By playing the role of a "vanguard" among central state-owned enterprises, the Company has successfully completed its headquarters relocation on schedule, achieving remarkable results.

——Zhu Jianping: Vice Chairman of the All-China Federation of Trade Unions





On October 9, 2025, in celebration of the 76 th anniversary of the founding of the People's Republic of China and the relocation of the Group's headquarters to the Xiong'an New Area, the Company held a flag-raising ceremony at the Xiong'an headquarters building. The ceremony was attended by the Group's leadership team, chief and deputy chief engineers, heads of all departments and of directly affiliated units at the headquarters, as well as representatives of employees.

Chairman Wen Shugang Attended the Flag-Raising Ceremony and Delivered a Speech

Huaneng is a banner of China's power industry. Over the past four decades, it has forged ahead and grown alongside our great motherland, staying true to its original aspiration and mission of "the people's power industry serving the people," and carrying forward the red gene of "shouldering responsibilities for the country and making dedications for the people." Since the new era, the Company has made breakthroughs in all its undertakings. Key indicators such as operational performance and green development have repeatedly hit record highs, taking high-quality development to a new level.

Huaneng has firmly implemented General Secretary Xi Jinping's important directives on advancing the construction of the Xiong'an New Area to high standards and with high quality. By actively supporting the new area's development and completing the headquarters relocation as scheduled, Huaneng has vividly demonstrated its people's unwavering commitment to listening to and following the Party. Through practical actions, they have loyally upheld the "Two Establishments" and resolutely achieved the "Two Upholds"; fully showcasing their political awareness, sense of the bigger picture, and dedication to serving national strategic priorities, as they have proactively embraced this "millennium plan of national importance"; fully demonstrating their outstanding conduct in rising to the occasion whenever faced with major tests, stepping up to shoulder heavy responsibilities, and taking the lead, striving to forge themselves into a reliable force that the Party and the nation can always count on.

Standing at this new historical starting point, everyone in the Company must keep in mind General Secretary Xi Jinping's earnest exhortations regarding the construction of the Xiong'an New Area. Through practical work and solid achievements, we must strive to polish Huaneng's "golden brand," build a "century-old" power enterprise, create new glories in our endeavors, and make greater contributions to advancing Chinese modernization.

Setting out anew on the new journey, we must uphold the Party's overall leadership, take the lead and set an example in serving major national strategies and facilitating the high-standard development of the Xiong'an New Area, and forge ahead steadfastly in the direction pointed out by the Party Central Committee.

Setting out anew on the new journey, we must keep in mind the "Top Priorities of the Country," and bravely serve as the "national team" in technological innovation, the "pioneer" in industrial development, and the "mainstay" in ensuring secure and reliable supply.

Setting out anew on the new journey, we must continue to uphold and vigorously carry forward the fine tradition of hard work and overcoming difficulties, demonstrating new responsibilities and actions through sound conduct and a positive image.

Setting out anew on the new journey, we must deeply practice the people-centered philosophy, continuously enhance the sense of belonging, well-being, and pride among our employees, and empower a better life for the workforce through high-quality development.



Pursuing Green Development and Embracing Innovation

Enriching the Ecological Foundation of a Beautiful China

Total Investment in Environmental Protection RMB

1.387 Billion

Low-carbon Clean Energy Installed Capacity Accounted for

56.63%

Proportion of Ultra-low Emission Units

100%

The Carbon Emission Intensity Set for a Decrease of

34.7 g/kWh Year-on-year

80 Actively and Prudently Advancing the "Dual Carbon" Goals

82 Serving the Building of China into a Great Power in Energy

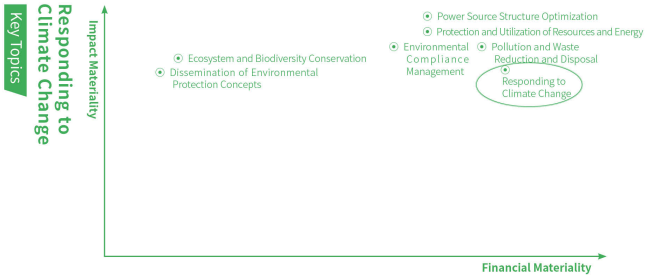
85 Comprehensively Promoting Cleaner Production

90 Dedicated to Preserving Lucid Waters and Lush Mountains

94 [Solid Actions and Tangible Achievements] Boundless Wind and Solar: A Surge of Multi-Energy Synergy

The 15th issue of *Qiushi Journal* in 2025 published an important article by General Secretary Xi Jinping, President of the PRC, and Chairman of the Central Military Commission, titled *Speech at the National Conference on Ecological and Environmental Protection*. The article emphasized that building a Beautiful China is an important goal of comprehensively building a modern socialist country, and that the Party's overall leadership must be upheld and strengthened. All regions and departments must continuously enhance their sense of responsibility and mission, and implement the decisions and plans of the Party Central Committee thoroughly and uncompromisingly.

Penetrating Disclosure
Key Topics · Core Elements



•Core Element•

Governance

The Department of Production Management and Environmental Protection serves as the leading management department for this issue. Its main responsibilities include, but are not limited to: formulating ecological and environmental protection systems; drafting special plans for ecological and environmental protection; supervising and inspecting the implementation of the primary responsibilities for ecological and environmental protection by subordinate enterprises; supervising and assessing the investigation and remediation of ecological and environmental risks and hazards; and coordinating ecological and environmental protection efforts, as well as reviewing and submitting related information (including data), employing multiple measures to help address climate change.

•Core Element•

Strategy

Under a high-emission scenario, the risks associated with this issue primarily manifest as physical risks, including extreme weather events such as heavy rainfall, severe typhoons, and freezing rain and snow. Affected by these events, production equipment and infrastructure face potential risks of malfunction or damage, which may cause temporary disruptions to the stable supply of electricity and heat; Under a low-emission scenario, the risks primarily manifest as transition risks, including tightening policies, technological innovations, and changes in the carbon market. These factors are highly likely to directly accelerate the phase-out of outdated assets and lead to a surge in R&D and carbon costs. Physical and transition risks do not exist in isolation but interact with each other. The combined effect of these two types of factors will exert multi-dimensional, temporary impacts on the Company's finances.

The Company resolutely shoulders its safety responsibilities for ensuring energy supply, closely monitors early warnings for extreme weather events such as heavy rainfall, severe typhoons, and freezing rain and snow, refines and improves various emergency response plans, and ensures robust emergency support during extreme weather conditions; actively builds a new power system, ensuring that new capacity additions are primarily composed of clean energy, optimizing and adjusting the energy mix, vigorously promoting the development of low-carbon technologies, and conducting in-depth research to establish a carbon management system, taking pragmatic measures to facilitate the implementation of the national "Dual Carbon" strategy.

•Core Element•

Risk and Opportunity Management

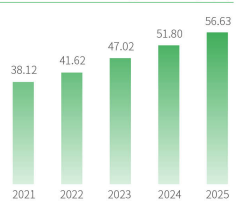
- Based on a comprehensive assessment of the Company's internal and external situation, we evaluate major and important risk issues, analyze the risk landscape on a case-by-case basis, and formulate targeted disposal plans and countermeasures.
- In light of the Company's management practices, we regularly organize risk screening and assessments across all levels, giving full play to the warning and reminder functions of risk management.
- We have compiled the *Indicator System Table for Monitoring and Warning of Major Operational Risks* to establish a risk warning indicator system, and conduct monthly monitoring of these risk indicators.

•Core Element•

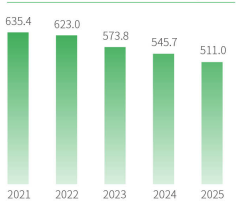
Indicators and Targets

Targets: **Minimize losses caused by extreme weather to the greatest extent possible, and strive to eliminate large-scale interruptions of electricity and heat supply triggered by such events. The energy mix will continue to be optimized, and carbon emission intensity will be progressively reduced.**

Low Carbon & Clean Energy Percentage (%)



The Carbon Emission Intensity (g/kWh)



- The company successfully responded to extreme weather conditions such as heavy rainfall, typhoons, rain, snow, and freezing, and successfully completed the task of ensuring supply.
- The Company completed its annual carbon trading compliance tasks ahead of schedule. Yuhuan Power Plant earning the title of "Annual Model Enterprise for National Carbon Market Compliance."
- In 2025, the Company's approved (or filed) new energy capacity exceeded 50 GW for the fourth consecutive year; With 26.28 GW put into operation, the Company overfulfilled its annual target, setting a new record.

01 Actively and Prudently Advancing the "Dual Carbon" Goals

Adhere to the principle of placing equal emphasis on mitigation and adaptation, comprehensively control greenhouse gas emissions, and actively respond to the adverse impacts and the risks of climate change.

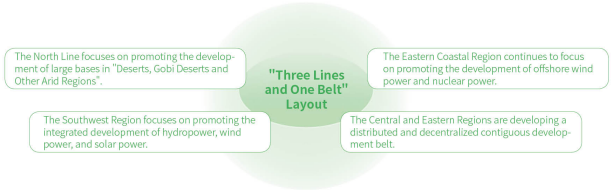
——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

"Dual Carbon" Top-Level Design

The Company conducted in-depth progress on carbon peaking and carbon neutrality, and thought deeply its development direction under the "Dual Carbon" framework. It gained a profound understanding that "green and lowcarbon transformation is the fundamental path to addressing China's energy, resource and environmental constraints and ensuring national energy security; the Company must firmly grasp the momentum of energy transition and unwaveringly adhere to the green and lowcarbon development path".In 2025, the Company co-hosted a thematic side event at the "China Pavilion" during the 30th session of the Conference of the Parties (COP30) to the *United Nations Framework Convention on Climate Change (UNFCCC)*. On this international platform, the Company released the latest research findings in the "Dual Carbon" field, *The Path to Transformation for Power Generation Enterprises Under the "Dual Carbon" Goals*, with a focus on introducing the Company's low-carbon technological innovation achievements and green development practices, demonstrating its commitment to and sense of responsibility in promoting the green energy transition.

The Company resolutely implements the new energy security strategy. Based on the "Dual Carbon" goals and in accordance with the *Work to Achieve Carbon Peaking and Carbon Neutrality Goals*, *the Action Plan for Carbon Peaking Before 2030*, and the SASAC's *Guidelines for Preparation of the Carbon Peaking Plan of Central SOEs*, the Company has developed *the Action Plan for Carbon Peaking*. The Plan emphasizes that the Company will prioritize clean energy for its incremental capacity, vigorously advance the development of low- and zero-carbon energy technologies, and leverage scientific and technological innovation to position itself as a pioneer and exemplar in achieving carbon peaking and carbon neutrality goals.

According to the Plan, the Company will focus on building a new-type power system. Guided by the development principles of vigorously expanding new energy, actively developing hydropower, advancing nuclear power in a safe and orderly manner, optimizing coal power and selectively deploying peaking gas power, the Company will prioritize the large-scale bases as the main strategical direction for development , deepening the layout of "Three Lines and One Belt" allocation, accelerating the establishment of a new transformation and development framework supported by three pillars - new energy, hydropower and nuclear power - and collaboratively promote carbon reduction, pollution control, ecological expansion, and economic growth. This approach ensures the acceleration and improvement of the company's green and low-carbon transformation.



"As a key state-owned backbone enterprise, China Huaneng is at the forefront of building a new power system and a new energy system. The China Electricity Council (CEC) will continue to leverage its role as a platform, adhere to serving the industry and enterprises, further deepen communication and exchanges with China Huaneng, and join hands with energy and power enterprises to promote the healthy and sustainable development of the industry. "

——*Words from Yang Kun, Secretary of the Party Committee and Executive Vice Chairman of the China Electricity Council (CEC)*

Active Participation in Carbon Market Development

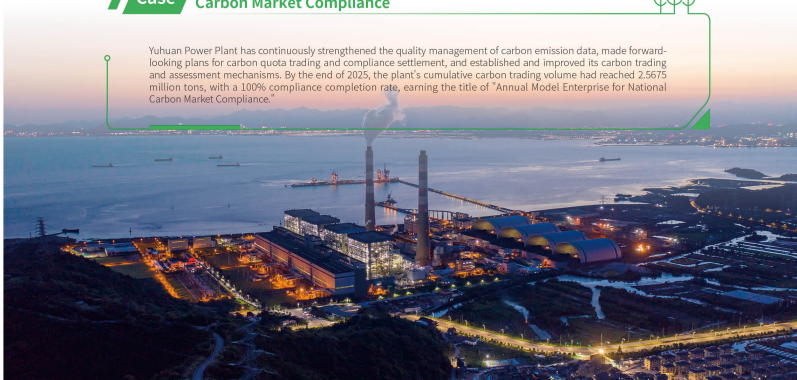
The year 2025 marks a crucial milestone for the deepening development of the carbon market, as the national carbon market achieved its first expansion. The Company has made solid progress in participating in carbon market development, conducted in-depth research to build a carbon management system, and promoted the establishment of institutional mechanisms that can adapt to the dual-control requirements for carbon emissions. In November 2025, the Company completed its annual carbon trading compliance tasks ahead of schedule. By combining internal quota balancing with external procurement, the Company effectively controlled compliance costs and successfully carried over the remaining quotas.

The financial business segment of the Company has taken proactive steps, continuously strengthening its efforts in green financial services. It has built a robust risk barrier for the carbon trading market, promoted the development of a green finance system, and facilitated the realization of the national "Dual Carbon" goals.

- Building on its carbon finance license granted by the China Securities Regulatory Commission (CSRC), our securities company named Great Wall successfully obtained the carbon emission trading permit. Furthermore, it completed the Company's first transaction of China Certified Emission Reductions (CCER) through the national voluntary greenhouse gas emission reduction trading system via a listing approach.
- Our insurance company Alltrust hosted the "2025 Carbon Trading Risk Management Seminar: Empowering the 'Dual Carbon' Goals and Promoting Green Insurance Development." During the seminar, it was resolved to establish a special working group for carbon insurance ecological synergy and form a carbon insurance co-insurance consortium, thereby ensuring the practical implementation and transitional application of the outcomes.

Case Annual Model Enterprise for National Carbon Market Compliance

Yuhuan Power Plant has continuously strengthened the quality management of carbon emission data, made forward-looking plans for carbon quota trading and compliance settlement, and established and improved its carbon trading and assessment mechanisms. By the end of 2025, the plant's cumulative carbon trading volume had reached 2.5675 million tons, with a 100% compliance completion rate, earning the title of "Annual Model Enterprise for National Carbon Market Compliance."



02 Serving the Building of China into a Great Power in Energy

We will deeply implement the new energy security strategy, accelerate the building of a new energy system that is clean, low-carbon, safe, and highly efficient, and build an energy powerhouse.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Vigorously Promoting the High-quality Development of New Energy

The Company has vigorously promoted the high-quality development of new energy, going all out to expand resources, initiate projects, and boost production. New energy development has hit record highs, achieving new leaps in green transition and further accelerating the pace of green development. In 2025, the Company's approved (or filed) new energy capacity exceeded 50 GW for the fourth consecutive year; With 26.28 GW put into operation, the Company overfulfilled its annual target, setting a new record. Its total installed capacity reached 122 GW, about four times that of 2020. Since the beginning of the 14th Five-Year Plan period, the Company has added over 90 GW of new energy capacity, accounting for 87% of its total newly added installed capacity.

The Company has actively integrated into major national regional strategies, focusing on base-style, large-scale development and highlighting the layout of the "Three Lines and One Belt." Significant progress has been made in the development and construction of large-scale wind and PV base projects in the Gobi Desert. In 2025, all 9.64 GW of the Company's projects included in the "First Batch List of Large-Scale Wind and PV Base Construction Projects in Desert, Gobi, and Desert Regions" by the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) were successfully connected to the grid. The second and third batches, totaling 8.35 GW, are being accelerated, with 8.05 GW approved so far, achieving a completion rate of 96.4%.

- The new energy projects at the Longdong Base have been successively connected to the grid, and the supporting coal-fired power units have been fully put into operation.
- The supporting power supply plan for the Kubuqi Base has been submitted to the National Energy Administration (NEA), and efforts are being accelerated to incorporate the supporting coal-fired power units into the national power development plan.
- The 2 GW Sujishadi PV Project has achieved full-capacity grid connection, marking the first application of flexible support photovoltaic technology in a sandy desert environment.
- The first batch of wind turbines at the 0.5 GW Shangyi County Wind and Energy Storage Active Support New Smart Power System Demonstration Project has been connected to the grid. This is the largest grid-forming wind power project in China.
- The 0.85 GW Binzhou PV Project has achieved full-capacity grid connection. It is also the first approved offshore PV project since the promulgation of the national three-dimensional maritime rights confirmation policy.

During the 14th Five-Year Plan Period, Accumulated New Installed Capacity of Offshore Wind Power is Nearly

6 GW

The Company is committed to the clustered development of offshore wind power, building an integrated offshore wind power development belt. It is accelerating the conversion of existing projects and tapping into nearshore reserve resources, while actively applying for deep-sea demonstration projects. Notably, its Northeast Branch has secured the development rights for a 3.9 GW project in the national jurisdictional sea area (Yingkou). During the 14th Five-Year Plan period, the Company has added nearly 6 GW of offshore wind power capacity, firmly maintaining its position in the industry's "first tier."

The Company is vigorously developing onshore wind and PV projects. Multiple projects are advancing steadily, supporting the fulfillment of power supply missions and effectively increasing the proportion of new energy. In 2025, "Huaneng's 'Yellow Sea No. 1' Wave-Resistant Floating Offshore PV Project" was included in the *Global Case Collection of the World Economic Forum's "Responsible Renewable Energy Initiative"* and the *Energy Transition Case Collection for Sustainable Business Practices*.

- A batch of projects, including the Phase I Anda Wind Power Project, the Phase II Mengdong Lingdong 1 GW Wind Power Project, and the 1 GW Turpan Wind Power Project, have been put into operation.
- A series of projects, including the Fengcheng Distributed PV Project, the "Green Power Lights Up Anshan" Distributed PV Project, the Phase I Hanchuan Distributed PV Project, the Phase I 0.1 GW Qinshui PV Project, and the 0.3 GW Keketala Solar Power Project, have been successfully connected to the grid.
- The Huaneng Tongshan Nanlin Photovoltaic Composite Power Generation Project, which is the largest single-area mountainous flexible-support photovoltaic project in China in terms of installed capacity, has been put into operation.

Actively Promoting Hydropower Development

The Company is accelerating the integrated development of hydropower, wind, and PV in river basins. The adjustment to the hydropower plan for the upper reaches of the Lancang River (Tibet section) has been officially approved. In 2025, the Company's total installed hydropower capacity reached 30.1 GW, with power generation hitting 125.1 TWh, a year-on-year increase of 10.7%.

- The Yongxin Pumped Storage Project, Huaneng's first pumped storage project, has made new progress.
- The Yingliangbao Hydropower Station, which boasts the largest tunnel diameter among diversion-type power stations in China, has achieved full-capacity operation.
- The Xiaowan Hydropower Station successfully completed the retrofitting of a fully domestically produced medium-pressure air system, becoming the first power station in China with a fully localized station control system for 0.7 GW single-unit capacity.



The New Energy Projects at the Longdong Base | The Kubuqi Base | The 0.85 GW Binzhou PV Project | The 1 GW Turpan Wind Power Project | The 0.3 GW Keketala Solar Power Project | The Yingliangbao Hydropower Station

Actively Developing Nuclear Power in a Safe and Orderly Manner

The Company is steadily and orderly advancing the construction of nuclear power projects under construction. Its three major pressurized water reactor (PWR) bases have entered a new phase of comprehensive construction. The approved installed capacity for both operational and under-construction units has reached 7.4 GW, marking significant progress in project development. In 2025, the total installed nuclear power capacity was 0.2 GW, with power generation reaching 0.683 TWh, a year-on-year increase of 151.1%.

- Construction of the Shidao Bay Nuclear Power Expansion Phase I Project has maintained high efficiency. Unit 2 has commenced construction, achieving key milestones such as the first concrete pouring for the nuclear island.
- Construction of the Changjiang Nuclear Power Phase II Project is advancing steadily. Unit 3 has successfully completed key milestones including cold test, hot test, and non-nuclear steam flushing test, with overall project progress remaining under control.
- The Xiapu Nuclear Power Phase I Project has been approved by the State Council, and preparations for main construction are in full swing.

Continuously Optimizing Thermal Power Development

The Company has actively responded to the national industrial policy of "increasing power generation while reducing its share in the energy mix," continuously optimizing the structure of its thermal power development. In 2025, the Company added 6.19 GW of newly commissioned capacity, playing a vital role in ensuring energy supply and facilitating the low-carbon transition.

- The Phase IV Yuhuan Project, a major national science and technology initiative featuring the world's first 650° C high-efficiency ultra-supercritical coal-fired generating unit, has completed its first concrete pouring and entered the comprehensive construction phase.
- The Zhengning Phase II Project and its supporting Carbon Capture, Utilization, and Storage (CCUS) project, which represents the world's largest coal-fired power carbon capture demonstration project, have been put into operation.
- China's first intelligent and autonomous operation control system for gas turbine power generation has been successfully deployed on Unit 2 at the Shanghai Gas Turbine Power Plant, marking the first time that full-process intelligent autonomous control of gas turbines has been achieved domestically.
- Gas turbine projects totaling over 4 GW, including those in Chongqing Liangjiang, Hainan Nanshan, and Guangdong Dongguan, were commissioned in the same year, bringing the cumulative installed capacity to over 17 GW.

CCTV Report · China Huaneng Serving the Construction of an Energy Powerhouse

Scan the QR Code to Watch CCTV Report Titled *China's Hydropower Station Achieves Fully Localized Station Control System for the First Time*

Scan the QR Code to Watch CCTV Report Titled *World's First 650° C High-Efficiency Ultra-Supercritical Coal-Fired Generating Unit Commences Construction*

Scan the QR Code to Watch CCTV Report Titled *World's Largest Coal-Fired Carbon Capture Demonstration Project Put into Operation*

03 Comprehensively Promoting Cleaner Production

Adhering to the principle of environmental protection for the people, we will comprehensively implement targeted, scientific, and law-based pollution control, place greater emphasis on the control at sources , and strengthen synergies in reducing pollution and carbon emissions, controlling multiple pollutants, and strengthening regional governance and collaboration, so as to accelerate the transformation of environmental quality improvement from quantitative changes to qualitative leaps.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Standardizing Environmental Management

The Company has strengthened standardized environmental management by implementing the *Environmental Protection Law of the People's Republic of China* and formulating guidelines such as the *Regulations on Ecological and Environmental Protection Management* and the *Detailed Rules for Standardized Management of Ecological and Environmental Protection in Enterprises*. It continues to build and improve a multi-dimensional environmental governance system covering policy requirements, technical standards, and accountability, while deepening the standardized environmental management across the entire industry. By the end of 2025, the Company had formulated a total of 40 environmental policies, guidelines, and directives, and completed the standardized environmental management development for 415 grassroots enterprises.

The Company launched a special campaign for the "Year of Environmental Risk Rectification and Enhancement," deepening the investigation of risk hazards and source control. It carried out risk screening and rectification for ecological and environmental protection in the Yangtze River and Yellow River basins, and issued the *Special Emergency Response Plan for Sudden Environmental Incidents*. These measures have further enhanced the enterprises' ability to respond to sudden environmental incidents, effectively preventing, promptly controlling, and eliminating their hazards, thereby firmly safeguarding the environmental bottom line and red line.

Case Special Training Session on Emergency Response to Sudden Environmental Incidents and Ecological and Environmental Protection

In June 2025, Hetaoyu Coal Mine held a special training session on emergency response to sudden environmental incidents and ecological and environmental protection. Combining policy interpretation, case analysis, and practical teaching, the training explained the organizational systems, technical requirements, and measures for responding to sudden environmental incidents to the mine's management and staff. This helped enhance the environmental awareness and emergency response capabilities of all employees, injecting lasting momentum into the high-quality development of the coal mine.



Special Training Session on Emergency Response to Sudden Environmental Incidents and Ecological and Environmental Protection

Construction of Circular Economy

The Company actively carries out the construction of circular economy, improving the utilization rate of industrial wastes and the waste heat and energy, and achieves a balance between economic benefits and environmental responsibility to support longterm sustainable development.In July 2025, the uidelines for *Treatment of High-Salinity Wastewater Generated During the Water Reuse Process in Thermal Power Plants*, a proposal led by the Company for an international standard, was successfully approved by the International Organization for Standardization (ISO). This marked a "zero-to-one" breakthrough for the Company in the initiation of international standards in the water treatment field, and provided a "China solution" for global water resource reuse and water conservation governance.

Case Water Conservation Empowering Development, Benchmark Leadership Demonstrating Responsibility

Adhering to technological innovation and continuously increasing investment, Anyuan Power Plant has improved water resource utilization efficiency through pioneering engineering practices. It has strived to build a benchmark project for the comprehensive utilization of reclaimed water in large-scale power plants, the first of its kind in Jiangxi Province. With an average annual water saving of 3 to 4 million tons, it has effectively alleviated regional water resource pressure. In 2025, thanks to its outstanding water-saving achievements and exemplary leading role, the power plant was awarded the title of "Advanced Collective in China Water Conservation Award", setting a new paradigm for resource recycling.



The Benchmark Project for the Comprehensive Utilization of Reclaimed Water in Large-scale Power Plants

Case Transforming Waste into Treasure, Empowering Clean Thermal Power Heating

Yangliuqing Cogeneration Plant accurately resolved the conflict between growing heating demands and the waste of waste heat resources. With an investment of nearly RMB 100 million, it successfully put the heat pump heat-extraction retrofit project into operation in 2025. The project recovers 898,000 GJ of waste heat annually and adds 87 MW of heating capacity, strongly supporting a heating area of approximately 50 million square meters. The plant's overall thermal efficiency has increased by more than 30%, truly achieving the circular value-added transformation from "waste heat" to "green heat."



Yangliuqing Cogeneration Plant

Promoting Energy Conservation and Carbon Reduction

Energy Management

The Company has thoroughly implemented the relevant energy-saving deployments of the Party Central Committee and the State Council, and strictly complied with requirements such as the *Energy Conservation Law of the People's Republic of China*. It has established a three-tier energy management structure comprising the Group headquarters, regional companies, and grassroots enterprises, continuously improving the "three energy-saving" work system encompassing management, technology, and structure. The Company has also revised the *Standards for Excellent Coal-Fired Power Plants with Energy Conservation and Environmental Protection* and the *Standards for Excellent Heating Enterprises*. By actively carrying out special tasks such as energy-saving diagnostics, inspections of excellent "two-type" enterprises, and coal-fired unit retrofits, it has helped enhance the energy-saving and consumption-reduction levels of its units. Over the years, in the coal-fired unit competitions organized by the China Electricity Council (CEC), the Company has achieved benchmark-leading performance in metrics including the award-winning rate of its units, the proportion of units with the best power supply coal consumption, and the proportion of units with the best auxiliary power ratio.

Carbon Emission Management

The Company advanced the dual control of carbon emissions, according to the *Guideline of the Greenhouse Gas Emissions Accounting and Reporting of Enterprises- Power Generation Facilities*, the *Technical Guideline of Verification of Greenhouse Gas Emissions of Enterprises-Power Generation Facilities* and other industry standards, the Company has developed several policy documents, including the *Technical Specifications for Continuous Monitoring of Carbon Dioxide Emissions*, and the *Detailed Rules for Carbon Emission Data Quality Management (Trial)*. We have established and improved a carbon emission data management platform, completing pilot deployments of online CO_2 monitoring equipment for 67 thermal power units throughout the year, and continuously enhancing our carbon emission management capabilities.

In 2025, the Company's total greenhouse gas emissions (i.e., total carbon emissions) reached 496.67 million tonnes of CO_2 equivalent, with an emission intensity of 511 g/kWh. This represents a 6% year-on-year decrease, contributing "Huaneng's strength" to achieving the national goals of peaking carbon emissions and carbon neutrality.

Case Comprehensive Upgrade to Boost Energy Conservation and Carbon Reduction

To further address the high energy consumption of the production system, Huangtai Power Plant proactively carried out comprehensive upgrades, including process improvements and equipment upgrades. By adopting advanced technologies and equipment such as high-efficiency motors and frequency converters, the plant has significantly reduced production line energy consumption while improving both production efficiency and product quality.

Following the comprehensive upgrades, product quality has seen a "steady improvement." In 2025, the power plant saved energy equivalent to 2,000 tonnes of standard coal and achieved a substantial reduction in carbon emissions, laying a solid foundation for the enterprise's low-carbon transition and green development.



Huangtai Power Plant

Strengthening Management and Control of "gaseous, liquid and solid wastes"

A Total of

68

Environmental Protection Upgrades Throughout the Year

The Company intensified the pollution prevention and control initiatives, strictly implemented the requirements set forth in *the Law of the People's Republic of China on Environmental Protection, the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on the Water Pollution Prevention and Control , and the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes*. Formulating Corporate Institutional Documents, including the Measures for the Self-monitoring Management of Pollutant Emissions from Thermal Power Enterprises and the Measures for Solid Waste Management, adhering to the principles of targeted, science-based, and law-based pollution control. We have continuously refined our control over "three wastes" (wastewater, waste gas, and solid waste). In 2025, the Company integrated and advanced specific initiatives such as air pollution prevention, wastewater treatment, coal yard closure, and ash yard management, completing a total of 68 environmental protection upgrades throughout the year.

Exhaust Gas Management

The Company has comprehensively carried out ultra-low emission retrofits for coal-fired units, with 100% of its affiliated coal-fired power plants completing the retrofits. In 2025, the emission performance of sulfur dioxide, nitrogen oxides, and particulate matter from thermal power plants will be 0.072 g/kWh, 0.137 g/kWh, and 0.011 g/kWh, respectively, which are better than the national average; 100% Installation Rate of Desulfurization and Denitrification Equipment for Thermal Power Units.

Case Ultra-Low Emission Retrofits for Circulating Fluidized Bed Boilers

Mengdong Company carried out ultra-low emission retrofits at Donghailaer Power Plant and Zhalantun Thermal Power Plant. By applying a combination of technologies, including "precise in-furnace calcium injection for desulfurization, efficiency enhancement of electrostatic-bag hybrid precipitators, and optimization of low-NOx combustion combined with SNCR/SCR," the Company significantly suppressed sulfur dioxide generation and improved in-furnace desulfurization efficiency, resulting in a substantial reduction in pollutant emissions such as smoke, dust, and nitrogen oxides. Following the retrofits, the flue gas pollutant emission concentrations at Donghailaer Power Plant and Zhalantun Thermal Power Plant have stably met the ultra-low emission standards, contributing to the improvement of the atmospheric environment quality in the surrounding areas.

Wastewater Management

The Company focused on controlling water ecological pollution, and focused our efforts and adopted targeted measures to address "new challenges" such as compliant water intake and usage. We have developed a real-time monitoring platform for water intake and discharge to effectively fulfill daily supervision and management roles, and continuously enhance wastewater treatment capabilities.

In 2025, the Company discharged 37.1049 million tons of wastewater, along with 870.9 tons of chemical oxygen demand (COD) and 35.33 tons of ammonia nitrogen, significant effect of wastewater control.

Case Technology-Empowered Wastewater Treatment

Adhering strictly to regional water environment governance standards, Urat Power Plant took the lead in upgrading its wastewater treatment. The plant adopted a process route combining "high-density clarifier + ultrafiltration + reverse osmosis" for concentration and volume reduction, along with "high-temperature bypass flue gas drying" for solidification. This completely resolved the water accumulation issue in the ash yard and successfully achieved the goals of zero external wastewater discharge and 100% plant-wide wastewater reuse. By eliminating the risk of illegal discharge at its source, the plant has effectively built a solid defense line for water ecological protection.



Upgrading Wastewater Treatment

Solid Waste Management

The Company has comprehensively strengthened the management of hazardous and solid waste. It accelerated the construction of hazardous waste storage facilities at operational sites and implemented effective practices for the collection, storage, utilization, and disposal of hazardous wastes, including waste mineral oil and waste denitration catalysts. In 2025, the Company safely disposed of 22,700 tons of hazardous wastes.

The Company also continued its efforts in general solid waste management, rigorously applying the Three Prevention Measures to prevent the spreading, loss and leakage of solid wastes, including the desulfurization gypsum, the slag, and flying ashes. We have further improved the solid waste management ledger and regularly verified the disposal practices of third parties, achieving full-process traceability.

In June 2025, the Company, in partnership with Shanghai Trading Group, launched the nation's first industrial solid waste trading platform. This platform has realized full-process digital management, encompassing "online listing, bidding transactions, logistics tracking, and disposal traceability."

Case Full-Chain Solid Waste Management System to Boost the Construction of a "Zero-Waste City"

To tackle the challenges of solid waste disposal and actively respond to the requirements of building a "Zero-Waste City," Yueyang Power Plant has established a full-chain solid waste management system featuring "source reduction, refined management, effective recycling, and highly efficient utilization." The plant has achieved the goals of a 100% comprehensive utilization rate for self-generated solid waste and a 100% compliant disposal rate for hazardous waste. By reducing carbon dioxide emissions by over 72,000 tonnes annually, it has created the integrated "Yueyang Power Model" of "solid waste disposal + energy production."



The Full-chain Solid Waste Management System

04 Dedicated to Preserving Lucid Waters and Lush Mountains

We adhere to the integrated protection and systematic governance of mountains, rivers, forests, farmlands, lakes, grasslands, and deserts, coordinating natural restoration with artificial rehabilitation. With a greater focus on improving quality, boosting industries, and benefiting the people, we are building a comprehensive protection and governance framework that spans from mountaintops to oceans.

——*Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China*

Green Ecological Engineering

The Company has always prioritized ecological civilization construction in its overall planning for green development. We have firmly established an awareness of ecological red lines and fully integrated "biodiversity conservation" into project management. Environmental and social impact assessments for all newly built projects have achieved 100% coverage, creating green and ecological power projects that exist in harmonious coexistence with their surrounding environments.

Aquatic Biodiversity Conservation

The Company has continuously strengthened the protection of aquatic biodiversity. We have effectively monitored ecological flows during the operational phase, ensured minimum downstream discharge volumes, and actively carried out fish breeding and release as well as aquatic biological monitoring. These efforts aim to prevent construction projects from negatively impacting aquatic ecological issues, such as "fish communication."

- Suzhou Port Taicang Port Area has established an ecological protection collaboration platform featuring "enterprise leadership, scientific research support, and government supervision," and successfully hosted an emergency drill for the protection and rescue of aquatic organisms during a pilot pile-supported revetment project.
- Lancang River Hydropower Inc. has operated four fish breeding stations (Nuozhadu, Miaowei-Gongguoqiao, Huangdeng, and Longkaikou) with solid performance, releasing a cumulative total of 3.1898 million fish throughout the year.



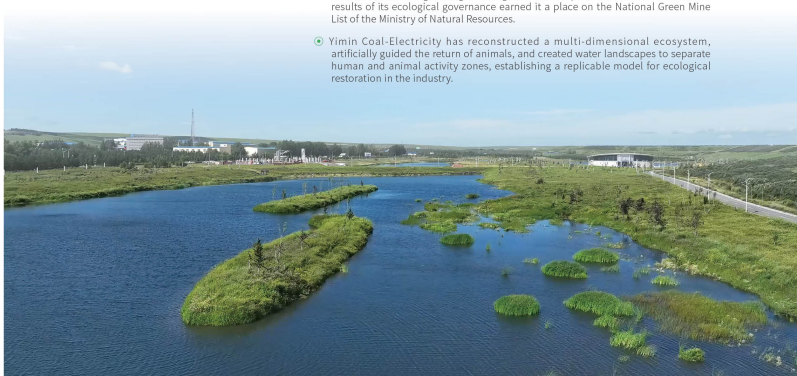
Miaowei-Gongguoqiao Fish Breeding Stations

- Yingkou Power Plant proactively reached out to and fully cooperated with the Liaoning Provincial Academy of Aquatic Sciences to successfully rescue the spotted seal, a national first-class protected animal.
- Nan'ao Lemen (II) Wind Farm has actively carried out ecological compensation and restoration, releasing nearly 28 million fry of fish and shrimp, as well as scallops and other economically valuable marine products, into the ocean.
- Dongfang Power Plant organized a fish breeding and release event themed "Conserving Native Fish, Safeguarding Ecological Balance, and Embarking on a New Journey of Ecological Civilization," releasing over 20,000 fish into the reservoir area, including onychostoma simum, garron orientalis, mastacembelus erythrotaenia, xenocypris argentea, and cirrhinus molitorella.

Terrestrial Biodiversity Conservation

The Company has continuously strengthened the protection of terrestrial biodiversity. We have lawfully constructed wildlife protection facilities and implemented subsequent maintenance responsibilities to prevent construction projects from negatively impacting terrestrial ecological issues, such as vegetation and animal habitats.

- Han Zhuang Wind Farm has established a migratory bird monitoring and rescue station, systematically monitoring migratory bird migration information to effectively safeguard the wildlife ecological environment within the farm area.
- Jiejinshan Wind Farm has solidly advanced ecological restoration initiatives by planting 1,000 trees, significantly increasing the regional forest coverage rate.
- Hunan Clean Energy Company has systematically assessed the potential impacts of the wind farm on migratory bird migration and conducted specialized research on the ecological impacts on birds, providing a scientific basis for ecological management during the operational phase.
- Chenjiagou Coal Mine has reclaimed and treated nearly 2 square kilometers of land, with industrial site greening covering over 7,000 square meters. The remarkable results of its ecological governance earned it a place on the National Green Mine List of the Ministry of Natural Resources.
- Yimin Coal-Electricity has reconstructed a multi-dimensional ecosystem, artificially guided the return of animals, and created water landscapes to separate human and animal activity zones, establishing a replicable model for ecological restoration in the industry.



Green Office Environment

Through a series of green office measures, the Company guides the employees to start from small things to reduce energy consumption in daily life, to build a green office environment together.

- **Paperless office:** Actively adopt electronic documents, use double-sided printing, and reduce paper consumption.
- **Electrical energy conservation:** Prioritize the use of energy-saving office equipment, adjust indoor temperature and lighting duration reasonably, and reduce standby power consumption of computers, printers, and other electrical appliances.
- **Water management:** Strengthen the daily maintenance of water equipment to prevent leakage and dripping; Collect reusable wastewater for watering green plants, reducing waste of clean water.
- **Office environment:** Place green plants in the office area to improve indoor air quality and create a healthy and comfortable workspace.
- **Green travel:** Encourage employees to prioritize commuting by public transportation, comprehensively promote video conferencing systems, strictly control travel arrangements, and reduce carbon emissions caused by transportation.
- **Environmental habits:** Reduce the use of disposable items, advocate bringing your own water bottle, and use recyclable items; Set up a classified garbage bin to recycle reusable waste such as waste paper and ink cartridges.

Case Huaneng Xiong'an Headquarters to Build a Green and Low-Carbon Building Demonstration Cluster

The Huaneng Xiong'an Headquarters project resolutely implements the national "Dual Carbon" strategy. The green and low-carbon concept covers the entire life cycle of the buildings, aiming to create a world-class, high-quality green and low-carbon building demonstration cluster. Upon full completion, the project is expected to reduce carbon dioxide emissions by approximately 6,996 tonnes annually, with a comprehensive energy-saving rate of about 41%.

- The heat transfer coefficient of the curtain wall envelope in Phase I is improved by over 20% compared to conventional buildings.
- A multi-source coupling of ground-source and air-source heat pump systems has been implemented to achieve 100% renewable energy heating.
- Photovoltaic curtain wall power generation systems have been installed on the facades and rooftops of the buildings, generating over 400,000 kWh of electricity annually.
- Strict control over construction materials has ensured the 100% application of green building materials.



The Huaneng Xiong'an Headquarters Project

Promotion of Green Concepts

The Company continues to strengthen the promotion of green concepts, through environmental training, knowledge competitions, public welfare activities, etc., to popularize environmental knowledge, cultivate environmental behavior, enhance environmental awareness, and promote the integration of green concepts into employees' lives and enterprise production. In 2025, the Company conducted more than 10 specialized environmental protection training sessions covering various fields, including environmental regulations, green technology applications, and environmental emergency response. Over 4,600 employees participated in these sessions.

Case The Special Lecture on Environmental Policy Interpretation and Experience Feedback

In June 2025, ahead of World Environment Day, Changjiang Nuclear Power organized a special lecture on environmental policy interpretation and experience feedback. Industry experts were invited to deliver specialized courses focusing on two main themes: in-depth interpretation of laws and regulations, and key analysis of typical cases. This helped employees clearly understand the enterprise's environmental protection responsibilities and obligations, thereby enhancing the Company's environmental management level.

Participating in this June 5th World Environment Day training activity encourages us to use policies as our guide and past experiences as our reference in our daily work, making us true practitioners of ecological and environmental protection.

——Activity Participants



The Special Lecture on Environmental Policy Interpretation and Experience Feedback

Case The Voluntary Tree-planting Activity which is named as "Three-Color Sail Tour of Yanzhao (which means Hebei province): Light Up the New Green to Promote Development"

In March 2025, Shang'an Power Plant held a voluntary tree-planting activity themed "Three-Color Sail Tour of Yanzhao: Lighting Up New Green to Promote Development." Employees were highly enthusiastic and worked in close collaboration. After more than an hour of hard work, they planted over 40 saplings, while also "planting" the concept of green environmental protection deep in the hearts of every employee.



The Voluntary Tree-planting Activity which is named as "Three-Color Sail Tour of Yanzhao: Light Up the New Green to Promote Development"

Solid Actions and Tangible Achievements

Boundless Wind and Solar: A Surge of Multi-Energy Synergy

Located in Qingyang, Gansu Province, the Longdong Energy Base is a key supporting power source for the Longdong-Shandong ±800 kV Ultra-High Voltage Direct Current (UHVDC) project. Leveraging the region's abundant wind, solar, and coal resources, the base is being built into a 10GW-level integrated energy base featuring "clean energy dominance and multi-energy complementarity." This will help the nation build a new power system and achieve the "Dual Carbon" strategic goals.

The base's new energy project is the world's largest co-located wind and solar power project, as well as China's first project to share a power collection line between wind and solar facilities. Divided into 12 wind and solar zones, the project comprises a total of 916 wind turbines and over 2.88 million photovoltaic modules.

The base's peak-shaving coal power facility, Zhengning Power Plant, is constructing two 1 GW ultra-supercritical indirect air-cooled coal-fired generating units. It is equipped with a 1.5-million-tonne-per-year CCUS demonstration project. Applying multiple leading domestic technologies, including the HN Revival DCS, it represents a typical integrated coal-power and circular low-carbon clean coal-fired unit.

The Company is vigorously developing clean and renewable energy in central and western China, striving to build an integrated energy base that is "clean-energy-led, multi-energy-complementary, domestically leading, and world-class." This endeavor is of profound significance for serving the new development paradigm, safeguarding China's energy security, and facilitating the achievement of the carbon peaking and carbon neutrality goals.

- Build a 10GW-level multi-energy complementary integrated energy base at a high level, creating a demonstration model for serving the "Dual Carbon" goals.
- Promote high-level scientific and technological self-reliance and self-improvement to high standards, creating an innovation model for deepening industrial chain cooperation.
- Deliver high-quality outcomes in both the "green" and "red" initiatives, creating a livelihood model that facilitates the revitalization and development of old revolutionary base areas.
- Promote coordinated development from a high starting point, creating a win-win model for east-west cooperation and collaboration between local governments and enterprises.

•Longdong Energy Base·Technological Innovation•

China's First Integrated "Wind-Solar-Thermal-Storage" Base

By optimally combining and bundling resources with different spatial and temporal distribution characteristics for transmission, this base achieves large-scale development of regional resources and maximizes the utilization of new energy.

China's Largest Co-Located Wind and Solar Power Base

It innovatively adopts a shared power collection line design for both wind and solar power, creatively solving challenges such as steep slopes, difficult site selection, and dispersed construction in mountainous photovoltaic projects.

New-Generation Coal Power Demonstration Project

By applying Carbon Capture, Utilization, and Storage (CCUS) technology, it provides a new "China solution" for the green and low-carbon transformation of global coal power, facilitating deep emission reductions.

Autonomous and Controllable Core Technologies

The Company has undertaken major scientific projects such as CCUS, overcoming critical technological bottlenecks. The successful application of fully domestically produced achievements, such as the HN Revival industrial control system, marks a significant milestone.

Phase Modifiers Boosting Safe and Reliable UHV Operation

The installation of distributed phase modifiers effectively resolves voltage instability issues caused by cross-regional DC transmission and the large-scale integration of new energy into the grid.

China's Largest Electrochemical Energy Storage Station

The supporting energy storage station can store approximately 2.4 million kWh of electricity per full charge, which can meet the daily power needs of up to 480,000 households.

Coordinated Advancement of Power Source and Grid Construction

It has set a precedent in China by having supporting power sources participate in the entire debugging process of UHV DC power transmission.

• Longdong Energy Base Milestones •

2021

On July 10th, the base held its launch ceremony in Qingyang, Gansu Province.

On December 23rd, the first batch of concrete was poured for the base's peak-shaving coal power facility, Zhengning Power Plant, marking the comprehensive commencement of the base's construction.

2022

On October 9th, construction commenced on the 1 GW new energy project, which was included in the first batch of national large-scale wind and solar power bases in the Gobi Desert.

On December 28th, construction commenced on the supporting project for Zhengning Power Plant, which is the world's largest coal power carbon capture demonstration project.

2023

On December 9th, the steel structure of the indirect cooling towers for Units 1 and 2 at Zhengning Power Plant was successfully capped.

On December 21st, the 1 GW new energy project, included in the first batch of national large-scale wind and solar power bases in the Gobi Desert, was successfully connected to the grid.

2024

On July 3rd, the off-site coal transport tunnel for Zhengning Power Plant was fully completed.

On August 1st, construction commenced on the second batch of the base's new energy project, comprising 2.7738 GW of wind and solar power.

2025

On April 30th, Zhengning Power Plant, the base's peak-shaving coal power facility, achieved full-capacity operation.

On August 29th, the grid connection work for the second batch of the base's new energy project, comprising 2.7738 GW of wind and solar power, was fully launched.

On September 25th, the supporting project for Zhengning Power Plant, the world's largest coal power carbon capture demonstration project, was officially put into operation.

On September 29th, all 12 wind and solar power stations of the base's new energy project were successfully connected to the grid and put into operation.



Seizing the Momentum and Continuing to Strive: Charting the Grand Blueprint for the 15th Five-Year Plan

As we enter the "15th Five-Year Plan" period, the Company will adhere to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, fully and accurately implement the new development philosophy, and deeply carry out the new energy security strategy. Rooted in the goal of building a "Three-Color Concept" and serving the national energy power strategy, we will remain unwavering in pursuing high-quality development, maintaining a green and low-carbon direction, and striving to become a world-class enterprise. Taking the safeguarding of national energy security as our primary responsibility, we will be led by energy technological innovation, driven by a new round of state-owned enterprise reform, and guaranteed by comprehensive and strict Party governance. We will deepen innovation-driven, "Dual Carbon"-driven, and digital-intelligence-driven development, continuously enhancing our core functions and competitiveness. We will steadfastly make the Company stronger, better, and larger, providing robust energy support for the modernization of China on all fronts.

In 2026, the Company will resolutely implement the important instructions of General Secretary Xi Jinping on the work of central enterprises and the spirit of his important speech during his inspection of China Huaneng. We will thoroughly implement the requirements of the Central Enterprise Leaders Conference, uphold and strengthen the overall leadership of the Party, and adhere to the general tone of seeking progress while maintaining stability. We will better coordinate development and security, focus on promoting high-quality development, and prioritize enhancing our core functions and competitiveness. By seizing the momentum, continuing to strive, making a strong start, and reaching new heights, we will deliver high-quality outcomes in achieving our annual goals and tasks.

Prominently Focusing on the "Six Major Tasks"

- Further Consolidating the Safety Foundation
- Further Achieving Breakthroughs in Technological Innovation
- Further Enhancing Operational Performance
- Further Improving the Quality of Comprehensive Reform
- Further Accelerating Green Development
- Further Strengthening Party Building

Key Focus on the "Six All-Out Efforts"

- Going All out to Ensure Energy Supply
- Going All out to Stimulate the Vitality of Reform
- Going All out to Advance Green Transformation
- Going All out to Promote Quality Improvement and Efficiency Enhancement
- Going All out to Unleash the Driving Force of Technological Innovation
- Going All out to Prevent All Types of Risks

Appendixes

Results of the 2025 Corporate Outstanding ESG Case Awards

In February 2026, the Company launched the 4th Selection and Appraisal of Excellent ESG Cases. Affiliated companies and grassroots units actively participated and submitted nearly 140 cases, involving various issues such as ESG management, safe production, project quality, public welfare and charity, standard governance, energy conservation and emission reduction, scientific and technological innovation, energy supply guarantee, regional development, ecological environment protection, rural revitalization, the Belt and Road, responding to climate change, employee care, career development, and responsible supply chain 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 through "China Huaneng" official account on the web, the results of excellent cases were finally obtained via voting.

Scan the QR code to View more Information about the 4th Excellent ESG Case Selection and Appraisal Event of CHNG

NO1

"Huaneng Ruichi" Creates a New Smart Mine Ecosystem and Builds a New Zero-Carbon Transport Landscape

Huaneng Eastern Inner Mongolia Energy Co., Ltd.
Topic: Scientific and Technological Innovation Author: Tian Wenming



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

NO2

HN's 1.5 million ton/anual Carbon Capture and Storage (CCS) Demonstration Project

China Huaneng Group Clean Energy Research Institute Co., Ltd.
Topic: Responding to Climate Change
Author: Gao Shiwang, Zhang Yuanxue, Wang Yutong



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NO3

Building a "Bridge of Connection" to Share the Voice of Huaneng Nuclear Power: The "From Nuclear Power" Science Popularization Event at Hainan Changjiang Nuclear Power

Huaneng Nuclear Power Development Co., Ltd.
Topic: Public Welfare and Charity
Author: Yang Yu, Zhang Bo, Tian Gaohua



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Results of the 2025 Corporate Best ESG Photo Awards

In February 2026, the Company launched the 4th Selection and Appraisal of the Most Beautiful ESG Pictures. All affiliated companies and grassroots units actively participated and submitted over 400 pictures. After the initial review and two rounds of expert scoring, 18 outstanding pictures reached the final. In the final session, the Company made the "ESG Poll of China Huaneng" open to the public through "China Huaneng" official account on the web, the results of the most beautiful ESG pictures were finally obtained via voting.

Scan the QR code to Vew more Information about the 4th Most Beautiful ESG Pictures Selection and Appraisal Event of China Huaneng



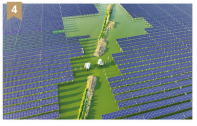
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China Huaneng Group Co., Ltd. Central China Branch
Sunlight Reflecting on Fish Ponds, Wind Caressing the Green Fields (Huaneng Huajing Yingcheng Integrated Agriculture-Fishery-Solar Photovoltaic Project) by Zhang Xiang



Huaneng Jiangsu Energy Development Co., Ltd.
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Huaneng Properties Co., Ltd.
Pavilion of Light (China Huaneng Xiong'an Headquarters) by Li Jiong



Huaneng Gansu Energy Development Co., Ltd.
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China Huaneng Group Co., Ltd. Chongqing Branch
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China Huaneng Group Co., Ltd. Jilin Branch
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Huaneng Power International Inc.
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North United Power Co., Ltd.
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China Huaneng Group Co., Ltd. North China Branch
Day and Night: Ensuring Energy Supply in Parallel with Low-Carbon Development (Huaneng Tianjin IGCC Power Plant) by Li Jin



China Huaneng Group Co., Ltd. Southern Branch
Binhai Power Plant (Huaneng Shantou Power Plant) by the Party Building Department of Huaneng Shantou Power Plant



China Huaneng Group Co., Ltd. Shandong Branch
Riding the Wind and Breaking the Waves (Huaneng Shandong Peninsula South 4 Offshore Wind Farm) by Li Jiaming



Huaneng Xizang Yarlung Zangbo River Hydropower Development Investment Co., Ltd.
Han and Tibetan Unity, Advancing Together for Green Development (Phase I of Huaneng Gyaca Power Station in Shannan) by Wang Zifeng



China Huaneng Group Co., Ltd. Jiangxi Branch
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China Huaneng Group Co., Ltd. Zhejiang Branch
Energy Storage Array, Power Reflecting the Blue Sky (Phase I of Huaneng Zhejiang Independent Energy Storage Project) by Jiang Liqun

About China Huaneng

China Huaneng Group Co., Ltd. (referred to as China Huaneng), founded in 1985, is a major state-owned comprehensive energy group with electricity as its core, featuring multi-energy synergy, innovation leadership, financial support, and global deployment. It is the world's second-largest power generation group in terms of installed capacity and the largest domestic enterprise for livelihood heating. It is designated by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) as a demonstration enterprise for creating world-class companies, and is the only power generation central enterprise selected for the first batch of SASAC's annual outstanding enterprise list for technological innovation. SASAC has awarded the Company A-level performance assessment results for 21 times, and A-level tenure assessment results of the person-in-charge of central SOE for 7 times, being the top among comparable power generation enterprises in China. China Huaneng has a registered capital of RMB 35.28 billion, 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.

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.Entering the new era, China Huaneng keeps in mind the "Two Overall Situations." From the strategic height of consolidating the "two foundations" for the cause of the Party and the country, and playing the role of the "six forces," we have enriched and developed the new era connotation of the "Three-Color Concept".

The Company has a total of 123,000 employees, owns 57 affliated 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 2025, the Company's total asset was RMB 1.81 trillion. The total installed capacity of wholly-owned and majority-owned power plants was over 301 GW, heating area reaches 1.12 billion square meters, and the production capacity of coal was nearly 124 million tons per year. The Company was first to entered the Fortune Global 500 in the power generation industry.

Headquarters Organization



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 Jiangsu Energy Development Co., Ltd. (China Huaneng Group Co., Ltd. Jiangsu Branch)
Huaneng Lancang River Hydropower Inc. (Yunnan Branch, Huaneng Lancang River Upstream Hydropower Co., Ltd.)	Huaneng Eastern Inner Mongolia Energy Co., Ltd.	Huaneng Sichuan Energy 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

Industrial Distribution Map

As of December 31, 2025, the installed capacity of the Company's wholly-owned and controlled power plants amounted to

301.37 GW

including 297.64GW domestically and 3.73GW overseas

In 2025, the Company achieved a cumulative power generation of

881,000 GWh

including 862,600 GWh domestically and 18,400 GWh overseas

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



Key Performance

	Indicator Name	Unit	2021	2022	2023	2024	2025
Steady and Positive Progress	Economic Contract Performance Rate (Group-level)	%	100	100	100	100	100
	Total Assets	RMB 100 Million	13399	14152	15608	17076	18090
	Total Operating Income	RMB 100 Million	3855	4245	4098	4012	3870
	Total Profit	RMB 100 Million	133	227	421	512	569
	Asset-Liability Ratio	%	72.74	70.90	70.08	68.75	68 .15
	The Overall Labor Productivity	RMB 10 Thousand Per Person	96.95	111.56	137.00	151.18	165 .00
	Number of CPC Members	Person	48189	51549	51974	52542	53187
Optimizing Core Businesses	Installed Capacity	10 MW	20592	22111	24312	26926	30137
	Domestic Power Generation	100 GWh	7744	7911	8305	8552	8626
	Thermal Power Installed Capacity	10 MW	14006	14224	14246	14384	14884
	Thermal Power Generation Capacity	100 GWh	5904	5834	5987	5885	5591
	Coal Production Capacity	10,000 Tons/Year	8770	11380	11880	12470	12470
	Coal Production	10,000 Tons	8664	10108	10800	11104	10867
	Heating Capacity	100 Million GJ	4.54	4.87	5.14	5.24	5.24
	Safety Investment (Technological Upgrading)	RMB 100 Million	5.97	8.50	9.90	12.57	14.07
	Major Equipment Accident	Case	0	0	0	0	0
	General Equipment Accident	Case	1	0	0	0	0
	General Occupational Injury/Fatality Accident	Case	7	7	7	8	4
	Class I Operational Disturbance	Case	4	2	5	2	0
	Unpl anned Outage Frequency (hydro & thermal power)	Case	91	75	89	88	51
	Equivalent Availability Factor (hydro & thermal power)	%	93.90	93.93	93.90	93.90	93.90
	Number of Work-Related Fatalities	Person	5	4	1	4	3
	Work-Related Fatality Rate	‰	0.04	0.03	0.01	0.03	0.02
	Lost Workdays due to Work-related Fatalities	Workday·Person	30000	24000	6000	24000	18000
	Total Duration of Safety Training	Hour	4830040	4802240	4789400	4518000	4896000
	Average Safety Training Hours per Employee	Hour	40	40	40	40	40
	Number of Employees Covered by Safety Training	Person	120751	120056	119735	112950	122400
	Total Number of R&D Personnel	Person	1493	1746	2100	2618	8910
	National Authorized Patents	Item	6307	11629	8815	4932	3854
	Among Them: Patents for Invention	Item	251	1217	1982	3031	3588
	Provincial/Ministerial-Level and above Science and Technology Achievements Awards	Item	66	63	68	51	86
	R&D Expenditure	RMB 100 Million	101.60	130.02	127.44	128.70	126.00
	R&D Intensity	%	2.64	3.06	3.10	3.21	3.25
	Proportion of Revenue from Strategic Emerging Industry Projects	%	—	13	17	22	26
Harmony and Prosperity	Paid Taxes	RMB 100 Million	278	356	372	406	428
	Number of In-Service Employees	Person	120927	121264	120304	122468	122618
	Number of New Employment throughout the Year	Person	4366	5371	5737	5125	5109
	Employee Turnover Rate	%	0.45	0.40	0.35	0.34	0.28
	Number of Female Employees	Person	27096	26054	25358	24567	24103
	Female Employees Ratio	%	22	21	21	20	20
	Female Manager Ratio	%	30	29	30	30	30
	Number of Ethnic Minority Employees	Person	8295	8343	8398	8389	8559
	Ethnic Minority Employees Ratio	%	6.86	6.88	6.98	6.85	6.99
	Labor Contract Signing Rate	%	100	100	100	100	100
	Collective Contract Coverage	%	100	100	100	100	100
Harmony and Prosperity	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
	Total Investment in Employee Training	RMB 10 Thousand	23342	19744	38040	38597	39085
	Number of Participants in Employee Training	Person-times	1475165	1646145	1768971	1956444	1866637
	Training Time per Employee	Hour	82	83	84	85	85
	Employee Training Coverage	%	76	79	82	85	87
	Total Amount of External Donation	RMB 100 Million	1.61	2.17	2.20	2.11	2.07
	Total Investment Amount for Rural Revitalization	RMB 100 Million	1.17	1.57	1.75	1.57	1.67
	Employee Volunteers	Person-times	78593	79012	79356	79653	79668
	Number of Suppliers Reviewed during the Reporting Period	Item	15653	17040	17040	16248	15259
Pursuing Green Development and Embracing Innovation	Total Investment in Environmental Protection	RMB 100 Million	13.00	16.95	17.38	21.77	13.87
	Total Investment in Energy-saving Technological Upgrading	RMB 100 Million	5.09	2.52	2.16	2.49	4.75
	The Ratio of Environmental and Social Impact Assessment for New Project Execution	%	100	100	100	100	100
	Low Carbon & Clean Energy Installed Capacity	10MW	7849	9203	11431	13893	17065
	Low Carbon & Clean Energy Percentage	%	38.12	41.62	47.02	51.80	56.63
	Low Carbon & Clean Energy Power Generation	100 GWh	2133	2366	2622	2962	3349
	Hydropower Installed Capacity	10MW	2756	2759	2759	2889	3010
	Hydroelectric Power Generation	100 GWh	1106	1155	1101	1131	1251
	Nuclear Power Installed Capacity	10MW	0	0	20	20	20
	Nuclear Power Generation Capacity	100 GWh	0	0	4.69	2.72	6.83
	Wind Power Installed Capacity	10MW	2917	3393	3929	4610	5456
	Wind Power Generation Capacity	100 GWh	625	739	879	1007	1065
	Photovoltaic Installed Capacity	10MW	912	1735	3358	4982	6767
	Photovoltaic Power Generation	100 GWh	111	184	333	528	712
	Coal Consumption for Power Supply	g/kWh	294.04	292.02	294.91	298.08	296.36
	Total Coal Consumption	Billion Tons of Standard Coal	1.84	1.82	1.89	1.84	1.78
	Total Consumption of Raw Coal	Hundred Million Tons	2.95	3.02	3.12	3.06	2.83
	Diesel Consumption	10,000 Tons of Standard Coal	6.88	6.71	7.41	7.61	7.30
	Natural Gas Consumption	10,000 Standard Cubic Meters	544707.03	565059.12	604058.23	590794.51	608797.63
	Auxiliary Power Consumption Ratio	%	3.71	3.65	3.56	3.54	3.28
	Comprehensive Utilization Rate (Fly Ash & Slag)	%	77.10	73.69	73.60	75.31	76.80
	Sulfur Dioxide Emission Intensity for (Thermal Power)	g/kWh	0.070	0.068	0.069	0.073	0.072
	Nitrogen Oxide Emission Intensity for (Thermal Power)	g/kWh	0.137	0.137	0.137	0.140	0.137
	Smoke and Dust Emission Intensity for (Thermal Power)	g/kWh	0.009	0.009	0.009	0.010	0.011
	Equipment Rate for Desulfurization of Thermal Power Units	%	100	100	100	100	100
	Denitrification Equipment Rate of Thermal Power Units	%	100	100	100	100	100
	Installed Capacity of Ultra-low Emission Units	10MW	12300.00	12400.00	13165.00	13225.00	14179.54
	Proportion of Ultra-low Emission Units	%	99.0	99.5	99.5	99.5	100
	Fresh Water Consumption for Power Generation	10,000 Tons	59980	62847	57673	60073	55672
	Water Consumption per Unit Power Generation	kg/kWh	1.02	1.08	0.99	1.02	1.00
	Wastewater Discharge Volume	10,000 Tons	3655.84	3382.24	3164.33	3036.57	3710.49
	Total Greenhouse Gas Emissions (Carbon Emissions)Note	10,000 Tons of Carbon Dioxide Equivalent	52021	52505	53790	53021	49667
	Greenhouse Gas Emissions (Carbon Emissions) Intensity	g/kWh	635.4	623.0	573.8	545.7	511.0
	Greenhouse Gas (Scope 1) Emissions	10,000 Tons of Carbon Dioxide Equivalent	52000	52487	53774	53001	49644
	Greenhouse Gas (Scope 2) Emissions	10,000 Tons of Carbon Dioxide Equivalent	21	18	16	20	23

Note: As the 2025 carbon verification process has not yet been completed, the data for 2021–2024 represents post-verification figures, while the 2025 data is based on the Company's internal platform metrics prior to verification. In addition, the pre-verification data based on the Company's internal platform for 2021–2024 were 524.36 million, 526 million, 537.2 million, and 530.55 million tonnes of CO_2 equivalent, respectively.

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Rating Report

Rating Report for *2025 Environmental, Social and Governance Report (Social Responsibility 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 *2025 Environmental, Social and Governance Report (Social Responsibility Report) of China Huaneng Group Co., Ltd.* (hereinafter referred to as the Report).

I. Basis of Rating

1.Guiding Opinions on the High-standard Fulfillment of Social Responsibility; 2.Guidelines for Sustainable Disclosure of Enterprises - Basic Guidelines (Trial); 3.General Framework of Guidelines for Corporate Sustainable Development Reporting (CASS-ESG6.0); 4.Chinese Corporate Sustainable Development Report Rating Standards (2026)

II. Analysis of Rating

Process (★★★★★) Enterprise Management and Legal Compliance Department (Office of Deepening Reform) coordinates and advances the Report preparation. Functional departments and subordinate units provid report materials and review relevant contents, while the Board of Directors oversees the overall process and conducts the final review of the Report. Conduct preliminary research around report preparation, release *the ESG Indicator System Management Manual*, and continuously improve the institutionalization and standardization of ESG management; Promote member units to compile and publish ESG (social responsibility) reports, and strengthen vertical management of sustainable development; Prepare a list of report data collection, issue a special notice to carry out report preparation work, hold a report preparation kickoff meeting, collect a large amount of first-hand information, and ensure that the report content is comprehensive and accurate; Presenting reports in electronic, print, Chinese and English, and animated video formats, high-quality publishing of reports for China Huaneng Group Co., Ltd., and its affiliated listed companies, as well as some secondary companies, with excellent process performance.

Materiality (★★★★★) The *Report* systematically discloses key topics for discussion in the power industry, such as implementing safety production, ensuring energy supply, optimizing customer service, strengthening technological innovation, promoting digital transformation, sustainable supply chain, safeguarding employee rights and interests, protecting occupational health, supporting rural revitalization, strengthening overseas responsibility, addressing climate change, building an energy powerhouse, promoting clean production, and protecting ecosystems etc.. Among them, the topics of implementing safety production, building an energy powerhouse, and promoting clean production have the most content and outstanding substantive performance.

Integrity (★★★★☆) From the perspectives of "Steady and Positive Progress, Highlighting Huaneng's Distinctive Modern Governance", "Optimizing Core Business of Power, Driving Industry Progress", "Harmony and Prosperity, Showcasing the Sincere Commitment to Our Country and People" and "Pursuing Green Development and Embracing Innovation, Enriching the Ecological Foundation of a Beautiful China", the main body of the Report discloses 88.61% of the core indicators of the power production industry. Among them, the core indicators of improving institutional mechanisms, enhancing supervision and assessment, and effectively strengthening ESG work in the dimension of responsibility management, governance responsibility in the dimension of essential responsibility, government responsibility, supply chain responsibility, safety production, rural revitalization and social contribution in the dimension of social responsibility, and ecosystem protection in the dimension of environmental responsibility have the highest coverage rate of 100%, demonstrating leading integrity performance.

Balance (★★★★★) The *Report* discloses negative data including "major equipment accident" "General Equipment Accident" "General Occupational Injury/Fatality Accident" "Number of Work-Related Fatalities" "Work-Related Fatality Rate" "Lost Workdays due to Work-related Fatalities" etc. and elaborates on the process, cause analysis, and follow-up measures of safety accidents for "Huaneng Leiping Wind Farm suffered varying degrees of damage to multiple wind turbines due to the super typhoon 'Huajiasha'" with excellent balance performance.

Comparability (★★★★★) The *Report* discloses the comparative data for 5 consecutive years of 90 indicators, such as "Total Assets" "The Overall Labor Productivity" "Safety Investment" "R&D Expenditure" "Total Investment in Environmental Protection" "Total Greenhouse Gas Emissions (Carbon Emissions) " etc.. The comparable data disclosure for the topics of innovation driven under the dimension of essential responsibility, employee responsibility under the dimension of social responsibility, and resource utilization under the dimension of environmental responsibility has been the most comprehensive for five consecutive years. Comparing horizontally the situation of "the Company received a Grade A in SASAC's special reform evaluation for the fifth consecutive year, achieve the best-ever historical ranking" "the Company has received the highest "Good" rating in the central government's targeted assistance performance evaluations for one consecutive years, ranking among the top central state-owned enterprises.", making an excellent comparability performance.

Readability (★★★★★) The *Report*, with the theme of " Embark on a New Journey·Toward the Future ", systematically elaborates on the company's annual responsibility concept, practice, and achievements from four major chapters, fully responding to the expectations and demands of stakeholders; The cover design continues the style of the company's annual reports, with the winding flow of "three color" ribbons, organically linking the surging power of clean energy with the warm scene of thousands of lights, highlighting industry characteristics and enhancing the recognition of the report; The cross page design of the chapter adopts real-life images of characteristic responsibility scenes to enhance the infectiousness of the report and showcase the hardcore strength of central enterprises; Multiple embedded QR code visualization extension reports have expanded the report content, enhanced its readability and communication, and demonstrated excellent readability performance.

Innovativeness (★★★★★) At the beginning of the *Report*, a special section titled "Leading the Way, Advancing with Speed and Stability" is set up, which focuses on presenting the milestone event of General Secretary Xi Jinping's inspection of China Huaneng, as well as two special topics: "Forty Years of Glorious Achievements, Forging Ahead with Determination, and Achieving Leapfrog Development" and "Empowering with Responsibility, Urging with Mission, Planning for High-quality Development". The focus is on showcasing key information such as "the 40th anniversary of the company's establishment" and "the latest development strategy of the company", demonstrating the responsibility and commitment of central enterprises; Set up a section on "Overcoming Difficulties to Achieve a Successful Conclusion, and Delivering an Outstanding Scorecard for the 14th Five-Year Plan", systematically summarize the group's leapfrog development process during the 14th Five Year Plan period from six aspects, and correspond with the section on "Seizing the Momentum and Continuing to Strive: Charting the Grand Blueprint for the 15th Five-Year Plan", clarifying the company's goals for the next five years and the development path guided by responsibility; Taking the lead in using the dual-importance standard to screen important issues in central enterprises, and innovatively adopting the narrative structure of "Penetrating Disclosure·Key Topics·Core Elements" at the beginning of each chapter, in-depth analysis and disclosure of key issues from the four dimensions of "Governance, Strategy, Risk and Opportunity Management, Indicators and Targets" have improved the standardization and hierarchical level of the report, demonstrating outstanding innovative performance.

III. Overall Rating (★★★★★)

The independent review panel designates the *China Huaneng Group 2025 ESG Report as a Five-Star Report*, recognizing it as an excellent corporate sustainability disclosure.

IV. Suggestions for Improvement

More disclosure about core industrial indicators to further improve the Report's integrity.

V. Medal of Rating

China Huaneng Group Co., Ltd. has been awarded the Gold Medal with a five-star rating for 15 consecutive years.

Vice Chairman of the Expert Committee

Leader of the Rating Team

Expert of the Rating Team

中国企业社会责任报告评级专家委员会

Date of Issuance: August 10, 2026

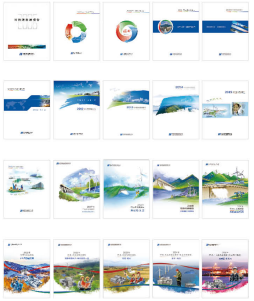
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Feedback

Dear Readers:

Thank you for reading *2025 Environmental, Social and Governance (ESG) Report (Corporate Social Responsibility Report) of China Huaneng Group.* To further enhance our ESG management practices and report development quality, please scan the QR code below to submit your comments and suggestions online.

Sustainability (ESG) Report System



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

CHNG's five sustainability-related reports 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, hydropower and electrical workers. These imply that CHNG, under the guidance of "Three Color" mission, makes all out efforts to develop new energy, nuclear power and hydropower, continuously creates high-quality power projects in China, turning energy into a "beacon of light", and continues moving forward on the road of high-quality and sustainable