



中国核能电力股份有限公司
China National Nuclear Power Co., Ltd.

2021

Environmental, Social and Governance Report

China National Nuclear Power Co., Ltd.




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A Letter to Shareholders

Dear shareholders,

The year 2021 was a milestone in the history of the Party and the country. Standing at a critical juncture where the centenary of the CPC and the start of the 14th Five-Year Plan converged, we followed the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, kept in mind the national rejuvenation strategy within the wider context of once-in-a-century changes taking place in the world, and remained mindful of the country's most fundamental interests. We loyally supported the Party's decision to establish Comrade Xi Jinping's core position on the Party Central Committee and in the Party as a whole, and define the guiding role of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. We upheld General Secretary Xi Jinping's core position on the Party Central Committee and in the Party as a whole, and upheld the Party Central Committee's authority and its centralized, unified leadership. We grounded our efforts in the new development stage, applied the new development philosophy, and created a new pattern of development in pursuit of high-quality development. We promoted the rapid, safe and orderly development of our nuclear power business, thereby creating greater value and higher returns for shareholders.

We pursue innovation, and efficient, well-regulated corporate governance. Upholding the mission of developing the nuclear industry, strengthening the country and bringing welfare to humanity, we have made every effort to promote large-scale, standardized and internationalized development and build a modern enterprise governance system. We have enhanced the awareness of risk management and the sense of responsibility, made prudent decisions, and improved our ability to forestall risks. We have optimized the compensation management system based on corporate strategies, market trends, performance and equality. Through "delicacy management and intensive control," we have driven the lean development of the Company through digital transformation. We have improved the culture of integrity, and strengthened anti-corruption training. In 2021, CNNP was included by the State-owned Assets Supervision and Administration Commission (SASAC) of the State Council in the List of Model Enterprises in Improving Corporate Management among Key State-Owned Enterprises and the List of Demonstration State-Owned Enterprises in Corporate Governance. The Company also won the title of Listed Company with the Most Investment Value During the 14th Five-Year Plan Period of the China Securities Golden Bauhinia Award; the Board of Directors won the Golden Round Table Award for Special Contribution to Board Governance.

We pursue green development and contribute to the goals of peaking carbon dioxide emissions by 2030 and achieving carbon neutrality by 2060. We strive to seize the historic opportunity brought by China's endeavor to meet the above goals, and continue to build the industrial pattern of "nuclear energy plus non-nuclear clean energy plus emerging agile industry." We have improved the

mechanism for environmental management to strengthen the identification and control of environmental risks. We exploit the advantage of nuclear power generation in supplying clean baseload electricity, promote the development of renewable energy, and build comprehensive energy base projects to provide investors with more clean energy options. We have launched a campaign for improving quality and performance, and taken effective measures to save energy and reduce consumption, thereby contributing to ecological progress. In 2021, the Company generated 182.637 TWh of electricity, including 173.123 TWh generated by nuclear energy and 9.514 TWh by non-nuclear clean energy.

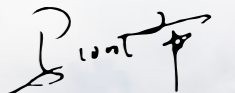
We attach great importance to people's well-being. Adhering to people-oriented management, we protect the lawful rights of employees, and listen carefully to their voices. We firmly support the strategy of "standardizing human resources," and have established personnel selection and recruitment, performance management, remuneration and incentive mechanisms for different business segments in an effort to build a high-caliber, energetic team of an appropriate size, and a rational structure. We actively participate in social welfare activities, and encourage our employees to engage in volunteer activities.

In 2022, the CPC will convene its 20th National Congress and China will embark on a new journey toward the second centenary goal of building China into a modern socialist country in all respects. In 2022, we will continue to follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, apply the new development philosophy in full, in the right way and in all fields of endeavor and move faster to create a new pattern of development. We will work hard toward our objectives for the 14th Five-Year Plan period, and toward the goal of becoming a most attractive world-class nuclear energy company.

Chairman and Party Secretary



General Manager and Deputy Party Secretary




About Us

Company Profile

China National Nuclear Power Co., Ltd. (SSE: 601985, "CNNP" for short) is jointly invested by its controlling shareholder China National Nuclear Corporation (CNNC), China Three Gorges Corporation (CTG), China Ocean Shipping (Group) Company (COSCO), and China Aerospace Investment Holdings Ltd. Its business scope covers development, investment, construction, operation and management of nuclear power projects and supporting facilities; investment and development of clean energy projects; investment and investment management of power transmission and distribution projects; R&D of technologies for safe nuclear power operation, related technical and consulting services; and electric power sales.

As of March 31, 2022, CNNP had controlled 26 companies, run one joint venture and had equity in 11 companies. Its total assets reached over 400 billion yuan. We had controlled 25 nuclear power units in operation, with an installed capacity of 23.71 GW, and 6 units under construction, with an installed capacity of 6.353 GW.



● Units in operation ● Units under construction

Distribution of controlling units

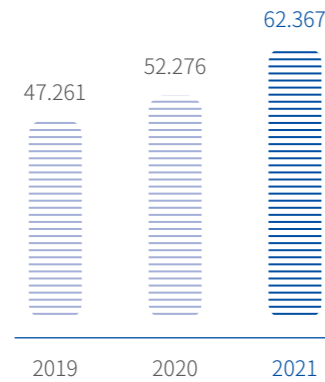
1	Qinshan Nuclear Power Plant No.1	Type of reactor: PWR CNP 300 Rated power: 1X350MWe	First nuclear power plant ever built in the Chinese mainland, hailed as the "Pride of the nation"
2	Qinshan Nuclear Power Plant No. 2	Type of reactor: PWR CNP600 Rated power: 1X670MWe 1X650MWe 2X660MWe	First large commercial nuclear power plant independently designed, built, operated and managed by a Chinese company
3	Qinshan Nuclear Power Plant No. 3	Type of reactor: HWR CANDU700 Rated power: 2X728MWe	China's only commercial HWR nuclear power plant
4	Fangjiashan Nuclear Power Plant	Type of reactor: PWR CNP1000 Rated power: 2X1089MWe	One of the first 1 GW reactors independently designed, manufactured, constructed, and operated by a Chinese company
5	Jiangsu Nuclear Power Plant	Type of reactor: PWR VVER1000 Rated power: 2X1060MWe 2X1126MWe Type of reactor: Improved PWR M310 Rated power: 2X1118MWe	A model project of China-Russia nuclear energy cooperation Final nuclear power project that started construction during the 12th Five year (2011-2015)
6	Fuqing Nuclear Power Plant	Type of reactor: PWR CNP1000 Rated power: 4X1089MWe Type of reactor: HPR 1000 Rated power: 2X1161MWe	One of the first 1 GW reactors independently designed, manufactured, constructed and operated by a Chinese company The world's first Hualong One nuclear reactor (Hualong One is a third-generation reactor model independently development by a Chinese company), hailed as a project of "vital importance to the country"
7	Hainan Nuclear Power Plant	Type of reactor: PWR CNP 600 Rated power: 2X650MWe	The southernmost and the first nuclear power plant to be built in the minority-inhabited areas in China
8	Sanmen Nuclear Power Plant	Type of reactor: PWR AP1000 Rated power: 2X1250MWe	AP1000, the world's first third-generation reactor
9	Zhangzhou Nuclear Power Plant Unit 1 and Units 2	Type of reactor: HPR1000 Rated power: 2X1212MWe	The bulk production of the "national business card" Hualong One reactor goes well to create a "Clean Energy Park"
10	Tianwan Nuclear Power Plant Unit 7 and Units 8	Type of reactor: PWR VVER1200 Rated power: 2X1265 MWe	The heads of state of China and Russia witnessed the commencement of the project
11	Xudabao Nuclear Power Plant Unit 3, Liaoning	Type of reactor: PWR VVER1000 Rated power: 1X1274 MWe	The heads of state of China and Russia witnessed the commencement of the project
12	Small modular reactor, Hainan Nuclear Power Plant	Type of reactor: Small Reactor "Linglong One" Rated power: 1X125 MWe	Changjiang multipurpose small reactor modular technology demonstration project, modular

Statistics up to March, 2022

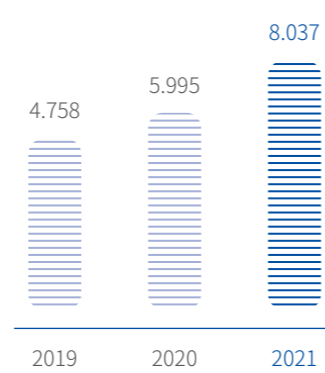
● Units in operation ● Units under construction

Key Financial Indicators (Unit: billion yuan)

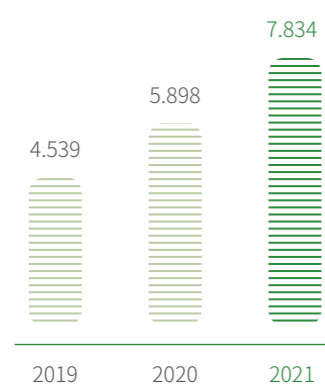
Revenue



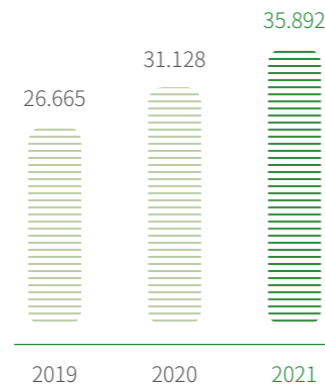
Net profit attributable to listed shareholders



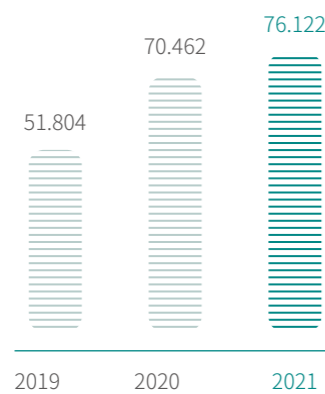
Net profit attributable to shareholders of the listed company after deducting non-recurring gains and losses



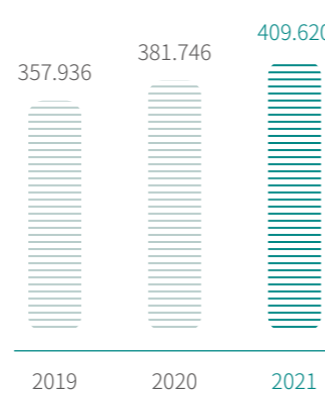
Net cash flow from business activities



Net assets attributable to shareholders of listed companies



Total assets



Strategy and Governance

Development Strategy

Upholding the mission of developing the nuclear industry, strengthening the country and bringing welfare to humanity, we have formulated clear strategic positioning and medium- and long-term goals toward becoming a world-class clean energy service provider with global competitiveness. In 2021, the Company officially issued the Comprehensive Development Plan for the 14th Five-Year Plan Period, in addition to 13 purpose-specific plans. We have aligned the development goals of our business segments for the 14th Five-Year Plan period to the overall high-quality development of China's nuclear energy sector, and made every effort to realize our long-term goals at an earlier date.

Strategic Positioning

With the focus on investment, construction and operation of nuclear power projects, CNNP strives to promote the efficient utilization of cutting-edge nuclear technologies and the production of clean and low-carbon energy, and is tasked with building a country with strong nuclear power and providing high-quality energy supply.

Strategic Goal

**Strategic goal through the year 2050:
To become a world-class competitive clean energy provider**

Goals 2021-2025	Long-range goals through 2035
<ul style="list-style-type: none"> ● Ensuring 100% nuclear safety ● The installed capacity to reach 56 GW by 2025 (26 GW from nuclear power projects and 30 GW from non-nuclear clean energy projects) ● The total installed capacity of projects under construction will be the greatest nationwide; the nuclear energy can be utilized for multiple purposes and the output value of nuclear power technology services will be doubled; the value of the non-nuclear clean energy industry will reach 10 billion yuan, and new breakthroughs will be made in the agile clean technology industry ● To become a global leader in nuclear power operation performance 	<ul style="list-style-type: none"> ● Basically achieve the goal of becoming a world-class clean energy service provider ● Increase the installed capacity of electric power to over 100 GW, and become one of the top 500 companies in the world ● The operation indicators of nuclear power will remain top-class in the world, and the operation performance of non-nuclear clean energy will also lead the industry. ● Nuclear energy will be commercialized and industrialized in fields like power, heating, seawater desalination, hydrogen production etc. ● The nuclear power industry standards made by CNNP will be widely adopted and CNNP will be able to provide a package of solutions to the world. ● The new agile industry will be effectively expanded, with its business income accounting for more than 10%.

Strategic Guidelines

Scale-up

Coordinating efforts on business development, asset management, marketing, talent development, and value creation, and enhancing the capacity of energy supply to build a bigger, better, stronger company

Standardization goals

Advancing standardization of technical and managerial positions and processes in all business and functional areas, and building an efficient, flexible, and standardized management system to increase profitability

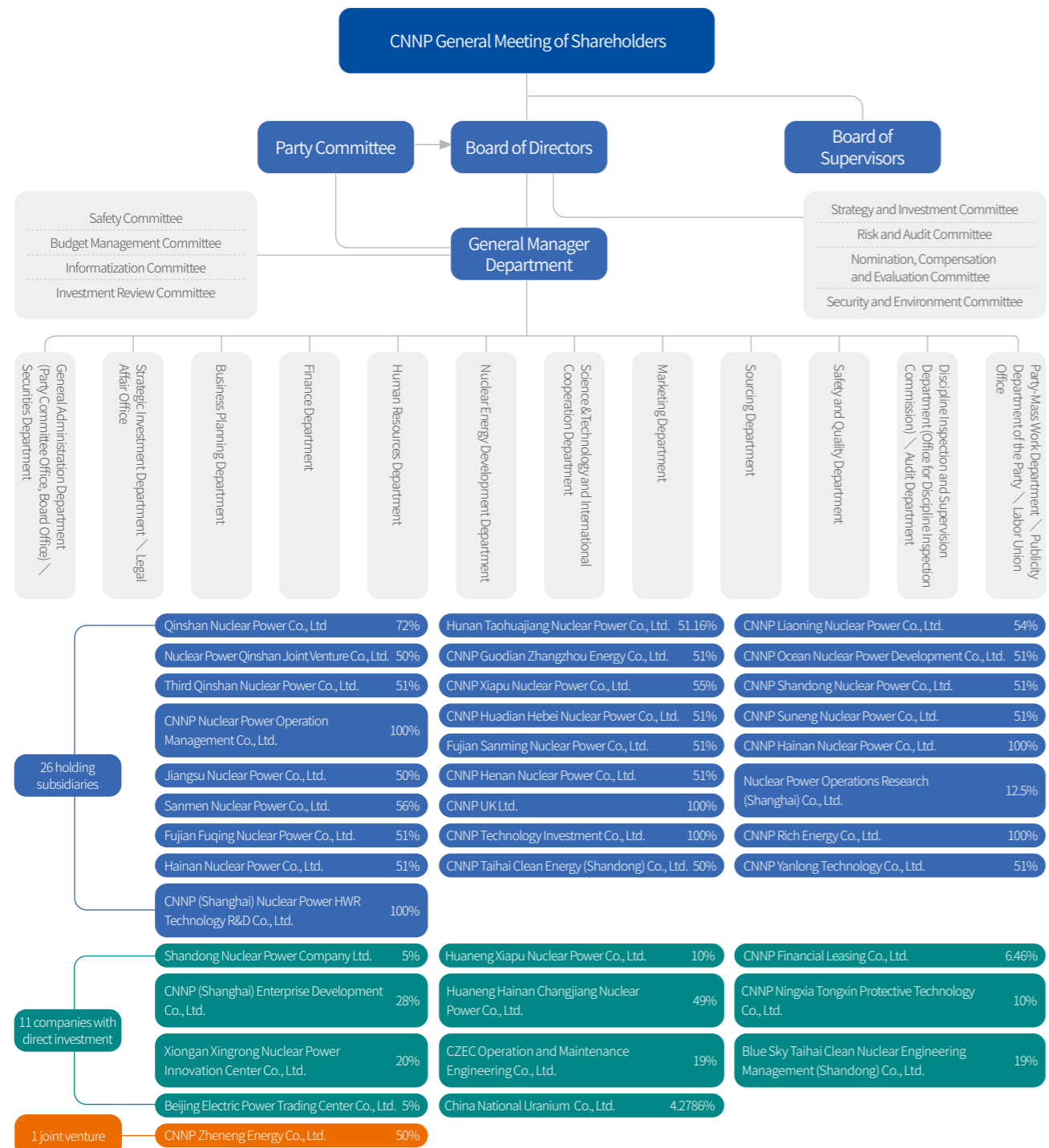
Internationalization

Expanding global presence, fostering global business operations, improving international management capability and gaining a greater say to build a world-class nuclear energy company

Governance Structure

In strict compliance with *The Company Law*, *The Securities Law*, and *the Rules Governing the Listing of Stocks on Shanghai Stock Exchange*, the Company released its *Articles of Association (Revised Draft)* in 2021, and continued to improve the corporate governance system, make our corporate operations more transparent and efficient through good governance practices, and protect the rights of shareholders and other stakeholders.

Our internal governance structure is composed of the General Meeting of Shareholders, the Board of Directors and its specialized committees, the Board of Supervisors and the senior management. At the same time, we have hired independent agencies to audit the Company and assist in optimizing internal governance for empowering corporate sustainability.



The Board of Directors

The Board directors are elected by the General Meeting of Shareholders, with a term of three years, and can stand for re-election. In 2021, after the term of the third Board of Directors expired, the fourth Board of Directors was elected in accordance with relevant procedures. After the deliberations of the fourth Board of Directors, Mr. Lu Tiezhong was elected as Chairman of the Board, Mr. Ma Mingze as General Manager, and the members of the special committees were also determined. As of December 31, 2021, the Board had a total of 12 directors, including 4 independent directors, accounting for 33.33% of the total, 1 employee director, and 2 female directors (including 1 independent director), accounting for 16.67% of the total.

Board members and their professional functions

Lu Tiezhong	Chairman, Non-independent Director, Chairman of Strategy and Investment Committee	Researcher-level senior engineer
Ma Mingze	General Manager, Non-independent Director, Chairman of Security and Environment Committee, Member of Strategy and Investment Committee	Researcher-level senior engineer
Ma Hengru	Independent Director, Chairman of Nomination, Compensation and Evaluation Committee, Member of Risk and Audit Committee, Member of Security and Environment Committee	Researcher-level senior engineer
Lu Daen	Independent Director, Chairman of Risk and Audit Committee, Member of Strategy and Investment Committee	Senior accountant I
Qin Yuxiu	Independent Director, Member of Risk and Audit Committee, Member of Nomination, Compensation and Evaluation Committee	Senior economist with lawyer qualification
Huang Xianpei	Independent Director, Member of Risk and Audit Committee, Member of Nomination, Compensation and Evaluation Committee	Senior engineer
Liu Xiuhong	Non-independent Director, Member of Risk and Audit Committee, Member of Nomination, Compensation and Evaluation Committee	Senior accountant
Wuhan Jing	Non-independent Director, Member of Strategy and Investment Committee, Member of Security and Environment Committee	Senior engineer
Yu Guoping	Non-independent Director, Member of Strategy and Investment Committee, Member of Security and Environment Committee	Senior engineer
Guan Jieli	Non-independent Director, Member of Strategy and Investment Committee, Member of Security and Environment Committee	Researcher-level senior engineer
Tang Liang	Non-independent Director, Member of Strategy and Investment Committee, Member of Nomination, Compensation and Evaluation Committee	—
Luo Xiaowei	Employee Director, Board Secretary	Economist, Senior political engineer

The nomination and election of the four independent directors were in compliance with the applicable laws, regulations and the *Articles of Association*. The independent directors do not have any relationship with the Company that affects their independence. They are competent for the job with their educational background, career history, expertise and professional skills. They give play to their expertise, remain strictly independent and earnestly implement their duties and obligations. In addition, by actively participating in corporate governance and the decision-making for major issues, and offering independent opinions on the Company's periodic reports, profit distribution, director replacement, non-public issuance, connected transactions, etc. they effectively protect the lawful rights of the Company and minority shareholders.

There are four committees under the Board of Directors: Strategy and Investment Committee, Risk and Audit Committee, Nomination, Compensation and Evaluation Committee and Security and Environment Committee. With a highly responsible attitude toward shareholders, the special committees give play to their respective expertise in development strategy, major investment, financial audit, executive compensation and performance appraisal, etc., and provide strong support for the scientific decision-making of the Board of Directors. In 2021, the Board held 12 meetings.

The Board of Supervisors

The Board of Supervisors implements supervision in accordance with laws and regulations to safeguard the lawful rights of the Company, shareholders and creditors, and ensure the healthy development of the Company. In 2021, after the term of the third Board of Supervisors expired, the fourth Board of Supervisors was elected following relevant procedures and The Company Law, The Securities Law, Rules Governing the Listing of Stocks on Shanghai Stock Exchange and the Articles of Association. The fourth Board of Supervisors consists of 5 supervisors, including 2 employee supervisors, accounting for 40% of the total, and 2 female supervisors (including 1 employee supervisor), another 40% of the total.

The General Meeting of Shareholders

In 2021, the Board of Directors convened four General Meetings of Shareholders, including one annual meeting and three extraordinary meetings. All the above meetings were convened in compliance with The Company Law, The Securities Law, Rules and Procedures of the General Meeting of Shareholders, and Articles of Association. The qualifications of the attendees and conveners were legal and valid, so were the procedures and results of voting at the meetings.

Governance Mechanism

CNNP continues to improve institutional arrangements and strives to build a modern corporate governance system to enhance corporate governance capabilities and promote the Company's sustainable development. In 2021, CNNP was included by the SASAC in the List of Model Enterprises in Improving Corporate Management among Key State-Owned Enterprises and the List of Demonstration State-Owned Enterprises in Corporate Governance, and its Board of Directors won the Golden Round Table Award for Special Contribution to Board Governance.

The Decision-making System Composed of "the Articles of Association, Three Regulations and Four Rules"

Benchmarked against world-class peers, we moved faster to build a modern corporate governance system with Chinese characteristics. We optimized the structure of the Board of Directors, and promoted the decision-making system composed of "the Articles of Association, Three Regulations and Four Rules" across the board. We implemented democratic centralism following the collective decision-making system for decisions on major matters, appointment and removal of key-post holders, major project arrangement and the use of large amount of funds. Fourteen company policies were revised and updated based on the responsibilities of decision makers such as the Party Committee and the Board of Directors, the Company's reform and development direction, the reality of corporate operations and management. We also improved the list of decision-making matters, and clarified the rights and responsibilities of each decision-making body, to lay a solid foundation for each decision-making body to perform their duties scientifically and improve corporate governance.

Integrated Supervision System

In 2021, the Company pressed ahead with the integrated supervision system across the board, and subjected corporate governance to the Party's leadership and supervision. We also gave full play to the role of supervision in ensuring execution and promoting improvement and development, thereby providing a strong political guarantee for the CNNP's high-quality development.

We have improved the integrated supervision system, and sorted out systems on discipline inspection, supervision and auditing to form 28 regulatory documents.



We have built a pattern of joint supervision, held meetings on cooperation on integrated supervision, prepared briefings on integrated supervision regularly, and created an information sharing and communication platform. We have built a two-tier talent pool for integrated supervision with 586 backbone members.

We have built an integrated supervision platform based on audit informatization. It lays a solid foundation for full integration of businesses, auditing and discipline inspection and the establishment of a first-class integrated supervision information sharing center for central SOEs.

Compliance Operation

We adhere to law-based corporate governance, and strictly abide by laws and regulations such as *The Company Law*. We strengthen compliance management, raise employee's compliance awareness, and strive to foster a compliance culture that involves everyone, covers every aspect and is present all the time, and build a compliance management system featuring comprehensive coverage, clear division of rights and responsibilities, and well-coordinated and effective execution.

In 2021, the *CNNP Compliance Manual* was released to regulate corporate compliance in 10 aspects, including safety, quality, environmental protection, occupational health, market transaction, labor and employment, and corporate governance. We have clarified compliance behaviors when dealing with stakeholders such as employees and partners, and signed the letter of compliance commitment with employees. We have improved the whistle-blowing channels for stakeholders on wrongdoings, and ensured that we could build the Company's core competitiveness and achieves high-quality development through compliance management involving all employees and all business segments.

Enterprise Risk Management

We strengthen enterprise risk management (ERM), and improve the organizational structure, and systems and quantitative models in accordance with the *Guidelines on the Operation of Board of Directors Audit Committees of Companies Listed on Shanghai Stock Exchange, Articles of Association*, the Implementation Rules for the Risk and Audit Committee of Board of Directors, and other relevant laws and regulations. By incorporating risk management into corporate operation, we strive to improve the Company's risk prevention and control capabilities.

Improving the organizational structure for risk management

The organizational structure for ERM is composed of the decision-making and executive levels. The decision-making level, made up by the Board of Directors and the Risk and Audit Committee, supervises and evaluates the practices of external audit institutions, guides internal audit and risk management, and reviews the Company's financial information (including its disclosure), major projects and important interim reports, etc. The executive level, composed of business divisions, the centralized risk management department, and the discipline inspection, supervision and audit department, helps CNNP avoid risks and ensure stable operation.

In 2021, the Risk and Audit Committee had five members, including four independent directors: a senior accountant, a senior economist, a senior engineer, and a lawyer. They worked together to conduct independent and effective audits, avoid corporate risks, and thus better protect shareholders' interests. Throughout the year, CNNP organized 28 internal audits in five areas.

Improving systems and mechanisms for risk management

The risk management system was improved. In 2021, the headquarters formulated a series of risk management procedures such as Enterprise Risk Management and Risk Assessment and Procedural Compliance Review of Major Projects (Matters), which, upon completion, were sent to member companies in an effort to facilitate them establish and improve the risk management system and provide an institutional basis for risk prevention and control.

The reporting mechanism for major risks and routine risk management was established. In 2021, we identified major risks of the year and clarified the reporting requirements and channels of major sudden risks and daily risks; on a monthly basis, we reported the control status and red/yellow/green (RYG) indicator of major risks and timely issued corresponding risk alerts.

The quantitative early-warning indicator system for major risks was also established and put into operation. In 2021, we set early warning indicators for major risks, realizing the transformation from qualitative to quantitative indicators, to help objectively reflect the current status of major risks and predict the trends of these risks, ensuring that the Company's major risks were controllable and contained.

Developing a quantitative risk assessment model

A working group was established for quantitative assessment of major risks. In 2021, four quantitative assessment models for major risks were basically built, such as the quantitative risk management model for investment and progress of engineering construction projects. After data verification, some of the four models proved to work well in identifying and issuing early warnings against major risks. To promote lean risk management, we will continuously improve the design, accuracy and practicability of risk quantification models.

Executive Equity and Other Compensations

Upholding the management principle of "strategic orientation, match between risks and rewards, and more pay for more work," the Nomination, Compensation and Evaluation Committee has established an evaluation mechanism for executives, and strengthened the linkage between the evaluation of their economic, social and environmental performance and remuneration and incentives with an effort to fully boost internal momentum for development and ensure sustainable corporate development.



The Management Body

- The Nomination, Compensation and Evaluation Committee consists of 5 outside directors, of which the chairman and two members are independent directors.
- The committee is responsible for formulating evaluation criteria for directors and executives, evaluating their performance and putting forward suggestions, and developing and verifying remuneration policies.

Remuneration management and appraisal mechanism



- The committee has established the executive performance management and annual salary management mechanism. According to the Implementation Rules for the Nomination, Compensation and Evaluation Committee under the Board of Directors of China National Nuclear Power Co., Ltd., independent directors receive allowances as decided by the General Meeting of Shareholders, the scores of executives in the annual performance appraisal shall be considered in the compensation scheme, and the annual performance appraisal and compensation scheme be implemented once approved by the General Manager's Office, the Board of Directors, and the General Meeting of Shareholders. Some directors and executives are granted equity as an incentive.
- Remuneration and appraisal are linked to the Company's sustainable development indicators. Specifically, obligatory indicators targeting safety, environmental protection, etc. are set up to assess the management's performance and the results are linked to their pay. In case of safety or environmental incidents of varying degrees, the management personnel responsible will be punished with a proportional pay cut and be held accountable.

Ethics Policies and Practices

CNNP is against any act of corruption, and investigates every corruption clue reported. The Company has stepped up efforts to fight corruption and uphold integrity, and has integrated improving conduct and enforcing discipline with the effort to improve systems and governance. A long-term anti-corruption mechanism is established that integrates institutional guarantee, supervision and audit, special rectification, and moral training, to create a clean and upright atmosphere.

The Management Body

Abiding by *The Anti-Unfair Competition Law*, *The Anti-Money Laundering Law*, and the *Interim Provisions on Prohibition of Commercial Bribery of the State Administration for Industry and Commerce*, CNNP has set up the Risk and Audit Committee under the Board of Directors for communicating with external auditors, supervising and reviewing their work, and regulating internal auditors. The Risk and Audit Committee assigns audit, financial and discipline inspection personnel to regularly audit all business operations, including finance, sourcing, and engineering construction. They evaluate the Company's operating performance from the perspective of risk management, identify areas for improvement, formulate action plans, and carry out special rectification to eliminate corruption and other illegal activities.

Policies and Actions

Improving policies

We improved the policies on business ethics and strictly managed ethical business practices in all areas of our business. *Assessment Measures for the Secretary of Disciplinary Committee and Full-time Discipline Inspection Cadres of Subsidiaries of CNNP* and the *Inspection Manual* were released. We organized relevant personnel to sign the responsibility letters for improving Party conduct and upholding integrity, and implemented the list of responsibilities. We refined 58 policies governing human resources, sourcing management, finance, discipline inspection and supervision, and audit. In addition, we have signed integrity agreements and anti-corruption provisions with all suppliers. In 2021, there was zero sourcing-related corruption case.

Strengthening supervision

We coordinated the activities of disciplinary inspectors, auditors and supervisors, and implemented more than 140 integrated supervision tasks through the coordination of discipline inspections and audits, vertical coordination, and horizontal coordination with business departments, enabling us to strengthen supervision over key business areas and rectify existing problems.

Conducting moral education

We continued to improve the integrity culture, and launched the Anti-corruption and Integrity Month campaign with such activities as seminars, lectures given by Party secretaries, on-site education, etc. In order to strengthen deterrence, the Discipline Inspection Commission twice notified all discipline inspection and sourcing personnel of typical internal cases of wrongdoings. We have also organized personnel to watch *The Hunt*, an anti-corruption film produced by the Central Commission for Discipline Inspection (CCDI), and invited CNNC's discipline inspection and supervision experts to give lectures on preventing sourcing-related corruption risks, which attracted an audience of more than 1,100.

Whistleblower Protection

The Discipline Inspection Commission (Office for Discipline Inspection and Supervision) is responsible for managing anti-bribery compliance, whistleblowing on business ethics, etc. We have issued the *Discipline Inspection and Supervision - Complaint Management Guide*, and created safe whistleblowing channels that allow employees and third parties who have contacts with the Company to report any misconduct and criminal acts, issues related to risk prevention or ethics, as well as other issues about accounting, internal audit, money laundering, bribery, environmental crimes, etc., to the Discipline Inspection Department in secrecy in anonymity or real name by phone call, email, correspondence, or in person at the designated place. The Discipline Inspection Department will keep relevant materials and information confidential, and is prohibited to disclose any information of the whistleblowers, anonymous or not.

Investor Relations

CNNP effectively safeguards the lawful rights of shareholders. To this end, we keep communication channels unblocked, listen to shareholders' and investors' opinions and feedback, and guarantee accurate and standardized disclosure. Through two-way communication, we continuously improve the transparency of corporate operation and endeavor to establish more stable, more trustworthy and harmonious investor relations. In 2021, CNNP won China Securities Golden Bauhinia Award, awarded one of the Listed Companies with Best Investment Value during the 14th Five-Year Plan period.

Information disclosure

Periodic reports disclose authentic, accurate and complete information about our operation performance and core competencies to the capital market in a timely and fair manner, and help investors understand the Company's development and wins their recognition. In 2021, 109 periodic or ad hoc announcements were released.

Transparent communication

We organized online interaction on sns.sseinfo.com, performance review meetings and field visits to nuclear power plants, live-streamed these events online and held conference calls to communicate with investors the investment value of the Company.







In 2021, the press conference on the 2020 business performance was held offline, live-streamed online and open to conference calls simultaneously, warmly received by investors. It was recognized by SSE Roadshow Center and promoted as a good practice.

ESG Management

ESG Risk Identification and Management

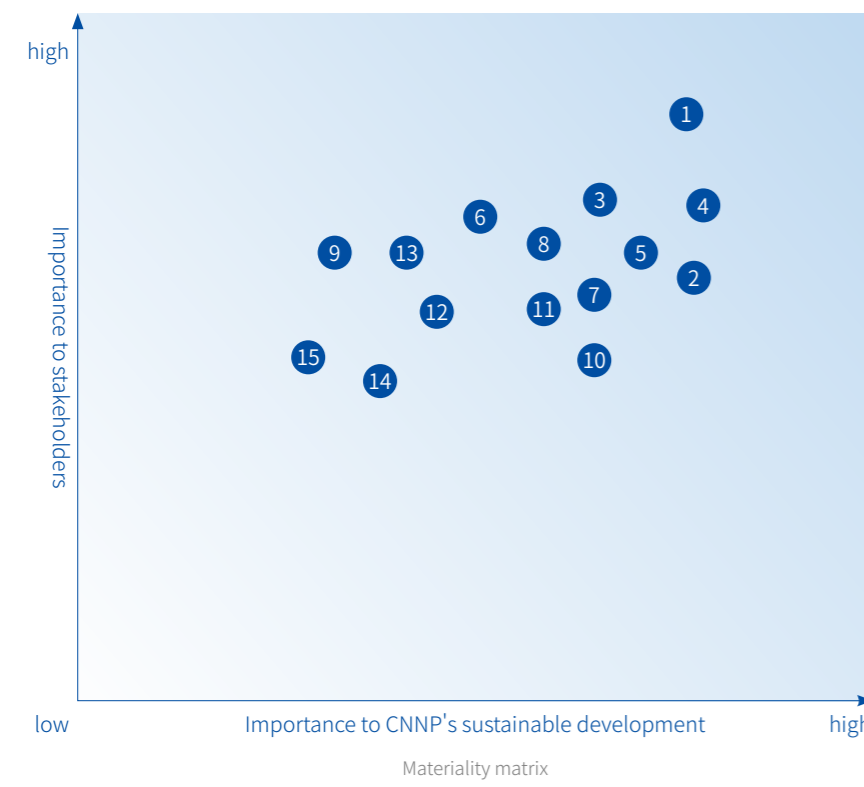
Taking into account the impacts of national policies, power system reform, climate change and other factors on CNNP's development strategy and business operation, we identify and manage ESG risks on an ongoing basis to improve risk prevention & control capability and contribute to more efficient, reliable and sustainable development.



	Governance		Environment		Society	
ESG Opportunities and Risks	 Corruption risks	 Power sales	 Addressing climate change	 Renewable energy development	 Impacts of hazardous emissions	 Human capital development
Impacts on CNNP	<ul style="list-style-type: none"> Corruption destroys a fair market, undermines capital allocation efficiency, and thus affects the Company's innovation and long-term development. Corruption scandals pose instability and market risks. 	<ul style="list-style-type: none"> The openness of the electricity terminal market provides opportunities for the Company to provide power distribution and supply services. The reform of the power system has been steadily advanced. The power market structure and market system with effective competition are being formed; the power transaction scale is gradually expanding; and the proportion of electricity traded in the market-oriented manner is increasing year by year. But there exist uncertainties in power sales. 	<ul style="list-style-type: none"> Climate change causes extreme weather and natural disasters which will affect construction progress and cause the risks of damage to assets and infrastructure. Since China proposes carbon peak and carbon neutrality goals, regulatory and investment institutions have raised stricter requirements on information disclosure of carbon emissions, emission reduction measures, quantitative targets and performance of businesses. 	<ul style="list-style-type: none"> The renewable energy sector faces a host of problems such as shrinking subsidies, high requirements for grid dispatching and operation, and project financing difficulties. With the increase in the number of new energy market players and investment intensity of major energy groups, competing for the market share is a challenge. 	<ul style="list-style-type: none"> The radioactive waste, waste liquid and exhaust gas discharged from nuclear power plants must go through strict treatment before discharge to prevent harm to the environment and human body. During construction and operation, nuclear power plants generate non-radioactive waste such as general solid waste and hazardous waste, which may cause air pollution, water pollution, solid waste pollution, and other environmental risks. 	<ul style="list-style-type: none"> Human resources loss and turnover cause rising re-employment costs and lack of technical personnel in important positions. The public tends to overestimate the risks of nuclear power, which reflects badly in personnel recruitment.
CNNP's Response	<ul style="list-style-type: none"> CNNP has developed a variety of complaint and whistle blowing channels in an effort to engage stakeholders in anti-corruption. 	<ul style="list-style-type: none"> CNNP pays close attention to policies on spot power transaction and direct power transaction, and seeks to enlarge the proportion of government-authorized power contracts. In addition, we market our electricity with a focus on "adequate supply and competitive price." 	<ul style="list-style-type: none"> CNNP enhances cooperation with meteorological departments, improves the organization and planning system for emergency response, upgrades emergency equipment, and prepares emergency materials so as to better respond to meteorological emergencies and natural disasters. CNNP actively participates in the carbon trading market and discloses carbon emission data and measures. 	<ul style="list-style-type: none"> CNNP develops non-nuclear clean energy sector, focuses on wind and solar power generation business, promotes the connectivity and mutual support of different energy modes, and has achieved a substantial increase in photovoltaic and wind power generation. CNNP integrates resources to build the comprehensive energy base to extend to upstream and downstream industries. CNNP promotes the application of nuclear energy in more fields and speeds up the development of non-nuclear clean energy. 	<ul style="list-style-type: none"> In line with nuclear safety laws and regulations, CNNP strictly reviews discharge applications and steps up efforts to minimize the amount of radioactive waste generated. All nuclear power plants of CNNP improve monitoring of automation, standardization and informatization, promote work toward issuing early warnings against environmental quality problems detected, and strengthen emission monitoring and oversight. 	<ul style="list-style-type: none"> CNNP implements the Elite Programme to accelerate the cultivation of "four types of specialized talents (academicians, chief experts, technology pioneers, personnel with high potentials of leadership and business operation)" and personnel of international competitiveness. Moreover, CNNP promotes employee growth by launching technological R&D projects, publishing the list of outstanding employees, etc. CNNP provides employees with diversified material and cultural support and services to attract and retain talents.

Materiality Management

Based on the macro environment of sustainable development and our corporate development plan, CNNP, in accordance with the principles of materiality, integrity and stakeholder engagement, identified and ranked the material ESG topics for the year 2021 according to their "importance to CNNP's sustainable development" and "importance to stakeholders," made full disclosure on them, responded to the expectations and demands of various stakeholders, and strengthened their daily management.



- List of material topics
- Toxic emissions and waste management
 - Deployment of the new energy industry
 - Transparent communication
 - Monitoring of environmental impacts
 - Reduction of carbon emissions
 - Occupational health and safety
 - Talent development and training
 - Employee care
 - Rural revitalization
 - Water resource management
 - Employee rights
 - Community engagement
 - Energy conservation and consumption reduction
 - Biodiversity protection
 - Charity

ESG Disclosure

To completely, accurately and objectively update internal and external stakeholders on CNNP's ESG performance, we have established and improved the working mechanism of ESG disclosure. We specify the department and contact person for ESG reports, coordinate functional departments and member companies to prepare and review ESG reports which are released with the approval of the Board of Directors. Since 2018, we have annually released the *Environmental, Social and Governance Report*, actively implemented ESG management and practices, and endeavored to improve ESG management. In 2021, we were named on the list of outstanding cases of ESG management by the Listed Companies Association of Beijing.

Adhering to the "3C" - Confidence, Connection and Coordination - communications principle, CNNP continuously develops disclosure channels and enhances the disclosure of non-financial information via the official website, WeChat official account, press conferences, CSR reports and other channels. Our multi-channel and multi-approach transparent communications have won the recognition of the public.

Q&A

Q Question: In recent years, the public has gradually restored confidence in nuclear power development and the nuclear power industry has been recovering. Could you tell us what you have done to boost public confidence in nuclear power development?

A Answer: We continue to popularize the science of nuclear power in various forms to the general public, striving to win their understanding and support. We strengthen precision management of stakeholder communication. The *Stakeholder Communication and Management Manual* was prepared. We regularly hold China Nuclear Power Week and "Appealing Nuclear Power" science popularization activity every year. Moreover, we have built nuclear power science and technology museums and science popularization & exhibition halls, and timely responded to the public concerns on nuclear power radiation and nuclear power safety, among others. Our science popularization activities have reached stakeholders including students from primary schools, middle schools, to colleges, residents living nearby, and investors.

Case | The ninth CNNP "Appealing Nuclear Power" science popularization activity

CNNP is committed to public communication. The popular science activities organized over these years have won us the trust of the public. Through cooperation with the media and Internet influencers, we bring nuclear science close to the general public. Aiming for the long run, we sow the seed of nuclear science in the heart of students and have built a few popular nuclear science brands such as the "Appealing Nuclear Power." In 2021, the "Appealing Nuclear Power" science popularization activity was upgraded and became part of the debut of the musical *Glory of the Nation* to mark the 30th anniversary of grid-connected power generation of Qinshan Nuclear Power Co., Ltd. We invited influencers on Weibo to watch the activity, held the Open Day for journalists, and published *China Nuclear Power*, the country's first picture book on popular nuclear power science targeting adolescents. A diversity of activities were launched online or offline and recommended on Weibo, Kuaishou, WeChat Channel, etc., accumulating experience in building nuclear power science popularization brands and exploring new paths in this respect. By the end of 2021, the "Appealing Nuclear Power" science popularization activity had attracted over three million participants from 34 provincial regions.



Various popular science activities to raise public awareness of nuclear power

Environment

Q&A



After China proposed to peak CO₂ emissions before 2030 and achieve carbon neutrality before 2060, what are your priorities in the business development plan? In particular, do you have a clear target for the installed capacity of clean energy?



In our development plan for the 14th Five-Year Plan period, we clearly propose to increase the installed power capacity to 56 GW by 2025, including 26 GW of nuclear energy and 30 GW of other clean energy. According to the operation schedule of nuclear power units during the 14th Five-Year Plan period, Unit 5 of Fuqing Nuclear Power Plant and Unit 6 of Tianwan Nuclear Power Plant were put into operation in 2021, followed by Unit 6 of Fuqing Nuclear Power Plant on March 25, 2022, and Unit 1 and 2 of Zhangzhou Nuclear Power Plant scheduled in 2024 and 2025 respectively. By the end of 2025, our installed capacity of nuclear energy will increase by nearly 5 GW.



Identification and Control of Environmental Risks

CNNP strictly complies with *The Environmental Protection Law*, *The Law on the Prevention and Control of Radioactive Pollution*, *The Law on the Prevention and Control of Environmental Pollution by Solid Waste*, and other environmental laws and regulations. CNNP fulfills its responsibility to protect the ecological environment, strictly safeguards the ecological red line, the bottom line of environmental quality and the upper limit of natural resources utilization, and takes concrete measures to prevent and defuse environmental risks, thus improving the ability of environmental protection.

Identification of Environmental Risks

The Company has established a sound environmental risk prevention system, formulated the *CNNP Checklist of Environmental Risks*, and strictly prevented various environmental risks to ensure ecological security. Through risk identification, regular investigation, development of the management platform and emergency response drills, we take comprehensive measures to prevent and defuse environmental risks, and get fully prepared for environmental emergencies to effectively cope with environmental risks and effectively prepare for environmental emergencies.



Comprehensive risk assessment

- We identified key structures, systems, and components (SSCs) that were environmentally sensitive.
- We regularly sorted out various ecological and environmental risks in the whole process from production equipment to effluent discharge outlets, and assessed their environmental risks.



Standards for risk classification and management

- *Classification Standards for Hazard Sources in Nuclear Power Plants* and the *Implementation Guidelines for Sensitive SSCs to Industrial Safety and Environmental Protection* were formulated and promoted at nuclear power plants.



Hazard elimination with better management

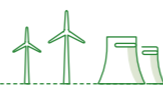
- The visualized management platform was improved to achieve full coverage of safety management and supervision, and effectively identify hazards, control safety risks, and identify and eliminate potential hazards.



Quicker response through drills

- We have established the nuclear emergency standards and guidelines, and continuously improved the emergency response plan.
- We strengthened capacity building in response to environmental emergencies, organized regular trainings and enhanced our emergency preparedness and response.

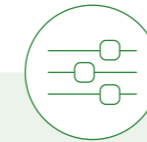
Case | Jiangsu Nuclear Power Co., Ltd.'s classification and management of environmentally sensitive SSCs



In 2021, Jiangsu Nuclear Power Co., Ltd. continued with the classification and management of environmentally sensitive SSCs and zones, and compiled classification standards. It organized the identification of environmentally sensitive SSCs, and formulated targeted management measures for SSCs at different levels. It was the first to classify SSCs according to their environmental sensitiveness, identified the environmentally sensitive equipment in the plant, and developed targeted management measures with the support of procedures, forms and data, according to its risk level. The practice was recognized as a strength by the Moscow Center of World Association of Nuclear Power Operators (WANO).

Environmental Management Strategy

In strict compliance with the *Guidelines for the Identification and Evaluation of Environmental Factors* and the *Environmental Monitoring Management Guidelines*, the Company has improved the leaders' responsibility system for environmental governance, updated environmental protection goals, and established a system to reward environmentally friendly practices and punish pollution. We include environmental protection performance into the MKJ assessment system and strengthen environmental performance assessment and accountability. By the end of 2021, all our nuclear power plants were certified by the ISO 14001 environmental management system.



Organizational system for environmental management

- **Improve the organizational structure for environmental management:** Chairman/Party Secretary and General Manager are the first responsible persons for environmental management. The deputy general manager in charge of environmental protection assumes direct responsibility for environmental protection and monitoring. The Safety and Quality Department oversees the Company's environmental protection.
- **Fulfilling environmental management responsibilities:** The headquarters assumes management responsibility for environmental protection, and the Party committee deliberates on environmental protection as an important issue. Our subsidiaries have clarified environmental protection responsibilities of each department and staff at each level, and formulated a list of environmental protection responsibilities to be fulfilled.
- **Strict performance evaluation and accountability:** We have established a system to reward environmentally friendly practices and punish pollution. We include environmental protection performance into the MKJ assessment system and strengthen assessment and accountability.
- **Strengthening special inspections and supervision:** Environmental work is subject to the inspection and supervision of the Party committee and the discipline inspection department. The discipline inspection and supervision department continuously monitors nuclear safety and environmental status for better environmental governance and high-quality development.



Key tasks of environmental management

- **Financial investment:** We continue to increase investment in environmental protection and optimize the expenditure structure to effectively solve outstanding environmental problems.
- **Project compliance:** All the projects under construction, including new projects, reconstructions and expansions, shall strictly comply with national environmental impact assessment system, and see to it that the environmental protection facilities and the main body of the project are designed, constructed, and put into use simultaneously.
- **Environmental awareness improvement:** By incorporating environmental protection into the training system for employees and Party leadership, we guide employees to voluntarily fulfill their environmental responsibility.
- **Disclosure of environmental governance information:** We disclose environmental governance information, respond to public concerns timely, and take actions to promote environmental governance.

Environmental management objectives

General objectives

Further improve the leaders' responsibility system for environmental governance, the action system of all staff, the risk prevention system, the environmental monitoring system, as well as the nuclear and radiation and non-radioactive waste environmental management system at the headquarters and subsidiaries; Comprehensively improve the environmental protection ability and environmental quality; Bring various environmental risks under effectively control; Form an environmental governance system with clear division of responsibilities, specific targets, scientific decision-making, participation of different parties, and strong execution.

Specific objectives

Nuclear and radiation fields

- Continuously improve the environmental protection capacity of nuclear power plants; Put gaseous and liquid effluents from nuclear facilities under stricter control; Maintain good environment quality of surrounding radiation area.
- Further improve effluent and environmental monitoring.
- Strengthen the management of temporary storage of solid waste; Take a special action to minimize waste; Ensure safe storage of solid waste.
- Improve radiation safety management and ensure overall radiation safety of the nuclear power plants.

Non-radioactive fields

- Clarify environmental responsibilities at all levels, and improve the environmental protection management system.
- Keep air pollution control and wastewater treatment facilities running safely and steadily, and safety store and dispose of solid waste and hazardous waste.
- Comprehensively enhance our basic environmental protection capabilities.

Environmental Impact Monitoring

The Company acts in strict accordance with environmental laws and regulations, and assists regulators in environmental monitoring of nuclear power plants. Each plant has updated the *Environmental Monitoring Outlines* and continuously conducted environmental monitoring of surrounding areas. In 2021, during the normal operation or refueling and overhaul of nuclear power plants, the environmental quality of surrounding areas had no obvious difference from the baseline survey results, and no impact on the surrounding environment was detected.

Strict compliance

- According to *Environmental Radiation Protection Regulations of Nuclear Power Plants* (GB6249-2011) and *Regulations for Environmental Radiation Monitoring of Nuclear Power Plants* (EJ/T 1131-2001), we have effectively monitored the surrounding areas of nuclear power plants, and submitted monthly and annual environment monitoring reports.

Improved monitoring

- We have conducted internal management reviews regularly, established stable and reliable quality assurance systems, and strengthened the training of monitoring personnel who can only take positions after acquiring relevant qualifications through training.
- We support environmental monitoring laboratories to apply for the certification of China National Accreditation Service for Conformity Assessment (CNAS).

Enhanced IT application

- All our nuclear power plants have enhanced their automation, standardization and IT application to better forecast and issue early warnings against environmental quality problems.

Development and Utilization of Clean Energy

In response to the national policy to build a "clean, low-carbon, safe and efficient energy system", CNNP has built an industrial pattern featuring "nuclear energy, non-nuclear clean energy and emerging agile industry" and continuously promoted the development of renewable energy, so as to provide customers with more green energy options.

Clean Nuclear Energy

At this new stage of development, CNNP "actively develops nuclear power in a safe and orderly manner," vigorously promotes the commercial operation of home-grown third-generation nuclear reactor, and supports the development of the high temperature gas-cooled reactor, the fourth-generation nuclear power technology. The Nuclear Energy Business Development Department is responsible for coordinating the development and site protection of nuclear power projects and considering local needs to ensure that the site selection is aligned with the distribution of power stations and local development plan, and steadily advance the development of new nuclear power projects.

Year	Power generation of nuclear power units (TWh)	Equivalent to reduction in standard coal consumption (10,000 tons)	Equivalent to reduction in CO ₂ emissions (10,000 tons)
2018	117.847	3712.43	9726.6
2019	136.214	4181.77	10956.24
2020	148.336	4531.66	11872.96
2021	173.123	5236.97	13720.86

The Clean Energy Development Plan (2021-2025)

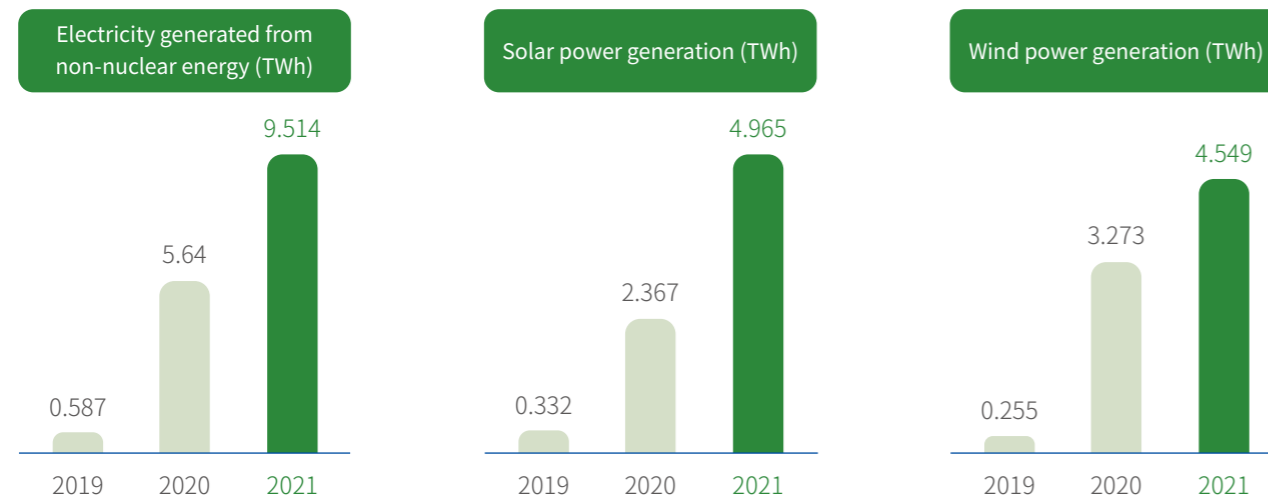
- Based on the nuclear power industry, we will carry out the "nuclear power plus" strategy in an orderly manner to promote multi-purpose commercial utilization of nuclear energy, vigorously develop nuclear power technical services, and foster high-quality development of non-nuclear clean energy.
- We will break new ground in multi-purpose utilization of nuclear energy. The output value of nuclear power technical services is to be doubled. The value of the non-nuclear clean energy industry is to reach 10 billion yuan.
- The installed capacity of operational units is to reach 56 GW, including 26 GW of nuclear power and 30 GW of non-nuclear clean energy.

Case | Hualong One, the third-generation nuclear reactor with proprietary intellectual property rights, is officially put into operation

On January 30, 2021, Hualong One was officially put into commercial operation in Unit 5 of Fuqing Nuclear Power Plant. Using the third-generation nuclear power technology with proprietary intellectual property rights, it is safer than the second-generation nuclear power technology and has a much lower failure probability. After the Hualong One demonstration project is fully completed and put into operation, its two units are expected to generate nearly 20 TWh of electricity per year, equivalent to reducing standard coal consumption and CO₂ emission by 6.24 million tons and 16.32 million tons respectively, or to planting 140 million trees, with significant economic, social and environmental benefits. The project is of great significance to optimizing China's energy mix, promoting green and low-carbon development, and achieving the carbon peaking and carbon neutrality goals.

Renewable Energy

CNNP has optimized the development plan for renewable energy and accelerated renewable energy development, especially photovoltaic power and wind power. In 2021, the Company acquired 100% of equity of CNNP Rich Energy Co., Ltd, a key step in its development of non-nuclear clean energy, and moved faster to develop "nuclear energy plus non-nuclear clean energy" business. By the end of 2021, CNNP's non-nuclear clean energy achieved an installed capacity of 8,873.3 MW, with that of projects under construction of 1,921.8 MW and that of pre-startup projects of 6,174.5 MW.



With the specialized platform for the development, construction and operation of non-nuclear clean energy projects, CNNP continuously expands the market of wind power, photovoltaic power, and geothermal energy, and explores new business fields such as charging piles, hydrogen energy, energy storage, and comprehensive energy utilization. We promote various forms of cooperation to improve our project development capabilities. Our domestic projects are distributed in 30 provincial regions. At the same time, we also run overseas projects to expand the market and scope of non-nuclear clean energy.

We plan to increase the installed capacity of projects in operation to 30 GW and that of projects under construction to 3 GW by the end of 2025, including onshore wind power, offshore wind power, photovoltaic power at home and abroad, geothermal energy, charging stations, and comprehensive energy service parks, to provide customers with a variety of green energy options.

Major projects connected to the grid in 2021

December 7, 2021	December 22, 2021
<p>Liugudun Salina 99.5 MW Photovoltaic Power Project in Minghua town, Sunan county</p> <p>This project is among the first new energy projects connected to the grid in Gansu province. After the grid connection is fully completed, it is expected to supply 178.427 GWh of electricity to the grid each year, which can reduce about 57,100 tons of standard coal consumption and smoke and dust emissions, SO₂ emissions and CO₂ emissions by about 626.34 tons, 1,501.35 tons and 15,400 tons per year.</p>	<p>CNNP Yumen Qidun Salina Wind Power Project</p> <p>With an installed capacity of 400 MW, it is the largest wind power project of CNNP Rich Energy Co., Ltd. The annual power generation connected to the grid is about 655 GWh, equivalent to reducing 209,600 tons of standard coal consumption and 622,300 tons of CO₂ emissions.</p>

Multi-purpose Utilization of Nuclear Energy

The Company continues to promote safe and efficient development and comprehensive utilization of nuclear energy. In addition to power generation, we are exploring the use of nuclear energy in such areas and scenarios as hydrogen production, heat and steam supply, seawater desalination, and regional energy supply.

Case | Zhejiang Haiyan Nuclear Heating Demonstration Project, the first nuclear heating project in southern China



Zhejiang Haiyan Nuclear Heating Demonstration Project (Phase 1), completed by Qinshan Nuclear Power Co., Ltd., was the first nuclear heating project in southern China, and was officially put into operation on December 3, 2021. With a heating area of 460,000 m² it has benefited nearly 4,000 households with nuclear heating. Once the project reaches its full capacity, each year it is expected to reduce the consumption of electricity and standard coal by 196 GWh and about 24,600 tons, and CO₂ emissions by about 59,000 tons, equivalent to afforestation of 230 football fields every year.



The ceremony for operation of Zhejiang Haiyan Nuclear Heating Demonstration Project


Reduction in Carbon Emissions

CNNP has accelerated carbon reduction by carrying out carbon reduction management in the whole process of project construction and operation, continuously promoting energy conservation and efficiency enhancement of key equipment, and cutting greenhouse gas emissions.

Carbon Reduction Goals

In response to China's carbon peaking and carbon neutrality goals, our power plants in operation have broken down the emissions reduction targets into all aspects of the plant operation. The four indicators, namely "comprehensive energy consumption per 10,000 yuan of added industrial value, comprehensive energy consumption per 10,000 yuan of output value, CO₂ and SO₂ emissions per 10,000 yuan of industrial output value," are included in the *CNNP MKJ Management and Evaluation Measures* to measure the annual performance of nuclear power, wind power, and photovoltaic power plants. Energy conservation and emissions reduction analysis reports are prepared and submitted on a quarterly basis.

Case | Hainan Nuclear Power Co., Ltd. contributing to Hainan's carbon peaking and carbon neutrality goals



Since they were put into operation, Unit 1 and 2 of Hainan Nuclear Power Co., Ltd. have supplied 50.67 TWh of clean energy for key organizations in industry, construction, transportation and commercial distribution sectors, as well as public institutions in Hainan province, covering industries of petrochemicals, chemicals, building materials, steel, nonferrous metals, and paper, electric power, etc. It is equivalent to reducing the standard coal consumption and CO₂ emissions by 15.6063 million tons and 40.8885 million tons respectively, or 169,600 hectares of afforestation. The company has made outstanding contributions to building a clean energy system and achieving the goals of carbon peaking and carbon neutrality on the island at an earlier date.


Low-carbon Operation

Nuclear power generation produces zero greenhouse gas (GHG) which mainly comes from plant construction, refueling overhaul and office operations. In response, we introduced low-carbon technologies to the energy-intensive operational links to reduce carbon emissions during project construction and operation.

In implementing their tasks of emissions reduction of the year, each plant broke down the annual emissions reduction targets into sub-targets for electricity consumption, water consumption, electricity consumption for construction, power generation, and industrial added value of each unit. These sub-targets were then included in the performance management of the production planning department, operation department or other relevant departments in charge. The energy conservation committee under the energy conservation management department of each plant was responsible for coordinating overall management, regular statistical analysis and prediction, identifying risks and making countermeasures to ensure the accomplishment of energy conservation sub-targets.


Project design	Project construction	Project operation
<ul style="list-style-type: none"> We organized environmental impact assessments and research on environmentally friendly development, and promoted green and eco-friendly construction design and technical schemes to achieve "zero emission" of carbon dioxide. We reduce carbon dioxide emissions by optimizing concrete casting by industrial means. 	<ul style="list-style-type: none"> We have enhanced resource coordination and promoted intensive and lean management to reduce construction costs. We introduced new construction technologies and processes to improve construction efficiency. We have improved the material transport efficiency to reduce carbon emissions from transport vehicles. 	<ul style="list-style-type: none"> We improved the way production equipment was operated, improved equipment's energy efficiency through technology update, and phased out energy-intensive equipment, to reduce the power consumption of nuclear power plants. We advocate green offices and encourage employees to commute in a low-carbon way.

Case | Qinshan Nuclear Power Co., Ltd. promotes unit capacity increase and efficiency improvement to increase power generation capacity




The capacity increase and efficiency improvement of units are achieved by scientific and rigorous technical demonstration and testing of the performance of turbo generator units based on the existing configuration, to fully tap the potential of the units and increase the power generation capacity. With low input and high output, this can notably improve quality and efficiency. In 2021, the nameplate rating of Unit 1 of Qinshan Nuclear Power Plant No. 2 was increased to 670 MW from 650 MW, with the approval of Zhejiang Provincial Development and Reform Commission. Qinshan Nuclear Power Co., Ltd.'s successful capacity increase and efficiency improvement made it the first typical case of evaluation-based capacity increase in the domestic nuclear power industry, and set a good example for other units in this regard.

Case | Jiangsu Nuclear Power Co., Ltd. builds a "green factory" to conserve energy and reduce emissions



In 2021, based on the analysis of infrastructure, management system, energy conservation management, energy and resource input, emissions, etc., Jiangsu Nuclear Power Co., Ltd. clarified the tasks for building the green factory from 2021 to 2025 and set goals to exploit the potential for energy conservation and emissions reduction and strengthen the conservation and comprehensive utilization of resources. In 2021, the comprehensive energy consumption per unit of output value and the comprehensive energy consumption per unit product decreased by 13.77% and 13.67% year-on-year respectively. The energy consumption declined steadily. After self-evaluation, third-party evaluation, on-site inspection, data review, and recommendation by the county, municipal and provincial governments, Jiangsu Nuclear Power Co., Ltd. was awarded the title of "Green Factory" at the provincial level in December 2021.



Tackling Water Shortage

Paying attention to the management and utilization of water resources, CNNP adopts advanced water-saving technologies, strengthens monitoring of water consumption, and promotes water recycling to tackle the crisis of water shortage and continuously improve water efficiency.

Reducing Water Consumption


The Company has established a sound water management system, reduced water use in key operational activities, and employed IT to strengthen the monitoring of fresh water consumption to reduce water consumption. In 2021, the industrial water consumption decreased by about 5% year-on-year.

Key links for water conservation

- During the operation period, the cooling water system of the nuclear island equipment and the closed-loop cooling water system of the conventional island will recirculate cooling water in closed systems and supply the water for the process, equipment and water recirculation motors.
- When the system is isolated for maintenance, the maintenance staff will carefully examine the isolation boundary to make it reasonable, feasible, and as small as possible, and minimize the system's water discharge.

Formulating water policies	Applying water saving technologies	Raising awareness of water conservation
<ul style="list-style-type: none"> We have revised the <i>Regulations on the Use of Freshwater</i> to reduce the consumption of fresh water. 	<ul style="list-style-type: none"> We replaced and added metering equipment to the freshwater system for water intake, supply and use, and built a real-time online water measurement and analysis system, which can detect abnormal water intake and use in a timely manner. 	<ul style="list-style-type: none"> We posted water conservation signs to remind employees to save water and enhance their awareness of water conservation.

Case | Qinshan Nuclear Power Co., Ltd. completes and puts into production China's first smart water project for nuclear power plants



Qinshan Nuclear Power Co., Ltd. has further improved the level of lean management and strengthened water use monitoring. In December 2021, it completed and put into production the smart water management system at Chengjing Intake of Qinshan Nuclear Power Plant No. 2, the first of its kind in China's nuclear power industry. The construction team adopted a holistic approach, and overcame challenges brought by the variety of new technologies, professions, design interfaces involved, as well as all sorts of construction difficulties. In addition to automatic remote monitoring of the water intake, through the integrated application of 5G, AI, machine vision, 3D visualization and other technologies, the system can effectively improve the level of smart water management and provides strong support for reducing water consumption.



Improve Water Efficiency

During project construction and operation, the Company continuously monitors the discharge amount of wastewater and the recycling rate to improve wastewater treatment and water efficiency.

Higher standards	Upgrading of the domestic wastewater treatment station based on higher standards	We raised the standards for domestic wastewater discharge to the <i>Level A Criterion in the Pollutant Discharge Standards for Urban Sewage Treatment Plants</i> , and the recycled water is used for landscape irrigation.
Recycling	Wastewater clarification and recycling	The water discharged from sand backwash filters and carbon backwash filters is recovered to the water distribution well to be recycled in the clarifier. And the flushing slag water from the clarifier is discharged to the newly built sedimentation tank to recycle the supernatant.
	Recycling and treatment of boron-containing water	We collect and treat boron-containing water that is not polluted by impurities with the wastewater treatment system to recycle qualified boric acid.
Technology transformation	Upgrading of the chlorine production station	After the precipitation of wastewater from the electrolysis of seawater, the supernatant is recycled and the dregs are cleared.
	Transformation of the desalinated water production system	The process of "ultrafiltration, reverse osmosis, primary desalting and mixed bed" is used to increase the water utilization rate.

Case | Applying the seawater circulating cooling technology to reduce freshwater intake



In coastal areas where nuclear power plants are located, freshwater is in short supply and the allowable exploitation quantity is decreasing year by year. In response, the plants further optimized their seawater intake plan and introduced the seawater circulating cooling technology: use seawater to cool heat exchange equipment and then recirculate it in the cooling tower for reuse. This has effectively eased the shortage of freshwater intake and use in coastal areas.

Hazardous Emissions and Waste Treatment

CNNP strictly complies with environmental laws and regulations, such as *The Environmental Protection Law*, *The Atmospheric Pollution Prevention and Control Law*, and *The Law on the Prevention and Control of Environmental Pollution by Solid Waste*. We carry out internal audit of waste discharge regularly, receive regular review by competent authorities, and work actively to minimize the amount of waste generated.




Radioactive Waste

The Company continues to minimize radioactive waste. In accordance with *The Law on the Prevention and Control of Radioactive Pollution and Regulations on the Safety Management of Radioactive Waste*, all operational plants have tightened the approval of applications for waste discharges and strengthened discharge monitoring.

The headquarters has set up a taskforce for radioactive waste minimization, and each plant a corresponding team, to comprehensively manage radiation protection and radioactive waste minimization. At the beginning of the year, the taskforce would formulate the annual plan for radioactive waste management and propose radioactive waste minimization projects for approval, and review the work at the yearend, to effectively control and minimize the discharge of radioactive waste. In 2021, the treatment systems for solid waste, wastewater, and waste gases ran well, and the discharge of radioactive liquid effluents of our operational units was under effective control, which was lower than the limits set by the Ministry of Ecology and Environment.

Non-radioactive Waste

The Company manages non-radioactive waste in strict compliance with laws and regulations, such as *The Law on the Prevention and Control of Environmental Pollution Caused by Solid Waste* and *The Chemical Discharge Management*. As required by the *National Working Plan for Standardized Environmental Management and Assessment of Hazardous Waste for the 14th Five-Year Period*, the nuclear power plants have updated the *Responsibility System for the Prevention and Control of Pollution Caused by Hazardous Waste*, improved the hazardous waste management system, the registration of general solid waste and hazardous waste and sought better solutions for reducing the discharge of non-radioactive waste.

 <h4>Air pollutants</h4> <ul style="list-style-type: none"> Projects under construction are required to be equipped with and operate the facilities for air pollution prevention and control (i.e. desulfurization, denitrification and dust removal devices), and strengthen maintenance of online air pollutant monitoring equipment. We have tightened the control of fly ash and dust in open operation sites, raw material storage yards, waste slag yards, etc., and improved dust suppression measures to put fugitive emissions under strict control. 	 <h4>Wastewater</h4> <ul style="list-style-type: none"> We have strengthened the monitoring of the quality of discharged water to ensure discharge compliance. We set up sewage outfalls in strict accordance with relevant standards, and improved the maintenance of online sewage monitoring equipment to ensure the normal functioning of environmental protection equipment. 	 <h4>Solid waste</h4> <ul style="list-style-type: none"> We have implemented <i>The Law on the Prevention and Control of Environmental Pollution Caused by Solid Waste</i>, and advanced the minimization of radioactive waste to reduce its generation from the source.
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Ecological Protection

CNNP has compiled the *Special Action Plan for Environmental Protection*. Aiming to ensure ecological security and public health, and with focus on improving ecological environment, we enhanced our ability of ecological protection, and reduced the impact of the site selection, construction and operation of the power plants on biodiversity to build a green homeland for all.

Improving the Surrounding Environment

The Company earnestly implemented the Special Action Plan for Environmental Protection, firmly fostered the green mindset, regularly conducted field surveys on the plants and recorded their ecological condition. We also launched greening projects at plants to build a garden-esque environment and achieve harmony between nuclear power plants and the natural environment.

Case | Qinshan Nuclear Power Co., Ltd.'s greening effort lures egrets



Qinshan Nuclear Power Plant is located in Haiyan, a county in the north of Zhejiang province, and an important layover for migratory birds along the East Asian–Australasian Flyway. It is visited by a large number of migratory birds on their long-distance migration every year, mostly egrets. The plant always values comprehensive environmental improvement and ecological protection, and invests in greening each year. As the plant environment improves, it sees more and more egrets at the plant area and the surrounding waters year by year.



Egrets forage near the Qinshan Nuclear Power Plant

Biodiversity Conservation

The Company takes measures to protect the creatures surrounding the power plants in accordance with relevant national regulations, assesses and minimizes biodiversity impact to protect biodiversity.

Site selection

Assess the impacts on biodiversity, and formulate avoidance solutions.

Construction

Protect animals, plants and marine organisms in accordance with national regulations, and do a good job with ecological conservation.

Plant operation

Regularly monitor key indicators such as species richness and survival rate, adjust protection measures in a timely manner and reduce the environmental impact of plant operation.

Case | Hainan Nuclear Power Co., Ltd. cultivates the pearl oyster, *Pinctada maxima*, while ensuring safe operations



The pearl oyster living in the waters near Changjiang Nuclear Power Plant, Hainan, is a wild animal under Class II state-level protection and an endemic species in the South China Sea. The plant crew is actively experimenting the cultivation of pearl oysters. They farm and reproduce pearl oysters with the residual heat of the cooling water. Pearl oysters need no fish feed and thus can purify the marine environment, inhibit the growth of planktonic algae and the eutrophication of water and facilitate safe operation of the units. The project team has re-opened the oyster farming area and restored the oyster population in surrounding waters, contributing to biodiversity conservation and safe operation of the units at the same time.



Hainan Changjiang Nuclear Power Plant carries out experimental cultivation of pearl oysters

Case | Creating a friendly image to enhance public communication



While actively protecting biodiversity, CNNP mobilizes people in surrounding areas to engage in biodiversity protection. In 2021, CNNP created a series of cartoon characters bearing unique features of nuclear power plants, and named them "Colorful CNNP", namely "Double C." Each cartoon character represents a nuclear power base and has a distinct personality. They appeared a lot in various publicity activities and helped to raise public awareness of biodiversity conservation.





Society

Q&A



Human capital is the key to the success of a nuclear power company. What do you do to attract and retain talented people?



To further attract, motivate and retain core talented people, we have implemented equity incentive measures to allow core employees to grow together with the Company. The first options granted were unlocked in June 2021. By the end of 2021, 457 of the 490 recipients had exercised their options, generating remarkable incentive effects. The option incentive policy has stimulated the enthusiasm of employees for work and further strengthened their sense of gain and achievement.

Human Capital Development

CNNP always gives priority to the training of competent personnel. To this end, we continuously enhanced top-level design to institutionalized, standardize and form a system of human resources policies. We continued to optimize the personnel recruitment and selection mechanism, and made particular effort to scientifically select and carefully cultivate personnel, and put them into good use so that talented people are willing to stay and contribute. Moreover, we continuously reformed the remuneration incentive plans to maximize efficiency while ensuring fairness as much as possible.

Optimizing the Personnel Selection and Appointment Mechanism

We adopted a proper approach to personnel selection and appointment, opened multiple recruitment channels, built a three-dimensional training system, and improved talent allocation efficiency and employee loyalty in all respects. In addition, we have stepped up efforts to expand the talent pool and strengthen team building, to further spur development vitality and accumulate strength for long-term development.

Selection

Measures

- Launch the Elite Programme to recruit more high-caliber fresh graduates.
- Continue the order-based joint training programs with universities to provide targeted positions for fresh graduates.
- Organize relevant institutions to launch the undergraduate summer camps (or Open Day activities), to build up our reputation as an employer.
- Step up effort to recruit high-caliber research personnel, and fully integrate intellectual resources from research institutes and first-class universities at home and abroad.

Highlights

- In 2021, the headquarters and subsidiaries were joined by 1,283 new hires, all from open recruitment, including 32 high-caliber talents, and 19 state-level and provincial/ministerial-level experts to work part-time.

Cultivation

Measures

- Build a three-dimensional training system to pave the way for people at different levels. In particular, orientation workshops are organized to help new recruits get a good start. In optimizing the five-channel career development system, CNNP has developed promotion channels for five types of employees, covering managers, business personnel, specialized personnel, skilled personnel, and operational personnel. Moreover, CNNP has accelerated the cultivation of "four types of specialized talents (academicians, chief experts, technology pioneers, personnel with high potentials of leadership and business operation)" and internationalized personnel.
- Build a standard training system, a mentor system, a curriculum system, a training evaluation system, and an integrated training information system; organize capacity building training workshops, including training for executives, nuclear professional leadership programs, ability enhancement programs (diploma programs), training for global awareness, and specialized personnel training, etc.

Highlights

- In terms of training systems, CNNP has built a management training curriculum (46 courses in total, 15 courses of which are independently developed) and a team of 99 trainers. CNNP has established a training center, a training management center, and six training sub-centers.
- In terms of training of globally-aware personnel, CNNP has offered 195 foreign language training opportunities, covering English, French, Russian and Spanish. Moreover, CNNP has built a talent pool for WANO Shanghai Center. In 2021, CNNP sent four evaluation program leaders and seven chief evaluators to the center.

Prioritizing the Training of Competent Personnel

While enhancing top-level design, we have formulated plans for the training of employees at different levels, adopted multiple measures to optimize the talent structure, and developed talent development channels to create a new high land for talented personnel. We prepared and released a special HR plan for the 14th Five-Year Plan period (2021-2025), specifying key tasks and action plans for personnel training. We organized affiliates to develop the *Three-Year Plan for High-Caliber Talents* and guided them in the selection and cultivation of high-caliber talents. We prepared the *Five-Year Plan for Systematic Personnel Training* targeting new projects to ensure the construction quality and talent development simultaneously. Efforts were also made to build a special zone of talents under Nuclear Power Operations Research (Shanghai) Co., Ltd. We optimized the high-caliber talent selection mechanism, and formulated the *Administrative Plan of CNNP for the Selection and Employment of Chief Experts, Technology Pioneers and Chief Technicians*.

Allocation

Measures

- Optimize the leadership structure and appoint competent personnel as senior management.
- Further revitalize the human resource team, increase support for personnel engaged in new projects and key projects, and organize its affiliates to do a better job in personnel allocation.
- Build a sound, company-wide performance assessment mechanism to ensure the fulfillment of primary responsibilities and improve the efficacy of incentives and restraints.

Highlights

- CNNP vigorously promotes the selection of young cadres. In 2021, we promoted 21 young cadres through open selection, thus optimizing the age structure of the cadre team; we hired two professional managers to support corporate development.
- In 2021, we completed personnel allocation for CNNP Yanlong Technology Co., Ltd. and CNNP Xiapu Nuclear Power Co., Ltd.'s Projects and other projects. Moreover, we organized our affiliates to allocate 43 specialized personnel to nuclear energy development projects.

Retention

Measures

- Launch the campaign of "Serving the People" and improve employee services to retain employees; build a long-term and efficient incentive mechanism and increase incentives to retain employees; unblock promotion channels and support employee growth to retain employees.

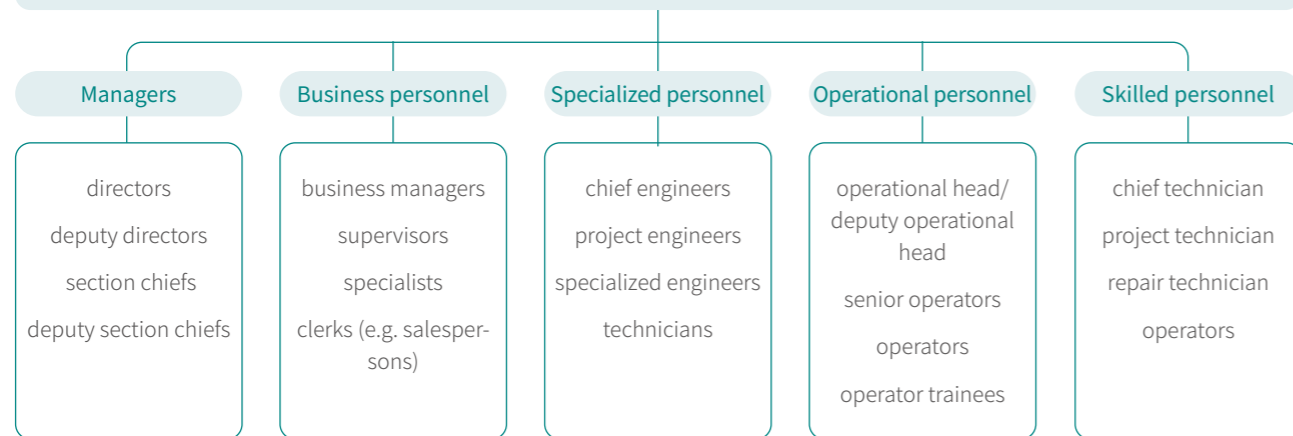
Highlights

- A total of 1,078 measures have been formulated during the campaign of "Serving the People".
- In 2021, the employee turnover rate was 1.19%, below the industry's average.

The personnel training system

High-level personnel:academicians, chief experts, technology pioneers, personnel with high potentials of leadership and business operation

Globally-aware personnel:personnel from international organizations, personnel with foreign-language competency



New hires (via campus recruitment, secondment, and open recruitment)



Q How do you support personnel training? Do you have special training plans for part-time employees and contractors?

A We attach great importance to the cultivation of competent personnel. We support all employees to join diploma programs and prepare for skills certification. For contractors involved, we will train them on skills needed, to support their personal development and help them with the work.

Improving Incentives

CNNP implements scientific and effective HR systems to select the right personnel and put them to good use. We also explore diverse incentives to improve the quality and efficiency of HR management.

Emotional Incentive

- At CNNP, we value communication with our employees. To this end, we have actively responded to employees' concerns, created a positive, friendly and harmonious atmosphere, and built a healthy and safe workplace. Moreover, we care about employees' after hours and advocate work-life balance.

Remuneration Incentive

- CNNP has established an all-encompassing performance assessment mechanism covering all employees. The assessment results bear heavily on employees' job transfer, promotion and training plan, etc., and reflect their responsibilities and contributions, to reward or punish accordingly. We provide competitive remuneration and benefits for our employees, including equity incentives, SIP incentive and other targeted incentives, to stimulate their enthusiasm and vitality for work.

Achievement Incentive

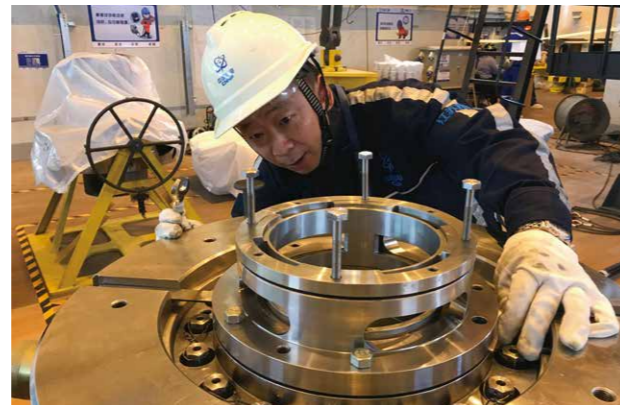
- We encourage employees to conduct technological research. The Spark Program and ongoing open competitions for selecting the best candidates for research projects serve as platforms for researcher to show and hone their abilities.
- CNNP has opened a top talent development channel and accelerated the cultivation and development of young talents from its affiliates.
- CNNP has participated in or co-organized National Vocational Skills Competition, CNNC Skills Competition, industry-wide skills competitions and other events, all serving as platforms for its skilled personnel.



The 2021 National Nuclear Reactor Operator Skills Competition undertaken by CNNP



Ma Yiming, National Technical Expert from Qinshan Nuclear Power Co., Ltd.



Zan Yinghui, National Technical Expert from Jiangsu Nuclear Power Co., Ltd.

Employee Wellbeing

In strict compliance with laws and regulations, CNNP strives to improve the wellbeing of its employees by upholding the principles of equality, openness, and transparency. The Company makes every effort to protect employee rights, ensures equal employment, and pays compensation and benefits. We also attach great importance to democratic communication with employees and care about their physical and mental health. In this way, we create a motivating, harmonious, and caring atmosphere and a healthy and safe workplace for employees.

Equal Employment

CNNP strictly follows The *Company Law* and The *Labor Law* and other applicable laws and regulations in China as well as applicable international labor standards. In terms of recruitment and employment, the Company abides by the nondiscrimination principle and treats all employees equally regardless of their gender, age, education, or nationality. Additionally, CNNP prohibits and opposes any form of child labor and forced labor to create an equitable, diverse, and inclusive workplace. As of 2021, the Company employed 15,756 people, including 2,313 female employees and 1,049 of ethnic minorities, with the contract signing rate of 100%.

By type of personnel	Managers	14.50%
	Business personnel	15.91%
	Specialized personnel	37.08%
	Operational personnel	19.28%
	Skilled personnel	11.06%
	Others	2.17%
By educational background	Master's degree or higher	9.18%
	Bachelor's degree	81.55%
	Junior college	7.48%
	Others	1.79%
By age group	Below 35 years of age	63.00%
	36-40 years of age	15.79%
	41-50 years of age	14.62%
	51 years of age and above	6.59%
By gender	Male	85.32%
	Female	14.68%

Total number of senior executives	94
Number of female senior executives	7

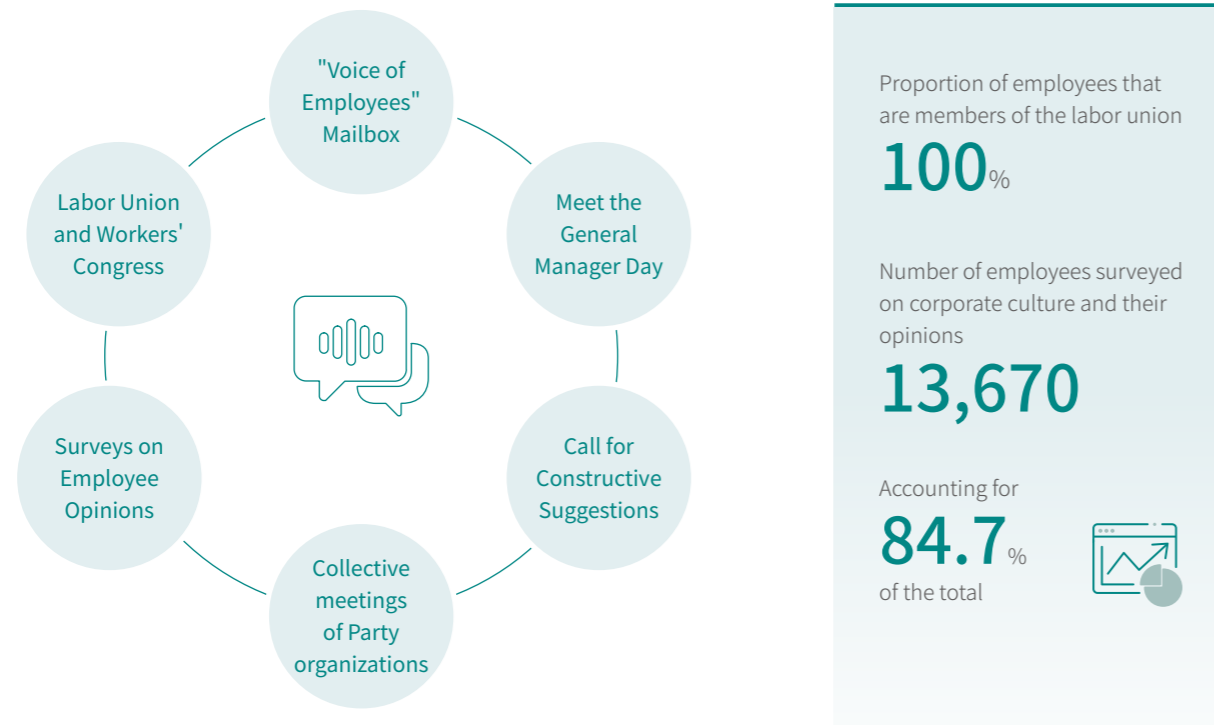
Compensation and Benefits

We have formulated the *CNNP Employee Compensation Policy* and the *CNNP Gross Payroll Management Policy* and abide by the principle of equal pay for equal work. We also optimized the salary rise mechanism based on market principles and paid salaries on time and in full. We continued to improve our employee benefits, including the pension insurance, medical insurance, unemployment insurance, employment injury insurance, maternity insurance and the housing provident fund. Besides the basic medical insurance scheme, we offer a supplementary one to ease employees' medical burden and the enterprise annuity to support employees' retirement life. In 2021, our social insurance schemes covered 100% of employees.

Democratic Management

CNNP unblocked democratic communication channels and strengthened employees' sense of ownership. We encourage employees to make suggestions, participate in decision making and management practices, supervise their leaders and exercise their democratic rights. We effectively guarantee their rights to know, participate, express, and supervise. With suggestions received from the "voice of employees" mailbox, the Company made a to-do list and regularly tracked its progress, to respond to and address all concerns and suggestions voiced by employees.

In 2021, CNNP conducted questionnaire surveys on corporate culture and employee opinions based on such indicators as the sense of happiness, the sense of gain, and the sense of belonging. Meanwhile, we solicited employees' views and suggestions and collected a total of 4,414 valid suggestions.



Case | Fujian Fuqing Nuclear Power Co., Ltd. listens to employees and improves their wellbeing

During the "Serving the People" campaign, Fuqing Nuclear Power Plant set up a "Happy Nuclear" information disclosure column to respond to employee concerns promptly and build a "bridge" for information communication. In 2021, it received more than 300 opinions and suggestions from employees, and actively responded to and addressed them. By the yearend, 128 of the suggestions were implemented, significantly improving employees' sense of satisfaction and happiness. This case was promoted on People.com, Xuexi Qiangguo, CNNP's official website and account, and was rated by CNNP as an Excellent Case for Party History Education.



Occupational Health

While strictly complying with applicable laws and regulations, such as The *Workplace Safety Law* and The *Law on the Prevention and Treatment of Occupational Diseases*, CNNP takes measures to safeguard employee health and safety, cares for their health conditions, and strives to build a healthy workplace. As of the year 2021, the coverage of employee health examinations reached 100%.



Occupational disease hazards management

- We strictly abide by national regulation, requirements and standards, organize self-inspections of occupational disease hazards, in addition to external inspections by a commissioned qualified institution, to effectively prevent and control occupational disease hazards and minimize the occurrence of occupational diseases.



Management of preventive facilities against occupational disease hazards

- We put up warning signs and on-site test results at relevant workplaces to raise awareness of risks, and prepare protective equipment for places with occupational disease hazards. Furthermore, we limit the on-site working time according to the assessment of the occupational disease hazards to minimize risks.



Employee health management

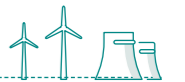
- We optimized employee health examinations to meet personalized needs, and improved the quality of occupational health monitoring. In addition, we organized science popularization activities and on-site health counseling services to raise the awareness of health risk management and occupational disease prevention, and help employees take better care of their health. Finally, the CNNP Employee Assistance Program (EAP) is implemented and psychological counseling offered to improve employees' mental health.

Case | Jiangsu Nuclear Power Co., Ltd. inspects occupational disease hazards



To meet occupational disease hazard management requirements and create a safe working environment, Jiangsu Nuclear Power Co., Ltd. hired a qualified agency to inspect occupational disease hazards in Units 1-6 in the Tianwan Nuclear Power Plant in July and September 2021. The results showed that both the intensity and concentration of occupational disease hazards (such as noise, high temperature, harmful chemical factors, and ionizing radiation) complied with applicable laws and regulations.

Case | CNNP opens its first EAP counselor training workshop, enhancing its care for employees' mental wellbeing



To improve mental health services and comprehensive employee care, CNNP has been actively training EAP counselors to build a professional EAP team, and gradually build sound mental health and psychological counseling systems. Moreover, we care about employees' physical and mental health, and work to enhance their psychological capital and motivate them at work. In September 2021, CNNP's first EAP counselor training workshop started in Beijing, and at the end of it, 72 trainees received the certificate of junior EAP counselor.



CNNP's first EAP counselor training workshop

Community Engagement and Development

With the actual conditions of the local community in mind, CNNP proactively integrates into local community, and mobilizes community residents for common development. We actively align efforts to consolidate and expand achievements in poverty alleviation with efforts to promote rural revitalization. We have established a long-term mechanism for assistance to targeted villages, and taken a multi-pronged approach to rural revitalization in terms of local industries, education & training, culture, ecological conservation, and organizations. In addition, we organize various volunteer activities, offer care to people with special needs and other disadvantaged groups, and step up efforts to popularize science to improve public awareness of nuclear science.

Wealth and Income Generation

CNNP proactively fulfills its responsibilities as a central state-owned enterprise, and makes full use of its resources and advantage to improve local people's livelihood and drive local economic growth. We offer job opportunities, improve the living environment, and advocate low-carbon and green lifestyles. All these exemplify our attempt to coordinate with local communities for common prosperity. In 2021, we paid 7.913 billion yuan in taxes.

 Employment support	 A livable environment	 A zero-carbon life for all
<p>CNNP signed general affairs and labor dispatching contracts with locals and coordinated contractors to give preference to locals nearby in recruitment, to create employment opportunities and also help locals start their own business, to contribute to common prosperity.</p>	<p>CNNP improved the living conditions and environment in local community by widening roads, landscaping, and upgrading sewage pipeline networks. We also funded the construction of libraries, football pitches, and activity centers, and provided public services to enrich the cultural life of community residents.</p>	<p>We assume our responsibilities actively and make the most of our strength in the nuclear energy sector to help achieve the "dual carbon" goals. Based on our clean energy business, we proactively explore more diverse use of nuclear energy. For instance, we have pioneered zero-carbon heating by recovering the "waste heat" of the power plant, a win-win for local governments, community residents, environmental protection departments and us.</p>

Case | Jiangsu Nuclear Power Co., Ltd. engages in community development to jointly create a better life

Under the theme of "Shaping a Bright Future with Jiangsu Nuclear Power", Jiangsu Nuclear Power Co., Ltd. participates in local environmental governance. It worked with local community on road widening and sewage pipeline network upgrading. Determined to enhance the quality of public services, it has jointly built an employee service center and an activity center for people with disabilities with the Gaogongdao Subdistrict, a public pick-your-own garden and a football pitch with the Sucheng Subdistrict, and a computer lab with the Laogongtang Neighborhood, and introduced projects with Haitang, Binhai and Yunshan neighborhoods to build them into model neighborhoods. The company promoted its integration with local communities through multiple channels and paint with them a bright, prosperous future.



Ceremony held for Jiangsu Nuclear Power Co., Ltd.'s donation of computers

Empowering Rural Revitalization

Fulfilling its corporate social responsibility in the new era, CNNP proactively works with the local government and integrates its corporate development strategy with the national strategy of rural revitalization. We take strong measures to consolidate poverty alleviation outcomes and vigorously promote rural revitalization in the five aspects of local industries, education & training, culture, ecological conservation, and organizations.

	Tasks	Best practices
The development of local industries	<ul style="list-style-type: none"> We factor into the reality of targeted villages, fully tap into our strength as a nuclear power company, and vigorously develop characteristic industries. We also adopt intensive and efficient agricultural production methods, and push forward an online-offline marketing model to improve the quality of farm produce and efficiency of agricultural production, and steadily increase farmers' income. 	<ul style="list-style-type: none"> Hainan Nuclear Power Co., Ltd. put in 800,000 yuan to support Yidong Village to develop its planting and breeding industries, and improve its living environment, and social etiquette and civility. As a result, an additional 500-plus mu of mango was planted, with an estimated annual output worth three million yuan. CNNP Liaoning Nuclear Power Co., Ltd. donated 295,000 yuan to Zhujia Village to build a collective-owned economic oil pressing factory.
Education & training	<ul style="list-style-type: none"> We step up support for education by donating school supplies, providing scholarships and grants, and offering volunteer education services. Apart from that, we improve the scientific and cultural literacy of local students, and foster future talents for rural revitalization. 	<ul style="list-style-type: none"> CNNP Guodian Zhangzhou Energy Co. Ltd. formed a team of volunteer teachers composed of selected members of the Communist Youth League. Jiangsu Nuclear Power Co., Ltd. awarded the Spring Bud Scholarship to 123 outstanding students, and awarded the Spring Bud Grants to 54 disadvantaged students to help cover their school expenses.
Culture	<ul style="list-style-type: none"> We enrich villagers' cultural life and invest in facilities for cultural and recreational activities. To promote local culture, we fully support rural tourism development, and promote the integration between culture and tourism. 	<ul style="list-style-type: none"> Jiangsu Nuclear Power Co., Ltd. helped Wuzhao Village build a reading room, a chess and card room, and a public square to meet the growing need of villagers for a better cultural life. Sanmen Nuclear Power Co., Ltd. offered 350,000 yuan to build a sightseeing platform in Shizitou Village to promote its cultural development.
Environmental conservation	<ul style="list-style-type: none"> Devoted to improving the rural environment, we strive to make villages look more appealing, contribute to ecological progress, and build beautiful villages. 	<ul style="list-style-type: none"> Sanmen Nuclear Power Co., Ltd. donated 200,000 yuan to Shizitou Village to improve its ecological and living environment. Jiangsu Nuclear Power Co., Ltd. and Gaogongdao Subdistrict repaired the embankment of Huangwo Village, designed and launched special bus services, installed street lights, and built a small public park. The Company also aided the Banqiao Subdistrict renovate the Huangniwan Road in Lianyungang, Jiangsu Province.
Organizations	<ul style="list-style-type: none"> We select Party members and cadres to serve in primary-level Party organizations to inject fresh blood into the organizations, stimulate their innovation and vitality, and enhance their performance. 	<ul style="list-style-type: none"> Thirteen officials were sent to work in villages in Zhejiang, Chongqing, Jiangsu, Fujian, Hainan, and Liaoning, etc. to carry out a new round of rural revitalization.



The collective-owned oil pressing factory in Zhujia Village sponsored by CNNP Liaoning Nuclear Power Co., Ltd.



A volunteer teacher from CNNP Guodian Zhangzhou Energy Co. Ltd. is giving a lecture to the class



A young volunteer from Sanmen Nuclear Power Co., Ltd. doing a health examination for a senior in Shizitou Village



Village-based cadres selected from Fujian Fuqing Nuclear Power Co., Ltd. are working in Zhuling Village



Giving Back to Local Community

CNNP carries out programs for environmental protection and public welfare, conducts science popularization activities, and cares for the elderly and children. In addition, it takes concrete actions to give back to society. In 2021, our volunteer activities attracted 5,864 participants, with a total of 59,995.4 service hours.

Environmental volunteering



Volunteers organized awareness activities on waste sorting in residential neighborhoods, helped residents sort and clear garbage, raised their environmental awareness and promoted the idea of building a "green, low carbon, eco-friendly" living environment.



An environmental volunteering activity organized by CNNP Liaoning Nuclear Power Co., Ltd. at Longwan Park, Huludao

Caring for left-behind children



We tracked and recorded how the left-behind children did in schools and at home and built a long-term assistance mechanism. We popularized nuclear science, donated school supplies, organized cultural and sports activities, and provided psychological counseling to enrich their after-school life and help them grow up healthily.



Volunteers from CNNP Guodian Zhangzhou Energy Co. Ltd. and left-behind children

Caring for people with special needs



We visited elderly people of no family, recipients of the subsistence allowance, elderly people with disabilities, veterans, and retired cadres, cared about their physical and mental health, helped solve their difficulties in life. We offered them with regular physical examinations, essential groceries, artistic performances, companionship, to bring warmth and joy to them



Leaders of Jiangsu Nuclear Power Co., Ltd. visiting a senior veteran at the Double Ninth Festival

Science popularization activities



We organized science popularization activities, such as summer camps and science popularization activities like the "Appealing Nuclear Power" science popularization contest and the China Nuclear Power Week. We also popularized nuclear energy at nuclear power science and technology museums and science exhibition halls, and enhanced public understanding of and trust in the Company, to shape a favorable public opinion for nuclear power development and the development of the nuclear power sector.



The Ninth "Appealing Nuclear Power" Cup National Nuclear Power Science Popularization Knowledge Contest

2022 Outlook for 2022

The year 2022 will be a key year for China as we embark on the new journey toward the second centenary goal of building China into a modern socialist country in all respects. In 2022, we will continue to ground our efforts in this new stage of development, apply the new development philosophy, and create a new pattern of development in our pursuit of high-quality development. Bearing in mind the urgency and arduousness of the carbon peaking and carbon neutrality goals, we will press forward with the coordinated development of nuclear energy, non-nuclear clean energy and emerging agile industries, explore the path toward lean management driven by digital, intelligent and intensive management, and systematically build modern corporate governance systems and capabilities. We will remain faithful to the tenet of "putting safety and quality first, giving back to shareholders and society, and supporting employee development" while pursuing high-quality corporate development, and strive to set the stage for the upcoming 20th CPC National Congress with concrete actions and outstanding achievements.

Focusing on corporate governance

We will work tirelessly toward the strategic goal of becoming a world-class clean energy service provider with global competitiveness, and implement the strategy for promoting large-scale, standardized and internationalized development. We will hold fast to the principles of business ethics, strengthen the identification and management of corporate risks, and continuously improve the ability to make scientific and democratic decisions in accordance with the law. We will continue to strengthen capabilities in consolidating governance, building up competitiveness, innovation, resilience against risks and generating returns for shareholders, and strive to set a model for other listed companies in the modernization of the governance system and capabilities.

Focusing on green development

The Company will continue to promote the rapid development of three major industries, and make every effort to facilitate the cultivation of the emerging agile industry. At the same time, we will strengthen the monitoring and supervision of noxious emissions, minimize radioactive waste in accordance with strict standards, protect biodiversity, and make unremitting efforts to contribute to the realization of the carbon peaking and carbon neutrality goals, and the building of a beautiful China.

Focusing on social harmony and inclusion

We will improve systems and mechanisms, build a well-structured team, promote the all-round development of employees, and continuously strengthen their sense of happiness and fulfillment. We will increase our efforts to consolidate and expand the achievements in poverty alleviation, comprehensively promote rural revitalization, and make greater contributions to common prosperity for all Chinese people while pursuing high-quality development.

CSR Honors and Awards

Recipient	Honor/Award	Issued by
CNNP	Model Enterprise in Improving Corporate Management among Key State-Owned Enterprises	State-Owned Assets Supervision and Administration Commission of the State Council
	Demonstration State-Owned Enterprise in Corporate Governance	State-Owned Assets Supervision and Administration Commission of the State Council
	GoldenBee Excellent CSR Report 2020 – Ever-Green Award	China Sustainability Tribune under the Ministry of Commerce
	Special Prize of the National Enterprise Culture Outstanding Achievement Award	China Enterprise Confederation/China Enterprise Directors Association
	Zhongguancun High-tech Enterprise	Zhongguancun Science and Technology Park Management Committee
	Listed Company with the Most Investment Value During the 14th Five-Year Plan Period of the China Securities Golden Bauhinia Award	Hong Kong Ta Kung Wen Wei Media Group
Qinshan Nuclear Power Plant	First Prize of Scientific and Technological Progress Award	Chinese Society of Measurement
	Technology Transfer Award of EPRI	Electric Power Research Institute (EPRI), U.S.
	International Quality Management Gold Award	International Convention on Quality Control Circles
Sanmen Nuclear Power Plant	National High-Quality Project Gold Award	China Association of Construction Enterprise Management
	National May Day Labor Award	All-China Federation of Trade Unions
	China Quality Award (Nomination Award)	State Administration of Market Regulation
	PMI Project Management Award	Project Management Institute
Fuqing Nuclear Power Plant	National Excellent Quality Management Team Award	China Association for Quality
	The 19th National Quality Management Award	China Association for Quality
CNNP Guodian Zhangzhou Energy Co., Ltd.	National May 1st Labor Award	All-China Federation of Trade Unions
Hainan Nuclear Power Plant	First Prize of Hainan Provincial Science and Technology Progress Award 2020	Hainan Science and Technology Award Conference
China Nuclear Power Operation Technology Corporation Ltd., Wuhan	A demonstration high-tech company in deepening market-oriented reform	State-owned Assets Supervision and Administration Commission of the State Council

ESG Index

	ESG Indicator	Data/Page
Governance	Total assets (billion yuan)	409.620
	Total installed capacity of nuclear power units in operation(GW)	22.549
	Net assets attributable to shareholders of listed companies (billion yuan)	76.122
	Revenue (billion yuan)	62.367
	Net profit attributable to listed shareholders (billion yuan)	8.037
	Net profit attributable to shareholders of the listed company after deducting non-recurring gains and losses (billion yuan)	7.834
	Net cash flow from business activities (billion yuan)	35.892
	Number of independent directors	4
	Proportion of independent directors	33.33
	Employee representative director	1
	Number of female directors	2
	Proportion of female directors (%)	16.67
	Investor relations	P13
	Risk identification and management	P14
Environmental	Ethics policy and practices	P12
	Power generation of nuclear power units (TWh)	173.123
	Equivalent to reduction in standard coal consumption (10,000 tons)	5,236.97
	Equivalent to reduction in CO ₂ emissions (10,000 tons)	13,720.86
	Electricity generated from non-nuclear energy (TWh)	9.514
	Photovoltaic power generation(TWh)	4.965
	Wind power generation (TWh)	4.549
Social	Installed capacity of non-nuclear clean energy in operation (GW)	8.8733
	Number of employees	15,756
	Number of female employees	2,313
	Number of ethnic minority employees	1,049
	Labor contract signing rate (%)	100
	Social insurance coverage (%)	100
	Proportion of employees that are members of the labor union (%)	100
	Coverage of employee health examinations (%)	100
	Training investment(million yuan)	65.63
	Total staff training hours	1,601,730
	Total tax payment (billion yuan)	7.913
	Total participants in volunteer activities	5,864
	Total service hours of volunteers (hours)	59,995.4
	Total number of senior executives	94
Number of female senior executives	7	
Employee turnover rate	1.19	
Employee structure	P39	

Appendix

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