中广核 CGN

中國廣核電力股份有限公司
CGN Power Co., Ltd. *

(A joint stock company incorporated in the People's Republic of China with limited liability)

H-share Stock Code: 1816

A-share Stock Code: 003816

2024 | CGN Power Co., Ltd*

Environmental, Social and Governance Report

*For identification purpose only

Contents

01 About This Report

03 Board Statement

04 About Us

11 Our 2024

15 ESG Governance

21 CSR Feature: Strengthening the Foundation of Talents to Advance New Quality Productive Forces

27 Sound Compliance for Efficient Operation

29 Corporate Governance

36 Business Ethics

39 Risk and Compliance Management

43 Strengthening the Foundation for Safety

45 Safety Management

59 Safety Operation

66 Engineering construction

69 Information security

71 Technological Innovation

79 Safeguarding our Homes with Clean Nuclear Power

81 Climate Change

87 Environmental Management

91 Polluted Waste Reduction

97 Resource Utilization

102 Nuclear Power Ecology

111 Pursuing People-centered Development to Achieve Value

113 Talent Reserves

113 Employee Rights

119 Talent Development

126 Occupational Health

131 Moving Forward Together and Forging Resilience

133 Supply Chain Management

142 Multi-Party Cooperation

143 Common Prosperity in the Industry

145 Striving for Interconnection and Integration for a Shared Future

147 Community Communication

151 Driving Development

155 Charity

158 Independent Assurance Report

161 Contribution to the UN SDGs

162 Major Laws and Regulations in ESG Fields

164 Key Performance Indicators

167 ESG Index

171 Feedback Form

About This Report

This is the tenth Environmental, Social and Governance (ESG) Report published by CGN Power Co., Ltd. (the **"Report"**), which aims to elaborate on our ESG performance in 2024 in an open and transparent manner. We hope to disclose our sustainability vision, strategy and practices to stakeholders in a more comprehensive and objective manner through this Report, and facilitate their understanding of our thoughts and practices on corporate social responsibility.

Reporting Period

The reporting scope and period is consistent with the 2024 annual report.

With regard to continuity and comparability, certain information in this Report will be appropriately extended when necessary, and if applicable, historical data will also be presented for comparison.

Reporting Standards

This Report is prepared in accordance with the requirements for sustainability-related information disclosure and social responsibility of listed companies set out in the Appendix C2 Environmental, *Social and Governance Reporting Code* ***(ESG Code)*** of the *Rules Governing the Listing of Securities* (***"Listing Rules"***) *on the Stock Exchange of Hong Kong Limited* (***"SEHK"***), and the *Self-Regulatory Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange—Sustainability Report (For Trial Implementation)* ***(Guidelines)***, the *Self-Regulatory Guidance No. 3 for Companies Listed on Shenzhen Stock Exchange—Preparation of Sustainability Report* ***(Guidance)***. At the same time, it refers to the requirements of the *Guidelines on Self-regulation of Listed Companies on Shenzhen Stock Exchange No. 1 - Standardized Operation of Listed Companies on the Main Board* ***(Standardized Operation of Listed Companies on the Main Board)***, *Guidelines on Self-regulation of Listed Companies on Shenzhen Stock Exchange No. 1 - Business Processing and Guidelines on Self-regulation of Listed Companies on Shenzhen Stock Exchange No. 3 - Industry Information Disclosure*. We comply with the disclosure standards of the ESG Code of SEHK and refer to the latest version of the *Guidance on Climate Disclosure of the SEHK* to improve relevant disclosures on climate related issues. This Report also refers to the relevant requirements of SZSE to disclose our fulfillment of sustainability philosophy. In preparing this Report, we also refer to the relevant reporting standards or principles, including the *GRI Sustainability Reporting Standards* ***(GRI Standards)*** issued by Global Reporting Initiative, the *United Nations Global Compact*, *ISO 26000: 2010 Guidance on Social Responsibility of the International Organization for Standardization*, the *Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities* with High Standards in the New Era (Draft for Comments) of the State-owned Assets Supervision and Administration Commission of the State Council (**"SASAC"**), *Study on ESG Special Report Compilation for Listed Companies Controlled* by Central State-owned Enterprises and the *Basic Framework of the Guidelines on Sustainability Reporting for Chinese Enterprises (CASS-ESG6.0)* of Chinese Academy of Social Sciences.

Name Description

For ease of expression, CGN Power Co., Ltd. in this Report is also expressed as **"CGN Power"**, **"the Company"**, or **"we/our"**. CGN Power and its subsidiaries are also expressed as **"the Group"**. Subsidiaries and major associated companies are also expressed as **"subsidiaries"**. Unless otherwise defined, the terms used in this Report shall have the same meanings as those defined in the H-share *Annual Report 2023* published by the Company on April 11, 2024.

Reliability and Assurance

The contents of this Report are compiled from internal documents, statistical reports or relevant public information of the Company. The Company assures that the contents of this Report, for which the Company accepts full responsibility for, are true, accurate and complete and are free of any false statement, misleading representations or material omissions.

To ensure its truthfulness and reliability, this Report has been submitted to Ernst & Young Hua Ming LLP (Special General Partnership) for a third-party assurance, which was conducted in accordance with the *International Standard on Assurance Engagements 3000 (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information* (***"ISAE3000"***) with an independent assurance report and statement provided on pages 158 of this Report.

Access to This Report

This Report is available in simplified Chinese, traditional Chinese and English. The electronic copy can be viewed and downloaded from the websites of SEHK (www.hkexnews.hk), SZSE (www.szse.cn), CNINFO (www.cninfo.com.cn) and the investor relations section of our website (www.cgnp.com.cn). For any discrepancy between different versions, the simplified Chinese version shall prevail.

Feedback

Your precious opinions and suggestions are critical to our sustainable development. If you have any comments and suggestions, please contact us via the ways provided in the feedback form at the end of the Report.

Board Statement

CGN Power Co., Ltd. highly values the sustainable corporate development. ESG lies at the core of our operation, and have been integrated into our development strategies, major decisions and production operations, to actively promote the coordination among our business, the environment and the society. The Company and the Board of Directors (the **"Board"**) have adhered to the requirements of the *Governance Rules for Listed Companies* issued by the China Securities Regulatory Commission, the *ESG Code* issued by the SEHK and the *Standardized Operation of Listed Companies on the Main Board*, *Guidelines*, and *Guidance* of SZSE. Based on this, we continuously improve our ESG governance system, strengthen the supervision and participation of the Board in ESG-related issues, and have effectively managed ESG-related risks. As a result, we have constantly improved our corporate governance.

ESG Supervision

As the top decision-making body on ESG-related issues, the Board is responsible for improving the Company's governance system as well as setting and supervising objectives of long-term performance and management. It also needs to evaluate business performance, supervise management performance, and identify risks to maintain the high-standard governance. As an important element of corporate governance, ESG is integrated into the Company's overall governance system and risk management. The Board regularly receives briefings of ESG-related issues including the operational management and safety management of the Company and puts forward ESG requirements at the Board meetings. During the recess of the Board, Board members are provided with monthly corporate management reports, including ESG-related issues.

Our ESG governance structure consists of governance, management, organization and implementation. Such a structure continuously improves the standardisation and professionalisation of ESG governance. On the governance level, we set up the Audit and Risk Management Committee under the Board to review major ESG-related issues and ESG reports and report directly to the Board. The Board shall make decisions after deliberation. Other specialized committees are responsible for relevant ESG supervision in specialized areas.

ESG Management Principles and Strategies

Committed to the concept of "Harnessing the Energy of Nature", the Board and its subordinate committees integrate ESG topics such as corporate governance, operation, nuclear safety, climate change and community development into our management, deliberation and decision-making processes. The responsibilities of the Audit and Risk Management Committee of the Board involve the management of ESG risks including construction safety, employee occupational health, industrial safety and fire risks, climate change risks and natural disasters affecting nuclear safety, as well as the identification and management of relevant risks. The annual *Internal Control Evaluation Report* shall be submitted to the Board for approval after being reviewed by the Audit and Risk Management Committee. An accounting firm is also hired to audit the effectiveness of the Company's internal control to ensure it is effective and reliable. In addition, the topics of the Nuclear Safety Committee of the Board, along with those concerns and recommendations made by the Board members, also cover climate related issues, such as actionable steps to deal with high temperature and extreme weather and the continuous improvement of safety management of cooling water in NPPs, etc., which are reported to the Board.

In addition, the Board participates in the double materiality assessment through the approach of "identification- assessment-prioritization- approval". The assessment results were reviewed and confirmed by the Audit and Risk Management Committee and the Board in early January 2025, and then submitted together with this Report to the Audit and Risk Management Committee of the Board for approval in March 2025. More details are provided in the "Materiality Assessment " section of this Report.

ESG Progress Review

In 2024, through our double materiality assessment, our ESG vision, strategy and goals were highly aligned with the *Nuclear Energy Industry Medium and Long-term Development Strategy and 14th Five-Year Plan of the Company* ***(the Strategic Planning)***, which have been reviewed and approved by the Audit and Risk Management Committee and the Board. Subsequent assessment and confirmation will be made in accordance with the adjustment of the Strategic Planning. During the Reporting Period, the Board convened 5 regular meetings, and the specialized committees of the Board also convened regular meetings to track, monitor and review major ESG topics. Such topics as the Board structure and the independence of independent Directors[1] were reviewed. Other topics such as risk management, internal control assessment, ESG Report, and remuneration policy and performance contract for senior management were deliberated. The progress of the Company's special operations for comprehensively strengthening nuclear safety management, as well as its work safety and management were reviewed. These efforts aimed to fully achieve ESG key performance objectives and effectively improve our sustainability management and performance.

On March 26, 2025, the 2024 ESG Report of the Company was approved by the Board.

[1] The term "independent director" in the report refers to the "independent non-executive director" mentioned in the Listing Rules of the SEHK.

About Us

Our Business

CGN Power (SEHK stock code: 1816, SZSE stock code: 003816) was incorporated on March 25, 2014. After it was officially listed on the Main Board of SEHK on December 10, 2014, CGN Power was listed on SZSE on August 26, 2019. Its primary businesses include construction, operation and management of nuclear power plants (NPPs), sales of nuclear power generated from those NPPs, as well as organization and development of the design and scientific research of NPPs.

Upon the completion of Daya Bay NPP, the Company has accumulated rich experience through introduction, digestion, assimilation and innovation in nuclear power construction and operation. We have established professional systems in nuclear power maintenance and operation, design and construction, R&D and personnel training in line with international practices. As of the end of the Reporting Period, we managed 10 nuclear power sites, 28 units in service and 16 units under construction[2], with a total installed capacity of more than 51 GW.

CGN Power continues to develop nuclear power efficiently on the basis of safety. With safe, economical and reliable power supply, we strive to become a leader in the development and application of new nuclear energy technologies, maintain a leading position in domestic nuclear power generation, and elevate our competitiveness in the international nuclear power market.

Equity Structure[3]

China General Nuclear Power Corporation	Guangdong Hengjian Holdings Investment Co., Ltd.	China National Nuclear Corporation	Other H-share Shareholders	Other A-share Shareholders
58.89%	6.79%	3.32%	21.00%	10.00%

Main Subsidiaries and Associated Companies

Name	China Nuclear Power Operations Co., Ltd. (CGN Operations)	China Nuclear Power Engineering Co.,Ltd. (CGN Engineering)	China Nuclear Power Technology Research Institute Co., Ltd. (CNPRI)	Suzhou Nuclear Power Research Institute (SNPI)	Ling Ao Nuclear Power Co., Ltd. (Ling'ao Nuclear)	CGN Lufeng Nuclear Power Co., Ltd. (Lufeng Nuclear)	Shandong Zhaoyuan Nuclear Power Co., Ltd (Zhaoyuan Nuclear)	Lingdong Nuclear Power Co., Ltd. (Lingdong Nuclear)
Shareholding ratio %	100%	100%	100%	100%	100%	100%	100%	93.88%

Name	Daya Bay Nuclear Power Operations and Management Co., Ltd. (DNMC)	Guangdong Nuclear Power Joint Venture Co., Ltd. (GNPJVC)	Yangjiang Nuclear Power Co., Ltd.(Yangjiang Nuclear)	Taishan Nuclear Power Joint Ventures Co., Ltd. (Taishan Nuclear)	Fujian Ningde Second Nuclear Power Co., Ltd.(Ningde No.2 Nuclear)	Liaoning Hongyanhe Nuclear Power Co., Ltd. (Hongyanhe Nuclear)	Guangxi Fangchenggang Nuclear Power Co., Ltd. (Fangchenggang Nuclear)	Fujian Ningde Nuclear Power Co., Ltd.(Ningde Nuclear)
Shareholding ratio %	87.5%	75%	61.72%	51%	51%	38.88%	36.6%	33.76%

[2] Including 8 units that are approved for FCD or entrusted by the controlling shareholder of the Company. FCD: First Concrete Date, the date of pouring the first tank of concrete. It marks the commencement of civil engineering on the nuclear power site, and has milestone significance in the construction of nuclear power projects.

[3] Equity structure of the Company as of December 31, 2024

Business Presence[4]

CGN Power keeps investing in the construction of safe and efficient nuclear power units to develop clean nuclear power energy. On May 25, 2024, Fangchenggang Unit 4 completed all commissioning work, and was put into commercial operation. The First Concrete Date (FCD)4 of Ningde Unit 5 was on July 28, 2024, marking the unit started full-scale construction and entered the stage of civil construction. On August 19, 2024, Zhaoyuan Unit 1 and Unit 2 (**"Zhaoyuan Phase I project"**), Lufeng Unit 1 and Unit 2, and Cangnan Unit 3 and Unit 4 (**"Cangnan Phase II project"**) were approved by the State Council. On November 6, 2024, Cangnan Unit 1 began the cold test and entered the commissioning phase. As of the end of 2024, our businesses are as follow.

Nuclear Power Site	Gigawatt-level units in operation / unit	1.75GW units in operation / unit	Gigawatt-level units [5] under construction / unit
Daya Bay Nuclear Power Site	6	\	\
Yangjiang Nuclear Power Site	6	\	\
Taishan Nuclear Power Site	\	2	\
Huizhou Nuclear Power Site	\	\	4
Lufeng Nuclear Power Site	\	\	4
Ningde Nuclear Power Site	4	\	2
Fangchenggang Nuclear Power Site	4	\	\
Cangnan Nuclear Power Site	\	\	4
Zhaoyuan Nuclear Power Site	\	\	2
Hongyanhe Nuclear Power Site	6	\	\

Nuclear power units in operation
28

Nuclear power units under construction[6]
16

In-service installed capacity
31,798MW

Installed capacity of units under construction[7]
19,406MW

CGN Power's share of installed capacity in operation in China
53.2%

Total installed capacity in operation and under construction
51,204MW 45.0%

[4] For more details on our businesses (excluding nuclear power projects entrusted by the controlling shareholders), please refer to the section "Production Capital" of the H-Share Annual Report 2024.

[5、6、7] Including units under entrusted management and units that have been approved for FCD.

Units in Operation and Under Construction[8]

Company	Shareholding Ratio	Unit	Model	Commercial Operation Date	Installed Capacity (MW)
Consolidated Subsidiaries					
Ling'ao Nuclear	100%	Ling'ao Unit 1	M310	May 2002	990
		Ling'ao Unit 2	M310	January 2003	990
Lufeng Nuclear	100%	Lufeng Unit 1	CAP1000	Approved for FCD	1,245
		Lufeng Unit 2	CAP1000	Approved for FCD	1,245
		Lufeng Unit 5	HPR 1000	Under Construction	1,200
		Lufeng Unit 6	HPR 1000	Under Construction	1,200
Zhaoyuan Nuclear	100%	Zhaoyuan Unit 1	HPR 1000	Approved for FCD	1,214
		Zhaoyuan Unit 2	HPR 1000	Approved for FCD	1,214
Lingdong Nuclear	93.88%	Lingdong Unit 1	CPR1000	September 2010	1,087
		Lingdong Unit 2	CPR1000	August 2011	1,087
GNPJVC	75%	Daya Bay Unit 1	M310	February 1994	984
		Daya Bay Unit 2	M310	May 1994	1,026
Yangjiang Nuclear	61.72%	Yangjiang Unit 1	CPR1000	March 2014	1,086
		Yangjiang Unit 2	CPR1000	June 2015	1,086
		Yangjiang Unit 3	CPR1000+	January 2016	1,086
		Yangjiang Unit 4	CPR1000+	March 2017	1,086
		Yangjiang Unit 5	ACPR1000	July 2018	1,086
		Yangjiang Unit 6	ACPR1000	July 2019	1,086
Taishan Nuclear	51%	Taishan Unit 1	EPR	December 2018	1,750
		Taishan Unit 2	EPR	September 2019	1,750
Fangchenggang Nuclear	36.6%	Fangchenggang Unit 1	CPR1000	January 2016	1,086
		Fangchenggang Unit 2	CPR1000	October 2016	1,086
		Fangchenggang Unit 3	HPR 1000	March 2023	1,188
		Fangchenggang Unit 4	HPR 1000	May 2024	1,188

[8] The Units are as of December 31, 2024

Company	Shareholding Ratio	Unit	Model	Commercial Operation Date	Installed Capacity (MW)
Consolidated Subsidiaries					
Ningde Nuclear	33.76%	Ningde Unit 1	CPR1000	April 2013	1,089
		Ningde Unit 2	CPR1000	May 2014	1,089
		Ningde Unit 3	CPR1000	June 2015	1,089
		Ningde Unit 4	CPR1000	July 2016	1,089
Joint ventures and associated companies					
Hongyanhe Nuclear	38.88%	Hongyanhe Unit 1	CPR1000	June 2013	1,119
		Hongyanhe Unit 2	CPR1000	May 2014	1,119
		Hongyanhe Unit 3	CPR1000	August 2015	1,119
		Hongyanhe Unit 4	CPR1000	June 2016	1,119
		Hongyanhe Unit 5	ACPR1000	July 2021	1,119
		Hongyanhe Unit 6	ACPR1000	June 2022	1,119
Ningde No.2 Nuclear	51%	Ningde Unit 5	HPR 1000	Under Construction	1,210
		Ningde Unit 6	HPR 1000	Approved for FCD	1,210
Companies entrusted by the controlling shareholders					
Huizhou Nuclear	Not applicable	Huizhou Unit 1	HPR 1000	Under Construction	1,202
		Huizhou Unit 2	HPR 1000	Under Construction	1,202
Huizhou No.2 Nuclear	Not applicable	Huizhou Unit 3	HPR 1000	Approved for FCD	1,209
		Huizhou Unit 4	HPR 1000	Approved for FCD	1,209
Cangnan Nuclear	Not applicable	Cangnan Unit 1	HPR 1000	Under Construction	1,208
		Cangnan Unit 2	HPR 1000	Under Construction	1,208
Cangnan No.2 Nuclear	Not applicable	Cangnan Unit 3	HPR 1000	Approved for FCD	1,215
		Cangnan Unit 4	HPR 1000	Approved for FCD	1,215

Our Culture

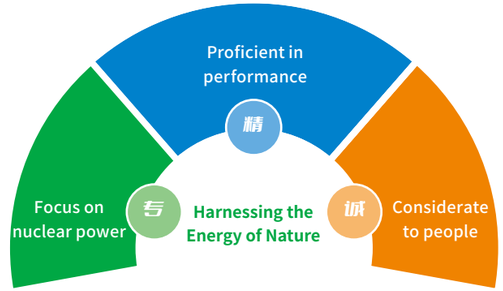
At CGN Power, we take "Harnessing the Energy of Nature" as the brand slogan, and anchor the brand positioning of nuclear safety energy, to fully practice the concept of "safe, green, innovative and responsible development". Built on safe and steady nuclear power operation, we incorporate sustainable development in the decision-making process and daily operations while taking into account the brand characteristics of low-carbon and green nuclear power. Our goal is to build a responsible concept model to develop clean energy that facilitates economic and environmental development as well as social progress.

Value

To share benefits with more stakeholders

Clean

To cope with climate change by making energy more reliable and secure



Human-oriented

To understand and respond to more concerns and expectations of the public

Mission Developing Nuclear Energy to Benefit Mankind

Committed to power supply and services dominated by nuclear power generation, we follow the principles of "safety first, quality foremost and pursuit of excellence" and work style of "strict compliance, prudent decision-making, detail-oriented and fact-based approach" to create the best values for customers, shareholders, employees and the society.

Vision A World-class Nuclear Power Supplier and Service Provider with Global Competitiveness

Targeting the domestic and international markets, we strive for a higher level of public trust, responsibility, technology, strength, sustainable development and value, and aspire to become a well-respected world-class nuclear power company.

Basic Principles Safety First, Quality Foremost and Pursuit of Excellence

We adhere to the basic principles of "safety first, quality foremost and pursuit of excellence" and make them the guiding principle of all decision-making in production and operation management.

Work Style Strict Compliance, Prudent Decision-making, Detail-oriented and Fact-based Approach

"Strict compliance, prudent decision-making, detail-oriented and fact-based approach" is our work style and attitude. Only in this way can we ensure safety, quality, excellence, and realize our mission and vision.

Our Strategy

Excellence

We pursue excellent safety performance and align ourselves with international first-class indicators of World Association of Nuclear Operators (**"WANO"**) to improve the safety performance of nuclear power plants (NPPs). Our "Standardization, Centralization, and Specialization" (SCS) management strategy is practiced diligently to increase the control of multiple units. We implement lean management to optimize the costs of operation and engineering projects.

Stability

Based on the development characteristics of the nuclear power industry, we adhere to high standards, pursue high quality, and ensure stable production, operation, and engineering construction performance. We seek stable profitability, insist on sound financial policies, and constantly optimize the capital structure and financing costs to assure fund security. We provide long-term and stable returns to shareholders and implement long-term and stable dividend policies.

Cleanness

We are always committed to developing clean energy, concentrate on the comprehensive utilization of nuclear power and nuclear energy, and strictly control the discharge of radioactive substances during NPPs operation to protect the environment with every effort. We reasonably use resources, continuously improve resource utilization, reduce resource consumption in the Company's business activities, and actively implement corporate social responsibility.

Growth

We keep improving our core competitiveness, grasp the strategic opportunities of nuclear power development, and promote the approval and commencement of new nuclear power projects to strive to maintain the leading business size in China.

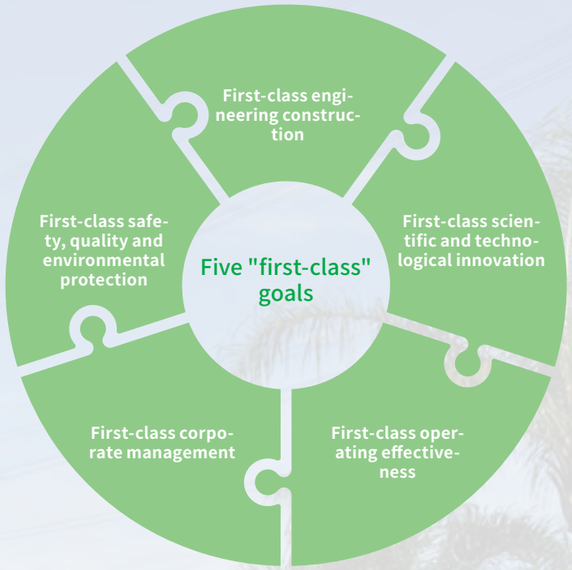
Guiding the Company's development through technological innovation, we insist on innovation-driven development, continuously promote the development and application of new technologies, and maintain the potential and competitiveness of development.

Long-Term Development Goals Through the Year 2035

Building a World-class Nuclear Power Enterprise with Global Competitiveness

To greatly enhance the comprehensive competitiveness of the industry, with the world's largest total installed capacity in operation and under construction, and world-class safety operation performance; boast a well-known brand influence; achieve high-level technological self-reliance and self-improvement; become a benchmark for building a modern enterprise system with Chinese characteristics.

Key development goals set for the "14th Five-Year Plan" period



We focus on consolidating the foundation, promoting advantages, remedying our weakness, and expanding the industry to achieve higher quality, more efficient, more equitable, more sustainable, and safer development.

Our 2024

Overview of Annual Key Figures

Financial Data

Total Assets
Approximately 425,400.65 million yuan

Revenue
Approximately 86,804.41 million yuan

Total Profit
Approximately 21,596.45 million yuan

Tax Payment
Approximately 11,521.64 million yuan

R&D Investment
Approximately 4,193.68 million yuan

Safe Operation

86.31%
Proportion of units whose WANO indicators achieve[9] the world's advanced level (the world's top quartile)

0
Nuclear incidents of level-2 or above

0
Nuclear engineering construction safety accident rate

2,728
Patents

Green Development

Approximately **68.3443 million tons**
Standard coal consumption reduced converted from on-grid nuclear power generation

Approximately **186.5999 million tons**
CO_2 emissions reduction equivalent

Approximately **17,500 tons**
SO_2 emission reduction equivalent

Approximately **28,400 tons**
NOx emission reduction equivalent

On-grid Power Generation
227,284 GWh

Installed Capacity of Units in Operation
31,798 MW

Employee Development

20,453
Employees in total

165.57 hours
Average training hours per employee

100%
Training coverage

Win-win Cooperation

592
Suppliers introduced

5,001
Qualified suppliers in total

Harmonious Communities

Approximately **29.73 million yuan**
Donations in total

13,769 hours in total
Employees in charitable activities approximately

80,000+
Participants in "popularization of nuclear science in schools" activities

230,000+
Public visitors to the science popularization exhibition hall

Major annual ESG ratings

Domestic				
CNI ESG	CSI ESG	Wind ESG	IIGF	SynTao Green Finance
AAA	AAA	AA	A+	A-

Overseas			
S&P Global CSA Rating	FTSE ESG Rating	MSCI ESG Rating	Sustainalytics ESG Risk Rating
39	2.6	BB	27.4

[9] Compared with all 12 yearly performance indicators of WANO peers.

Major Awards of the Year

Governance

- ★ CGN Power was included in the *Research Report on ESG of Listed Companies Controlled by Central State-owned Enterprises (2024)*(Society), and Central State-owned Enterprise ESG Vanguard 100 Index(2024).
- ★ CGN Power was awarded 2024 Best Practice Case of the Board of Directors of Listed Companies.
- ★ CGN Power was granted the highest Grade A on the Information Disclosure Assessment of Shenzhen Stock Exchange for 4 consecutive years.
- ★ CGN Power Annual Report and ESG Report were received LACP Platinum Award, the highest award for two consecutive years.
- ★ CGN Power was awarded the Best Practice of 2023 Annual Performance Briefing and Best Practice of Investor Relations Management for Listed Companies.
- ★ CGN Power won the 7th New Fortune Best IR Hong Kong Listed Company(A+H) award.
- ★ CGN Power was awarded the "the Most Valuable Investment" and "2023 Golden Information Disclosure Award" in the 26th Golden Bull Award for Listed Companies.
- ★ CGN Power was awarded the Top 100 ESG Best Practices Among China's Listed Companies by Wind.
- ★ CGN Power received four awards in the 5th Panorama Investor Relations Gold Award, namely, Company with Outstanding IR Service, Outstanding IR Team, Outstanding Communication with Institutional Investors Award, and Outstanding ESG Value Communication Award and Exemplary Investor Relations Award.
- ★ CGN Engineering, DNMC, and Fangchenggang Nuclear were awarded the title of Advanced Collective of Central State-owned Enterprises.

SQE[10]

- ★ CGN Power won the Nuclear Excellence Award at the 17th Biennial General Meeting (BGM) of the World Association of Nuclear Operators (WANO).
- ★ CGN Power's first Hualong One reactor in West China(Fangchenggang Phase II project) was selected in the list of Top 10 Mega-projects of China's central SOEs in 2023.
- ★ Yangjiang Nuclear became China's first "Ecological Nuclear Power Demonstration Site" in operation.
- ★ Fangchenggang Nuclear was selected as a water-saving benchmark enterprise of Guangxi Zhuang Autonomous Region for the Year of 2023.
- ★ Four youth teams of CGN Power were recognized as the National Young Work Safety Demonstration Posts.

Technology

- ★ A project of CGN Power won the Outstanding Application Award in the Intelligent Supervision Business Model Innovation Competition.
- ★ CNPRI was rated as the "Double-hundred Action" Enterprise.
- ★ Yangjiang Nuclear and Ningde Nuclear received the Gold Award and International Gold Award respectively at 49th International Convention on Quality Control Circles(ICQCC).
- ★ A technological achievement of Fangchenggang Nuclear was included in the list of 2024 Typical Application Cases of Advanced Computing Empowering New Quality Productive Forces.
- ★ SNPI won the grand prize of National Equipment Management and Technological Innovation Achievement.
- ★ CNPRI won the first prize of Guangdong Provincial Science and Technology Advancement Award.
- ★ A project of CGN Operations was selected as Top 10 Technological Innovations on the National Energy Administration's Research and Development Innovation Platform.

Employee

- ★ One employee of CGN Operations was granted the title of Role Model of SOEs in 2024.
- ★ Three employees of CGN Operations were listed into the first batch of Chief Technicians in Guangdong.
- ★ Three youth teams of CGN Power received the National Youth Model Unit Award.
- ★ CGN Operations was selected as a national high-skilled talent training site.

Society

- ★ Yangjiang Nuclear was recognized as an outstanding enterprise in the 2023 "A Thousand Enterprises Aid a Thousand Villages, Ten Thousand Enterprises Revitalizing 10,000 Villages program".
- ★ Hongyanhe Nuclear won the Outstanding Contribution Award at the 30th Anniversary of Dalian Hope Project.

[10] SQE refers to safety, quality, and environment.

ESG Governance

CGN Power has established a top-down ESG governance framework and management system and keeps a close eye on changes in domestic and international ESG-related guidelines. The Company has developed a systematic layout of ESG strategies to implement ESG policies methodically. Sustained efforts have been devoted to improving our sustainability in operation thus continuously improving our sustainability performance. In 2024, we conducted the double materiality assessment in the process of identifying ESG topics for the first time, giving more consideration to financial materiality on the basis of previous impact materiality analysis. Perspectives of internal and external stakeholders were fully included to ensure effective identification of ESG risks and opportunities. This assessment provided reference for optimizing information disclosure and implementing targeted management measures.

ESG Governance Framework

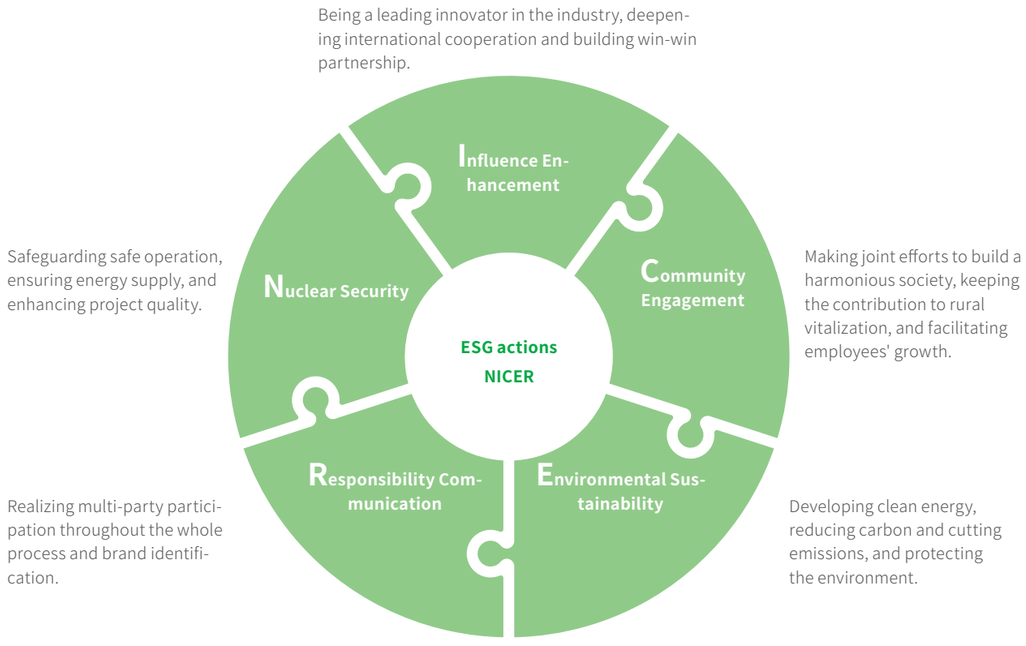
CGN Power's ESG management system is as follows:

	Governance level	Management level	Organization level	Execution level
Governance framework	● The Board of Directors ● Audit and Risk Management Committee ● Other specialized committees	● Senior management ● Board Secretary	● Specialized committees, departments and special groups ● ESG Task Force	● Major subsidiaries
Functions	● The Board is responsible for supervising and guiding ESG management. ● The Audit and Risk Management Committee shall report to the Board after reviewing ESG risks and opportunities, goals, strategies and structure, monitors the implementation of ESG practices, deliberates on the ESG report, and then reports to the Board. The Board shall make decisions after deliberation. ● Other specialized committees will review ESG issues in line with their responsibilities and the Board shall make decisions after deliberation.	● Board Secretary, as the leader in charge of ESG management, enhances cooperation with other senior management of the Company to facilitate the implementation of ESG initiatives.	● Specialized committees, departments, and special groups of the Company coordinate the implementation of work such as collection, analysis and formulation of performance indicators among major subsidiaries. ● ESG Task Force includes members from various departments of the Company, in order to strengthen internal cooperation, improve the work mechanism, follow and promote the realization of ESG goals, and keep improving ESG performance.	● Major subsidiaries set up specialized committees and specialized working groups comprising designated members to advance the work, such as regular collection and reporting of performance indicators.

The ESG Task Force holds regular and irregular meetings to advance relevant initiatives and ensure effective implementation. Its main responsibilities include: Identifying major ESG factors and assess ESG risks and opportunities; Establish and regularly review the Company's ESG vision and strategy and set ESG goals and indicators; Enhance ESG information collection system and keep tracking the progress of ESG goals; Organize internal ESG promotion and training to promote integration of ESG concepts and requirements; Continue peer benchmarking to improve ESG performance; Implement ESG disclosure and strengthen external communication.

ESG Strategy and Actions

The Company champions the vision of "becoming a world-class nuclear power supplier and service provider with global competitiveness", with "developing nuclear power to benefit mankind" as its mission. Accordingly, we adopt the following ESG strategy with four focuses. In addition, we detail five aspects to fulfill our responsibility, that is, nuclear security, influence enhancement, community engagement , environmental sustainability, and responsibility communication.



Materiality Assessment

The Company continues to improve its methods and procedures for identifying ESG topics and determining materiality. During the Reporting Period, we carried out double materiality assessment for the first time. Based on previous results of material topic survey, we referred to the latest requirements of main sustainability disclosure guidelines, such as the ESG Code of SEHK, the *Self-Regulatory Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange—Sustainability Report (For Trial Implementation) of Shenzhen Stock Exchange and IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information(IFRS S1)*, and also conducted the peer benchmarking analysis. Taking impact materiality and financial materiality into consideration, we sought views from both internal and external stakeholders. By doing so, we aim to identify material ESG topics more scientifically on all fronts, optimize disclosure results and improve daily operation and management.

During the Reporting Period, our survey on the double material topics targeting internal and external stakeholders collected a total of 2,457 valid questionnaires. We analyzed the survey results, scored material topics, and identified the material topics of the year. Financial materiality was assessed by the directors and senior management of the Company and experts, while impact materiality assessment took into account the views of internal and external stakeholders. As nuclear power safety is vital to the Company, it was directly listed as a material topic, and thus was excluded in the scope of the materiality survey. The assessment results were reviewed and confirmed by the Audit and Risk Management Committee and the Board in early January 2025, and then submitted together with this Report to the Audit and Risk Management Committee of the Board for approval in March 2025.

1 Identification

① Identification of important stakeholders:
Based on our business scope and characteristics, and nature of production and operation, we identify key stakeholders with close ties with us by considering together with factors such as decision-making power and influence. CGN Power's stakeholders include directors and the management, government and regulatory authorities, shareholders and investors, customers, suppliers, partners, employees, media, community members and the public.

②Identification of potential material topics:
We determine potential material topics by integrating disclosure guidance of regulatory institutions, expectations of the market and investors, international reporting standards, and material topics of mainstream rating agencies and peer companies as well as material topics identified by the Company in the past. We generally categorize potential material topics by environment, society, governance and employee.

2 Assessment

We develop a stakeholder communication plan to engage internal and external stakeholders in the questionnaire survey on financial materiality and impact materiality, so as to comprehensively assess potential material topics.

3 Prioritization

We identify the material topics and their priorities from two dimensions: "financial materiality" and "impact materiality ", and form a materiality matrix for 2024 in accordance with feedback from the questionnaire.

4 Approval

The senior management reviews the material topics selected by stakeholders and reports them to the Audit and Risk Management Committee and the Board for approval.

We categorize potential material topics by environment, society, governance and employee, and identify the following material topics after analyzing the survey results. Among them, the topics with impact materiality and financial materiality are as follows:

Environment

Radioactive material management

Society

Technological innovation

Network and data security

Supply chain management

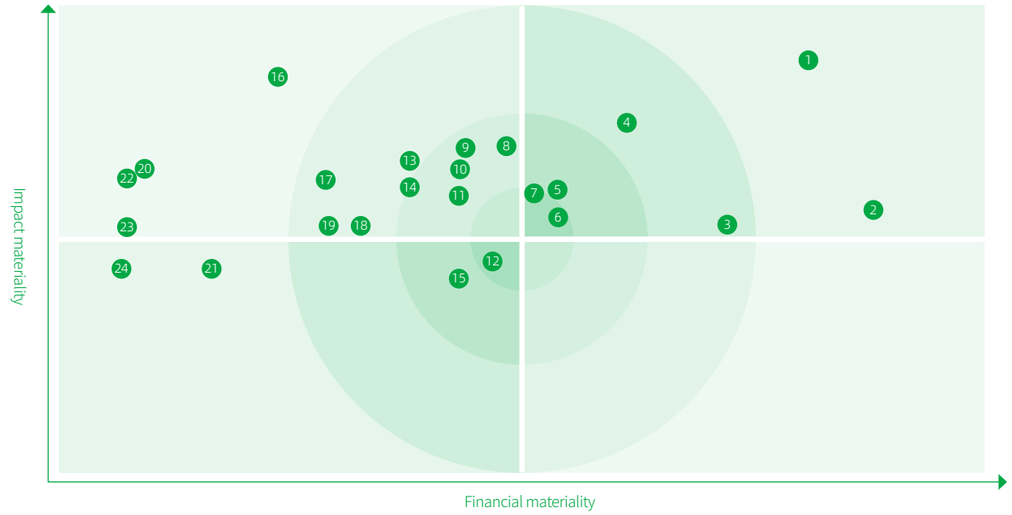
Employee

Occupational health and safety

Governance

Risk management, compliance management, and internal control

Business ethics



1	Radioactive material management
2	Technological innovation
3	Risk management, compliance management, and internal control
4	Occupational health and safety
5	Network and data security
6	Supply chain management
7	Business ethics
8	Employee compensation and benefits

9	Product responsibility
10	Corporate governance
11	Resource utilization
12	Green and low-carbon investment opportunities
13	Environmental management
14	Employee development and training
15	Investor relations
16	Employment and labor rights protection

17	Transparency and accuracy of public information
18	Addressing climate change
19	Public communication and media opinion
20	Biodiversity protection
21	Exchanges and cooperation
22	Community relations
23	Non-radioactive discharge and management
24	Rural vitalization and charity

Stakeholder Communication

The Company accords high priority to stakeholder communication. We have established a stable and regular communication mechanism as a means to ensure close and effective information exchange with all parties, thus laying a solid foundation internally and externally for our development. In daily communication, two-way communication with various stakeholders is maintained through multiple channels. As a sincere listener to their concerns, we also actively give feedback. We timely disclose information on production, operation, management and development strategy to enhance stakeholders' understanding and recognition of the Company. Meanwhile, we also track the expectations of stakeholders through questionnaires, interviews, and other forms, and integrate them into our strategy and operation management, striving to win their support for our development.

Stakeholders	Expectations and Concerns	Methods of Communication and Response
Government and Regulatory Authorities	Ensuring nuclear safety Optimizing energy structure Legal compliance and tax payment Value preservation and appreciation of state-owned assets Energy conservation and emission reduction	Compliance with laws and regulations Execution of national energy policies Improvement of corporate governance Acceptance of regulatory audit Regular reporting
Shareholders and Investors	Constant and steady return Transparent information disclosure Protection of shareholder's rights Enhanced communication	Timely information disclosure Regular reporting of operating information Improvement in daily management A variety of communication activities held from time to time
Customers	Stable supply Quality management and service guarantee	Effective communication Active cooperation for power grid dispatching
Suppliers and Partners	Commitment fulfillment Open, fair and just procurement Experience sharing	Strategic cooperation Public disclosure of procurement information Regular communication activities
Employees	Competitive remuneration package Employee health and safety Fair promotion and development Employee care	A healthy working environment Fair promotion channels More employee training programs Caring for distressed employees
Media	Transparent information disclosure Enhanced communication	Regular press conferences Interview by reporters Timely disclosure of public information
Community Residents	Environmental protection in the community Nuclear power-related work safety Promoting community development	Community communication meetings Enhancement of environmental monitoring and protection Participation in community development
The Public	Charity Public relations Nuclear science popularization	Participation in rural vitalization Promotion of employment Education and promotion of nuclear power

CSR Feature: Strengthening the Foundation of Talents to Advance New Quality Productive Forces

Talent is the most valuable asset in shaping new quality productive forces and the key driver of sustainable corporate growth. High-quality development hinges on talent leadership and a strong talent foundation. Committed to a talent-driven development strategy, CGN Power continuously reforms its recruitment, appointment, development, and retention systems to attract and nurture top-tier professionals. By establishing itself as a highland for nuclear industry talent, the Company is laying the groundwork for advancing new quality productive forces.

Attracting Top Talent and Refining Recruitment Strategies

CGN Power places great importance on talent development, implementing proactive, open, and results-oriented policies to attract outstanding professionals from diverse backgrounds. By continuously strengthening our human resource competitiveness, we ensure strong support for the development of the nuclear energy sector.

Expanding campus recruitment

Seizing the momentum of nuclear power's safe and orderly expansion, CGN Power launches the "Egret Star Program" to broaden its recruitment of exceptional graduates. We have streamlined our campus hiring process, combining joint training programs with year-round recruitment. Initiatives such as the "CGN Executives Visit Top Universities" series foster direct engagement with students, while the "Nuclear Experience Camp" invites faculty and students from leading universities to immerse themselves in nuclear power site operations. This program also features a built-in assessment process, allowing early identification of high-potential candidates before they enter the job market.

Attracting high-caliber professionals

Comprehensive high-level talent recruitment measures have been in place, introducing targeted actions for talent sourcing policies, channels, assessment and support. Focusing on smart nuclear power and advanced reactor models, CGN Power prioritizes the recruitment of top-tier scientists and engineers capable of leading major research initiatives and large-scale engineering projects. We have established a high-level talent recruitment directory, ensuring a steady influx of industry-leading experts to drive high-quality growth.

Building a future-ready talent reserve

CGN Power collaborates with over ten top universities, including Tsinghua University, Zhejiang University, Sun Yat-sen University, Xi'an Jiaotong University, Harbin Engineering University, Lanzhou University, and North China Electric Power University, to offer master's and doctoral joint training programs in nuclear science and technology. We pair students with seasoned industry experts as corporate mentors, working alongside university faculty to create customized student cultivation plans. This initiative strengthens the pipeline of highly skilled engineers, ensuring a steady influx of industry-ready professionals.

Empowering Talent and Strengthening Career Development Pathways

With major scientific and technological projects at the core of our strategy, we are committed to building a high-end talent pipeline with sound career ladders. We accelerate the development of a well-structured, multi-tiered talent pipeline, fostering strategic scientific experts, science and technology leaders, and high-performing innovation teams. By fostering a dynamic and future-ready workforce, we are driving the advancement of new productive forces.

Establishing a v-shape talent structure

We are implementing a tiered talent development strategy to cultivate a high-performing research team. A four-tiered R&D talent structure has been established, comprising strategic project chief designers, chief experts, senior experts, and young core experts. The Company has also introduced an open selection process for chief experts, identifying top talent to lead major model development and key technological advancements.

To support and incentivize top-tier experts, CGN Power has developed a support mechanism for chief experts, issuing an incentive management plan that ensures effective performance enablement. These initiatives foster an atmosphere that values and respects scientific research and researchers.

Gathering talent through strategic projects

We are expanding our investment in foundational research for strategic focus areas, laying the groundwork for future technological breakthroughs and future-oriented productive forces.

We have launched a "project-based, team-driven" approach for strategic R&D initiatives, granting full authority to strategic project leaders. Clear talent development goals have been determined, ensuring that talent cultivation and project execution are planned, implemented, and assessed in parallel.

Creating clear career growth pathways for talents

To accelerate professional development, we are enhancing career progression channels across management, technology, and technical skills tracks. We are building a vertically seamless and horizontally integrated talent development system, ensuring clear career pathways from assistant engineer to chief expert.

Nurturing Talent and Strengthening Capability Development

CGN Power prioritizes talent development, placing human resource cultivation at the forefront of our strategy. By innovating in talent training mechanisms and implementing targeted development programs, we continue to enhance our workforce's overall innovation capabilities.

Accelerating in-house training and career development

- CGN Power views on-the-job training as the primary avenue for talent development, leveraging specialized job rotations and cross-functional exchanges to enhance employees' skills. Programs such as mentorship initiatives and shadow training help accelerate professional growth through hands-on experience. We place great emphasis on nuclear power plant operator training, establishing a rigorous, structured training and assessment system that guides employees from entry-level to senior operators. To date, CGN Power has successfully trained over 5,000 operators and 3,000 senior operators, strengthening both our internal talent pool and the broader industry workforce.

Developing new training programs aligned with business growth

- We continue to innovate in our talent development approach, introducing specialized programs for technical and skilled professionals, R&D personnel, functional experts, and management teams at all levels. Additionally, we have established signature talent development brand and collaborate with external partners to pioneer new joint training models with universities and industry institutions. These efforts ensure a steady pipeline of highly qualified professionals to support our growth.

Case First female senior operator at DNMC

In July 2024, Huang Qingyan, an employee of Daya Bay Nuclear Power Operations and Management Co., Ltd. (DNMC), successfully passed the senior operator certification exam, becoming the first female senior operator at Daya Bay Nuclear Power Site. The operator training program is known for its rigorous, standardized, and highly demanding process. Huang overcame challenges and dedicated three years of hard work to gain hands-on experience at the plant. Through perseverance, she defied expectations and quickly established herself as the lead operator of Ling'ao Unit 1. She has participated in multiple accident drills and emergency response exercises, earning safety excellence awards and making significant contributions to the safe and stable operation of the unit.

Case Joint engineer education program with Sun Yat-sen University

CGN Power has partnered with Sun Yat-sen University to implement an engineer education program in the nuclear power sector, modeled after France's elite engineering training system. Leveraging cutting-edge internship and hands-on training platforms, the collaboration has successfully trained a new generation of nuclear power professionals. Over the past ten years, this partnership has cultivated more than 1,500 students, providing a strong talent pipeline for China's nuclear industry.

Valuing Talent to Foster Company's Growth, Building a Favourable Development Environment

At CGN Power, we adamantly believe employees are our most valuable asset. Guided by our talent-driven strategy, we are committed to creating an environment that attracts, nurtures, develops, and retains top talent, ensuring sustainable, high-quality corporate growth.

Building platforms to inspire innovation

CGN Power provides high-caliber professionals with excellent development platforms and abundant resources, including national R&D centers and key laboratories. These high-end research hubs empower top talent to take on critical technological challenges. Additionally, we have established individual and team-based development programs to enhance scientific research capabilities, personal skills, and teamwork.

Strengthening support and enhancing incentives

Beyond national policy support, CGN Power offers top-tier compensation to attract top-tier professionals. We are actively exploring long-term incentive mechanisms, including profit-sharing models for research outcome commercialization. Comprehensive support measures have been implemented for high-level talent, covering child education, job security, healthcare, and housing assistance. Meanwhile, we have refined our honor and recognition system, fostering close engagement between senior leadership and high-level talent to provide holistic support and career security.

Delivering comprehensive care for employee well-being

CGN Power is dedicated to enhancing employee well-being by offering comprehensive support services. In addition to standardised compensation, holiday leave, and welfare programs, we provide on-site dining, accommodation, and shuttle services, along with access to libraries, gyms, and other recreational facilities. We have also implemented an Employee Assistance Program (EAP) to provide ongoing mental health and psychological support. Through initiatives like "Serving Employees with Practical Solutions," we continuously address workplace concerns and personal challenges, fostering a deep sense of happiness and belonging among employees.

Staying Talent-oriented to Empower New Quality Productive Forces

We work to foster a culture of innovation, encouraging our employees to drive technological advancements. Over the years, we have cultivated a strong foundation of strategic scientific talent, key experts, as well as young talent and teams, reinforcing the human capital essential for the growth of new quality productive forces.

Honors

One employee from CGN Engineering received the **Outstanding Contribution Award in Power Science and Technology**, while three others were honored with the **Outstanding Young Scientist in Power Technology Award.**

Honors

Two employees from CNPRI received the **Outstanding Power Technology Worker Award.**

Three employees from CGN Operations were recognized as **Guangdong Province's First Chief Technicians.**

Honors

Two employees from Fangchenggang Nuclear were named **2023 Guangxi Technical Experts.**

One employee from Yangjiang Nuclear won the **Gold Award from the Guangdong Society of Environmental Sciences.**

Craftsmen of China

18 years of innovation in 3R system equipment—achieving full localization of core I&C technology

For the past 18 years, Zhang Yilin from CNPRI has dedicated himself to the development of specialized instrumentation and control (I&C) equipment for nuclear facilities, focusing on localizing 3R system equipment. He established a dedicated R&D team and founded the Shenzhen Key Laboratory for Nuclear Radiation Detectors and Electronic Systems, continuously driving innovation in domestically developed 3R system equipment. His efforts have helped CGN Power become the most credentialed entity in China's nuclear I&C sector.

The journey toward domestic 3R system development began with the Loss of Coolant Accident Margin Monitoring System (LSS) retrofit at Daya Bay NPP. In 2008, facing challenges in upgrading the LSS equipment, Zhang Yilin proactively took the lead, guiding his team through over two years of research and development to achieve a fully localized system upgrade. The success of this initiative led to its deployment across 14 reactor units. Since then, Zhang has continued to push the boundaries of 3R system localization, leading his team in overcoming critical challenges in detector design and manufacturing. By 2023, his team had successfully developed all detectors required for the Hualong One reactors, obtaining certifications for the design and manufacturing of six different detector models. This milestone marked the full-scale deployment of domestically developed 3R system equipment across major nuclear power plants in China.

Zhang Yilin (first from the right) works in the laboratory with his team

Craftsmen of China

The "Yao Zhimeng Model Worker and Craftsman Innovation Studio" achieves over ten domestic technological breakthroughs

The "Yao Zhimeng Model Worker and Craftsman Innovation Studio" is CGN Power's only innovation hub in radioactive waste management. The laboratory focuses on in-service nuclear decontamination and comprehensive treatment of radioactive solid waste, tackling key technical challenges in nuclear waste disposal.

Driving technological innovation to solve radioactive waste treatment challenges

Since joining Yangjiang Nuclear in 2012, Yao Zhimeng has led his team in overcoming significant challenges in nuclear waste processing, completing a national key R&D program and achieving over ten first-time technological breakthroughs in China's nuclear environmental protection sector. His efforts have resulted in over 20 national patents, generating significant economic and social benefits.

Building an innovation platform and cultivating nuclear waste management specialists

Under Yao's leadership, CGN Power established its only group-level innovation studio, alongside China's only national engineering laboratory specializing in in-service decontamination and radioactive solid waste treatment. He also led the creation of Guangdong's first provincial nuclear environmental engineering research center. Yao has contributed extensively to the industry by developing multiple national and industry standards, publishing over 100 academic papers, and securing more than 40 domestic patents and two international patents. His advocacy led to radioactive waste management being officially recognized as a national skilled profession, while related technical competitions have flourished, providing employees with a platform to showcase their expertise and advance their skills.

Yao Zhimeng (first from the left) introduces an innovative product developed by his team

Sound Compliance for Efficient Operation

Opportunities and Challenges

Efficient corporate governance and compliance management are fundamental to the stable operation of a company. Continuous improvements in governance mechanism, firm commitments to business ethics and compliance requirements, and operational risk prevention and control are the only path to a company's long-term development. They also serve as the keystone to stable and sustainable operation.

Strategies and Decisions

CGN Power continues to act in accordance with best practices of corporate governance with a focus on improving its governance system. We deeply incorporate integrity and law-abiding consciousness into our daily operation. While strengthening our risk prevention and control, we stick to the bottom line of business ethics. All these efforts will lay a solid foundation for sustainable development, and effectively safeguard the investors' rights and interests. Meanwhile, we work to optimize our ESG governance framework and operating mechanism. Our improvement of management measures enables us to address the challenges from the environment and the society. Together with all parties from the society, we steadily march towards sustainable development, and keep enhancing our comprehensive value and influence.

Our goals

- Improve our ESG governance system constantly
- At least one female director in the Board
- Strive for higher business ethics standards and governance efficacy

Progress in 2024

- Confirmed the ESG vision, mid- and long-term strategy, goals and actions
- One female non-executive director and one female independent director were included to the Board.
- 0 anti-corruption litigation.

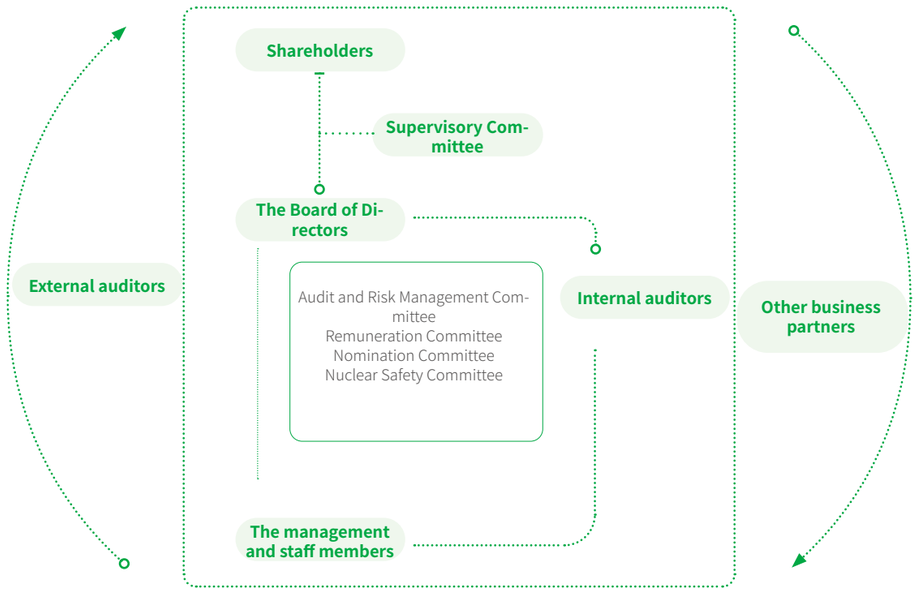
Corporate Governance

In strict accordance with laws and regulations, CGN Power works to build a sound governance mechanism and act in accordance with best practices of corporate governance. We incorporate ESG concepts into all aspects of corporate management, continuously optimize the governance mechanism, and improve the governance structure, with a professional and diversified board. In addition, we reinforce risk management system, and improve business ethics standards. Active steps are taken to create a high-quality environment for internal and external governance environment, steadily improving our governance efficacy.

Governance framework

CGN Power strictly complies with the *Company Law, Securities Law, Corporate Governance Code* set out in Appendix C1 of the *Listing Rules of SEHK*, and the *Governance Rules for Listed Companies* issued by China Securities Regulatory Commission (CSRC). Accordingly, we have developed a series of policies, including the *Articles of Association*, to continuously optimize our management system for better internal governance. This will also help effectively safeguard the rights and interests of shareholders and other stakeholders. Since the listing of A-share in 2019, we have been continuously improving the institutional system for corporate governance in accordance with the relevant regulatory requirements of the Shenzhen Stock Exchange(SZSE) and the Stock Exchange of Hong Kong Limited (SEHK), meeting regulatory requirements in both regions.

Our internal governance framework mainly consists of the General Meeting of Shareholders, the Board of Directors(the Board) and specialized committees, the Supervisory Committee, internal auditors as well as the management and staff members. External auditors are hired to offer independent reviews of the Company's governance performance, supporting the continuous improvement of our governance level. Meanwhile, we maintain long-term cooperative relationships with other business partners (including customers, partners, media, regulatory agencies, communities and the public, etc.) to promote efficient governance and stable operations.



Governance mechanism

CGN Power values the alignment of documents for standardized governance with actual operating conditions and its practicality. It serves as the foundation to regulate the Company's corporate governance practices. The Company complies with the requirements of relevant laws, regulations and regulatory rules, tracks their updates, and updates important documents based on the actual conditions, thus continuously improving its corporate governance.

Important governance documents of CGN Power[11]

Articles of Association of CGN Power Co., Ltd.

Procedural Rules of General Meeting of Shareholders of CGN Power Co., Ltd.

Procedural Rules of the Board of Directors of CGN Power Co., Ltd.

Procedural Rules of the Supervisory Committee of CGN Power Co., Ltd.

Terms of Reference for the Audit and Risk Management Committee under the Board of Directors of CGN Power Co., Ltd.

Terms of Reference for the Remuneration Committee under the Board of Directors of CGN Power Co., Ltd.

Terms of Reference for the Nomination Committee under the Board of Directors of CGN Power Co., Ltd.

Terms of Reference for the Nuclear Safety Committee under the Board of Directors of CGN Power Co., Ltd.

Board Diversity Policy of CGN Power Co., Ltd.

Terms of Reference for Independent Directors of CGN Power Co., Ltd.

Director Nomination Policy of CGN Power Co., Ltd.

Corporate Governance Code of CGN Power Co., Ltd.

Shareholder Communication Policy of CGN Power Co., Ltd.

Code for Securities Transactions by Directors and Specific Persons of CGN Power Co., Ltd.

During the Reporting Period, the Company has revised several documents in accordance with relevant laws, regulations and domestic regulatory requirements based on the actual conditions, including *Terms of Reference for Independent Directors*, *Terms of Reference for the Audit and Risk Management Committee under the Board of Directors* and *Information Disclosure Management System*. These updates ensure the effectiveness of policies.

During the Reporting Period, our corporate governance practices met the regulatory requirements set by Chinese laws and regulations, China Securities Regulatory Commission(CSRC) and SEHK. We also made adjustments in line with the latest laws and regulations. The Company, the directors, the supervisors and the senior management did not receive any administrative penalty, public criticism or denunciation.

[11] For more governance documents, please visit the website of CGN Power (www.cgnp.com.cn).

Board of Directors

The Board is responsible for formulating and reviewing the Company's policies and regulations in corporate governance and compliance practices, developing strategies and principles, and setting long-term performance and management targets. It also takes charge in assessing business performance, monitoring the management's performance and reviewing risks. In doing so, we can ensure a prudent and effective regulatory structure. Based on the Company's corporate governance standard, structure, and practices, the Board has formulated the *Corporate Governance Code* in accordance with the *Corporate Governance Code* set out in Appendix C1 of the *Listing Rules of SEHK* and the *Governance Rules for Listed Companies* issued by CSRC. The Code explains how we maintain good practices to ensure that the corporate governance meet requirements and expectations through the organizational structure, and a range of relevant policies, procedures and measures.

In accordance with the *Articles of Association*, the Board has established the Audit and Risk Management Committee, the Remuneration Committee and the Nomination Committee. According to the characteristics of the industry, we also set up the Nuclear Safety Committee to ensure safe and stable operation of the Company. During the Reporting Period, the Company issued a newly revised *Terms of Reference for the Audit and Risk Management Committee under the Board of Directors.* to further improve relevant governance requirements.

Directors shall be elected at the General Meeting of Shareholders for a three-year term. Upon expiration, the term is renewable through re-election. The list of candidates for directors shall be submitted to the General Meeting of Shareholders for resolution in the form of proposal.

The term of an independent director is the same with that of other directors in the Company and the term is renewable through re-election but the term of office shall not exceed a consecutive of six years.

Candidates for directors other than independent directors shall be nominated by the Board, the Supervisory Committee, or Shareholders who individually or jointly holding more than 3% of the Company's voting share, and be elected at the General Meeting of Shareholders.

By the end of the Reporting Period, the Board was composed of **9** directors with **3** independent directors **5** non-executive directors **1** executive director

During the Reporting Period, the Board held **7** meetings, on which **54** resolutions were deliberated and **10** resolutions reviewed.

The specialized committees held **10** meetings, on which **31** resolutions were deliberated and **15** resolutions reviewed.

Board Independence

The Company takes following measures in terms of the composition, scope of responsibilities, and deliberation mechanism of the Board to secure the independence of the Board. These measures clearly separate supervisory and executive functions, thus improving our corporate governance.

- The proportion of executive directors, non-executive directors and independent directors remains balanced. Non-executive directors(including independent directors constitute the majority, and independent directors are no less than 1/3.
- All the members of the Audit and Risk Management Committee, Remuneration Committee, and Nomination Committee are independent directors, giving full play to the role of independent directors in decision-making, oversight, checks and balances, and professional counseling. Members of Nuclear Safety Committee are all non-executive directors.
- We have established a mechanism to ensure that the Board is accessible to independent views and opinions. And we will review the implementation and effectiveness of the mechanism annually.
  First, we offer multiple channels to independent directors to voice their opinions, and ensure the length of board meetings and other specialized committee meetings, so that directors have adequate time and effective channels to express their opinions.
  Second, we engage professional advisors to provide consulting service to directors who need it. This arrangement is included in the budget plan for a secure funding.

In 2024, with reference to Chinese laws and relevant regulations including the *Company Law*, the *Opinions on the Reform of the Independent Director System of Listed Companies by the General Office of the State Council*, the Measures for the Administration of Independent Directors of Listed Companies, the *Code of Corporate Governance for Listed Companies*, the Company revised the *Terms of Reference for Independent Directors*. In addition, regulatory requirements of SEHK and SZSE, and relevant regulations in the *Articles of Association* are also taken into consideration. This document further improves the Company's governance structure, promotes standard operation, and improves the decision-making level, efficiency, and independence of the Board. It will ensure legal rights and interests of all shareholders.

Composition of the Board members in all committees

Audit and Risk Management Committee	Remuneration Committee	
Independent directors 3	Non-executive director 1	Independent directors 2

Nomination Committee		Nuclear Safety Committee		
Non-executive director 1	Independent directors 2	Non-executive directors 3	Executive Director 1	Independent director 1

Board diversity

CGN Power recognises the importance of Board diversity to the decision quality. The Company has formulated and published the *Board Diversity Policy (Diversity Policy)* and the *Terms of Reference for the Nomination Committee*, and authorizes the Nomination Committee to regularly review the implementation and effectiveness of the policy. The *Diversity Policy* stipulates that various factors should be taken into account when selecting candidates for the Board, which include but not limited to gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge and tenure. Accordingly, the Company has developed assessment indicators for reviewing the structure and composition of the Board, including age, gender and professional expertise.

Board members of the Company have backgrounds in power industry management, financial accounting management, laws, safety management and supervision and management of state-owned enterprises with over 20 years of experience in their respective industries. The composition of the Board boasts gender diversity, reasonable age structure, diversified educational background, rich professional experience, and reasonable tenure. This means the *Diversity Policy* achieves the desired effect.

Board members and their professional backgrounds

Name	Age	Gender	Educational background	Title	Area of expertise
Yang Changli	60	Male	Master's degree	Chairman of the Board, Non-executive Director, Chairman of Nuclear Safety Committee of the Board	30 years of experience in nuclear power, nuclear fuel, science and technology R&D, safety and quality management, etc.
Gao Ligang	59	Male	Master's degree	Executive Director and President	30 years of experience in nuclear power industry
Li Li	55	Female	Master's degree	Non-executive Director	30 years of experience in macroeconomics, administrative management, law, and corporate supervision
Pang Songtao	53	Male	Master's degree	Non-executive Director	30 years of experience in nuclear power industry
Feng Jian	57	Male	Master's degree	Non-executive Director	Rich experience in enterprise management, financial management, investment management, etc.
Liu Huanbing	51	Male	Master's degree	Non-executive Director	25 years of experience in finance and investment and financing management
Wang Mingfeng	53	Male	Doctor's degree	Independent Director, Chairman of Remuneration Committee of the Board	Rich legal and management experience
Li Fuyou	69	Male	Bachelor's degree	Independent Director, Chairman of Nomination Committee of the Board	Rich experience in energy, coal, and safety management
Xu Hua	64	Female	Master's degree	Independent Director, Chairman of Audit and Risk Management Committee of the Board	Rich experience in financial management, enterprise management, and supervision

Training for Board members

During the Reporting Period, the Company actively engaged members of the Board in relevant training program to keep improving their professional competence. The training will help reinforce their decision-making ability and level of governance.

January, March, April and May, 2024

All Board members participated in the training organized by the Shenzhen Securities Regulatory Commission, in which they learned five issues of the *Report on the Supervision over Shenzhen Listed Companies* and a report on illegal behaviors such as false trade.

March 2024

Three non-executive directors, Mrs Li Li, Mr Pang Songtao, Mr Liu Huanbing attended the first training session in 2024 for directors, supervisors and senior management of listed companies organized by the SZSE.

April 2024

All Board members attended a lecture featuring China's macroeconomic outlook given by an economics professor.

May 2024

Mr. Yang Changli, Chairman of the CGN Power, and Mr. Gao Ligang, President of the CGN Power, attended the 2024 special online training for chairmen and general managers of listed companies organized by the Shenzhen Securities Regulatory Commission. The training mainly focused on the reform of the independent director system.

3 independent directors, Mr. Wang Mingfeng, Mr. Li Fuyou, and Mrs. Xu Hua attended the first and second training sessions themed Capacity Building Training Course for Independent Directors organized by the Shenzhen Securities Regulatory Commission.

September 2024

Mrs. Xu Hua, the independent director, participated in the 142nd Training Course for Independent Directors of Listed Companies (Follow-up Training) hosted by SZSE.

October 2024

All directors attended a lecture delivered by the chief analyst of an investment bank, focusing on economic changes and the outlook for the power industry.

Investor communication

Committed to open and transparent business as well as maximizing the value of shareholders, CGN Power continues to enhance interaction with investors to track their opinions and suggestions, thus getting the recognition from the market on the Company's value.

After becoming a public company, the Company has formulated regulations such as the *Management Rules of Investor Relations of CGN Power Co., Ltd.* and the *Information Disclosure Management System of CGN Power Co., Ltd.* The regulations will help manage investor relationship in a standardized and diversified way, promote the unity between the Company's development and shareholder value, and achieve smooth two-way communication. During the Reporting Period, the Company updated *Shareholder Communications Policy*, as a means to ensure that shareholders (including individual and institutional shareholders) are accessible to comprehensive, and same corporate information that can be easily understood in time. The move can also encourage shareholders to replace paper material with electronic one, which not only strengthens communication with shareholders, but also advocates the environmental protection concepts.

According to the rights of decision-making prescribed by the *Articles of Association*, the General Meeting of Shareholders is entitled to legally exercise its decision-making rights on major matters such as operation policies and profit distribution of the Company. All general meetings of shareholders held by the Company have met the requirements of relevant laws and regulations and the *Articles of Association*. In terms of profit distribution, the Company comprehensively considers current-year business performance, future development plans, relevant commitments and other factors, and approves them at the General Meeting of Shareholders in the financial year. This process ensures stable dividend returns for the Company's shareholders. Since the Company went public in December 2014, the cumulative dividend payout has exceeded 31.9 billion yuan.

In 2024, we held the 2023 Annual General Meeting of Shareholders/ the 2024 first General Meeting of H-share Shareholders/the 2024 first General Meeting of A-share Shareholders, the First Extraordinary General Meeting of Shareholders for 2024/ the 2024 second General Meeting of H-share Shareholders/ the 2024 second General Meeting of A-share Shareholders, and the Second Extraordinary General Meeting of Shareholders for 2024.

5
Regular telephone conferences held

567
Participants

1,280
Investors received through on-site communication and telephone communication

34
Annual results roadshow and mid-term results roadshow meetings held

75
Participants

2
Reverse road show held

240
Participants

1
Online roadshows/group reception held

77
Questions answered online

Business Ethics

Upholding professionalism and integrity in business activities, CGN Power strictly follow applicable laws and regulations and business ethics standards. Through strengthening organizational guarantee, improving institutional systems, implementing supervision and oversight mechanisms, and carrying out training on publicity, we build a high-standard business ethics management system to ensure healthy corporate development.

Anti-corruption policy system

In strict compliance with Chinese laws and regulations, including the *Law for Countering Unfair Competition* and the *Anti-money Laundering Law*, and *regulatory documents including Several Suggestions Concerning the Applicable Law in Handling Criminal Commercial Bribery Cases Issued by the Supreme People's Court and the Supreme People's Procuratorate, etc.*, CGN Power requires all employees to abide by business ethics. The Company continues to improve anti-corruption system and business ethics management mechanism to build a clean and honest workplace that has zero tolerance for corruption.

Organizationalmanagement

The Company has set up an anti-corruption coordination group with clear operating rules and defined responsibilities of all parties. The group is to realize the joint supervision by discipline inspection, audit, finance, and human resources departments, to share supervision information timely, and to strengthen coordination on major and difficult corruption issues.

Institutional building

The Company has formulated and published the regulations handling violations of regulations and disciplines covering all employees of its subsidiaries, the *Discipline Handbook of Listed Companies and the Implementation Rules of Eight-Point Decision Made by the CPC Central Committee on Improving the Party and Government Conduct*. The latter two documents clearly stipulate the rules and methods for dealing with violations of regulations and disciplines. The Company has also formulated the Gift Reporting Regulation, requiring employees to declare gifts that they cannot refuse or return for any reasons at work to the Company within 15 days upon the receipt of gifts. It can effectively reduce the risk of corruption. As for supply chain partners, all of them are required to register on the Company's business platform and sign a platform agreement including anti-corruption clauses before our cooperation. The agreement specifies requirements in terms of compliance operation and integrity in our cooperation and puts forwards forms of punishment.

In 2024, the Company deployed more personnel responsible for supervision. We strengthened the notification of typical violations of regulations and disciplines through various means such as launching the Discipline Education Month campaign, producing education videos, holding cautionary and education conferences, and organizing typical case studies. These efforts further strengthen integrity education targeting employees. During the Reporting Period, we found a total of 30 violations of regulations and disciplines, all of which were handled in strict accordance with relevant procedures. The punishment included warning, demerit on employment records, serious demerit, demotion, removal from office, and dismissal. These violations had no significant impact on the Company's financial statements and overall operations.

100%
Suppliers sign online business platform agreement and know the requirements of integrity and compliance

100%
Supplier cooperation contracts included in supply chain integrity and anti-corruption clause

100%
Suppliers sign punishing rules and letters of responsibility

Culture of integrity

The Company fully acts upon the *Opinions on Strengthening the Building of a Culture of Integrity in the New Era*, and organizes regular integrity education targeting all employees. We guide employees to faithfully practice the concept of integrity, and introduce our achievements in relation to integrity building to internal and external stakeholders in diversified and regular methods. For relevant persons and employees in key positions, we carry out targeted integrity training. These efforts are aimed to build an integrity atmosphere.

For all employees

In February 2024, the Company held the Conference on Integrity Building and Anti-corruption as well as Cautionary and Education Conference. The conference was held as a hybrid of in person and video. Yang Changli, Chairman of CGN Power, attended the conference and gave a speech. Managers at all levels of the Company, directors, supervisors, and senior management of all subsidiaries, leaders, and employees in key posts of the tertiary subsidiaries such as personnel management, disciplinary management, inspection and contract and business attended the meeting.

We held cautionary and education conferences in July and December 2024. Cautionary education films were shown in the conferences, with analysis of typical cases of disciplinary violations found recently. Yang Changli, Chairman of CGN Power, attended the conference and gave a speech. He emphasized that redoubled efforts should be made to promote anti-corruption governance. He called for improvements in the system of checks and oversight over the exercise of power and urged to reform regulatory mechanisms and build relevant systems in key areas. All members of the Company, and main managers of subsidiaries attended the conference. After that, all subsidiaries carried out precautionary education to cover all employees.

During the Reporting Period, the Company revised teaching program on internal violations of regulations and disciplines, updating more than 40 typical cases. As a part of promoting the culture of integrity, courses on integrity for subsidiaries are all given by discipline inspectors, striving to build a strong sense of obeying rules and regulations among employees.

For suppliers and partners

Prior to a formal partnership, suppliers must register on the e-commerce platform and sign the platform agreement. The agreement includes clauses related to anti-corruption, ensuring that all suppliers are informed of our anti-corruption requirements. All supplier contracts include integrity and anti-corruption clauses, with punishment clauses and letter of responsibility attached.

Through e-commerce business platform and supplier conference, we carry out training on integrity and anti-corruption management targeted at suppliers.

100%

Coverage of CGN Power integrity education and training in 2024.

Whistleblowing mechanism and whistleblower protection

The Company has formulated the regulations on oversight, discipline, and accountability, improved working procedures for receiving and handling whistle-blowing, and set up safe whistle-blowing channels protected by the law. In doing so, our employees and related third parties can report any violations to the disciplinary investigation department through calls, in-person visits, or emails with confidentiality. After receiving whistleblowing reports, the disciplinary investigation department shall proceed with proper recording and initiate an internal investigation process while keeping relevant information confidential. If the reported object involves the management personnel of the Company, the disciplinary investigation department shall handle the matter in accordance with relevant procedures. If the reported person is an employee of our subsidiary, he or she will be referred to the disciplinary investigation department of the subsidiary according to procedures.

According to the Company's confidentiality policy, information of whistle-blowing and reporting parties is confidential. Disclosure on privacy of the informant is prohibited. The Company further clarifies response requirements and protection provisions for real-name informants in relevant systems and procedures. We will prioritize the handling of real-name informants, and strictly protect real-name informants. As for false accusation or retaliate, we will firmly and seriously hold such informants accountable.

Whistleblowing mailbox: jtjubao@cgnpc.com.cn

Whistleblowing telephone and fax: (86) 755 83671077

Business ethics supervision

To prevent business ethics risks, CGN Power has established a robust internal control and supervision system, providing institutional guarantees for business ethics supervision. Our internal audit department conducts regular special audits on the implementation of operations, procedures, expenses and internal controls in the Company's functional departments, business centers, and subsidiaries. In 2024, our internal audit department carried out special audits in key management areas such as financial management, capital management, major equipment management, nuclear power project engineering design and settlement management, major research project management, internal control and risk management, as well as special inspections on matters concerned by the management. The results were sent to the senior management. They made specific suggestions to persons in charge to solve problems exposed and promoted rectification.

Risk and Compliance Management

Sound risk management and internal monitoring system play a key role in guaranteeing the Company's sustainable operation. The Company is committed to deeply incorporating risk management throughout all steps of business processes. In accordance with the Company's development strategy and management theme, we improve risk management system, and cultivate a robust risk management culture, so as to make all staff more conscious of risk, and ensure stable and healthy development of the Company.

Risk management

Based on the risk management provisions of IAEA-TECDOC-1209, the risk management framework of Committee of Sponsoring Organizations of the Treadway Commission (**"COSO"**), and ISO 21000:2009 *Risk Management-Principles and Guidance*, CGN Power keeps improving its risk management system, aligning it with the leading standards in the industry and in line with the reality. The Company closely follows updates of national policies as well as domestic and foreign economic and financial environments, and takes major factors such as environment, society, and future development into account, thus building a risk management system under "Unified Leadership and Hierarchical Management". In doing so, risk management strategy is implemented in a standardized and orderly manner, the risk management organizational function system is improved and the risk management information system is optimized.

The Company has formulated and published the *Enterprise Risk Management System* and set a risk management group to analyze and rank identified risks and allocate resources appropriately. Through strengthening effective actions such as dynamic identification, regular evaluation, and dynamic management based on a combination of qualitative and quantitative methods, we integrate ESG factors into risk management procedure, and analyze and rank the identified risks in accordance with the possibility and influence of risk occurrence. As a result, the major risk faced by the Company will be revealed, followed by the development of risk control goals and countermeasures. By synthesizing risk management strategies such as reduction, evasion, transfer and control, and continuing to introduce advanced risk management methods and tools, we realize centralized management of risks and effectively guide each subsidiary to predict risk in advance during its business process. Our risk management team will promptly follow up on major risk control situations, transform early warning risks into proactive risk management, and consolidate the first line of defense for risk management.

Risk management process

- The subsidiaries review major risks for the next year and produce a major risk assessment report. The headquarters departments review specific risks such as safety, quality, environmental protection, production, engineering construction, and financial management.
- Following the Company's risk management system and related standards, we assess various risks from two dimensions, impact and possibility to form the list of major risks next year. We formulate annual control objectives and response measures. These items will be reviewed by the risk management group meeting and budget review group meeting, and then will be submitted to the Company for approval.

Risk dynamics tracking and reporting mechanism

- Risk management group meeting shall be held on a regular basis. Major risks management shall be tracked every month and corresponding risk monitoring report shall be reported to the operating executives.
- Important risk matters shall be submitted to the Board of Directors for review on a quarterly basis.

At the end of each year, we summarize and review risk management of the previous year. Based on internal and external changes, and the Company's strategies, we set up risk management goals and countermeasures of the next year, covering stable and safe operations of NPPs, electricity sales, control of nuclear power projects under construction, and exchange and interest rate risk. Results and relevant indicators of risk assessment will be reviewed by the Audit and Risk Management Committee of the Board, and be submitted to the Board for approval, ensuring the Board's clear understanding of and direct participation in the Company's risk management.

Reasonable risk response measures that are acceptable to the Company must be in line with its development strategy, and will not cause the following risk situations to the Company.

- Subversive impact on the development of the Company
- Serious accidents that result in the interruption of operation/supply
- Incidents affecting safety and health of employees, contractors and the society
- Significant financial loss that results in a damage on the Company's ability on business development or a serious impact on the Company's ability on financial management
- Serious violations of laws and external regulations that result in suspension of operations or licenses, or substantial fines
- Actions damaging the Company's reputation and brand

For details on the Company's risk management, please refer to the corresponding annual report.

Compliance management

The compliance management system of CGN Power is built on the working principle of "comprehensive coverage, enhanced responsibility, collaboration, independent and objective judgment". Based on a sound organizational structure, institutional system, review mechanism and supporting cultural building measures, we strictly follow the requirements of relevant documents such as the Measures for the *Compliance Management of Central State-owned Enterprises* and upgrade from "key compliance" to "comprehensive compliance". Our compliance management provides strong support for the Company's high-quality development and legal operation.

Compliance structure

We have established a comprehensive organizational system for compliance covering all business departments of the Company from governance to execution. The governance refers to the Company's Board of Directors and the Supervisory Committee, the management is the Company's operating executives, and the execution is the legal affairs departments.

All business departments of the Company are responsible for compliance management, and the head of each department is the first person held responsible for compliance management of the department. Managers, departments and employees at different levels shall, according to respective powers, perform the implementation and supervision of compliance management. At the same time, the Company vigorously promotes the establishment of the organizational system for compliance. We guide all major subsidiaries to set up the chief compliance officer. The headquarters and major subsidiaries appoint business backbones as compliance administrators in all business and functional departments.

Compliance system

We have established a compliance management system composed of compliance management measures, special compliance management regulations, compliance code of conduct and compliance management procedures. Based on that, we conduct compliance management for employees, suppliers, customers, and external consultants, etc.

During this Reporting Period, the Company established a sound compliance management system from the dimensions of strengthening top-level promotion, improving institutional systems, and effectively playing the role of the three lines of defense. The headquarters and major subsidiaries of the Company have all completed the upgrade of compliance management systems, formulated and released 16 specific compliance management systems or special guidelines, and built a hierarchical and classified compliance management system.

Cultivation of compliance culture

We organize different online and offline compliance courses for different training participants, striving to root compliance culture in the mind of every employee.

- For all employees, the Company conducts law popularization and promotion activities by establishing legal education columns, making special posters and videos, organizing knowledge contest, and designing special promotional pages.
- For managers, new employees, and compliance administrators, we develop compliance training courses and conduct training to enhance the professional capabilities of compliance management personnel.

During this Reporting Period, the Company continued to create a comprehensive training matrix. We formulated key law learning plans for leading personnel, released compliance manuals, and carried out activities such as National Constitution Day campaign. We also organized cadres and employees to sign compliance commitment letters, continuously strengthening compliance awareness and promoting the Company's lawful and compliant operation.

Compliance review mechanism

We have established and implemented a compliance review mechanism to effectively control compliance risks and regularly evaluate and improve compliance management, ensuring the sound operation of the compliance management mechanism.

During the Reporting Period, we conducted on-site evaluations of the effectiveness of our compliance management system for some subsidiaries. Based on 45 evaluation items, the reasons for compliance risk events were investigated through information query, on-site interviews, and walkthrough tests. We also identified operational deficiencies in the compliance system and promoted the extension of compliance requirements to the front line.

Case Summing up experience to deepen the building of a compliance and rule-of-law enterprise

In April 2024, CGN Power held the promotion conference to advance rule of law. The Conference emphasized that "compliance management system, rule of law mechanism concerning foreign affairs, legal dispute settlement, legal talents cultivation and digital transformation of the rule of law" are an important part of its efforts to advance rule of law. In this conference, excellent cases of rule-of-law efforts in subsidiaries were shared, and the situation facing our company and shortcomings in terms of legal work were analyzed. The conference proposed that we will continue to optimize rule-of-law and compliance organizational system, significantly improve the ability of legal consultants, and build a team of high-quality legal talents. We will work to incorporate compliance into the key processes of nuclear safety.

Case Taishan Nuclear carries compliance education and law popularization activities

With an aim to improve the legal compliance system and establish a strong sense of compliance among all employees, Taishan Nuclear determined that the period from October 21 to December 20 as the first legal compliance promotion month with the theme of "Focusing on Compliance, Winning the Future". The company held various activities such as Q&A on law popularization, and employee compliance commitments. Special lectures and on-site consultation by lawyers centering around key topics such as judicial interpretation training, work and compliance were organized. Meanwhile, the 2024 Work Promotion Meeting on Deepening Rule of Law and Compliance was convened to comprehensively and deeply cultivate a compliance and law-abiding atmosphere.

Strengthening the Foundation for Safety

7 AFFORDABLE AND CLEAN ENERGY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Opportunities and Challenges

Under China's policies of "developing nuclear power in an active, safe, and orderly manner" and its carbon peaking and carbon neutrality goals, nuclear power and its integrated applications remain in a critical period of strategic opportunity. However, ensuring high-level nuclear safety operations remains challenging, including extending safe operation periods and overcoming key technological barriers.

Strategies and Decisions

CGN Power upholds the principles of "safety first, quality foremost and pursuit of excellence." Prioritizing nuclear safety above all else, we have developed a comprehensive safety management system and leverage digital technologies to ensure absolute nuclear security. At the same time, we remain committed to an innovation-driven strategy, refining our technological innovation framework, and tackling core technical challenges, thus driving high-quality development in nuclear energy.

Our goals

- Continuously strengthen nuclear SQE management, and strive for the "Six Zeros" goal in areas such as work safety and engineering construction.[12]
- Accelerate project approvals and ensure the high-quality delivery of major projects.
- Maintain a steady rise in WANO performance indicators for nuclear power units in operation.
- Drive independent nuclear R&D, expedite original innovations, and translate research into real-world applications.

Progress in 2024

- Achieved the "two eliminations[13] and six zeros" goal
- Secured approvals for three new nuclear projects and successfully commissioned Fangchenggang Unit 4 with high quality
- The ratio of units achieving the world's excellent level (the world's top decile) in WANO indicators was 82.74%; ratio of units achieving the world's advanced level (the world's top quartile) in WANO indicators was 86.31%
- Delivered the Zhongshan Site Test Facility, China Southern Institute of Atomic Energy, ahead of schedule, with the first test bench completed. Two invention patents won China's Gold and Silver Patent Awards.

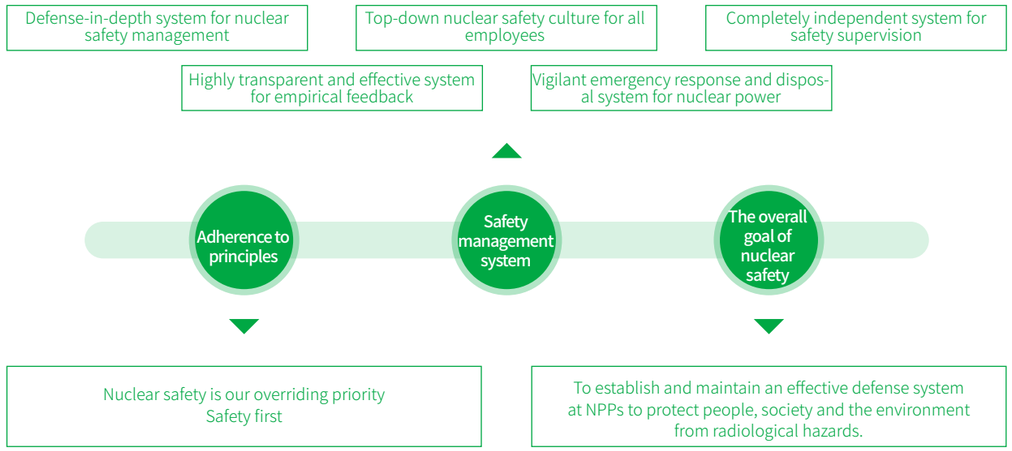
[12] The "Six Zeros" goal refers to the realization of zero serious injuries, zero fire accidents, and zero major radiation protection incidents, zero relatively major or above quality incidents, zero concealment and false report, and zero social responsibility incidents with serious adverse impact.

[13] "Two eliminations" refers to the elimination of level-2 nuclear incidents, the elimination of major and serious personal casualties.

Safety Management

Nuclear safety is our overriding priority, and it is the bottom line that we adhere to the philosophy of "nuclear safety is our overriding priority" and the basic principles of "safety first, quality foremost and pursuit of excellence". CGN Power strictly abides by the Chinese nuclear safety regulations such as the *Nuclear Safety Law of the People's Republic of China* (***"Nuclear Safety Law"***), *the Regulations on Civil Nuclear Facility Safety Supervision and Administration, the Regulations on the Safety of Site Selection for Nuclear Power Plants, the Safety Requirements for Nuclear Power Plant Operation, the Regulations on Safety of Management Systems of Nuclear Power Plants*, etc. Additionally, the Company implements the *Opinions of Communist Party of China Central Committee and State Council on Promoting Reform and Development of Work Safety*, the *Three-year Action Plan for the Rectification of National Work Safety* and other requirements of regulatory authorities on work safety.

Nuclear safety is fundamental to the development of nuclear power enterprises. By introducing and absorbing the world's advanced safety management experience, we have established and improved the Company's safety management system. To achieve the goal of nuclear safety, we implement it in the design, construction and operation of NPPs. All in-service units have maintained safe and stable operations for years, meeting the requirements of international advanced standards.



Safety management system

Ensuring absolute nuclear safety is the foremost responsibility of any nuclear power company. A robust safety management system serves as the foundation for achieving this goal. With the objective of "Zero Injury, Zero Defect, and Zero Violation," CGN Power draws on extensive operational experience to continuously improve its safety management system and refines its management approach. The Company has established a mature and effective safety management system, effectively consolidating the foundation for nuclear safety management.

Defense-in-depth system for nuclear safety management

CGN Power follows the principles of defense-in-depth and multiple redundancy in the design, equipment layout, safety measures, equipment measurement, management system, and employee performance of NPPs. As for equipment, personnel, and organizational structure, we have established a nuclear safety management system that includes prevention, monitoring, and correction. We also consider the establishment of defense-in-depth barriers and their effectiveness in our operational procedures to achieve work safety, control, and supervision at NPPs.

We have further promoted the "SCS" Management, and operate our NPPs in a standardized, centralized and specialized way to maintain their stable operation.

Standardization	Centralization	Specialization
Standardized organization	Centralized resources allocation	Specialized work division
Standardized management system	Centralized technical support	Specialized talent team
Standardized operating procedures	Centralized information sharing	Specialized capability building

During this Reporting Period, we established the specialized leading and working groups, and developed comprehensive action plans and detailed guidelines to strengthen nuclear safety management. We systematically reviewed and addressed common safety issues across multiple plants, ensuring problems are resolved through closed-loop management. Additionally, we enhanced evaluation criteria for our quality assurance system and carried out comprehensive self-inspections, cross-checks, and headquarter reviews covering all subsidiaries. Through thorough assessments and improvements of our quality assurance system, we significantly enhanced the effectiveness of our nuclear safety management system.

Top-down nuclear safety culture for all employees

CGN Power has developed a top-down nuclear safety culture for all employees, and advocates that "everyone is a safety barrier". To strengthen all employees' awareness of nuclear safety, we carry out regular, standardized, and long-term activities, such as "managers on site", "abiding by procedures and no violations", "nuclear safety precautionary education", "nuclear safety culture promotion among teams and groups", and "work safety standardization". We also initiate specific campaigns in line with annual priorities.

In 2024, we stayed focused on the major risks and key areas of SQE. Teams led by our Chairman and senior executives conducted safety inspections at the nuclear power sites for the fifth consecutive year. They thoroughly identified deep-rooted issues and ensured robust follow-ups and corrective actions, enhancing nuclear awareness and sense of responsibility across the Company. For three consecutive years, we've conducted safety accountability inspections covering senior management at all subsidiaries. Each subsidiary now has its own mechanism for senior management safety inspections, further strengthening managerial awareness and accountability for nuclear safety. In collaboration with external partners such as the China Nuclear Energy Association, we've developed and published a five-year joint safety culture assessment plan. This plan continuously enhances safety culture practices across company departments and subsidiaries. In 2024, we successfully completed joint assessments at Hongyanhe Nuclear, Fangchenggang Nuclear, and Taishan Nuclear. Expert teams conducted comprehensive nuclear safety culture assessments involving company-wide surveys, extensive interviews, and site visits. They analyzed various aspects—system management, organizational operations, planning, leadership roles, training, implementation, collaborative development, supervision, and evaluation—to map each plant's safety culture clearly, track progress, provide actionable improvement recommendations, and continuously strengthen the nuclear safety culture.

5.10 times per person per month
On-site visits for problem-solving by the chairmen and general managers of the subsidiaries

Case Regular safety inspection

In April 2024, a team of experts from various fields, with Chairman Yang Changli as the leader and Vice President Liu Haijun as the deputy leader, visited the Lufeng Nuclear Power Site for a major safety inspection. The team carried out an in-depth assessment through briefings, discussions, on-site inspections, document reviews, and interviews. It focused on construction quality, experience feedback, special equipment, and electrical operations of the Lufeng nuclear projects.

On-site inspection led by Chairman Yang Changli at Lufeng Nuclear Power Site

Case CGN Engineering's 2024 Nuclear Safety Culture Forum

In September 2024, CGN Engineering hosted a series of nuclear safety culture forum activities. Middle management personnel enhanced their nuclear safety leadership skills through diverse training sessions. Project departments and contractors conducted Quality Month activities, including kick-off ceremonies, commitment signings, and educational film viewings, along with focused discussions on SQE management aimed at strengthening grassroots management and site operation standards. Concurrently, the company launched the "Nuclear Safety Culture Ambassador" initiative to further promote nuclear safety awareness.

Completely independent system for safety supervision

Complying with relevant international and national nuclear safety regulatory requirements, CGN Power establishes an independent internal safety supervision system, and accepts irregular inspections and supervision of NPPs by national regulatory agencies. We also fully leverage internal and external supervision to promote the implementation of various actions in the independent supervision and improvement plan at all NPPs, and ensure that the indicators of units fulfill or exceed the regulatory requirements.

Within the Company, we set up the Nuclear Safety Supervision and Assessment Department to supervise and assess the safety of all NPPs operated and managed by CGN Power. We have established the Center of Independent Supervision and Assessment for Nuclear Safety (**"Nuclear Safety Supervision Center"**) to independently monitor and assess the safety management of nuclear power sites, covering safety culture cultivation, unit safety management, equipment reliability, project safety and quality control, cyber security, NPP security and emergency management. The Nuclear Safety Supervision Center reports directly to the President and is completely independent from operations departments. We also develop and implement safety improvement plans with all our NPPs, to ensure the effective implementation of the system. Externally, our NPPs accept the national nuclear safety regulators' irregular and targeted inspection, and the regular independent safety assessments by international industry organizations, including IAEA and WANO. Through experience exchange with peers, we keep improving our safety management of nuclear power.

During this Reporting Period, we actively advanced the development of a risk-guided nuclear safety supervision system. Building on the successful implementation of Chinese Technical Specifications at the Daya Bay Nuclear Power Site, we strategically promoted the application of these specifications, configuration risk management, and maintenance rules across all plants. A preliminary risk-guided nuclear safety supervision system was established. In 2024, we completed the technical specification transitions for Fangchenggang Units 1 and 2, and the six Yangjiang Nuclear Units, fully applying the configuration risk management system to Generation II and Generation II+ nuclear plants. Additionally, we embedded maintenance rules into production and major outage processes at Daya Bay Nuclear Site with it as a pilot, significantly improving precise nuclear safety risk control and unit availability. Moreover, we accepted a total of 180 inspections and assessments conducted by the national nuclear safety regulators for our operating and under-construction NPPs, and we received corporate peer reviews (CPR) for Yangjiang NPP and pre-start-up peer assessments of Unit 1 of Huizhou NPP by WANO as scheduled.

	Level	Scope of Supervision
Internal supervision system	○ On-site safety supervision team with NPP safety engineers as the core ○ Safety management organizations with the basic functions of the safety and quality management of NPPs ○ Nuclear Safety Supervision Center to monitor plants	○ Ensuring the effectiveness of NPP daily production in terms of safety ○ Ensuring and overseeing the effectiveness of safety management system at the organizational level ○ Carrying out independent safety supervision and assessment at each nuclear power site
External supervisions	• National Nuclear Safety Administration • International peers' independent safety assessments (including IAEA & WANO)	• Supervising and inspecting the compliance with nuclear safety regulations • Assessing and supervising the safe operation in NPPs

Dynamic and transparent experience feedback system

The experience feedback system is an important part of safe operation of NPPs. We continue the collection of internal and external historical experience to analyze the root causes of accidents, develop plans to correct our actions, and form a dynamic and transparent experience feedback system to prevent any recurrence of accidents. We have established a system that encourages the reporting of operational incidents relating to nuclear power. Management and supervisory departments are required to report the incidents with the transparency measurement indicators in place. Meanwhile, we manage feedbacks on operational incidents intensively, and analyze the root causes of the incidents and deviations, with follow-up corrections. Later, we will summarize best practices, and publicize them in all NPPs.

Feedback between engineering and operations departments	The two-way experience feedback mechanism between the engineering and operations departments helps both parties share and use experiences, promoting nuclear power unit improvement in areas such as design, supplier process, equipment replacement, construction and commissioning management, operation optimization, maintenance strategy and regular safety reviews.
Feedback among NPPs	We actively conduct experience feedback analysis among NPPs, regularly organize the screening of experience feedback and arrange professionals from NPPs to learn from each other. At the same time, we have compiled a series of historical experiences and lessons in industrial safety, fire safety, environmental safety, operation and maintenance, etc. into publications.
External feedback	We carry out SOER (Significant Operating Experience Report) and WANO performance analysis. • We timely track the issues related to safety of nuclear operation in WANO assessment results, and continuously verify and optimize the improvement measures, so as to provide support for managers to make reliable decisions. • We organize a comparative analysis of SOER among plants to identify common issues and improvement directions, with an aim to enhance the management's awareness of risk management and improve their risk management capabilities.

To continuously improve the effectiveness of the experience feedback system, we established the Plants Corrective Action Review Committee in 2024. This committee is responsible for evaluating the overall efficiency of the experience feedback system. By reviewing the analysis reports of major incidents, recurring events, and common issues across NPPs, we guide them on strengthening root cause analysis and enforce closed-loop tracking of corrective actions in line with the regulatory requirement of nuclear safety supervision. We see to it that responsibilities are clearly assigned and effectively executed.

Vigilant emergency response and disposal system for nuclear power

CGN Power highly values the emergency response capabilities of nuclear power plants. The Company continuously improves the organizational systems for nuclear emergency response, and has developed a comprehensive emergency response system centering on nuclear emergencies and a multi-line emergency defense mechanism. The mechanism is supported by specialized emergency equipment and facilities, as well as sufficient and qualified personnel who participate in emergency drills on a regular basis. The emergency drills will also be regularly held. As a result, a sound and vigilant nuclear emergency response system is in place, so that nuclear emergencies can be handled in time, safeguarding the residents around.

In 2024, we further enhanced our emergency response capabilities, particularly for major and significant accidents, through strengthened collaboration with external support teams, leading to a comprehensive upgrade of our emergency response system.

Tailored Emergency Response Plans for Each NPP

Each NPP has developed a customized emergency response plan in close coordination with national and provincial nuclear emergency forces. These plans outline specific support requirements in ten key areas, including unit control, contamination containment, transportation, medical aid, public security, communications, networks, engineering rescue, and environmental radiation monitoring. By aligning with external emergency forces, we have significantly strengthened our capacity to respond effectively to major and significant nuclear incidents.

Power Emergency Response

We have reinforced our power emergency response mechanisms by the development of a joint emergency response mechanism, resource sharing, research initiatives, and simulation drills. These efforts have significantly bolstered power emergency response capabilities within the Guangdong-Hong Kong-Macau Greater Bay Area.

Emergency Technology Development

We continue to drive the R&D in emergency response technologies, achieving several domestic-first breakthroughs. We developed China's first NPP emergency material reserve standard and launched the industry's first emergency experience feedback platform. For the first time, we successfully conducted a joint emergency drill involving NPPs, company headquarters, oversight stations, and the National Nuclear Safety Administration. These advancements have significantly enhanced NPPs' emergency preparedness and response capabilities.

Case Yangjiang Nuclear Power Site activates emergency plan for super typhoon "Yagi"

In September 2024, after the formation of super typhoon "Yagi," the emergency office at Yangjiang Nuclear Power Site maintained close communication with the Yangjiang Meteorological Bureau, closely monitoring the typhoon's trajectory. The site promptly activated a special emergency response plan for floods, typhoons and droughts. In accordance with the plan, the site sequentially issued a Level-3 typhoon warning and implemented precautionary measures, including setting up flood barriers, inspecting emergency water pumps, placing sandbags, ensuring emergency food transport, and accounting for the evacuation of non-essential personnel. Throughout the landfall of Yagi, all six units at the site remained in a safe and stable condition, with no personnel injuries or property damage.

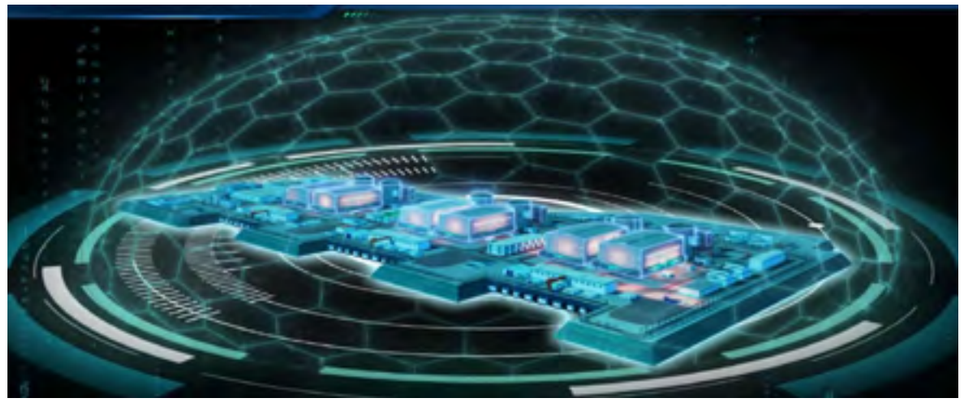
Yangjiang Nuclear Power Site's specific meeting for strategizing typhoon response measures

Case CGN Engineering conducts targeted emergency drills

CGN Engineering's project sites tailors emergency drills to specific work conditions and seasonal risks. Residential and office areas conduct emergency drills on the theme "Keeping Evacuation Routes Clear," covering fire safety, traffic incidents, and other emergency scenarios to strengthen initial response capabilities. In 2024, CGN Engineering carried out 20 emergency drills and hosted online public safety courses on risk avoidance and escape strategies, with over 4,300 participants engaging in these educational activities.

Case Holographic Digital System revolutionizes fire emergency response system of Yangjiang Nuclear Power Plant

In October 2024, fire alarm response support system for holographic digital nuclear power operation contributed to completion of three-level fire and emergency response drills in Yangjing Unit 5. The system, being the first of its kind in this industry, realizes comprehensive fire alarm information integration and rapid alert relay with a one-stop information management model, reducing time of alert relay from 5 minutes to less than 30 seconds. Instant messaging and a full-information 3D model enable mobile devices to make a response on the spot, realizing online sharing of fire alert information and intelligent navigation. With this system, fire and emergency responses shift from reactive to proactive, and from experience-based to intelligence-support.



SQE management

CGN Power continuously optimizes the integrity and effectiveness of its safety, quality, and environmental protection (SQE) management system, reinforcing its operational foundation and establishing a long-term safety mechanism to achieve outstanding safety performance.

In 2024, we focused on preventing safety risks and improving the effectiveness of the SQE management system, with the quality assurance system at its core, to ensure absolute nuclear safety. We actively promote the development of a risk-based nuclear safety supervision and management system and have established Plants Corrective Action Review Committee, details of which are set out in the "Safety Management System" section of this report.

We conducted comprehensive evaluations of the quality assurance system across all subsidiaries, leading to a significant reduction in defects and non-conformities.

Effectiveness Evaluation and Assessment

Tiered Supervision of Safety Hazards

We effectively implemented a tiered supervision mechanism for safety hazards, introduced a whistleblower incentive program for reporting potential risks, and systematically addressed complex safety issues.

We formed five specialized task forces focusing on "modularization, mechanization, automation, digitalization, and intrinsic safety." These teams adopt the highest domestic and international standards, setting industry-leading work safety standards and international benchmarks.

Establishing Task Forces in Key Areas

Developing an Expert-Led SQE Oversight Team

We are committed to cultivating an SQE oversight team characterized by expertise and principled decision-making. We organized multiple initiatives, including "Work Safety Month," "Quality Month," and "June 5 Environment Day," as well as specialized training sessions for company executives and safety personnel. Additionally, a series of quality management training programs and SQE lectures were held. Those activities covered various levels and specialties, benefiting approximately 10,000 participants.

During the Reporting Period, the goal of "two eliminations and six zeros" was successfully achieved. The nuclear safety performance indicators of nuclear power units in operation remained strong, and the quality of refueling outage projects met or exceeded targets.

Case **Ningde Nuclear wins gold award at the 49th ICQCC**

In November 2024, the 49th International Convention on Quality Control Circles (ICQCC), known as the "Olympics of Quality," was held in Colombo, Sri Lanka. The Ningde Nuclear's NPP Fire Protection System Improvement Quality Control (QC) Team presented its project "Reducing Fire Equipment Defect Rates" via an online session held in Chengdu. The team addressed high defect rates in the fire protection system by implementing a comprehensive strategy, including chemical corrosion prevention, physical flushing, equipment replacement, and management optimization. Due to its outstanding innovation and teamwork, the Ningde QC Team stood out among more than 1,000 QC projects from 14 countries and regions, winning the ICQCC's highest honor, the International Gold Award.

Honors

Three projects from DNMC won the **Third Prize in the 2024 China Association for Quality's Quality Technology Award (Project Award).**

Honors

One achievement from Yangjiang Nuclear received the **2024 China Association for Quality's Quality Benchmarking Experience Recognition.** Additionally, one employee won the **Quality Technology Individual Award,** and three projects received **Third Prize in the Quality Technology Award.**

Honors

One achievement from Yangjiang Nuclear received the 2**024 China Association for Quality's Quality Benchmarking Experience Recognition.** Additionally, one employee won the **Quality Technology Individual Award,** and three projects received **Third Prize in the Quality Technology Award.**

Outstanding safety performance

We believe that "a safe nuclear power plant is and only a safe nuclear power plant can be an economical nuclear power plant with which the Company can achieve sustainable development". All operational units have maintained safe and stable operation for years, meeting the requirements of international advanced standards, with an average capacity factor of more than 89% for several consecutive years.

2024 CGN Power Unit Capacity Factor

"Unit Capacity Factor" is mainly used to measure the availability of nuclear power units. It is an important indicator that reflects the electricity generation capacity of nuclear power units. It is also recognized by the international nuclear power industry as the indicator that can best reflect the business performance of nuclear power operation and the level of nuclear power safety management.

Daya Bay Unit 1	70.16%	Ningde Unit 1	94.25%
Daya Bay Unit 2	97.07%	Ningde Unit 2	84.07%
Ling'ao Unit 1	96.72%	Ningde Unit 3	95.40%
Ling'ao Unit 2	93.75%	Ningde Unit 4	99.93%
Lingdong Unit 1	90.82%	Hongyanhe Unit 1	96.35%
Lingdong Unit 2	90.25%	Hongyanhe Unit 2	88.70%
Yangjiang Unit 1	87.28%	Hongyanhe Unit 3	92.14%
Yangjiang Unit 2	100.00%	Hongyanhe Unit 4	99.99%
Yangjiang Unit 3	92.89%	Hongyanhe Unit 5	91.51%
Yangjiang Unit 4	91.88%	Hongyanhe Unit 6	92.55%
Yangjiang Unit 5	99.99%	Fangchenggang Unit 1	94.40%
Yangjiang Unit 6	94.14%	Fangchenggang Unit 2	99.98%
Taishan Unit 1	90.50%	Fangchenggang Unit 3	77.72%
Taishan Unit 2	71.13%	Fangchenggang Unit 4	99.97%

CGN Power's Annual Comparisons in WANO Indicators (2022-2024)

The WANO indicator is an important international statistical parameter for evaluating the safety and reliability of nuclear power project operations. The dozens of indicators directly reflect the nuclear power unit's operation safety level. Members of WANO organization formulate internationally accepted performance indicators for unified management and coordination, which is conducive to strengthening the exchange on nuclear power technology, experience and accident information, and continuously improving the safety and reliability of NPPs worldwide. We have maintained a high proportion of the indicators achieving the world's advanced level (the world's top quartile) and the world's excellent level (the world's top decile), ranking among the top in the international industry.

28
Nuclear power units in operation

91.91%
Average capacity factor of units in operation, reaching the world's advanced level

0
Operational incidents at level-2 or above in INES[14] occurred at our NPPs

100%
Fuel reliability and safety system performance indicators reaching the world's advanced level

0
Complaints on our products and services received during the Reporting Period

Ratio of units achieving the world's excellent level (the world's top decile) in WANO indicators

Ratio of units achieving the world's advanced level (the world's top quartile) in WANO indicators

Case CGN Power recognized with the WANO Nuclear Excellence Award

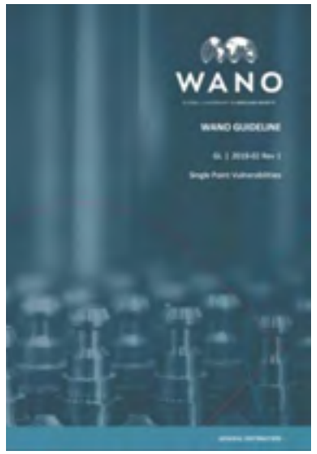
In October 2024, the 17th Biennial General Meeting (BGM) of the World Association of Nuclear Operators (WANO) was held in Abu Dhabi, UAE.

During the meeting, the "WANO Nuclear Excellence Award" was presented to five global nuclear industry leaders who made outstanding contributions to nuclear safety performance. CGN Power's President, Gao Ligang, was honored with this prestigious award. Additionally, the meeting released a list of NPPs that had achieved the targets of the global Action for Excellence (AfE) program as of 2024, with several CGN Power NPPs ranking among them.

[14] According to the International Nuclear Event Scale (INES), there is a 7-level event classification system. Events of lesser safety significance (Levels 1 or above) are termed "incidents" or "accidents". Events of lesser safety significance (Levels 0) are termed "deviations" and not classified.

Case The first China-led WANO technical guideline for equipment reliability released

In September 2024, Chinese experts led the formulation of the WANO guideline, *Single Point Vulnerabilities (revision)* for the first time with experts from various countries participating, which was confirmed by WANO and released. Technical experts in equipment reliability from SNPI led the formulation of a valuable technical guideline for reliability improvement in the field of international nuclear power, being highly recognized by WANO.



Case 30 years of safe operations at Daya Bay NPP

In 2024, Daya Bay Nuclear Power Plant marked 30 years of safe operation. The Daya Bay Nuclear Power Site, comprising three nuclear power plants and six units, has a total installed capacity exceeding 6,100 MW, making it one of the world's largest pressurized water reactor nuclear bases. In the prestigious EDF Safety Challenge, Daya Bay Nuclear Power Site has ranked first in the "Capacity Factor" category for 11 consecutive years. The site now holds 39 championship titles, accounting for over half of all titles awarded in this category, making it the most decorated nuclear power site worldwide. As of this Reporting Period, all six units have collectively operated safely for over 130 reactor-years (one reactor operating for one year equals one reactor-year), achieving internationally advanced safety performance and maintaining a leading position in the global nuclear industry.

Occupational Safety Performance in the Field of Nuclear Power Operation

NPP	Industrial safety accident rate of employees per 200,000 man hours[15]			Industrial safety accident rate of contractors per 200,000 man hours[16]		
	2022	2023	2024	2022	2023	2024
Daya Bay NPP	0	0	0	0	0	0
Ling'ao NPP	0	0	0	0.074	0.11	0
Lingdong NPP	0	0	0	0	0	0
Yangjiang NPP	0	0	0.0636	0	0	0
Fangchenggang NPP	0	0	0	0.05	0	0.0125
Ningde NPP	0	0	0	0	0	0
Hongyanhe NPP	0	0	0	0.035	0	0
Taishan NPP	0	0	0	0	0	0

[15] Industrial safety accident rate of employees per 200,000 man hours=200,000×(Annual employee accidents/annual employee hours)

[16] Industrial safety accident rate of contractors per 200,000 man hours=200,000×(Annual contractor accidents/annual contractor hours)

Safety Operation

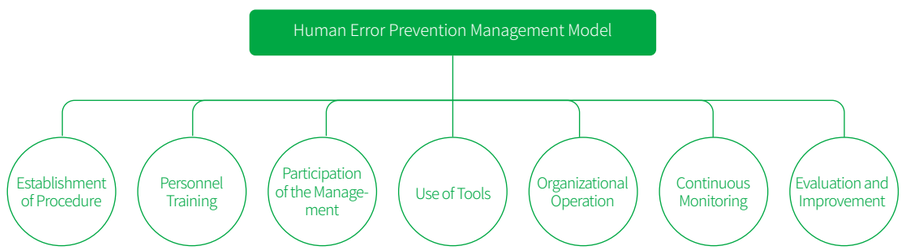
Safe and stable operation is a prerequisite for sustainable corporate development. CGN Power implements China's policies of "developing nuclear power in an active, safe, and orderly manner" and adheres to the work requirements of "Always act based on rules, always have someone to be held accountable, always have someone to supervise, and always have documentation to check". CGN Power strictly implements operating procedures, and maintains equipment in a regular and orderly manner. We implement effective plants management to provide safe, stable, and reliable power for economic and social development.

Standardized operation

Human error is a vital factor that results in unit safety issues. In order to reduce human error, we have established a human error prevention management model. In this model, we set up the management objective, continuously enhance staff skill training and incorporate safety and quality requirements into staff management on violations of rules and regulations. At the same time, we implement the accountability system and the reporting system, thereby ensuring the timely revelation of fraud and concealment. This also continuously improves the human error management.

Human error prevention management mechanism

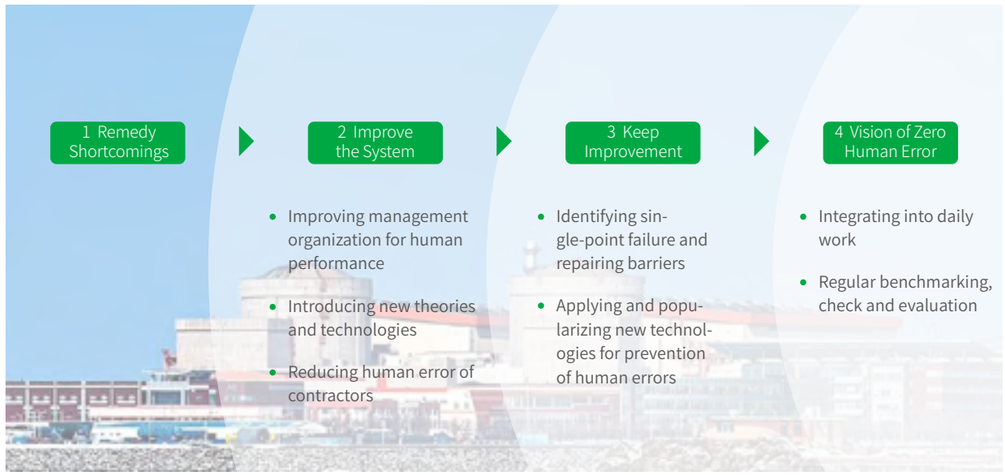
In our human error prevention management model, we carry out special rectification, improve the mechanism for admission, selection, training and assessment for operating personnel, and organize job training for personnel in production operation to strengthen their operational skills, thus reducing the safety impacts caused by human error greatly.



Management objective

Driven by the vision of "Zero Human Error", we improve the human error performance of plants in three stages, from passive defense to proactive management.

Operation Mode



Human error prevention actions

During this Reporting Period, we continued improving human performance by focusing on single-point failure prevention and barrier restoration, while also optimizing our human performance tool framework. Using the WANO Human Performance Management System model, we completed full-scale benchmarking assessments across all nuclear power sites in operation in 2024.

In 2024, human errors across all plants decreased by approximately **30%** compared to 2023. The number of human errors per unit decreased by approximately **30%** year on year. The rate of human errors per 200,000 man hours at operational plants dropped to **0.27**, **meeting the target of 0.5.**

Case **Nuclear Power Plant Human Performance Improvement Institute established at Yangjiang Nuclear**

On April 10, 2024, the Nuclear Power Plant Human Performance Improvement Institute, under the National Engineering Research Center for Nuclear Power Plant Safety & Reliability, was officially launched at Yangjiang Nuclear. The institute is a collaborative effort between Yangjiang Nuclear, Suzhou Nuclear Power Research Institute (SNPI), Hunan Institute of Technology, Zhang Wei Workshop of Tsinghua University, and Jiang Zuhua Workshop of Shanghai Jiao Tong University. Its mission is to jointly research, develop, and apply human performance improvement strategies in NPPs. The institute will focus on cutting-edge theories and technologies in human performance, develop solutions to enhance NPP human performance management, prevent human errors, and ensure the safe, reliable, and economical operation of NPPs.

Honors

Yangjiang Nuclear's operator human error prevention training model received the **Excellence Award in the Quality Technology Awards by the China Association for Quality.**

Equipment operation and maintenance

The reliability of equipment is vital to NPP operation. In order to ensure that nuclear power equipment operates in high stability, CGN Power fully ensures reliable operation in design, operation and other stages. At the design stage, we make full consideration for installation of NPP equipment; during operation, we follow the regulatory requirements including NPP operation technical specifications, strengthen risk prevention management of major sensitive equipment, and regularly monitor and maintain nuclear power equipment. Those initiatives achieve normalized, programmed and standardized equipment management.

Equipment management

During the Reporting Period, we optimized the IT-based technology platform for monitoring critical and sensitive nuclear power components, achieving deep integration of the full business and data chains. This system enables real-time monitoring of 87 major equipment components, embedding digitalization into plant production processes to enhance operational efficiency and personnel effectiveness. By leveraging digital transformation, we continue to strengthen equipment management. In 2024, our plants prioritized work safety by focusing on preventing unplanned shutdowns and reducing forced loss. Our core targets were achieving "zero unplanned shutdowns" and keeping the forced loss rate below 0.12%. We systematically identified and eliminated defects and potential hazards to ensure stable operations.

In 2024, the number of unplanned shutdowns caused by equipment failure was 2, averaging **0.07** occurrences per reactor-year, **the best performance in five years**.

The forced loss rate for Generation II and II+ nuclear power units was **0.17%**, **ranking third-best in five years**. The forced loss rate for Generation III nuclear power units was **0.00%**, **the best performance in five years**.

Honors

SNPI received the **National Outstanding Prize for Equipment Management and Technological Innovation Achievements.**

Refueling outage

Based on the design of PWR NPPs, the nuclear reactor of each unit in operation must be shut down for refueling after a certain period. Taking safety and economic factors of NPPs into consideration, nuclear power operators usually arrange some preventive and corrective maintenance, inspections, tests and partial modification projects of the unit during the refueling period, which is commonly referred to as the refueling outage. We uniformly plan and rationally deploy personnel to perform outage activities. Meanwhile, NPP equipment is categorized and analyzed to continuously improve the efficiency of refueling, detect equipment abnormalities in real time and ensure that outage activities are carried out in an orderly manner.

In 2024, we remained committed to self-dependent maintenance and successfully applied technological innovation projects during the sixth refueling outage of Fangchenggang Unit 1. For the first time, we conducted a self-reliance maintenance for key conventional island equipment within our Group, achieving zero safety and quality incidents. All re-qualified equipment met quality standards, and the unit successfully was connected to the grid in a single attempt. The actual average duration of annual refueling outages remained aligned with the Excellence in Operations 2025 target.

Throughout the year, we completed 19 refueling outages, including: 13 annual refueling outages (including one which was completed the following year), five ten-year outages (including one which was completed the following year), and one initial outage. We continued to improve operational excellence across all plants through system enhancements, targeted safety and quality improvements, and the application of technological innovations.

Case **Daya Bay Unit 2 completes 30-year outage with best duration**

At the beginning of 2024, Daya Bay NPP successfully completed the 30-year outage of Unit 2, achieving first-time grid connection. This was the first-ever 30-year outage of a large-scale nuclear unit in China, encompassing 97 modification projects, including 14 major upgrades such as independently developed digital instrumentation and control system upgrades, low-pressure turbine cylinder modifications, and generator stator refurbishments, along with 53 technological innovation projects and increasing the unit's installed capacity to 1,026 MW. During the digital instrumentation and control system upgrade, for the first time, 70 conventional island systems and nearly 4,000 logic circuits were modified, generating over 300,000 test records and completing more than 100,000 cable terminations with zero errors. These innovative upgrades further enhanced the unit's safety and stability. The outage set a new record for the shortest duration of a 30-year outage in China, providing a replicable and scalable model for managing major modification projects and risk control in NPPs in operation.

Case **China's first fully paperless digital and intelligent outage in NPP**

On April 18, 2024, Taishan Unit 2 started the third outage, marking the official start of the outage of China's first digital intelligent outage in NPP practicing full-process and full-range paperless actions. Paperless digital intelligent outage includes procedures and workflow structuring, digital review, package, inspection, and contractor management. With a focus on digital work lists, this outage lightened the burden of the center with the help of directors, so as to realize targeted management and control of the environmental risks. At the same time, we used digital and intelligent technology to conduct equipment monitoring, quality quantification, and safety visualization, effectively improving the level of management. In terms of problems in infrastructure, the project team expanded the bandwidth, adjusted the power of the wireless access point, and set up a "digital convenient service station" on site to improve work efficiency, providing a successful example for the digital and intelligent development of the nuclear energy industry.

During this Reporting Period, we successfully completed **19** refueling outages, **all with zero safety incidents**. **15** refueling outages achieved **zero safety and quality incidents**, with a **100%** first-time grid connection success rate.

Fleet management

Based on the characteristics of our multi-technology platform and multi-site operations, we have established the standardized, centralized and specialized plants management system, to ensure efficient management of plants.

Standardized

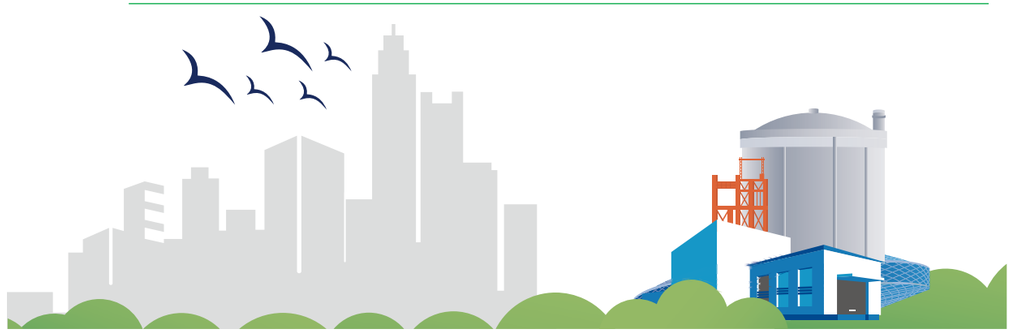
Based on the OPST model (the operation standard management system) in the core areas of operations, we achieve the unified organizational management system, the unified technical standards and procedures system, the unified post qualifications and the authorized training system, as well as the unified operation management tools.

Centralized

We continue to maximize the economical efficiency and overall value in centralized management like resource allocation, effective platform operation and information sharing. We have set up a unified bidding center to continuously promote the standardized and informatized bidding management and spare parts management, make full use of big data to improve management efficiency, and gradually expand the scope of centralized procurement of spare parts and public materials. It also helps implement the overall allocation of resources, enhance the bargaining power of centralized procurement, and optimize procurement channels, thus achieving significant cost-effectiveness.

Specialized

We have specialized subsidiaries such as CGN Operations, CNPRI, SNPI, CGN Engineering, providing professional services for NPPs in refueling outage, engineering modification, equipment management, spare parts management, and NPP design and construction. According to the characteristics of the production and operation management of NPPs, we have gathered the superior resources of NPPs and specialized subsidiaries, and established a number of functional field peer groups (**"PG groups"**). Each PG group is composed of professional and technical managers of the Company, NPPs and specialized subsidiaries. The PG groups focus on cross-organizational overall planning and coordination management in terms of sharing and communication, problem orientation, capacity building, etc. Targeting the common technical problems of each NPP, they concentrate professional forces to promote and apply new tools, new technologies and good practices, and enhance the professional capabilities in various fields, pursuing excellence in each NPP.



In 2024, we continued with the SCS management strategy, maintaining high safety performance across operations. Enhancements in PG group operations refined the performance evaluation mechanism for functional areas, while plant-wide seminars on unplanned shutdown prevention established clear work requirements and introduced over ten best practices. Efforts to address common technical challenges led to the development and implementation of major technical solutions for plant issues. Core operational capabilities received further reinforcement through the establishment of a dedicated task force focused on improving evaporator water level regulation reliability and transient response capabilities. To strengthen personnel expertise, an operator responsiveness capability checklist was compiled and incorporated into training and retraining programs. Meanwhile, the Plants Corrective Action Review Committee played a pivotal role in assessing incidents across multiple plants, systematically identifying nuclear safety concerns, and formulating targeted improvement action plans to enhance overall safety management. The publication of the *Guidelines for Classifying Routine Maintenance Activities* clarified key maintenance responsibilities, guiding plants in refining autonomous maintenance initiatives and developing a list of core capabilities. Additionally, the standardization of environmental laboratory design across plants facilitated research on radioactive solid waste volume reduction and non-radioactive hazardous waste minimization, effectively mitigating occupational health and environmental safety risks.

Case **Yangjiang Nuclear's rectors management model recognized as a quality benchmark**

In August 2024, the Yangjiang Nuclear Operations Command Center project, "Experience in Developing the Reactors Management Model in the Nuclear Power Plant", was awarded the Quality Benchmark Typical Experience Award as part of China's National Quality Month campaign. As an industry pioneer, Yangjiang Nuclear successfully implemented an integrated whole-process reactors management model, establishing a fully operational production command center that combines decision-making, scheduling coordination, and risk detection. By restructuring organizational processes and leveraging digital technologies, the company has developed an innovative, scalable, and replicable nuclear reactors management model, significantly enhancing safety, efficiency, and resource optimization across its operations.

Engineering construction

CGN Power is committed to "zero violations in conduct and zero defects in quality", adhering to the highest standards and strictest requirements to build high-quality projects. We actively implement safety and quality management measures, and continuously enhance management capabilities to ensure engineering excellence and support the safe and efficient operation of nuclear units.

Quality management

The quality of NPPs under construction is critical to their long-term safe and efficient operation after commissioning. CGN Power continuously refines its engineering safety and quality management system by optimizing regulations, strengthening supervision, and standardizing operations. These efforts have led to improvement of safety and quality performance in nuclear power engineering, making its performance a leader on an international scale.

During the Reporting Period, against the backdrop of mass construction of HPR 1000 nuclear power projects, CGN Power integrated comprehensive nuclear safety management initiatives with quality assurance system enhancements, ensuring a systematic approach to strengthening quality oversight. Updates were made to quality management systems and procedures for nuclear-related design, R&D, and decommissioning operations. A standardized quality assurance guideline was developed and published, establishing a cross-project feedback mechanism to elevate quality assurance consistency across HPR 1000 projects for mass construction. Throughout the year, no major quality incidents or above occurred. The number of quality-related incidents in ongoing projects showed a significant decline compared to previous projects. Key quality indicators across the core business process, such as, nuclear engineering design, equipment procurement, construction, and commissioning, continued to improve.

Honors

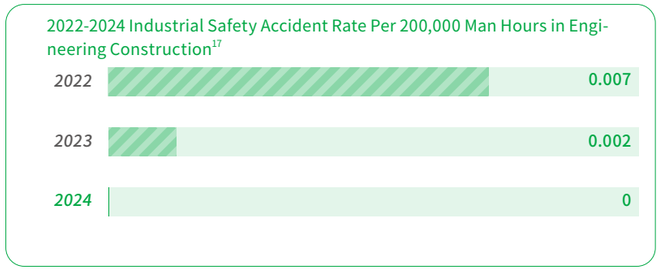
CGN Engineering's one project was awarded the **"2024 National Power Industry Safety Culture Exemplary and Demonstration Project"**, one project won the **first prize of National Power Industry Award for Innovative Achievements in Equipment Management**, and one project won the **second prize of the National Equipment Management and Technological Innovation Achievement Award.**

Quality engineering

CGN Power keeps in mind that "today's engineering quality determines tomorrow's nuclear safety." So quality projects ensure our stable growth and sustainable development. We go all out to advance the nuclear power construction in an efficient and steady manner. Strictly adhering to laws and regulations, we ensure that all major engineering milestones requiring the inspection by national regulators are reviewed and approved before progressing to the next stage. We learn from domestic and international best practices in nuclear unit construction, so as to continuously enhance the safety and quality of engineering projects.

Overall SQE benchmarking rating of nuclear power projects under construction

For nuclear power projects under construction, the regulatory authority conducts a comprehensive assessment on project safety, quality, and environmental impact in terms of performance standards, site selection, and management based on the *QHSE Standardized Management and World-class Benchmarking Assessment Manual for Nuclear Power Projects*. The rating system is divided into ten levels, of which levels 5 and 6 are good, levels 7 and 8 are advanced, levels 9 and 10 are international benchmark.



	Fangchenggang NPP[18]	Huizhou NPP Phase I Project	Cangnan NPP Phase I Project	Lufeng NPP Units 5 and Unit 6	Ningde[19] NPP Phase II Project
2022	8	6	6	5	NA
2023	8	7	7	6	NA
2024	NA	5	5	5	5

Key projects

Safety and quality remain our top priorities—production aligns with safety, and progress follows quality. We optimize project management mechanisms, enforce accountability, and ensure strict control over six key areas: engineering safety, quality, environment, technology, progress, and investment. Cross-project experience feedback has been reinforced, with greater resource allocation and stronger controls over batch construction projects, ensuring steady progress in engineering execution. By the end of 2024, we managed 16 nuclear power units under construction, including two units in the commissioning phase, three in the equipment installation phase, two in the civil construction phase, and nine preparing for First Concrete Date (FCD).

Case **Full completion of the Hualong One demonstration project**

On May 25, 2024, after successfully completing the 168-hour trial operation, Fangchenggang Unit 4 officially entered commercial operation, marking the full completion of CGN Power's Hualong One demonstration project.


Fangchenggang Unit 4

17 Industrial Safety Accident Rate Per 200,000 Man Hours= 200,000× (number of accidents for both employees and contractors per year / total man hour of both employees and contractors per year).

18 All four units of Fangchenggang NPP were put into operation in 2024.

19 Unit 5 entered FCD in 2024.

Case **Hualong One integrated nuclear island construction platform put into use at Lufeng Nuclear**

On May 29, 2024, the Hualong One Integrated Nuclear Island Construction Platform, led by CGN Engineering and jointly developed by Lufeng Nuclear, successfully completed its first jacking operation at Lufeng Unit 6. This marks another technological breakthrough in China's nuclear power construction sector. The platform was inspired by the "residential floor-building machine" used in high-rise residential buildings and the "sky-building machine" applied in skyscraper construction. This specialized reactor building construction technology enables synchronized inner and outer shell construction, vertical flow operations, and equipment integration, significantly improving efficiency, shortening construction timelines, and reducing safety risks. Key features of this self-climbing platform include multi-level work surfaces supporting all construction stages, integrated equipment and facilities, safety monitoring, and enhanced resilience against extreme weather conditions, ensuring safe construction.

Honors

The first Hualong One reactor in Western China (Fangchenggang Unit 3) was recognized as one of **China's 2023 Top 10 Mega Projects by central state-owned enterprises.**

The CGN Engineering was awarded **"2024 National Power Industry Excellence in Safety Culture and Demonstration Project"** by the China Electric Equipment Management Association.

Information security

Cyber information security is critical to maintaining corporate stability and enabling business innovation and transformation. CGN Power strictly complies with China's *Cybersecurity Law*, *Data Security Law*, and Personal Information Protection Law, as well as key regulatory policies, to establish a comprehensive cyber information security protection mechanism.

Organizational structure

The Cyber Security and Information Technology Committee has been established to oversee and guide overall data security management. The Technology and Digitalization Department is responsible for the centralized management of network and data security, formulating cybersecurity policies, strategies, architectures, and technical standards to ensure robust network and data protection. The executive leader in charge of cybersecurity and informatization assumes direct leadership responsibility for cybersecurity efforts.

Data management system

Data security related system documents such as *Data Security Management Measures*, *Data Security Compliance Management Standards*, *Important Data Identification Specifications*, *Data Exit Review Process*, etc. have been established, to improve the data security guarantee system at the four levels of management, supervision, technology, and operation, to clarify the responsibility of data security management, to prevent the risk of data security, and to provide guidance and support for the specific implementation work.

Cybersecurity monitoring

A sensitive data monitoring and data asset management platform has been deployed, supported by a dedicated data security operations team that ensures 24/7 real-time monitoring, auditing, and handling. This system enhances information confidentiality and integrity while effectively preventing internal and customer data leaks.

Emergency response mechanism

The *Cybersecurity Incident Response Plan* has been developed, with annual recovery drills for critical system failures and cybersecurity scenario simulations. We also work with the third party to conduct vulnerability assessments. Employees are encouraged to report suspicious cybersecurity vulnerabilities through various channels to the designated cybersecurity contact or the secondary security operations center.

Cybersecurity education

Regular information security training is conducted for all employees, utilizing both online and offline methods to educate staff on common cybersecurity risks, preventive measures, and emergency response protocols, and raise their awareness and improve their skills. A company-wide cybersecurity awareness program, including mandatory training and examinations, ensures 100% employee participation.

Cybersecurity performance assessment

Information security is included into the scope of the Company's security assessment. Annual cybersecurity assessments are conducted, with assessment results affecting the performance of the Company and employees.

During the Reporting Period, CGN Power formulated and issued seven procedural documents to guide comprehensive network and data security management, including the *Technical Protection Standards for Work Secrets and Trade Secrets*, *Data Security Compliance Management Standards*, *Data Export Security Assessment and Declaration Process*, *Supply Chain Cybersecurity Management Regulations*, *Critical Data Identification Guidelines*, *Information System Network Access Security Standards*, and *Industrial Control System Cybersecurity Management Standards*. These documents define the technical security roadmap for data security. A sensitive data security monitoring and situational awareness platform was established to enable regular and safe operations of data assets while maximizing their data value.

There was no serious cybersecurity incident at Level III or above or large-scale computer virus infection occurred within the Company, which ensured the safe, stable and reliable operation of our cyber, communication and information systems, and prevented information leakage as well.

Technological Innovation

Innovation is the primary driving force for development. Therefore, CGN Power adheres to the innovation-driven development strategy, deepens the reform of scientific research systems and mechanisms, and continuously improves our technological edges. We make every effort to strengthen independent innovation, and strive to achieve self-reliance of core technologies, continuously forming new momentum and advantages for development.

Technological innovation system

CGN Power has adhered to the path of "Introduction, Digestion, Assimilation and Innovation". In line with the goal of "following strategic guidance and serving the industry," we aim for "achieving the complete self-reliance and control of core equipment in key fields of nuclear power". The technological innovation system has been continuously improved in terms of innovation layout, institutional mechanisms, platform construction, and IPR protection. These efforts have allowed us to consolidate the foundation of independent technological innovation.

Layout of technological innovation

In accordance with the "four-in-one" technological innovation layout, we have developed and implemented four key tasks, including the specific strategies, the technological self-independence, Peak Program, and digital transformation. In pursuit of the world's technological frontiers, we focus on cutting-edge nuclear technologies and technological innovations. We have established the China Southern Institute of Atomic Energy (**"the Southern Center"**) in the Guangdong-Hong Kong-Macao Greater Bay Area and set up four R&D bases in Shenzhen, Yangjiang, Zhongshan and Huizhou to attract top researchers and sci-tech innovation talents, accelerate key technological R&D and innovation, and continuously consolidate our strength in science and technology. In 2024, the construction of four R&D bases of the South Center were advanced in an orderly manner. Among them, the Zhongshan R&D Site Phase I Project was completed and accepted in November 2024.

Case **Zhongshan R&D Site Phase I Project officially put into operation**

On December 30, 2024, the Zhongshan R&D Site Phase I Project welcomed its first group of employees, marking the official commencement of operations. Eight employees from CNPRI successfully relocated to the experimental facility complex, where they began commissioning scientific research equipment at the new production and office site. As one of the key research bases of the Southern Center, the Zhongshan R&D Site Phase I Project focuses on experimental equipment and supporting facilities. It features two 36-meter-high, single-story experimental buildings, designed to house large-scale experimental setups for thermal-hydraulics, mechanics, safety validation, and non-nuclear integration tests. These facilities will support advanced reactor experimental research and validation.

Technological innovation mechanism

CGN Power continuously optimizes its technological innovation mechanism, treating innovation as its top priority. During the Reporting Period, the Company further refined its strategic research management system, drawing on global best practices in full-cycle management of major product R&D. Efforts were made to enhance the management of strategic R&D projects and full product lifecycle development. To strengthen research management, we introduced the *Technological Innovation Incentive and Support Measures*, fostering a stronger innovation drive. We also issued the *First Set Localization Application Management Measures*, ensuring the quality and safety of first-time applications of key domestically developed nuclear technologies. Additionally, two *Independent Innovation Achievement Catalogs* were published, and the first batch of R&D projects underwent post-evaluation to reinforce an application-driven research approach. We continued to increase R&D investment, with 2024 R&D intensity reaching 4.8%, providing strong support for breakthroughs in critical technologies and the advancement of key scientific research projects.

Platforms of technological innovation

We have established the R&D platform system at state, group and company levels. At present, we have one state-level engineering technology center, one state-level key laboratory and five state-level energy R&D centers. In addition, we have built multiple large-scale advanced laboratories in the industry, including thermal-hydraulic and safety research laboratories and material performance analysis laboratories. The independent R&D platforms are conducive to shortening the commercialization cycle of technological achievements, and improving the maturity, compatibility and engineering level of existing technologies. It also helps accelerate the production technology transformation and promote technological transformation and upgrading. They provide basic technical support for improving R&D capabilities. In 2023, we applied for two new national R&D centers. In 2024, the platform construction made new progress. They undertook multiple major scientific research projects, produced a series of significant technological achievements, and achieved results in standard development and intellectual property rights.

CGN Power's Seven State-level R&D Centers and Key Laboratories	
State Energy Nuclear-grade Equipment R&D Center	State Key Laboratory of Nuclear Power Safety Monitoring
State Energy Advanced Nuclear Fuel Elements R&D (Experiment) Center	State Energy Ocean Nuclear Power Platform Technology R&D Center
State Energy Nuclear Power Engineering & Construction Technology R&D (Experiment) Center	State Energy Nuclear Power Operation and Life-cycle Management Technology R&D Center
State Nuclear Power Plant Safety and Reliability Engineering Technology Research Center	

Case **CNPRI approved again for Shenzhen Academician (Expert) Workstation**

On October 16, 2024, the Shenzhen Science and Technology Association issued a notice approving the CNPRI to establish a Shenzhen Academician (Expert) Workstation. This workstation serves as a technology innovation platform designed to meet enterprise-driven industrial development and innovation needs, leveraging the expertise of academicians and joint corporate research teams to enhance technological innovation capabilities and core competitiveness. CNPRI first established the workstation in 2021, operating from October 2021 to October 2024. Over the past three years, the workstation has achieved significant progress in talent development and research output. To further facilitate technology transfer and cultivate research talent, CNPRI is expanding its platform and continuing its focus on technological breakthroughs based on the success of the initial phase.

Innovative R&D of nuclear power technology

Strong technical foundation and independent R&D capability are the keys for CGN Power to achieve high-quality development. We follow the technical guidelines of "Introduction, Digestion, Assimilation and Innovation," and promote the nuclear power technological improvement and independent R&D in line with the technological development roadmap "Leading Plan".

Since the adoption of M310 reactor technology at Daya Bay NPP in the 1980s, we have implemented a series of major technological improvements, including 16 safety enhancements, leading to the development of the independently branded second-generation CPR1000 nuclear technology. In alignment with the latest international safety standards and experience feedback, we have successively implemented 28 and 31 additional safety upgrades, ultimately developing ACPR1000 technology, which incorporates third-generation nuclear safety features. Leveraging over three decades of experience in nuclear power design, construction, operation, and research, CGN Power successfully completed the Hualong One demonstration project and brought it into high-quality operation. This project features a third-generation megawatt-level nuclear reactor technology developed with independent intellectual property rights.

Building on the Hualong One demonstration project, CGN Power continues to refine designs and technical upgrades, ensuring safety while enhancing economic efficiency, technological advancement, and localization of nuclear power equipment. In 2024, the Company completed multiple large-scale safety system tests, laying a strong foundation for enhancing the competitiveness of Hualong One technology.

As the industry moves toward safer and more cost-effective nuclear technologies, CGN Power is also actively advancing fourth-generation nuclear power development while continuously tracking global advancements in nuclear technology.

Collaborative innovation

CGN Power actively deepens scientific research cooperation, and has established long-term partnerships with domestic and foreign R&D institutions, industry organizations, and universities. We are committed to working together with all parties to promote innovation and tackle industry challenges.

CGN Power maintains good cooperative relationships with various institutions, including the Chinese Academy of Sciences, China Academy of Engineering Physics, National Natural Science Foundation of China, Tsinghua University, Harbin Institute of Technology, and Commissariat à l'Énergie Atomique et aux Énergies Alternatives (CEA). We have built closer ties with them through various channels.

CGN Power has been releasing research needs to scientific research institutions across China through the Enterprise Innovation and Development Joint Fund of the National Natural Science Foundation of China. Currently, multiple top domestic teams are working on our fundamental research issues.

CGN Power further promotes technical cooperation, subject co-construction, and talent cooperation with many universities such as Tsinghua University, Northeast Electric Power University, Harbin Institute of Technology, Fudan University and Southern University of Science and Technology.

Case CNPRI and Southern University of Science and Technology launch a joint laboratory

On September 10, 2024, CNPRI and Southern University of Science and Technology (SUSTech) officially inaugurated their Joint Laboratory for Nuclear Facility Radiation Safety and Materials Genome Engineering Applications. This collaborative research platform focuses on nuclear and radiation safety as well as materials genome engineering, with key research areas including high-throughput development and characterization of nuclear protective materials, radiation detection materials, and specialized functional materials for nuclear environments. The laboratory aims to support reactor development strategies by establishing a high-level innovation platform for nuclear and radiation safety materials, accelerating breakthroughs in original technologies, and maximizing resource sharing and complementary expertise. It fosters scientific innovation and technology commercialization.

IPR protection

CGN Power attaches great importance to intellectual property right (IPR) protection, and strictly complies with Chinese laws and regulations such as the *Patent Law*, *Trademark Law*, and *Copyright Law*. The Company implements the instructions of key documents such as the *Outline for Building a Strong Country in Intellectual Property (2021-2035)* and the *Guiding Opinions on Promoting the High-Quality Development of Central SOE's Intellectual Property Work*. We also updated our *Intellectual Property Management System* and *Trademark Management Standards* to standardize the activities of creating, using, protecting, and managing IP rights.

Efforts have been made to implement a comprehensive patent and proprietary technology protection strategy, actively registering and certifying proprietary technologies. By leveraging major R&D projects and platforms, the Company enhances the review of technological innovation results, and systematically identifies and secures high-value patents and premium copyrights in key technology fields. Additionally, we promote external licensing of intellectual property, facilitating broader application of our innovations. In the meantime, we continue to expand training programs and publicity initiatives on IPR protection, enhancing IPR awareness of employees.

4,193.68 million yuan
R&D investment

4.83%
R&D investment intensity

4,544 22.22%
Number and proportion of R&D personnel

Case Yangjiang Nuclear obtains national intellectual property management system certification

In May 2024, Yangjiang Nuclear successfully obtained the National Intellectual Property Management System Certification. The certification process strictly adhered to the *Enterprise Intellectual Property Management* (GB/T 29490-2013) standard. An external certification center audit team conducted a comprehensive review of Yangjiang Nuclear's R&D, production, procurement, sales, IPR training, research project approval, and information resource control, confirming full compliance with certification requirements. This achievement demonstrates Yangjiang Nuclear's further step to strengthen intellectual property management.

Case DNMC hosts intellectual property awareness campaign

In April 2024, DNMC organized an "Intellectual Property Awareness Week", launching a series of initiatives to enhance employee awareness of IPR protection and foster innovation. Activities included the first-ever IPR-themed salon, on-site IPR learning sessions, and knowledge competitions. The company also set up IPR exhibition windows and distributed promotional materials. These efforts laid a solid foundation for IPR protection.

Achievements in technological innovation

CGN Power continues to leverage its independent R&D platforms to maintain a strong innovation capacity and unleash the innovation potentials, driving scientific and technological breakthroughs.

Honors

Two invention patents from CGN Engineering won the **25th China Patent Gold Award and the China Patent Silver Award**, issued by the China National Intellectual Property Administration (CNIPA) and the World Intellectual Property Organization (WIPO).

Three invention patents from CGN Engineering, CNPRI, and SNPI received the **China Patent Excellence Award.**

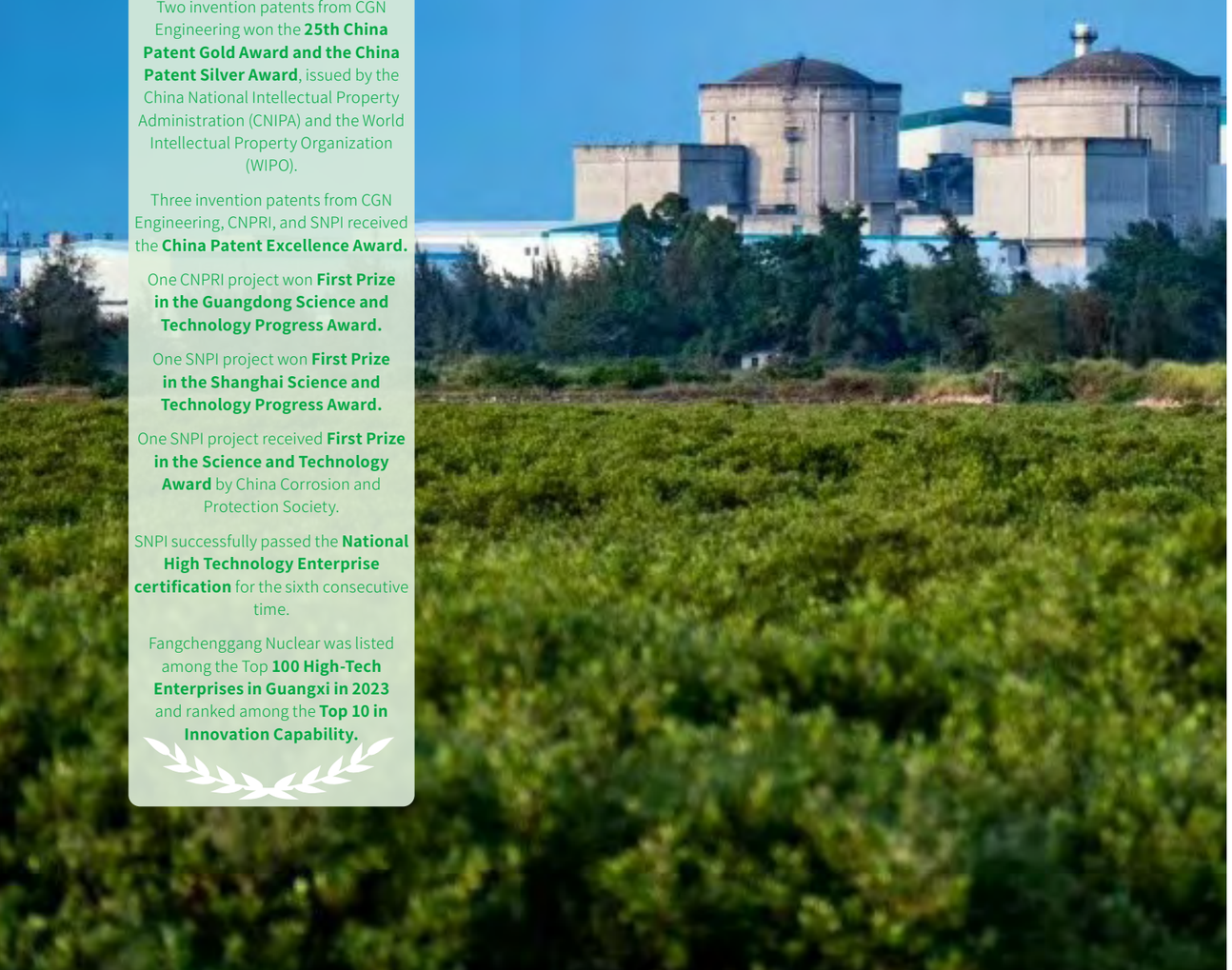
One CNPRI project won **First Prize in the Guangdong Science and Technology Progress Award.**

One SNPI project won **First Prize in the Shanghai Science and Technology Progress Award.**

One SNPI project received **First Prize in the Science and Technology Award** by China Corrosion and Protection Society.

SNPI successfully passed the **National High Technology Enterprise certification** for the sixth consecutive time.

Fangchenggang Nuclear was listed among the Top **100 High-Tech Enterprises in Guangxi in 2023** and ranked among the **Top 10 in Innovation Capability.**



Digital transformation

CGN Power is accelerating the digital transformation of core businesses, advancing the Digital Nuclear Power initiative, and implementing pilot demonstration projects to enhance plants operations and batch construction efficiency. The Company is actively deploying digital economy strategies, data governance models, and industrial digital transformation initiatives. The digital industry ecosystem integrates three sectors of nuclear instrumentation and control (I&C), high-end industrial control, and digitalization, driving breakthroughs in key technologies.

During the Reporting Period, data governance efforts were accelerated, with deep applications across 11 business areas, including human resources management and nuclear energy operations. Key achievements include: completion of the procurement and supply chain digital transformation plan, defining pathways for new digital technologies to reshape commercial management; steady advancement in financial and asset digitalization and intelligent transformation, with core digitalization efforts nearing completion; deployment of smart construction sites across HPR 1000 nuclear power projects. Those achievements enhance digital applications in SQE management and project oversight.

Honors

The Digital Nuclear Protection project at Fangchenggang Nuclear was selected as a **typical application in the 2024 Advanced Computing Empowering New Quality Productive Forces Initiative** by the Ministry of Industry and Information Technology of China (MIIT).

The digital transformation project at Ningde Nuclear was successfully included in the **2024 CCF Outstanding Enterprise Digital Development Cases,** published by the China Computer Federation (CCF).

Case **Digital nuclear protection technology enhances smart NPP management**

Digital Nuclear Protection is a 3D model-based real-world digital system for the Hualong One nuclear island. Using laser and image scanning, AI-powered automatic modeling technology reconstructs high-resolution digital twins of the Fangchenggang NPP's Hualong One reactor building. The system also incorporates data governance tools and lakehouse platforms to streamline critical production data management. It also integrates video monitoring systems and key equipment data, creating a one-stop data visualization portal. Through VR simulations and real-time data visualization, plant managers and on-site personnel can monitor the plant's overall condition and operational status in real time via client applications. The system also supports work simulation and pre-execution analysis. This innovation effectively promoted the development and application of AI modeling, OCR recognition, and data governance in digital transformation, and formed demonstration effect, ultimately enhancing production and operational management across the nuclear and broader industrial sectors.

Key technologies

Hualong One

- With independent intellectual property right, Hualong One (HPR 1000) completed the Generic Design Assessment (GDA) in January 2022 and the European Utility Requirement (EUR) certification in October 2020, laying an important foundation for the nuclear power technology to enter the European electricity market. It is one of the most widely accepted third-generation nuclear reactor designs in the global nuclear market today.
- Designed as a single-reactor unit, each unit generates 1.2 GW of electric power, ensuring high safety and efficiency.
- As of the end of 2024, The Group has successfully commissioned the Fangchenggang Phase II HPR 1000 demonstration project, with 14 HPR 1000 units under construction, progressing steadily.

Hechai No. 1

- Officially launched on December 16, 2024, Hechai No. 1 is China's first independently developed emergency diesel generator (EDG) for NPPs.
- Serving as the final line of defense in the nuclear power emergency power supply system, Hechai No. 1 activates when both main and backup power sources fail, providing emergency electricity to critical safety equipment and ensuring the safe shutdown of the reactor. It plays a critical role in guaranteeing nuclear security.
- A number of core performance indicators and reliability indicators have reached the international advanced level, marking the first time that China has fully equipped with the independent design and manufacturing capabilities of emergency diesel generator (EDG) for NPPs.

NATENE®, reactor engineering design software package

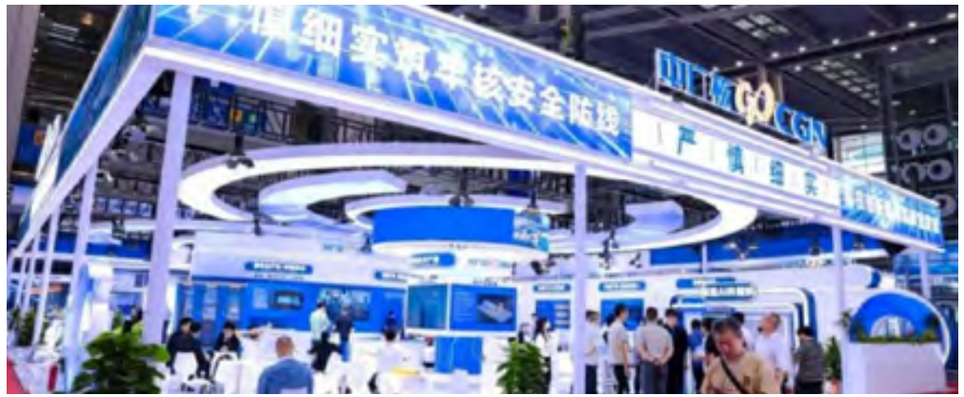
- The reactor engineering design software is the most critical and core tool for nuclear power engineering design. The NATENE® software package contains more than 40 pieces of special software for nuclear energy, covering various key design fields, such as reactor physics, fuel design, thermal hydraulics, and safety analysis. It builds a complete reactor design and safety analysis software system.
- As the "core" of HPR 1000, the NATENE® software package supported HPR 1000 to pass the EUR and the GDA certification, with its technology reaching the international advanced level.

Robots for nuclear power plants

- Focusing on the operation and management of NPPs in operation and the need for building new intelligent reactors, we have conducted research on core technologies in key fields, and made an effort to develop robots for special nuclear power operations. These efforts will make NPPs safer, more economical, friendly and intelligent, and meet the urgent demand for intelligent robots in China's nuclear power sector.
- We have nearly 100 robot products used in nuclear island main equipment maintenance, fuel assembly operation and repair, conventional island and cooling source system maintenance, nuclear emergency exploration and operation, etc. Many of them are the first of their kind in China and even over the world. They have already been applied in Daya Bay, Yangjiang, Hongyanhe and Fangchenggang nuclear power sites, etc.
- We have built world-leading sci-tech facilities and an open R&D system and test platform, covering core processes such as R&D of smart robots for NPPs, key technological research, test and verification.

Case **"Hehui" nuclear power robots showcased at 2024 CINIE & China High-Tech Fair**

In November 2024, CNPRI unveiled its Hehui nuclear power robots at the Third China Nuclear Energy High-Quality Development Conference & Shenzhen International Nuclear Energy Industry Innovation Expo, as well as the 26th China High-Tech Fair. The exhibition featured four newly developed robots designed for HPR 1000 reactors, including the refueling robot and secondary-side steam generator accident-handling robot, along with other advanced robotic solutions such as nuclear fuel assembly repair equipment, integrated bolt machines, and control rod guide tube replacement systems. Among these innovations, the nuclear fuel assembly repair system received the First Prize in the Guangdong Science and Technology Progress Award in October 2024. This automated system operates in a 10-meter-deep radiation water environment, precisely extracting 264 nuclear fuel rods and positioning them with an overall deviation of less than 1mm, enabling remote fuel assembly repair. This breakthrough significantly enhances the automation and intelligence of NPP operations and maintenance.



The Chinese standard of technical specification

- The Chinese standards of technical specification absorbed the advantages of French and American standards to form a more scientific and complete nuclear safety management plan based on China's practical experience in nuclear power.
- It marks China's first move to develop operating technical specification on its own, contributing to the independent development of China's improved second-generation nuclear power units, the formulation of Daya Bay plans and Chinese standards, the going global of China's nuclear power, and the high-quality Belt and Road development.

Safeguarding our Homes with Clean Nuclear Power

Opportunities and Challenges

The vigorous advancement of clean energy development and the promotion of a green and low-carbon economic and social transformation have been a general consensus of the international community in addressing global climate change. With the mature application of China's third-generation nuclear power technology, nuclear power and the comprehensive utilization of nuclear energy embrace great opportunities under the guidance of guaranteeing energy security, accelerating energy structure adjustment and realizing China's 30·60 Decarbonization Goal. How to apply new technologies to safely and effectively store and dispose of radioactive waste and reduce environmental impact, remains a long-term challenge faced by the nuclear energy industry.

Strategies and Decisions

CGN Power actively responds to China's carbon peaking and carbon neutrality strategy. To this end, the Company is committed to promoting the development of nuclear power industry and the diversified utilization of nuclear energy. We continuously strengthen the development of environmental management system, take effective measures to reduce pollution emissions, and improve resource utilization efficiency. Meanwhile, we take active measures in ecological and biodiversity protection, making greater contributions to the building of a beautiful China.

Our goals

- By 2025, comprehensive energy consumption per 10,000 yuan of output value decreased by 15% compared to 2020

Progress in 2024

- 68.9124 million tons standard coal consumption equivalent reduced by on-grid nuclear power generation, 186.5999 million tons CO_2 equivalent reduced
- 1.4773 million tons of carbon dioxide equivalent output throughout lifecycle of nuclear power, 1.1636 million tons of carbon dioxide equivalent output in subsidiaries
- 0.15 tons of standard coal comprehensive energy consumption per 10,000 yuan of output value, decreased by 16.5% compared to 2020

Climate Change

In response to climate change, CGN Power strengthens climate-related governance, formulates strategic goals for carbon peaking and carbon neutrality (decarbonization goals) and carries out comprehensive climate risk identification, effectively promoting the comprehensive utilization of nuclear power and nuclear energy. We are committed to providing safe, efficient, and clean energy for economic and social development and making our contributions to China's 30·60 Decarbonization Goal.

Climate governance

CGN Power has established a comprehensive climate governance framework and information acquisition mechanism to discuss climate change-related issues. In such way, we ensure that climate risks and opportunities are effectively incorporated into our strategies and decisions, enhancing our capability to respond to climate change.

Climate related governance architecture

Board of Directors

- As an important topic, climate change has been incorporated into the discussions, reviews, and supervision of the Board. During the Reporting Period, the Audit and Risk Management Committee of the Board reviewed proposals on climate related risks, such as the Annual Major Business Risk Prediction and Evaluation Report, Annual Risk Management Evaluation Plan and ESG Report. When reviewing relevant proposals, members of the Nuclear Safety Committee suggested the Company to continue to improve its climate-related risk prevention mechanisms and capabilities. In addition to reports of the Audit and Risk Management Committee and the Nuclear Safety Committee, the Board also reviewed the regular safety management report (including but not limited to climate and environment-related management) by senior managers and raises management requirements. The Board and the Audit and its Risk Management Committee were also briefed on the latest regulatory trends on ESG issues at home and abroad that include climate topics.

The Management

- The President of CGN Power is the highest position responsible for obtaining and managing climate-related risks and opportunities. The President facilitates the implementation of the Company's strategies (including but not limited to climate and environment-related content) by holding monthly meetings, executive meetings, and the Company's SQE Committee meetings attended by all senior management and relevant departments on a regular or irregular basis.

The Execution

- The Risk Management Department is responsible for evaluating, monitoring and managing climate-related risks, incorporating the identified major climate risks into the Company's risk management process, and submitting monthly risk monitoring reports to the management executives. For important risk issues, the Risk Management Department shall submit them to the Board for review on a quarterly basis.
- The Strategic Planning and Management Department works with various SQE departments to formulate the Company's goals, paths and strategies on carbon peaking and carbon neutrality, while promoting the implementation of strategic initiatives and regularly evaluating the progress of each goal.

Climate information acquisition

Short-term risks and opportunities

Conduct macroeconomic policy research annually and generate domestic and international outlook reports; track current affairs such as the National People's Congress and the Chinese People's Political Consultative Conference, the 29th United Nations Climate Change Conference (COP 29) to compile internal thematic research reports; continuously track industry information on key areas such as project building, technological innovation, and resource security in the nuclear energy industry; publish the Focus Today weekly and prepare internal research reports irregularly to identify and evaluate opportunities and impacts related to climate change and other issues.

At the Company's business analysis meeting and PBA (Plan, Budget, and Assessment) annual work kickoff meeting, analyze the current development challenges and opportunities.

Medium- and long-term risks and opportunities

Conduct forward-looking research on the five-year plan for the nuclear energy industry every five years. In 2024, in conjunction with the research work during "15th Five-Year Plan" period and medium- and long-term strategic issues, study the macro situation and industry trends of the development of the nuclear energy industry, conduct in-depth research in multiple fields such as technological innovation, carbon footprint, resource security, etc., identify medium- and long-term risks and opportunities related to climate change and other issues, and report them to relevant departments.

In addition, conduct a mid-term evaluation two or three years after the preparation of the nuclear energy industry plan to analyze the existing problems in nuclear energy development.

Climate strategy

Currently, the world is accelerating the transition to a sustainable energy system. Nuclear energy is expected to be more widely used as a means of generating clean electricity. The nuclear energy industry embraces important strategic opportunities now and this will continue in the long run. Based on the features of clean energy industry now, CGN Power has formulated our decarbonization goals. The Company has identified climate-related risks, defined a decarbonization pathway and strategy to promote the transitions to low-carbon energy of China and even the world.

CGN Power's decarbonization pathway and strategy

Steadily increasing nuclear power installed capacity, improving the quality and efficiency of unit equipment, and upgrading nuclear energy technology to achieve carbon peaking and carbon neutrality in China.

- Developing nuclear power projects in a safe and orderly manner, accelerating the approval process of projects and expanding the reserve of potential nuclear power plant sites to steadily increase the installed capacity of nuclear energy.
- Giving full play to the advantages of nuclear power as a clean and low-carbon energy and exploring more possibilities in its comprehensive utilization.
- Steadily upgrading the overall power generation capacity of nuclear power projects, improving refueling outage management to an industry leading level, and strengthening the management of major equipment to enhance reliability.
- Following the latest nuclear energy technology trend in the world, actively implementing the national strategic requirements, and accelerating the R&D and pilot application of nuclear energy technology.

Climate risk identification and response

Physical risks

Risk identification	Impact assessment	Countermeasures
Mainly acute (such as typhoons, torrential rain, and snowstorm) and chronic risks induced by climate change, which may affect the operational continuity of some NPPs and the construction of NPPs.	Natural disasters and extreme weather may cause damage to nuclear power facilities, thereby increasing O&M costs and project costs, threatening personnel health and safety, potentially affecting the stability of the supply of goods or services required for NPPs under construction, and possibly weakening suppliers' fulfillment capability.	We have issued the *Management Measures of Natural Disaster for NPPs*, formulated emergency plans and organized regular drills for NPPs to prevent natural disasters such as typhoons, torrential rain, and thunderstorms; In accordance with China's nuclear safety regulations, we conduct safety assessments of NPPs in operation every ten years, and review all nuclear safety-related design parameters in each safety assessment to prevent and respond to climate risks caused by extreme weather and emergencies. In 2024, subsidiaries affected by typhoons launched response plans in time, held several meetings and carried out on-site inspections to eliminate hidden hazards. They organized equipment maintenance, site clean-up and inspection after typhoons in a timely manner. There were no casualties or major property loss. The Company has formulated the standard three-prevention (flood, wind and drought prevention) plans for NPPs in operation and under construction, based on the experience of typhoon prevention.

Transitional risks

Risk identification	Impact assessment	Countermeasures
Mainly risks brought by market and policy changes in the transition to a low-carbon economy.	In the context of China's carbon peaking and neutrality strategy, the nuclear energy industry is still in a key period of strategic opportunity, which may increase market opportunities and also affect revenue; faced with tighter regulatory requirements, the Company's misconduct for or delayed response to the environmental and climate change may affect our reputation and brand image, resulting in higher operating and project costs; the emergence of revolutionary new technologies may have an impact on the development, construction and operation of nuclear power projects and increase the Company's R&D investment.	China's carbon peaking and neutrality strategy leads to a period of rapid development for clean energy but also fierce competition. In response, we develop nuclear power projects in a proactive, safe, and orderly manner. To expand the comprehensive utilization of nuclear energy, we explore projects supplemented by both nuclear and multiple energy sources and energy storage projects of different modes. We deepen nuclear power R&D and accelerate the transformation of technological innovation to stimulate new momentum for digital transformation. And we continuously reduce operational energy consumption to make greater contributions to carbon peaking and carbon neutrality.

Energy green transformation

Clean energy

Guided by the requirements of developing nuclear power in a proactive, safe, and orderly manner, we strive to promote nuclear power projects, steadily increasing the installed capacity of nuclear energy. By the end of 2024, the Company managed 28 in-service nuclear power units with an installed capacity of 31,798 MW. The annual on-grid electricity is equivalent to reducing about 68.9124 million tons of standard coal consumption, about 186.5999 million tons of carbon dioxide emissions from thermal power every year. The total carbon dioxide emissions throughout the entire life cycle of nuclear power are approximately 1.4773 million tons (including 1.1636 million tons from the subsidiaries). The Company manages 16 nuclear power units under construction with an installed capacity of 19,406 MW.

Comprehensive utilization of nuclear energy

CGN Power actively conducts research on the comprehensive utilization of nuclear energy. By exploring new technologies and modes, we hope to develop diversified nuclear energy products and strengthen the market development of nuclear energy projects, creating a nuclear energy-centered comprehensive utilization mode supplemented by multiple energy sources. By doing so, we support our nation in building a new energy system, and achieve climate goals.

Nuclear energy heating demonstration projects provide stable energy supply

We successfully build the first nuclear heating project in Northeast China - the Nuclear Heating Demonstration Project of Hongyanhe Nuclear in Liaoning Province. With Hongyanhe Town as a pilot, the project was put into operation in November 2022. It is designed to have a heating capacity of 12.77 MW and a heating area of 242,400 m2. Four new heat-exchange stations are built to replace 12 coal-fired boiler rooms. The project has been in operation for three heating seasons, with the heating effect recognized by users. It reduces coal consumption by approximately 5,726 tons and carbon dioxide emissions by more than 14,000 tons annually, improving the atmospheric environment while ensuring a warm winter for residents.

Zhaoyuan Phase I project with a nuclear heating scheme in its preliminary design

The Zhaoyuan Nuclear Power Project is located in Zhaoyuan City, Shandong Province. It plans to construct 6 gigawatt-level "Hualong One" nuclear power units with a total installed capacity of about 7,200 MW. Its Phase I（Unit 1 & Unit 2） project was approved for construction by the State Council on August 19, 2024. In the preliminary design of the Zhaoyuan Phase I project, a nuclear energy heating scheme has been considered, with planned site space and steam extraction interfaces reserved in the turbine design and manufacturing. Each turbine reserves a 1,000 t/h steam extraction heating capacity, corresponding to a heating area of about 15 million sqaure meters. It is the first project designed with large-scale nuclear heating conditions in the Group.

Systematic solutions across multiple fields

The Company has developed systematic solutions in areas such as nuclear heating, seawater desalination, nuclear hydrogen production, and nuclear wind-solar-storage integration. In addition to large-scale nuclear heating technology, we are equipped with the design capability for large and medium-sized seawater desalination projects and in-plant hydrogen production and supply systems for nuclear power plants, laying the foundation for the diversified development of comprehensive nuclear energy utilization.

Risk management

CGN Power is fully aware of the impact of climate change on its own operations and society, and believes that it is closely related to the Company's supervision and operation. We actively promote the monitoring and management of climate risks. The analysis, identification, and improvement measures related to impacts, risks, and opportunities are implemented by different functional departments and business departments, and subsidiaries. These will undergo hierarchical report and review required by the risk management system and the strategic planning and business plan management system. The strategic plan and business plan approved by the Board of Directors already include but are not limited to strategies and measures to address climate risks and opportunities.

Climate-related risk management mechanism

Risk management

- The subsidiaries review major risks next year, including climate-related major risks, and produce a major risk assessment report. The headquarters departments review special risks such as SQE, production, engineering construction, and financial management, including but not limited to climate risks.
- We assess various risks from two dimensions, including impact and possibility to form the list of major risks next year. We formulate annual control objectives and response measures. These items will be reviewed by the risk management group meeting and budget review group meeting, and then will be submitted to the Company for approval.

Risk dynamics tracking and reporting

- Regularly convene risk management team meetings, track major risk control situations on a monthly basis, generate risk monitoring reports, and submit them to management executives.
- Important risk matters, including climate-related major risks, shall be submitted to the Board of Directors for review on a quarterly basis.

Metrics and targets

Addressing climate change goals

Short-term goal	Medium-term goal	Long-term goal
By 2025, the comprehensive energy consumption of output value per 10,000 yuan will be reduced by 15% compared to 2020.	By 2030, the comprehensive energy consumption of output value per 10,000 yuan will be 20% lower than that of 2020; the overall energy consumption and major pollutant emissions will be at the industry-leading level, and other emission indexes will be lower than the national limit value.	The overall energy efficiency and performance of major pollutant emissions are at the world's advanced level. Employees' awareness of energy conservation and environmental protection will be greatly improved, becoming an industry benchmark.

Carbon reduction across CGN Power

Since nuclear power is clean, its generation only produces a very small amount of greenhouse gases. In order to ensure safe operation, each NPP is equipped with the redundant system and backup power sources such as emergency diesel engines. Daily tests consume energy and vehicles used in the construction and operation of NPPs and the daily operation of each subsidiary also require diesel and gasoline.

The carbon dioxide equivalent(CO2e) (Scope 1) emitted from the use of diesel and gasoline by the Company and its major subsidiaries in 2023 and 2024 are shown in the following table:

Year	Diesel consumption (10,000 tons)	Diesel consumption density (ton/TWh)	Gasoline consumption (10,000 tons)	Gasoline consumption density (ton/TWh)	CO_2e (Scope 1) (ton)
2023	1,451.71	8.689	111.62	0.668	4,820.85
2024	1,386.43	7.745	116.01	0.648	4,631.58

Emissions of indirect greenhouse gases, mainly come from purchased electricity for project construction, refueling outages, and offices, and living areas. Starting from 2023, the carbon emissions of purchased electricity were reduced by purchasing nuclear power, green electricity and green certificate.

In 2023 and 2024, the total amount of electricity, purchased non-clean electricity (excluding purchased nuclear power, green electricity, and green certificates), and the carbon dioxide equivalent generated by non-clean electricity (Scope 2) purchased by the Company and its major subsidiaries in 2023 and 2024 are shown in the following table:

Year	Total amount of purchased electricity (MWh)	Total amount of purchased non-clean electricity	CO2e (Scope 2)[20] (10,000 tons)
2023 年	432,530	30,990	2.58
2024 年	403,430	22,410	1.87

In January 2025, relevant regulatory agencies of China issued the *Notice on the Release of 2023 Electricity Carbon Footprint Factor Data*, in which the carbon footprint factor of nuclear power covers the entire life cycle of nuclear fuel front-end, construction, operation and maintenance, decommissioning, and nuclear fuel back-end. Calculated based on the carbon footprint factor, the carbon dioxide equivalent generated by subsidiaries' on-grid electricity in 2024 is 1.1636 million tons. The carbon dioxide equivalent generated by the Company and its major subsidiaries in Scope 3 is the difference between the aforementioned carbon dioxide equivalent and that in Scope 1 and Scope 2, which means that in 2024, the carbon dioxide equivalent generated by the Company and its major subsidiaries in Scope 3 will be 1.1403 million tons.

Carbon reduction across society

On-grid nuclear power generation in 2024[21]
227,284 GWh

=

Equivalent to reduction of approximately[22]
68.9124 million tons of standard coal

Equivalent to reduction of approximately[23]
186.5999 million tons of CO_2 emission

=

Equivalent to reduction of approximately
17,500 tons of SO_2 emission

Equivalent to reduction of approximately
28,400 tons of NOx emission

[20] It's calculated based on the carbon dioxide emission factor of electricity produced by fossil energy released by the Ministry of Ecology and Environment in February and December, 2024.

[21] The scope of data statistics includes associates.

[22] According to the 2024 National Electric Power Industry Statistics Express released by the China Electricity Council in January 2025, China's coal consumption for power supply was 303.2 g of standard coal per kilowatt-hour. (Standard coal consumption for power supply of power plants of 6000 kW and above).

[23] According to the China Power Industry Annual Development Report 2024 released by the China Electricity Council in July, 2024, nuclear power is calculated according to net zero carbon emissions, so 100 GWh on-grid electricity generated by nuclear power is equivalent to reducing CO2 emissions of coal power by 82,100 tons, reducing SO2 emissions by 7.7 tons, and reducing NO2 emissions by 12.5 tons.

Environmental Management

CGN Power strictly abides by Chinese environmental laws such as the *Environmental Protection Law, the Law on Prevention and Control of Radioactive Contamination, the Atmospheric Pollution Prevention and Control Law*, the Nuclear Safety Law, as well as local regulations. We uphold the concept of green development, continuously improve the internal environmental management system, and promote the synchronous improvement of environmental protection work and enterprise development.

Environmental management policies

Protecting the environment with prevention prioritized

Strictly abide by relevant laws and regulations on national environmental management, implement preventive measures such as front-end control to protect the environment, and strive to prevent environmental pollution.

Reducing energy use and emissions in a technology-driven manner

Prioritize the use of innovative technological means to reduce resource or energy consumption.

Reducing emissions with all members engaged

On the premise of complying with relevant national environmental management laws and regulations, actively promote the participation of all staff and continuously reduce pollutant emissions.

Achieving harmonious development that benefits humankind

Coordinate development with the environment, and achieve harmonious development between humans and nature that benefits future generations.

Environmental management system

In strict accordance with ISO 14001 standards and the requirements of national laws and regulations, CGN Power continuously improves the environmental management system and strengthens environmental management policies, integrates environmental management into production management, and ensures that safety, business, and environmental goals can all be achieved simultaneously.

1+1+1+N Environmental Management System	
1 diagram	Overall layout diagram of top-level design for environmental management
1 plan	Special SQE plan during the 14th Five-Year Plan Period
1 policy	Environmental management policy
N procedures	*The Implementation Rules for Environmental Management Policy, the Management Measures for Energy Conservation and Carbon Reduction, the Management Regulations for Classification and Information Reporting of Ecological Environment Events, the Management Standards for Risk Identification and Hidden Danger Investigation of Important Environmental Factors, and the Management Regulations for Environmental Protection Supervision and Inspection of Nuclear Power Plants*

Network of environmental management

NPPs and major subsidiaries under CGN Power have established a network with designated departments and full-time personnel for environmental management. We have actively improved various environmental management systems with relevant manuals formulated, and coordinated environmental management among different units. In addition, we have established a regular reporting mechanism for environmental information, formulated classification standards for abnormal environmental events, and included them in the assessment. We also have formulated and released an annual supervision and inspection plan. Accordingly, we organize various comprehensive SQE inspections and special environmental inspections to track the effectiveness of rectification and implementation, and have formed a closed-loop management.

Identification and control of environmental factors

Given changes in national laws and regional regulations, CGN Power regularly identifies and controls environmental factors at each NPP every year. Based on the business characteristics and the scope of influence of activities, each NPP department determines its identification and evaluation unit of environmental factors, including four units such as personnel, equipment, work activities. For each unit, environmental factors from eight dimensions such as atmosphere, water, raw materials, natural resources, and land (see the table below) are identified and evaluated. Each NPP department then assesses the impact of identified environmental factors and determines their risk levels. They screen out important environmental factors, and develop targeted control measures based on the principle of "eliminating risks + reducing risks +emergency plans". Those measures are implemented through a combination of management measures, technical measures, and daily training and education. During this Reporting Period, environmental impact assessments, feasibility studies, marine use and other environmental protection related work were carried out for new projects such as the Zhaoyuan Phase I Project, Ningde Phase II Project, and Fangchenggang Phase III.

Identification and Evaluation Process of Environmental Factors

Determine the identification and evaluation unit of environmental factors in departments	Identify and evaluate the environmental factors of each unit
Personnel (all personnel entering the workplace, including employees, contractors and visitors)	Discharge to the atmosphere
Equipment (including all construction equipment, facilities and related equipment)	Discharge to water
Work activities (including normal operation activities and temporary tasks)	Discharge to land
All workplaces and environment (including office space and project construction site)	Use of raw materials and natural resources
	Energy use
	Energy release
	Generation of waste or by-products
	Use of space

Response to environmental emergencies

Responding to environmental incidents is also a priority in environmental protection. NPPs and major subsidiaries of CGN Power have set up systems and procedures for environmental management, compiled the *Emergency Response Plan for Environmental Emergencies*, and filed them with local governments. They conduct regular drills to continuously improve the plan and environmental emergency response, thus continuously improving the environmental emergency response and disposal capabilities.

0
Environmental violation from 2021 to 2024

0
Environmental penalty

Certification

All NPPs of CGN Power obtained the **ISO 14001 environmental management systems certification**

Polluted Waste Reduction

In strict accordance with national laws and regulations, CGN Power has established a complete set of mechanism to ensure that the radioactive waste produced during its operation is properly and safely handled. Meanwhile, the Company disposed of non-radioactive waste and sewagegenerated in operation as required by laws and regulations to minimize the impact of NPP operation on the surrounding environment, striving to minimize the impact of nuclear power plant operation on the surrounding environment. In 2024, the Company's various environmental protection facilities operated normally in compliance with regulatory standards and regulatory requirements, and all pollutants were discharged in line with standards.

Radioactive waste management

We strictly comply with the requirements of laws, regulations and industry standards such as the *Law of Prevention and Control of Radioactive Contamination, Nuclear Safety Law, Regulations for Safe Radioactive Waste Management, Regulations for Environmental Radiation Protection of Nuclear Power Plant* (GB 6249-2011), and *Technical Requirements for Discharge of Radioactive Liquid Effluent from Nuclear Power Plant* (GB 14587-2011) to control the discharge and disposal of radioactive wastes.

Radioactive waste management targets

To reduce the generation of radioactive solid waste, CGN Power not only follows domestic laws but also tries to benchmark against the amount of radioactive solid waste generated in other major nuclear energy countries. We also set long-term waste reduction goals and clarify the pathway to achieve them.

The medium and long-term target set for the 14th Five-Year Plan period: To further decrease the radioactive solid waste from plants and make the average annual generation of radioactive waste per nuclear power unit reach the world-class standard.

Approaches: We analyze the generation of radioactive solid waste in plants from the perspective of life cycle and clarify the capacity reduction process for different categories of radioactive solid waste. We also integrate the studies on the external incineration of radioactive solid waste, the digital transformation of management process, the upgrading of concentrate waste disposal process, and the compaction of waste cartridge with high dose rate into the annual work plan to ensure their implementation.

Radioactive waste reduction management

The operation and production activities of NPPs will produce solid, liquid and gaseous wastes (**"three wastes"**). Following the basic principles of radioactive substances management - ALARA (As Low As Reasonably Achievable), we have established a waste management organization structure, and formed a complete set of three wastes control and treatment mechanisms throughout the plants' production and operation.

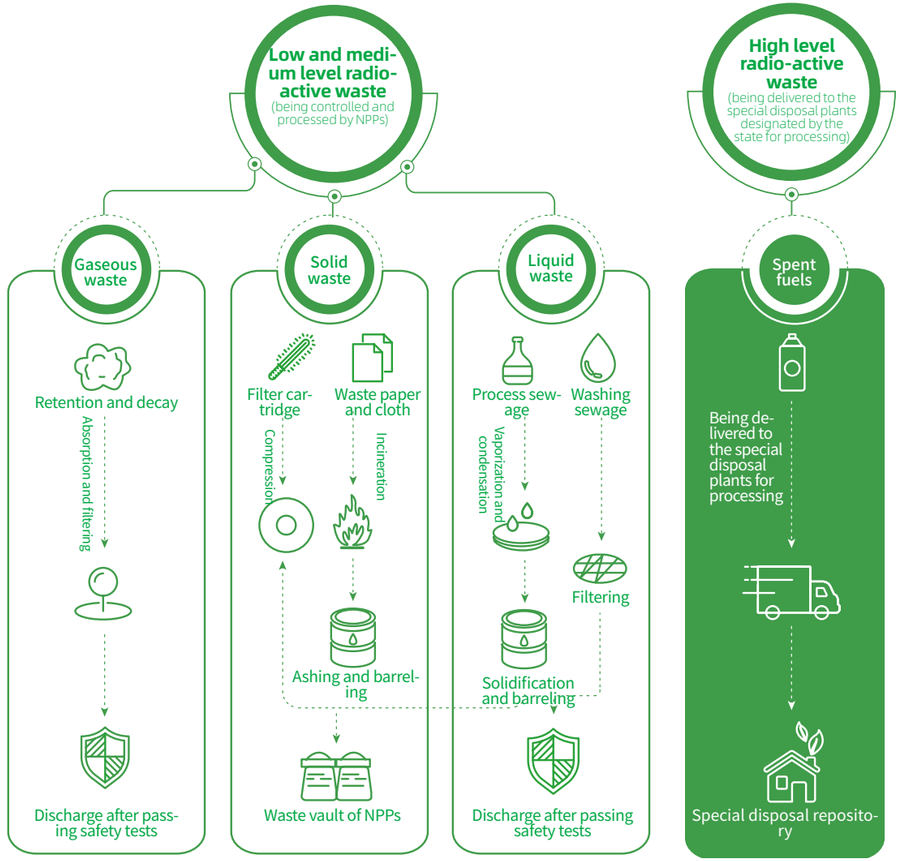
We continue to minimize the production of radioactive waste, and develop action plans to improve radiation safety management. We implement key measures for reducing capacity in the field of radioactive waste in the 14th Five-Year Plan, and deeply promote the source control of radioactive solid waste and the application of capacity reduction technology in plants based on technological breakthroughs and management optimization. We have achieved the radioactive solid waste produced by a single gigawatt-level unit less than 25 m^3 in 2024, with emissions far below the national permitted emission standard limits.

Radioactive waste reduction technology

We have formulated a work plan, organized benchmarking research, and developed a technical plan for a gigawatt-level unit with an annual solid waste production of less than 15 m^3 by 2030 for each operating nuclear power plant. The design of the "Hualong One" radioactive waste system has been optimized, promoting technical research and application to reduce solid waste during the engineering design phase. We also signed a contract with qualified enterprises to ensure smooth transportation and disposal channels for combustible waste from the plants.

Each power plant is equipped with advanced facilities for treatment of radioactive waste. The chart below outlines the treatment of each radioactive waste. According to relevant national regulations, spent fuel (used fuel assembly taken from reactors) is a highly radioactive waste, which cannot be disposed of by the NPP itself, and must be sent to a designated special disposal plant for further treatment in line with the unified arrangement by the country. After treatment, most of the spent fuel can be reused. The "three wastes" management system of each plant has been designed, constructed and put into operation simultaneously with the main body construction. The whole process of storage, transportation and disposal of radioactive waste strictly follows the relevant provisions of national laws and regulations.

Radioactive Waste Treatment Process



Radioactive waste management results

During the Reporting Period, the "three wastes" management system of all operating nuclear power plants operated normally, and the total radioactive emissions were far below the annual limit approved by the state. The table below shows the discharge of various types of radioactive waste from our nuclear power plants during the Reporting Period, expressed in proportion to national standards. The total amount of radioactivity in nuclear power plant effluent from NPPs is far below the applicable national limit.

	Year	**Ratio of Radioactive liquid effluent** (nuclides but tritium and carbon-14) to state annual limit	**Ratio of radioactive gaseous effluent** (inert gases) to state annual limit	**Generation of radioactive solid waste** (m^3)	**Environmental Monitoring results**
Daya Bay Nuclear Power Site (including Daya Bay NPP, Ling'ao NPP and Lingdong NPP)	2023	0.19%	0.45%	112.0	Normal
	2024	**0.23%**	**0.46%**	**148.9**	**Normal**
Yangjiang NPP	2023	0.43%	0.19%	99.6	Normal
	2024	**0.29%**	**0.17%**	**108.6**	**Normal**
Fangchenggang Phase I Project (Unit 1 & Unit 2)	2023	0.46%	0.92%	46.8	Normal
	2024	**0.28%**	**0.87%**	**37.2**	**Normal**
Fangchenggang Phase II Project (Unit 3, and Unit 4 which is under construction)	2023	3.14%	3.06%	0	Normal
	2024	**2.33%**	**4.04%**	**0**	**Normal**
Ningde NPP	2023	0.29%	0.26%	55.2	Normal
	2024	**0.29%**	**0.25%**	**73.2**	**Normal**
Taishan NPP	2023	1.74%	2.90%	3.3	Normal
	2024	**1.2%**	**4.41%**	**1.4**	**Normal**
Hongyanhe Phase I（Units 1-4）	2023	0.41%	3.08%	131.4	Normal
	2024	**0.38%**	**3.99%**	**95.6**	**Normal**
Hongyanhe Phase II (Unit 5 & Unit 6)	2023	0.34%	2.21%	17.4	Normal
	2024	**0.33%**	**2.09%**	**52.0**	**Normal**

Note: Different nuclear power projects in the same nuclear power site may have different effluent limit values approved by the relevant national regulatory authorities, and the effluent data among nuclear power projects are not comparable; the effluent data of the same nuclear power project in different years are affected by the unit's refueling outage and maintenance projects.

In response to NPPs' demand for minimized and harmless treatment of radioactive waste, the project of developing advanced treatment devices for NPP radioactive waste has improved the radioactive waste treatment process of NPPs through the independently developed waste reduction device, deep purification device for colloidal nuclide, inorganic treatment device for organic liquid waste, waste mixing and curing device, electrochemical decontamination device, and composite material device for waste treatment. Those have realized the reduction, deep purification and safe disposal of radioactive waste. The project proposed a combined solution to reducing radioactive waste in NPPs. It terminated the foreign technical monopoly, and was of great significance for achieving self-independence.

Case **NPPs actively promote the disposal of radioactive waste storage**

Following the requirements of regulatory agencies, the Company has developed and implemented a phased radioactive waste disposal plan. The Company organizes operating NPPs to conduct inventory reviews and actively communicates with waste receiving and disposal units to ensure the rationality and feasibility of the disposal plan. In 2024, the Company successfully completed the transportation and disposal of over 2,500 $m^3$of waste packages, ensuring the compliance and environmental safety of waste storage.

Non-radioactive waste management

For compliant disposal of non-radioactive waste, including non-radioactive hazardous waste, we strictly comply with Chinese laws and regulations as well as standards, such as , the *Law on the Prevention and Control of Environmental Pollution by Solid Waste, Pollution Control Standard for Storage and Landfill of General Industrial Solid Waste (GB 18599-2020), Pollution Control Standard for Hazardous Waste Storage (GB 18597-2001) and Regulations on Safety Management of Hazardous Chemicals.*

Non-radioactive waste management methods

Industrial solid waste management

Our industrial solid waste mainly includes construction waste, iron and steel waste, waste glass, waste plastics, waste-paper, waste wood, and consumables.

All NPPs formulate the *Regulations on Industrial Solid Waste Management* to reduce waste from the source, and supervise and manage the entire process of classification, collection, storage, handling, transportation, utilization, and disposal. Solid waste is classified and stored in the field. Recyclable types will be handled for on-site reuse. Non-recyclable types are entrusted to qualified and technically capable units for external transportation and disposal after on-site sorting and recycling. They also supervise the transportation of solid waste outside the site, ensuring that the entire process of solid waste generation, transfer, storage, transportation, and disposal is legal and compliant.

Non-radioactive hazardous waste management ("hazardous waste")

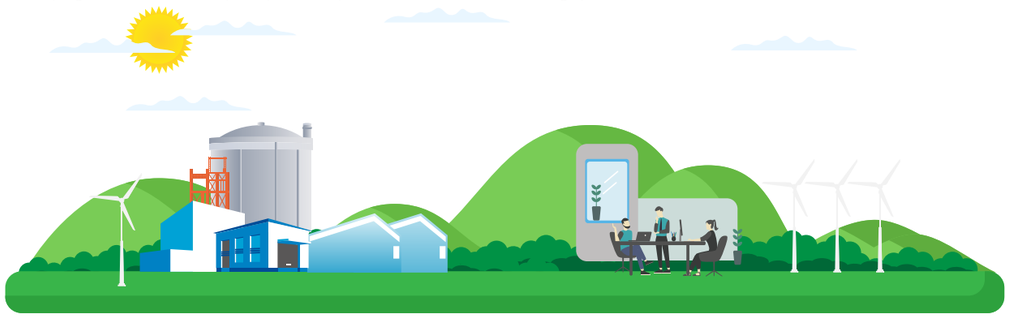
- Our non-radioactive hazardous waste mainly comes from mineral oil, organic solvents, batteries, organic resins, developer, lamps, and hazardous chemicals.
- We strictly conform to regulations and their amendments, including the *Regulations on Safety Management of Hazardous Chemicals and Pollution Control Standard for Hazardous Waste Storage (GB 18597-2001)*. We adopt hazardous waste storage containers that are resistant to wind, rain, sunshine, leakage, explosion with temperature and humidity monitoring functions. Leakage-proof pallets are purchased to prevent leakage of liquid hazardous waste. We standardize the disposal process to ensure that hazardous waste is generated, stored, transferred, recycled, and handled legally to guard against environmental risks brought by them. At the same time, we conduct regular exchanges with local regulatory agencies on the standardized management of hazardous waste and keep ourselves updated on new requirements and policies of hazardous waste management.
- During the Reporting Period, the Company promoted the construction of standard hazardous waste warehouses and temporary storage warehouses in nuclear power sites, implemented a hazardous waste information supervision platform, and achieved dynamic tracking and management of hazardous waste throughout the entire lifecycle that can track sources, destinations, and responsibilities. At the same time, we organized plants to conduct research on waste reduction and hazardous waste reduction in accordance with the principles of reduction, resource utilization, and harmlessness, in order to enhance our lean management capability to control hazardous waste.

Non-radioactive waste management results

During the Reporting Period, all subsidiaries of CGN Power collected hazardous wastes by classification and temporarily stored them in the hazardous waste warehouse of the plant. They set up hazardous waste management ledgers, regularly handed them over to qualified delivery units for compliance management and implemented the requirements of hazardous waste transfer. The treatment of various types of non-radioactive wastes met the relevant regulatory standards and supervision requirements. In 2024, the Company and its major subsidiaries produced about 2,311 tons of waste, with production density of about 10.2 tons/TWh. We disposed of about 2,370 tons of hazardous waste (not disposed of in the year in which they were produced).

Non-radioactive waste management targets

In accordance with regulatory requirements, we will continue to implement standardized, intensive and IT-based management and carry out full-cycle, whole-process and comprehensive management of hazardous waste to achieve compliant storage and disposal. In order to continuously reduce non-radioactive hazardous waste, CGN Power has clarified key directions for future, that is, developing a pilot green supply chain with zero packaging of hazardous waste; recycling waste mineral oil and waste batteries by manufacturers; conducting feasibility studies on recycling of ion exchange resins; replacing lead storage battery with lithium battery; optimizing the replacement cycle of antifreeze and foam liquid; developing hazardous waste disposal plans and process solidification; and setting up reward mechanism for hazardous waste reduction.



Non-radioactive sewage discharge

We strictly manage and control the treatment and emission of sewage according to national laws and regulations and local standards including the *Environmental Protection Law and the Marine Environmental Protection Law*. During the Reporting Period, the non-radioactive wastewater treatment facilities of all NPPs were operating normally, and the treatment met the regulatory standards and requirements.

Non-radioactive sewage treatment methods

All our NPPs have formulated non-radioactive sewage management procedures. For non-radioactive construction, installation, commissioning, industrial wastewater, and domestic sewage, we plan several sewage treatment facilities for each nuclear power plant during the design phase based on local water quality and quantity characteristics. Then we construct and put them into use during the construction phase. Various types of wastewater are treated by different processes to meet national standards for discharge or reuse. For the treatment of radioactive liquid, please refer to the "Radioactive Waste Management" section of this Report.

According to the different requirements of the region or province where the NPPs are located, our NPPs adopt different control measures for non-radioactive sewage discharge.

The Hongyanhe Nuclear's domestic sewage treatment station is for plant sewage treatment and advanced treatment of reclaimed water. The treated domestic sewage is divided into two parts after reaching the reuse standard. One part is used for plant greening and toilet flushing, and the other is sent to the unit for the advanced treatment of reclaimed water. The advanced treatment unit uses ultrafiltration membrane and reverse osmosis membrane technology to further treat recycled water, which is then used for landscape watering or for production through the NPP's desalination system.

Some of the recycled water from the Ningde Nuclear's domestic sewage treatment station is used for toilet flushing of the office building in plant areas, and the other is for the greening and dust reduction in plant areas. All wastewater is reused and recycled within the plant.

Each plant area adopts centralized treatment and reuse of sewage to improve sewage treatment efficiency. It becomes easier to monitor and control domestic sewage in plant areas. While increasing the utilization rate of water resources, it also reduces water costs and equipment loss in many scenarios.

Non-radioactive sewage treatment results

During the Reporting Period, the non-radioactive wastewater treatment facilities of NPPs were operating normally, and the treatment met the regulatory standards and requirements.

Wastewater discharged with highest level of treatment by subsidiaries

3.135 million tons

Non-radioactive sewage treatment goals

All non-radioactive wastewater generated by NPPs is discharged in accordance with regulatory standards, and subsidiaries are encouraged to adopt water reuse method or carry out near-zero wastewater discharge.

Resource Utilization

We abide by Chinese laws, such as the *Energy Conservation Law and the Water Law*, and attach great importance to the utilization of energy, nuclear fuel and water resources. By adopting cutting-edge technologies at home and abroad and optimizing production management, we improve resource efficiency, contributing to a resource-saving and environment-friendly society.

Nuclear fuel utilization

Improving the efficiency of nuclear fuel utilization is a key measure in elevating the resource utilization rate of nuclear power plants and has a profound impact on promoting sustainable economic and social development. We integrate advanced technologies at home and abroad to strive for technological innovation and optimization of fuel management, so as to gradually improve the efficiency and economic benefits of nuclear fuel use. At the same time, we have strengthened quality control to ensure the safe and stable operation of nuclear power plants.

Nuclear fuel usage management methods

Technological R&D

Continue to develop reliable and economical fuel cycling and refueling models, and cooperate with relevant institutions to carry out R&D and upgrading of nuclear fuel to improve the use efficiency of nuclear fuel.

Optimization management

New fuel assemblies with different enrichment levels are adopted in some NPPs to improve the use efficiency while increasing the economy of NPPs.

Nuclear fuel usage management results

After a series of technological development and upgrading, the current nuclear fuel cycle in our NPPs is 18 months. This has greatly reduced the number of refueling outages, and effectively improved the unit availability and utility rate of nuclear fuel.

Nuclear fuel usage management targets

To enhance the safety of NPPs and the economical efficiency, the Company has long been committed to promoting the efficient use of nuclear fuel, constantly improving the use efficiency.

Energy management

CGN Power continuously strengthens energy management during operations, fully integrating the environmental protection philosophy of carbon reduction, pollution control, greening and growth into the entire project construction and operation process. We collaborate to achieve energy conservation and carbon reduction goals through technical and management measures. In doing so, significant results are achieved.

Improving energy management efficiency

We encourage NPPs and specialized subsidiaries to establish systems in accordance with the ISO 50001:2018 GB/T23331 standards. We analyze current energy management status and carry out electric power quality tests. After sorting out the energy input, storage, conversion, distribution, use, and recycling processes involved in production activities, we formulate energy policies and goals, organize training and promotion campaigns, and develop energy management manuals, procedure documents, energy review reports, compliance evaluation reports, internal audit reports, and management review reports. By carrying out certification and evaluation of energy management systems, we strengthen the responsibilities for energy conservation and carbon reduction while improving the performance of each subsidiary.

Establishing and improving energy conservation and carbon reduction management system

We establish and improve energy conservation and carbon reduction management systems by strictly implementing energy conservation reporting systems, and developing and improving systems of low-carbon management, energy-saving renovation management, performance eveluation and reward/penalty, thus improving the level of refined management of energy utilization and carbon emissions throughout the entire process.

Certification

Subsidiaries passing the ISO 50001:2018 GB/T23331 energy management systems certification:

DNMC /GNPJVC/Ling'ao Nuclear/Lingdong Nuclear

CGN Operations

Yangjiang Nuclear

CGN Engineering

Ningde Nuclear

CNPRI

Hongyanhe Nuclear

SNPI

Fangchenggang Nuclear

Taishan Nuclear

Huizhou Nuclear (entrusted by the controlling shareholders)

Cangnan Nuclear (entrusted by the controlling shareholders)

Carrying out energy conservation and carbon reduction consultation and diagnostics

We regularly conduct energy audits, energy-conservation diagnostics, energy efficiency diagnostics, and energy efficiency benchmarking, and conduct full-process evaluations of energy efficiency and usage management. We tap into the potential for energy conservation, efficiency improvement, and emission and carbon reduction. Systematic solutions were proposed for optimized energy utilization, energy-conservation technological renovation, and carbon emission management. We also carry out a special action on carbon inventory inspection and energy conservation and carbon reduction diagnosis.

Electricity management in the operation

- Actively applying green and low-carbon processes and advanced technological achievements, and making more efforts to upgrade and enhance the energy efficiency of main energy consuming equipment and auxiliary equipment such as motors, pumps, compressors, transformers, heat exchangers, etc
- Closely tracking units' output changes, timely tracking system anomalies and carrying out analysis and evaluation
- Based on safety and environmental considerations, scientifically and reasonably optimizing the operation mode of production equipment to reduce the consumption of plant electricity
- Optimizing production, operation and maintenance processes and control logic, promoting comprehensive utilization of waste, cascading utilization of energy, and recycling of water resources, and advancing the resource utilization of industrial residual pressure, waste heat, exhaust gas, and waste liquid

Electricity management in the construction

- Prioritizing the use of energy-saving, efficient, and eco-friendly construction equipment and tools recommended by the country and industry
- Reasonably arranging the construction sequence and working face to reduce the number of machinery in the work area, and fully utilizing shared machinery resources in adjacent work areas
- Giving priority to construction processes that consume less electricity or other energy
- Strengthening education on energy-saving awareness among on-site construction personnel and developing eye-catching energy-saving warning signs

Electricity consumption management in office and living areas

- Making more efforts in the comprehensive energy-saving renovation of living and office buildings, improving energy efficiency, and reducing the total energy consumption and carbon emission intensity of buildings
- Carrying out the renovation of thermal performance of building envelope structures and equipment facilities in power supply and distribution, lighting, elevators, air conditioning and other systems, applying intelligent control technology to achieve efficient operation, and improving the energy utilization efficiency of equipment and facilities
- Gradually promoting the use of kitchen stove electrification technology to replace existing gas stoves and liquefied petroleum gas stoves, achieving low-carbon emissions in the cooking process of canteens
- Implementing "lights off when personnel leave" and power-off management, and setting computers, printers and other devices to sleep mode after a certain period of idle time
- Advocating video conferences to reduce carbon emissions caused by business travel
- Promoting the low-carbon transformation of service vehicles and gradually replacing fuel vehicles with new energy vehicles
- Carrying out energy saving publicity to raise employees' awareness of saving electricity, encouraging employees to save electricity and maintaining good living and office habits

Strengthening carbon reduction management in areas using purchased electricity

We carry out energy-saving and carbon reduction publicity in areas using purchased electricity, raise employees' awareness of energy conservation and strengthen the energy constraint management of power-consuming equipment and facilities such as air conditioning and lighting. We also tap into the potential of renewable energy applications to improve the proportion of renewable energy. We installed distributed photovoltaic (self-generation and self-use), solar water heating systems, solar street lights, etc., in areas where purchased electricity is used. With these efforts, we reduced the use of purchased electricity and indirect greenhouse gas emissions. Please find more details about purchased electricity in "Climate Change" and "Metrics and targets" sections in the Report.

In 2024, the comprehensive energy consumption was **1.3331 million tons** of standard coal, and the comprehensive energy consumption per 10,000 yuan of output value was **0.15 tons** of standard coal per 10,000 yuan[24].

Water resources management

Water resources are a crucial risk consideration factor in the field of nuclear power. Emphasizing water resource management and utilization efficiency, we adhere to the policy of "giving priority to water conservation and strengthening water resources management". We emphasize priority of water saving, resource balance and comprehensive governance. Accordingly, we apply efficient water-saving technologies, launch water saving management and strengthen maintenance of water supply system to ensure the water use efficiency and sustainability water supply. Water risk assessment has been integrated into our well-established risk management framework. The President is responsible for obtaining and managing water-related risks and opportunities at the management and reporting relevant information to the Audit and Risk Management Committee. Management indicators such as the water quality of freshwater reservoir have been included in the performance assessment of NPPs and connected to the incentives of executives.

More sustainable water supply

The water we use is sourced from municipal water supply, power plant reservoirs and sea water. Our NPPs are located in the coastal areas, so there are no problems in sourcing suitable water. In addition, the reservoirs are equipped with an automatic integrated video and satellite monitoring system to track water level, dam seepage, leakage pressure, and rainfall, ensuring their stable operation. In order to strictly manage reservoir water, the power plant reservoir has been managed in accordance with the Regulations on Water Saving Management of Bases and as the first-level water source protection area. We implement systems on water extraction permit, water use plans, water use declaration, and water use tracking system with statistics.

To further improve the sustainability of water supply, we regularly assess the safety and stability of water supply and have formulated water-related management regulations and emergency plans, including the *Emergency Plan for Water Shutdown in Water Supply Pipeline and the Emergency Plan for Reservoir Collapse* to ensure timely and effective handling of water source anomalies with standardized measures. Meanwhile, to secure stable water supply, we rationally allocate water resources and implement comprehensive protection measures in exclusive freshwater reservoirs of the plants and ecological environment in adjacent water areas. Some water supply pipelines are modified to ensure reliable operation. All those efforts further improve the stability and sustainability of water supply.

[24] Annual comprehensive energy consumption per 10,000 yuan of output value = Annual comprehensive energy consumption/ annual revenue in consolidated scope.

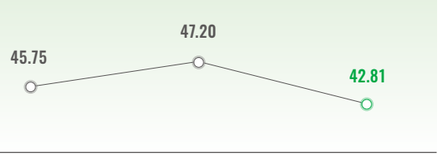
Higher water use efficiency

CGN Power continuously monitors water consumption, discharge, and recycling rates. When building and running projects, we encourage water recycling and efficient water management. For example, the reclaimed water is applied in irrigation and road cleaning. We implement a range of water-saving measures in nuclear power project construction. For example, the water use for construction must be equipped with water meters; the water used in the living area and the construction area are measured separately, and water-saving records are established, analyzed and compared to improve the water saving rate; the construction site and the living area are equipped with water-saving appliances; the construction site establishes a collection and treatment system for reusable water resources, so that water resources can be recycled in a trapezoidal manner; non-traditional water sources will be used in priority for on-site machines, equipment, vehicles, road cleaning, greening and watering, etc., instead of using municipal tap water.

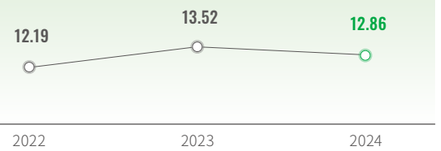
In terms of fresh water utilization, each subsidiary conducts in-depth analysis of water demand at each stage, link, and plant during the project feasibility study period, and establishes an intensive and water-saving water management system, minimizing water consumption and the impact on regional water demand to the greatest extent. In terms of drainage, each plant vigorously implements reclaimed water reuse plans. The sewage treatment facilities are upgraded and renovated to meet the reuse water standards. After that, they are reused for dust reduction at construction sites, production facility water, and garden greening irrigation, further expanding water channels and methods, and continuously improving water resource utilization.

Freshwater Consumption (million tons)

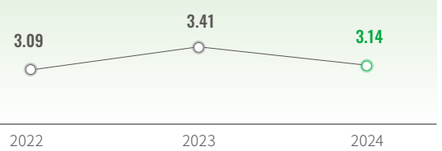
Water Consumption Per Unit of On-grid Power Generation (ton/GWh)



Total water intake (million tons)



Total water discharge (million tons)



Water use goals

Although we have not set specific quantitative goals for water efficiency for the time being, we encourage all subsidiaries to actively take water-saving measures, carry out water-saving technological transformation and enhance publicity to raise water-saving awareness, in a bid to reducing water consumption.

Nuclear Power Ecology

Upholding the philosophy of harmonious coexistence of nuclear power ecology, CGN Power has established a complete set of environmental monitoring systems and continuously monitored the environmental impact on project surrounding areas to avoid damage to the ecosystem. Moreover, we integrate biodiversity conservation into our development strategies, striving to achieve harmonious coexistence between nuclear power and the surrounding environment.

Environmental impact assessment

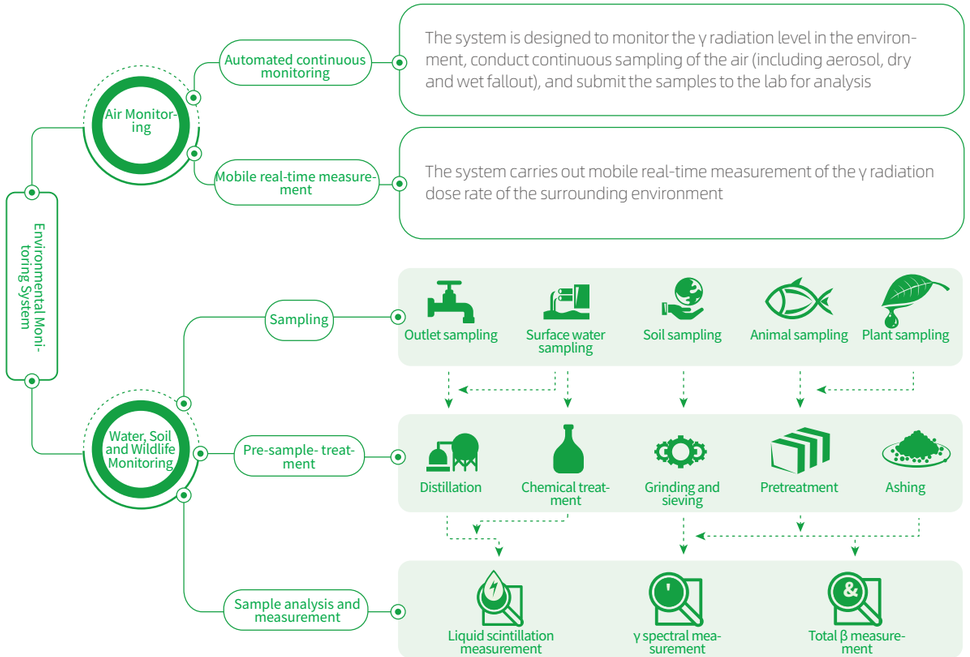
Before each project construction, we will carry out the environmental impact assessment. The water, biodiversity, noise, solid waste and atmosphere are all researched and analyzed. Compensatory measures would be taken if necessary. The Company also surveys and analyzes the public opinion. We carry out environmental impact assessment(EIA) during the site selection, construction, and operation of each nuclear power project in accordance with national regulations. Environmental protection acceptance is included during the project completion to ensure compliance with the project design and relevant environmental protection requirements.

Environmental monitoring

In accordance with laws, regulations and other regulatory documents, including the *Regulations for Environmental Radiation Protection of Nuclear Power Plants and Regulations for Environmental Radiation Monitoring of Nuclear Power Plants*, we have established a complete set of environmental monitoring systems. EIA is carried out during the site selection, construction, and operation of each nuclear power project in accordance with national regulations. According to the EIA approval and regulatory requirements during operation, we regularly monitor the environmental factors of each nuclear power site, track the environmental impact and take timely actions. We regularly submit the monthly and annual environmental monitoring reports, and disclose the monitoring data in time to accept the supervision of regulatory authorities at all levels.

Internal monitoring

NPPs regularly monitor the environmental factors of the nuclear power site during operation according to EIA approvals and relevant regulatory requirements. Based on requirements of relevant standards, including the *Regulations for Environmental Radiation Protection of Nuclear Power Plants (GB6249-2011)*, we have formulated the *Outline for Environmental Monitoring* and the Outline for Effluent Monitoring. Additionally, we monitor the air, water, soil, terrestrial organisms and marine organisms within a ten-kilometer radius of the nuclear power plant by setting up a complete range of environmental monitoring systems, equipment, including KRT (Plant Radiation Monitoring System) and KRS (Plant Radiation and Meteorological Monitoring System). The environment within the nuclear power plant and in the vicinity is also assessed on a regular basis. We also timely disclose relevant data to accept the supervision of the public. During the Reporting Period, all nuclear power plants, in accordance with their established monitoring plans, constantly monitored the internal and external environment as well as the operation of environmental protection facilities of these plants under the control of a stringent quality assurance system. There was no change in the activity concentrations of radionuclides in environmental media such as water, soil, and biota surrounding these nuclear power plants compared to previous years.



External supervision

CGN Power actively cooperates with national regulators and other supervisory bodies to monitor environmental performance and disclose external supervision data to the public. Relevant state regulatory agencies strictly monitor the radioactive emissions from nuclear power plants, focusing on the "dual-track system" monitoring of gaseous and liquid effluents and the surrounding environment of nuclear power plants. The operating units of power plants and the environmental protection administration in the province where the power plants are located hold accountable for the monitoring and ensure the data range meets the standard.

According to the long-term monitoring results of the Hong Kong Observatory and other external monitoring departments, the environmental radioactivity levels in the surrounding areas of our company's NPPs in operation since their operation have not been abnormal, and the terrestrial and marine biological population within the area has not changed. We have not brought about any adverse impact on the environment. National regulator continuously monitors the air absorption rate in the vicinity of the nuclear power plant in operation. The monitoring data shows that the air absorption rate is within the range of local natural fluctuations.

Case **Online monitoring system for offshore buoys has been introduced in Yangjiang Nuclear**

On June 27, 2024, the online monitoring system for offshore buoys of Yangjiang Nuclear Power Plant was fully completed and launched. The system consisted of three buoys, a data transmission system and shore-based data processing software, equipped with underwater sonar, current profiler, multi-parameter water quality analyzer and other equipment, enabling real-time dynamic monitoring of marine life and marine environment in the sea area within 5 kilometers of the power plant. In the future, we will carry out research on real-time dynamic monitoring of the risk organisms in cold source water, and develop a risk monitoring and early warning APP to create a terminal monitoring platform enjoying stability, practicability and safety.

Biodiversity conservation

CGN Power strictly abides by the *Marine Environmental Protection Law*, the *Environmental Protection Law*, and other biodiversity-related laws. We adopt a step-by-step management approach of "avoidance-reduction-mitigation-compensation", and formulate systematic nature-based biodiversity conservation programs. We actively respond to the challenges facing mankind today in an eco-friendly manner, and make our due contributions to global ecological security and biodiversity conservation through practical actions.

Biodiversity management methods

Four-step Biodiversity Conservation Approach

Science-based site selection Establishment of habitat protection

In order to achieve the goal of biodiversity conservation, priority should be given to the design and construction scheme that avoids negative disturbance, so as to avoid the impact on the key areas of biodiversity conservation.

Waste management Species protection

When disturbance cannot be avoided, the impact of projects on biodiversity should be minimized by formulating and implementing strict environmental management systems, monitoring the surrounding environment and protecting species.

Development of clean energy, such as nuclear power, to mitigate climate change

To tackle the global ecological, environmental and climate change crisis, mitigation measures should be taken to help mitigate regional/global environmental change as much as we can.

Ecological restoration and compensation

Biodiversity compensation measures should be taken when appropriate for better biodiversity conservation.

Compensation

Mitigation

Reduction

Avoidance

Biodiversity protection measures

Site Selection and Design	Engineering Construction	Nuclear Power Operation
Conduct field investigation to assess the impact of construction on local biodiversity, and avoid natural habitats and wetlands, forests, wildlife corridors, and agricultural land.	Implement woodland transformation and green the plant area to maintain the original ecology.	Establish and implement rigorous discharge disposal processes and regulations to monitor surrounding environment in real time to ensure no impact on the surrounding species by radioactive discharges and thermal discharges.
Determine project scope to minimize the impact of construction on wildlife.	Carry out ecological environment background survey and basic water temperature monitoring survey for monitoring environmental changes in the surrounding.	

Ecological protection

CGN Power upholds the concept of green development. All subsidiaries actively promote biodiversity conservation and ecological restoration initiatives in consideration of local ecological characteristics. We are committed to contributing more to the sustainable development and the ecological conservation.

Case **Fishery proliferation by Hongyanhe Nuclear promotes ecological sustainable development**

From May to July 2024, Hongyanhe Nuclear carried out fishery resources restoration and proliferation activities in the Bohai Sea in Dalian. The company strived to promote the sustainable development of marine exploitation and the conservation of ecological environment and biological resources. In the activities, the company released a total of 100 million shrimp, 1.6 million paralichthys olivaceus, 10 million portunus trituberculatus and 600,000 barracudas to restore the sea area ecology and promote ecological balance and the sustainable use of fishery resources.

Case

Afforestation and greening activities by Daya Bay Nuclear Power Site

Guided by the "Green and Beautiful Guangdong" ecological initiative, the Daya Bay Nuclear Power Site carried out afforestation and greening activities to create a "forest factory" at the coastal nuclear power site. The company leveraged the existing features of pit ponds and scattered woodlands at the site and adopted a low-intervention approach to build landscapes that highlighted the local plant species of Guangdong. Ecological restoration measures, including increasing planting beds, re-vegetation, and removal of invasive species, were taken to solve the issues of exposed yellow soil and the continuous proliferation of invasive species like silver wattles on the slopes at Ling'ao. The company added over 50 plant varieties and planted more than 1,600 saplings, greening a cumulative area of approximately 15 hectares. These efforts effectively improved the environmental quality of the park and enhanced ecological benefits.

Case

"Beach Clean-up to Protect the Coastline of Da'ao Village" volunteer activities by Yangjiang Nuclear

In September 2024, Yangjiang Nuclear organized "Beach Clean-up to Protect the Coastline of Da'ao Village" volunteer activities. Twenty-two volunteers from Yangjiang Nuclear cleaned up trash such as packaging bags, plastic bottles, and broken fishing nets along the coastline. These efforts reduced pollution in the coastal ecological environment with a 1-kilometer stretch of the Da'ao Bay coastline.

Case

DNMC releases a Chinese horseshoe crab into the sea together with the South China Sea Fisheries Research Institute, CAFS

On October 25, 2024, DNMC, together with the South China Sea Fisheries Research Institute, CAFS, successfully released an injured Chinese horseshoe crab, a national second-level protected wild animal, into Daya Bay. The Chinese horseshoe crab was found on October 17 at the Daya Bay Nuclear Power Site. After eight days of treatment, its wounds largely healed, and it gained weight and got healthy. The release activity was carried out under the witness of the law enforcement officers of the Dapeng Police Brigade, marking a positive result of the ecological protection of the waters of Daya Bay.

A Beautiful Picture of Biodiversity Conservation

The Company continues to strengthen the biodiversity conservation mechanism and persists in the practice of biodiversity conservation for a long time. We have formed a species-rich ecosphere in the land area of the nuclear power site and the surrounding sea area, showing a beautiful scene of harmonious coexistence between human beings and nature.

Chinese pond-herons, a state second-class key protected animal, tend to wade along shallow waters in marshes, paddy fields, fish ponds, lakes, and rivers. Strict requirements for their habitats are crucial to their survival. The beautiful natural environment at Yangjiang Nuclear has attracted Chinese pond herons.

Egrets, which were included in the *IUCN Red List of Threatened Species* in 2016, can be seen soaring and foraging in flocks around the nuclear power site.

Cattle egrets, which have been included in the *IUCN Red List of Threatened Species*, are attracted to inhabit the Daya Bay Nuclear Power Site for its excellent ecological environment.

White-eared Bulbuls, also known as White-headed Bulbuls, often inhabit forests, shrublands, farmland edges, and parks. They can be found in places near the Ningde NPP.

Chinese white dolphins, a state first-class protected animal, can be seen annually in the waters near the Yangjiang Nuclear Power Site.

Seaguls are commonly seen roosting in flocks near the Hongyanhe NPP.

Pursuing People-centered Development to Achieve Value

Opportunities and Challenges

With the growing global demand for clean energy, the nuclear energy industry offers vast career development opportunities for professionals. As a technology-intensive industry, the high-quality development of the nuclear power industry and the advancement of new productive forces require multifaceted competencies from talent. The Company will continue to face opportunities and challenges related to talent acquisition, utilization, training, and retention.

Strategies and Decisions

Upholding the philosophy of "prioritizing talent cultivation for enterprise development", CGN Power has formulated talent recruitment and reserve plans, established smooth channels for career development, and continuously improved the talent training system. We also create an equal and diverse workplace and help employees realize their self-worth.

Our goals

- To deepen reforms in talent development mechanisms to unleash talent potential and vitality
- To enhance the talent training system to improve employees' professional skills and overall competencies
- To promote diversity and equality, ensuring that female employees account for no less than 10% of the workforce

Progress in 2024

- Tenure-based and contract-based management was extended to mid-level and senior management, with over 50% of mid-level management and high-tech positions filled through open competition.
- 100% of employees received training, with an average of 165.57 training hours per employee.
- 11.92% of female employees

Talent Reserves

Talent is a core driver behind the sustainable growth of a company. We leverage our talent-driven development strategy to promote our progress. Based on national energy and company business development plans, and surveys on human resources management, we organize special seminars and individual interviews on human resources planning. After analyzing and evaluating key indicators, organizational operations, talent structure, talent development, and human resources systems in a systematic manner, we propose development strategies and management objectives, and make human resources planning targets, key tasks, and management measures. In accordance with the dynamic cycle of "planning - annual plan - implementation - evaluation – adjustment" in our human resource planning, we strengthen the planning and development of high-level talents to highlight cultivation of professional talents. Our goal is to build a highland for nuclear power talent development.

In 2024, we launched a forward-looking study on human resources as part of our planning set for the 15th Five-Year Plan period. Especially, our study on critical areas of human resource issues such as nuclear power operations and maintenance was completed, supporting the high-quality corporate growth. We also intensified collaborations with universities and colleges to explore diverse partnerships, including but not limited to joint laboratories, commercialization of technological achievements and incubation bases, graduate training programs, and graduate social practice bases. Our partnership ensures an early-stage pipeline of skilled professionals for the Company. Additionally, we continue to enhance the training and retention of specialized personnel, including reactor operators, aiming to inject fresh momentum into our high-quality development.

Employee Rights

CGN Power respects and fully safeguard the legitimate rights and interests of our employees. We strictly comply with relevant Chinese laws and regulations such as the *Company Law, Labor Law and Labor Contract Law,* and have formulated internal rules and regulations, including the *Labor Management System*, *Recruitment and Employment Staffing Management System*, *Professional and Technical Staff Recruitment Management System, Management Staff Selection and Appointment Management System, Salary Management System and Employee Performance Management System*, better protecting employee rights. Those documents better underpin a harmonious and stable labor relation.

Diversity and equality

Committed to diversity and equality among employees, the Company upholds internationally acknowledged human rights norms and strictly complies with relevant national laws and regulations and international labor standards. In line with the principle of non-discriminatory employment, we put an end to differential treatment regardless of staff's gender, age, educational background, ethnicity, religious belief and marital status. We are eager for employees who are a good match for our development and strive to foster a diverse workplace embracing different opinions and beliefs.

Equal and lawful employment

We adopt new approaches and take multiple measures to recruit talents. Through multiple channedls such as social recruitment, campus recruitment and joint training, the Company recruits outstanding talents based on standardized, normalized, and systematic recruitment process. During the recruitment process, strict scrutiny is applied to verify the identity of applicants, avoiding individuals under the age of sixteen, child labor and any form of forced labor. During the Reporting Period, the Company did not encounter any cases of human rights violations, child labor, or forced labor.

We intensified our efforts to recruit outstanding graduates in 2024. among our high-quality 2024 campus recruitment, we organized a CGN Power Executive University Tour. A total of over 3,000 fresh graduates and intended students who will graduate in 2025 were hired. Over 60% of the recruits were from domestic and overseas top-tier universities, consolidating the ranks of young scientific and technological talent.

As one of the first batch of enterprises to integrate industry and education in China, our company has signed talent development cooperation agreements with more than 20 domestic universities, including Tsinghua University, Shanghai Jiao Tong University, and Sun Yat-sen University. Additionally, we provide practical opportunities for graduates and interns majoring in nuclear power-related disciplines, aiming to improve their professional skills and employability. While contributing to the cultivation of industry talents, we achieve a win-win result in talent development and employment promotion. In 2024, our nuclear power sites and subsidiaries hosted the "Nuclear Experience Camp" program for hundreds of students from more than 10 universities, including Tsinghua University, Harbin Institute of Technology, Xiamen University, and Changsha University of Science and Technology.

In 2024, we recruited

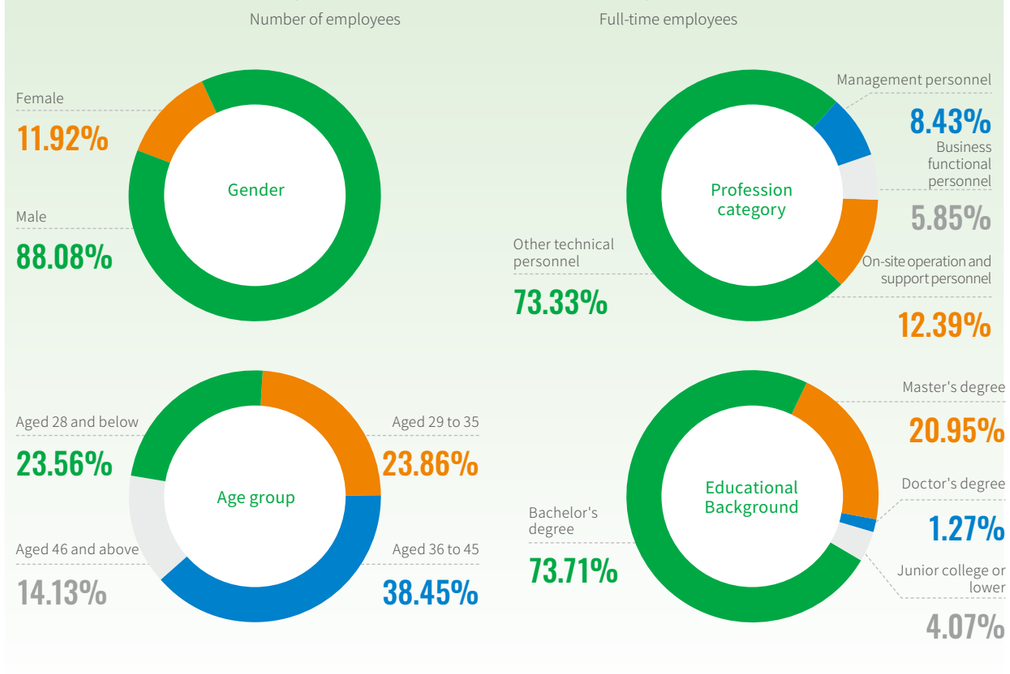
1,867 fresh graduates, achieving a

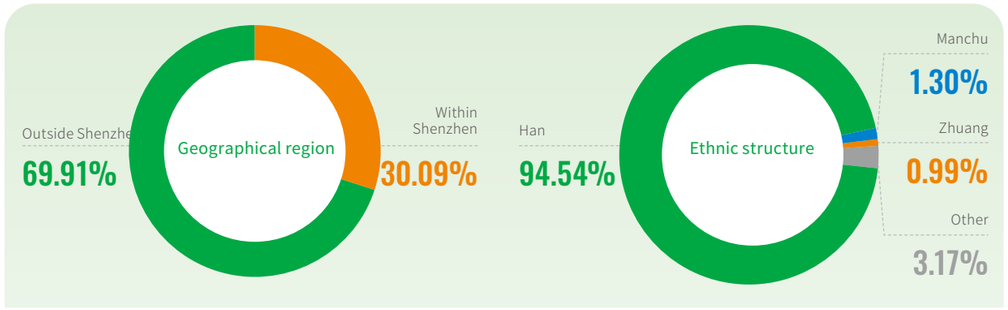
100% public recruitment rate.

Gender diversity

CGN Power dedicates itself to creating a diverse, equal, and inclusive corporate culture. We support the career development and skill enhancement of all employees, especially female employees, and help them realize their personal value. As of the end of 2024, the proportion of women among junior/intermediate/senior managers was 5.0%, and the proportion of female employees and managers in STEM (Science/Technology/Engineering/Mathematics) positions reached 11%.

Staff composition





Employee turnover rate

1.01%
Employee turnover rate

By gender

Male 0.92%

Female 0.09%

By age

Aged 28 and below 0.51%

Aged 29 to 35 0.27%

Aged 36 to 45 0.20%

Aged 46 and above 0.03%

By geographical region

Within Shenzhen 0.35%

Outside Shenzhen 0.66%

Employee communication mechanism

CGN Power fully guarantees employees' rights to know, express, participate and supervise. In compliance with the Regulations on Democratic Management of Enterprises, Regulations on Workers' Congress of Industrial Enterprises under the Ownership of the People and Notice on Regulations of the Grassroots Trade Union Member Conference issued by the All-China Federation of Trade Unions, etc. we have established a workers' congress. Meanwhile, we constantly broaden the channels of democratic managemnt, continuously improve its system, and implement the system of employee director and supervisor to encourage employees to make suggestions.

We have established a democratic communication network centered on the Workers' Congress, transparent management, and grassroots visits. This network enables us to track employee feedback and suggestions and timely disclose major decisions affecting employees' interests. The Labor Union's proposal system and incentive-suggestion system, opens up channels for employees to raise demands and solve their problems. Other systems, such as specialized committees (e.g. the labor dispute mediation committee) and collective contract negotiations, improve our work to handle labor disputes. The above processes and related information are known only to the parties and necessary personnel to protect the rights of employees to the greatest extent.

Besides the communication channels, such as forum, leaders' mailbox, Labor Union team, and League branch, the Company regularly holds organizational meetings, democratic meetings for management team, etc., so that employees can provide their opinions or suggestions to their superiors. Employees have the opportunity to engage in face-to-face discussions with the management throughout the entire process of personal development planning, performance goal setting, execution, and evaluation. The positive communication and feedback from both sides can help align the development goal of employees with that of the Company.

In 2024, the Company held a total of **21** workers' congresses, forming **112** proposals and facilitating their implementation.

Compensation and benefits system

CGN Power continuously improves its incentive system. By clarifying the concept of value creation, we regard responsibility, capability, and performance as the main criteria for evaluating employee value. Our compensation distribution continues to prioritize frontline production roles and positions that are demanding, hazardous, or labor-intensive. This initiative will fully mobilize employees and inspire their potentials, helping employees realize their self-worth.

Compensation incentive mechanism

Compensation system

Following the market-oriented principle, we have formulated the *Compensation Management System, Employee Performance Management System, Management Staff Selection and Appointment Management System* and other internal rules and regulations. By optimizing the performance management system, we have built a strategy-oriented and competitive compensation management system. Based on the position-based pay, its wage scale varies from ability to contributions, and those with good skills and performance can have higher salary or bonuses. For example, for employees who failed in SQE assessment, their annual performance bonus is zero. For employees or organizations who made outstanding contributions in various aspects such as technological innovation and SQE management, the Company implements special incentive measures.

Share incentive

To motivate key talents, the Company approved the H-share Appreciation Rights Incentive Plan at the 2014 annual general meeting of shareholders. The Plan has been implemented, and was terminated by the end of 2024. For more details, please refer to the *2024 Annual Report* of the Company.

Performance incentive

In 2024, the revised Employee Performance Management System was reviewed and approved by the Company's Workers' Congress.

We continue to refine our performance-based wage growth mechanism and the internal income distribution system that is based on job value and guided by performance results. A comprehensive performance assessment system is established to ensure that employee compensation is directly tied to their contributions and to foster a flexible income adjustment framework.

We have established a systematic sci-tech innovation incentive system to foster an environment that encourages innovation. For top-tier, skilled, and in-demand talent critical to our development, we implement a tailored compensation policy, offering individualized discussions for their salaries. Additionally, we have introduced various forms of medium- and long-term incentives for R&D personnel based on their innovative outcomes, aiming to fully unleash their potential and vitality.

Employee welfare system

Basic welfare guarantee

We strictly follow the national social insurance payment site and payment ratio, and pay social insurance premiums for employees on time and in full. All employees are covered by social insurance, including pension, supplementary medical insurance, unemployment insurance, work-related injury insurance, housing provident fund, and corporate annuity. The coverage rate of social insurance reaches 100%.

Work-life balance

According to national regulations and enterprise realities, a holiday management system is formulated and paid leave policies are in place to encourage employees to arrange their holidays reasonably. The labor union regularly organizes a variety of cultural and recreational activities such as holiday celebrations, cultural performances, sports competitions, and team-building activities. The facilities at the nuclear power sites are continuously improved to enrich employees' leisure time.

Caring for female employees

We always care for the health of female employees. Activities such as the Women's Health Seminar are held irregularly, and female-specific items are added during health check-ups to care for the physical and mental health of female employees. Labor unions at all levels organize activities for International Women's Day, sending festive blessings to female employees. We offer free health clinics and consultations focused on women's and children's health, providing solid support for pregnant or parenting female employees.

Employee social insurance coverage

100% (covering medical, pension, unemployment, work-related injury, and maternity insurance)

189.3 days per capita
Paid maternity leave for female employees

136.1 days per capita
Breastfeeding leave for female employees

14.7 days per capita
Paid leave for caregiving for male employees

159
Associations and interest groups formed by labor unions at all levels

1,341
Activities carried out

27,500
Participants

164
"Serving the People with Concrete Actions" campaigns organized

25
Youth networking events launched

553
Employees visited

36
Session of summer childcare program held

1,700+
Employee children benefited

Case Labor unions offer a summer childcare program for employees' children

To address the challenges employees faced in balancing work and childcare during the summer holiday, labor unions at all levels of the Group organized a variety of activities such as summer camp, interest class, childcare program, and study activity under the "Serving the People with Concrete Actions" campaign. The summer childcare program was held in two sessions across three locations in Shenzhen, Futian District, Dapeng New District, and Longgang District, including activities such as quality development, sports, creative crafts, painting, film appreciation, and calligraphy.

Case CGN Operations hosts youth networking event

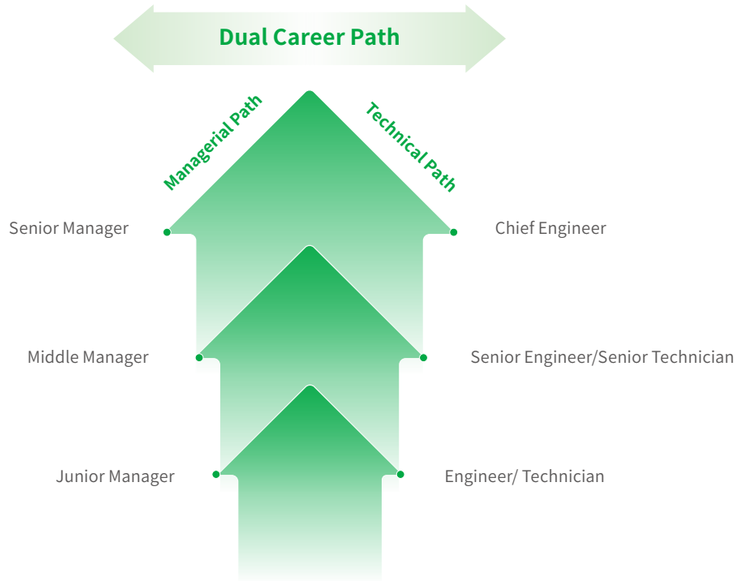
In August 2024, coinciding with the Qixi Festival (Chinese Valentine's Day), CGN Operations hosted a youth networking event named "Nuclear Match: A Spark of Connection" at Happy Valley Shenzhen. The event, themed around youth, fashion, joy, romance, and surprise, attracted 80 singletons and 13 pairs expressed mutual interest in continuing their connection.

Talent Development

CGN Power attaches great importance to talent training and development. We create a broad career development platform for our employees, with clear promotion channels and incentive mechanisms. Our talent training system will be updated continuously, helping employees grow together with the Company.

Talent development channel

We work to offer employees with clear paths and broad career choices. Besides the dual-path career development of managerial path and technical path, we have established a conversion mechanism for two channels, and formed a comprehensive link of "Position Ladder - Development Path – Employee Aspiration – Employee Flow". According to the talent needs, the Company focuses on the training of skilled talents, young leaders, and high potential talents internally, promoting long-term talent development and strengthening the reserve of key talents.



Diversified training channels

Skilled personnel

We have established a separate position ladder for skilled personnel, such as Chief Technicians, to remove the limit for skill personnel development. This is achieved through a combination of directional guidance and policy support to cultivate excellent skilled personnel.

Young managers

We optimize talent selection mechanisms towards youthfulness and diversity, and select outstanding young officials from various nuclear power sites to participate in full-time training programs. This aims to deepen theoretical learning, promote knowledge iteration, and broaden their work perspectives.

High-potential talents

We have established a hierarchical, categorized, and specialized talent pool for high-potential management and follow grassroots orientation. All newly promoted young managers are assigned to the frontline of nuclear power sites. Special projects serve as a vital platform to train young managers.

Talent training system

CGN Power continuously improves its independent talent training system and standardizes its efficient training management system. A team of experienced and high-quality instructors, a comprehensive curriculum system, and large-scale training facilities support employees to realize continuous and efficient learning and development.

License training

CGN strictly complies with the requirements of the *Nuclear Safety Law*, actively carries out relevant training for licensed nuclear power personnel, and ensures that NPP operators are licensed to work. For the cultivation of reactor operators, we have formed a training ladder of "new employee - operator trainee - operator - senior operator - deputy shift supervisor - unit director - shift supervisor". New hires are provided with training of technical theory, basic safety authorization and on-the-job training before written test, interview, practical work ability evaluation, and psychological quality assessment. After passing those tests and evaluations, they can take operator certification exam.

Egret Program

A series of transformation training programs are designed and implemented based on the core competency model to address the problems faced by new hires, new managers at all levels, new reserve management members during the transition and reserve periods, aiming to comprehensively improve the professionalism of the talent team across the broad.

Classified training

We have established standardized training systems, including nuclear power operation, nuclear power engineering, nuclear power science and technology and management The Company has formed a staff training system with the basic process of "training - assessment - authorization - induction".

Contractor training

We continue to enhance our contractor training system to improve the technical expertise of our contractors. By collaborating on training resource development, we assist contractors in creating skill-based courses and training instructors while establishing a comprehensive and tailored knowledge framework to ensure structured, in-depth, and industry-aligned training content. Additionally, we also expand integrated training and assessment, enabling quick onboarding and evaluation of contractors. Through a multi-dimensional assistance approach, we help contractors improve self-management in safety and quality to identify weaknesses. As a result, their performance management maturity has advanced, and the overall pass rate of contractors has shown steady annual improvement.

Case DNMC provides safety and human error training for outage teams

In 2024, DNMC conducted over 100 safety and human error training sessions for outage teams. Leveraging trending topics, DNMC delivered bite-sized training materials and developed micro-training sessions. Additionally, it utilized training data analytics, enhanced assessment verification, provided hands-on practice for involved teams, addressed fragmented knowledge gaps, and offered timely responses to strengthen personnel's foundational skills and safety awareness.

Honors

Three teams and four employees of CGN Power received the titles of **Central State-owned Enterprise Advanced Team and Model Worker.**

CGN Operations was awarded the **National Skilled Talent Training Site.**

One team and one employee of CGN Power received the titles of the **26th Guangdong Youth May Fourth Medal.**

One employee of CNPRI was awarded the **Shenzhen May First Labor Medal.**

One employee of CNPRI was awarded the **2023 National Outstanding Student of Young Marxists Training Project.**

CGN Power secured one gold, two silver, and two bronze medals at the **18th Revitalization Cup National Youth Vocational Skills Competition.**

CGN Power won **five individual first prizes, nine individual second prizes, 13 individual third prizes, one team first prize, four team second prizes**, and one team third prize at the **2024 National Vocational Skills Competition.**

165.57 hours
Training hour per employee

166.53 hours
Training hours for male employees

160.13 hours
Training hours for female employees

160.74 hours
Training hours for mid-level management

93.77 hours
Training hours for senior management

100%
Male employees trained

100%
Female employees trained

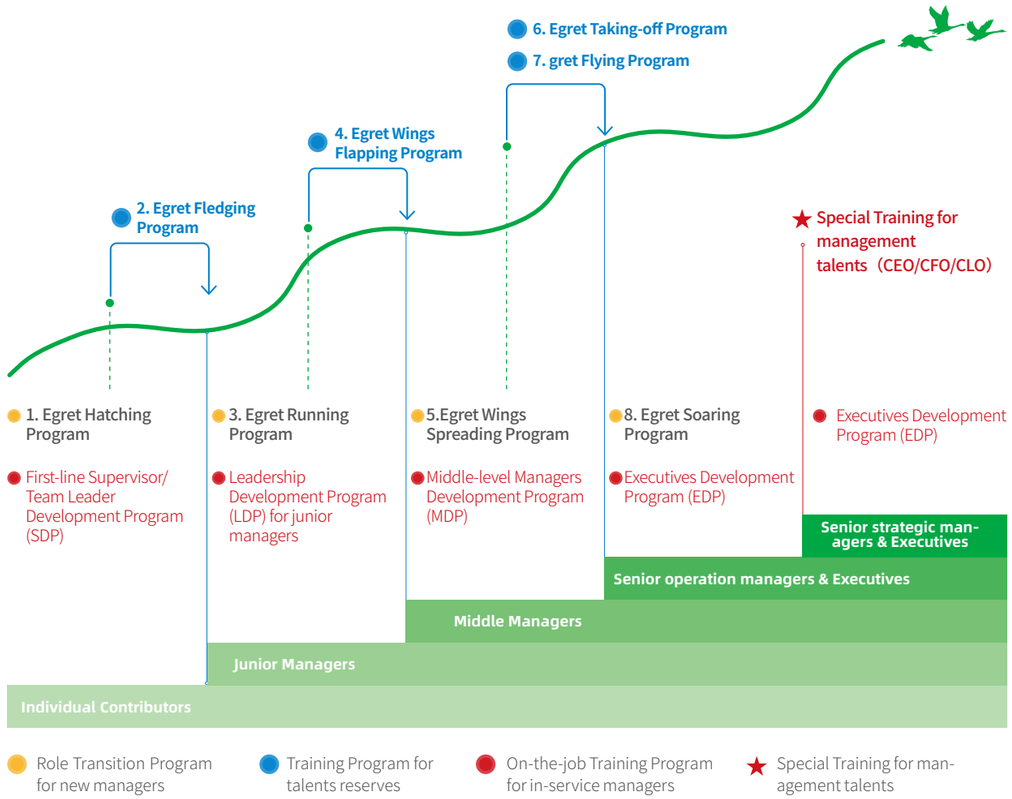
100%
Mid-level management trained

100%
Senior management trained

124,396,900 yuan
Annual training expenditure

Egret Program - CGN Leadership Training Program

Aiming to help managers at all levels achieve career advancement, the Egret Program is launched, including subprograms such as the Egret Hatching Program (induction training for new hires), the Egret Running Program (transition training for new junior managers), the Egret Wings-Spreading Program (transition training for new middle managers), the Egret Taking-off Program (medium and long-term training for reserved senior managers), the Egret Flying Program (training for reserved senior managers), the Egret Soaring Program (transition training for new senior managers).



2024 Egret Program Achievement

	Target	Progress
Egret Running Program	Improving the personnel management ability of new junior-level managers	14 sessions 521 participants
Egret Wings-Spreading Program	Improving the personnel management ability of new mid-level managers	8 sessions 275 participants
Egret Soaring Program	Improving the management skills of new operating executives and broadening their thinking and horizons	1 sessions 29 participants

New employee development

We attach great importance to the training of new hires and tailor training plans for different positions and different sequences of employees to help them achieve rapid growth in the workplace.

Case Egret Hatching Program (New Hire Training) officially launched

In July 2024, the opening ceremony of the Egret Hatching Program (new hire training) was held at the Daya Bay Nuclear Power Site in Shenzhen. The one-year training program includes approximately one month of intensive training. Innovatively designed activities such as "Action Learning" and the "Egret Dream Pursuit Journey" were introduced to cultivate scientific problem-solving skills among new employees. Participants who served as hosts introduced the new team to CGN Power's operations through videos and live streams. By integrating theory with practice, this approach accelerates new employees' transition into their roles, ensuring they meet job requirements.

Leadership development training

We conduct leadership development training programs annually to strengthen the theoretical foundation, cultivate strategic thinking, and continuously enhance the leadership capabilities of cadres at all levels. In 2024, we organized the following programs: the 4th Young Manager Training Program, with 21 participants; the 7th session of the Egret Soaring Program, involving 29 executives; a comprehensive training program for newly appointed managers, with 22 sessions held throughout the year, training a total of 796 managers; the nationwide roll-out of the Egret Leading Program for leadership development in nuclear power sector. Additionally, we held four seed instructor certification trainings, cumulatively delivering 122 training sessions with 4,954 participants.

Case Yangjiang Nuclear launches White Dolphin Program (Management Training)

In May 2024, Yangjiang Nuclear launched its own management training program, the White Dolphin Program. Based on existing management development programs, this program addressed the specific needs of Yangjiang Nuclear's management team. Aligned with international standards and its actual needs, the program focused on enhancing core competencies across three dimensions, managing self, managing others, and managing teams. For the first session of the Program, 39 participants engaged in a series of leadership courses designed to empower their leadership and team management skills.

Case DNMC conducts digital leadership training

To drive the deep integration of digital transformation and high-quality development in the nuclear power industry, DNMC organized a digital leadership training program titled "Setting Sail with the Wind: Digital Empowerment". The program aimed to enhance the understanding and practical capabilities of the management and key personnel in digital transformation, promote the upgrade of the Company's digital culture and business processes, and explore innovative business models and management strategies. Finally, it strived to build a shared vision for digital transformation.

Professional skills training

In terms of professional competence, we organize professional skills training based on employees' expertise and job qualifications to help employees improve their vocational skills and enhance their job competency.

Highlighting Key Position Development

The *Operator Training Quality Improvement Plan (2024-2025)* was released to enhance license operators' management of both training and preparation for exams and to improve the training quality of operator development. In 2024, we trained 65 new reactor operators (RO) and 88 senior reactor operators (SRO).

Enhancing Maintenance Skills Training

We have developed two specialized courses, including the *Maintenance of Neway Valve's Electric Bellows Globe Valves and the Maintenance of Sanfang's Pressure Reducing Valves. Additionally, we completed six training courses, the Training Camp for Reactor Pressure Vessel Head Triangle Lifting Tool Disassembly and Assembly, the Training Camp for Maintenance Capability Enhancement of Conventional Island Key Pumps, the Training Camp for Maintenance Craftsman Star of Cultivating Valves, the Training Camp for Turbine Monitoring Instrument Maintenance, the Maintenance of Neway Valve's Electric Bellows Globe Valves and the Maintenance of Sanfang's Pressure Reducing Valves.*

Strengthening Skill Level Assessment

To build a comprehensive system for talent cultivation, evaluation, and utilization, we have released 12 evaluation-related policies and developed standards, training materials, and question banks for 19 registered job categories. Besides, we certified over 1,000 assessment supervisors qualified for independent vocational skill evaluations, 17 master technicians and 860 employees with new skill levels.

Case CNPRI launches excellent engineer training program

In November 2024, CNPRI held its first Excellent Engineer Training Program in Shenzhen, selecting 64 participants as the first group of trainees. The program is designed to develop outstanding engineers through structured, regular and tiered training and continuous empowerment. Its primary goal is to develop young (deputy) chief design engineers, discipline leaders, and professional (deputy) chief engineers. Furthermore, the program seeks to accelerate the growth of a new generation of top-tier sci-tech talent, establish a flying geese framework (a structured approach) for research talent development, and position these engineers as nationally recognized leaders in science and technology.

Comprehensive talent development

CGN Power employs diversified development approaches. By collaborating with educational, research institutions, and enterprises, we tailor training programs for employees at different roles and levels. With these efforts, we support employees in realizing their career aspirations and contribute to cultivating nuclear power talent, advancing industry development, and promoting social progress.

Collaborative education with universities

As one of the first batch of enterprises integrating industry and education in China, our Company has signed talent development cooperation agreements with more than 20 domestic universities, including Tsinghua University, Shanghai Jiao Tong University, and Sun Yat-sen University. Additionally, we provide practical opportunities for graduates and interns majoring in nuclear power-related disciplines, aiming to improve their professional skills and employability, contribute to the cultivation of industry talents, and achieve a win-win result in talent development and employment promotion.

In 2024, nuclear power sites and subsidiaries of our company received over a hundred students from more than 10 universities, including Tsinghua University, Wuhan University and Xiamen University, for on-site internships.

Case **Mandatory course training of Sun Yat-sen University at Taishan Nuclear**

In July 2024, 15 fresh postgraduate students from IFCEN of Sun Yat-sen University and 8 French students visited the Taishan Nuclear Power Site to participate in a five-day compulsory course training titled *Nuclear Power Plant Operation and Safety*. This is the first specialized program developed by Taishan Nuclear for Chinese and French graduate students. Based on the students' knowledge backgrounds and training needs, the course was delivered in groups using a combination of Chinese, English, and French, with participation of French experts from the Company. Combining theory with hands-on practice, the training program introduced the overall system of nuclear power plants, specialized safety facilities, and nuclear safety culture, and arranged hands-on training including simulator operations and tools operation for human error prevention. This enabled students to gain knowledge about nuclear power unit operation, work methodologies in NPPs, and the professional qualities required of nuclear industry practitioners.

Case **CGN Operations collaborates with Guangdong University of Technology for three consecutive years**

For three consecutive years, CGN Operations has collaborated with Guangdong University of Technology. During production practice, they innovated in campus recruitment model and held dedicated recruitment fairs at the Daya Bay Nuclear Power Site for two consecutive years, where many students from the university participated in recruitment briefings during their internships. In 2024, a total of over 430 undergraduate students were organized to participate in production practice and 17 outstanding students received offer notifications in advance and successfully signed contracts, earning high recognition from the university.

Supporting employees' self-learning and development

Our Company encourages employees to engage in self-learning and actively motivate them to enhance their overall capabilities through self-study. We aim to create a learning organization and have established processes to regulate employees' self-learning declaration and reward distribution, fostering mutual development between the Company and our employees. As early as 2017, we formulated and released the *Management Process for Encouraging Employees' Self-Learning and Development*. Through one-time rewards or limited reimbursements, we motivate employees to enhance their overall capabilities from on-the-job education, professional qualification attainment, foreign language learning, and other means. We also collaborate with partner universities to offer On-the-Job Degree Enhancement Programs and Online Preparatory Courses for National Postgraduate Entrance Examinations to assist employees in advancing their educational qualifications while working, thereby achieving shared development with the Company.

Occupational Health

CGN Power always prioritizes the safety and health of its employees and adheres to the *Work Safety Law*, *the Law on the Prevention and Control of Occupational Diseases*, and other relevant Chinese laws and regulations. We implement the responsibility system for occupational health management, improve the occupational hygiene and health management system, and follow the guiding principle of the *Health China Action Plan (2020-2030)*, the *Guideline on Occupational Disease Prevention (2021-2025)*, and the *Notice on Deepening the Special Governance of Occupational Disease Hazards Treatment*. All subsidiaries are encouraged to participate in the development of healthy enterprises, creating a healthy workplace to safeguard the safety and health of employees.

Occupational safety

We advance safety standardization by improving the *Occupational Safety Management System* and related management measures. All nuclear power plants have dedicated departments managing occupational health and safety. We employ a series of measures including technological, managerial, and individual physical protection, and set limits on on-site working hours based on occupational hazard assessments. This move will fully reduce occupational health and safety risks.

The occupational health and safety management system of the Company also applies to contractors involved in various activities such as engineering construction, electricity generation, and equipment maintenance at NPPs, as well as any other personnel entering operational sites for work. Additionally, the Company actively promotes the integrated management of occupational health between owners and contractors, thereby enhancing the standardization and coverage of occupational health check for contractors.

Certification

All NPPs under CGN Power have obtained the certification of the **ISO 45001 occupational health and safety management systems.**

In 2024, we continuously enhanced the effectiveness of our occupational health management system, deepened the source control of occupational disease hazards, and steadily advanced the optimization of health check-ups during campus recruitment and the informatization of occupational health management. Through comprehensive health science popularization and education, development of healthy enterprises, and industry-university- research cooperation, we have achieved coordinated management and services across subsidiaries and departments, thereby continuously improving the effectiveness of occupational health management.

Further improving occupational health management system through inspection, evaluation, and correction

- We conduct occupational health management inspections and evaluations for the nuclear power business owners (including Joint ventures and associated companies, and entrusted management companies) and major specialized subsidiaries, and implement comprehensive corrective measures for issues identified during inspections. With the establishment of a standardized procedure for occupational health monitoring, we track and verify corrective actions during the year-end work safety benchmark evaluations.

Strengthening on-site management and deepening source control occupational disease hazards

- We actively advance the R&D and application of new processes and equipment to control the sources of occupational disease hazards. For example, CGN Engineering has introduced advanced equipment and used environmentally friendly materials to effectively reduce the concentration or intensity of occupational hazard exposure among workers.
- On-site occupational health protection facilities have been newly built or improved to ensure safe working conditions. For instance, CGN Engineering has installed a series of construction safety facilities; Yangjiang Nuclear has implemented comprehensive dust removal and noise cancellation measures to control on-site dust and noise; and Hongyanhe Nuclear has adopted industrial adhesive enclosure measures to effectively control chemical substance concentrations.

Advancing the informatization of occupational health management to enhance work efficiency

- We facilitate the development and operation of various specialized information systems centered on the Occupational Health Supervising System (OHSS). Through comprehensive survey and planning, we have developed an OHSS to promote the informatized, standardized work and regulated management throughout the entire process of occupational health monitoring. Our subsidiaries also pilot the development of high-risk operation supervising system (NHSS), pre-work health monitoring systems, online monitoring systems for occupational hazards and smart construction site monitoring systems, improving the effectiveness of occupational health management.

Strengthening occupational health oversight of contractors

- We conduct skills training for part-time occupational health management personnel of contractors to enhance their independent management capabilities. We also strictly inspect the occupational health management systems of contractor units and review on-site occupational health. Contractors' personnel entering work sites are mandatorily required to complete occupational health check-ups based on potential hazard exposures, with results determining site access authorization. We set up a "Key Focus List" and implement dynamic monitoring management to ensure that contractor units fulfill their primary responsibilities for preventing occupational diseases, achieving effective oversight and control of contractor on-site personnel's occupational health and safety.

Conducting occupational health management training to enhance professional capabilities

- We fully implement occupational health management training. Based on the needs of key leaders, occupational health management personnel, and workers for relevant knowledge on occupational health management, we have developed unified training courseware and video instruction, and conducted targeted, categorized training. This ensures that managers acquire the necessary occupational health management knowledge and skills, while workers become familiar with the major occupational hazards and protective measures in their workplaces.
- We provide specialized training program for new employees in occupational health management. We have actively coordinated the recruitment of new occupational health management employees through campus recruitment, and compiled a standardized textbook titled Occupational Health Training. Leveraging the occupational health management resources of subsidiaries, we organize immersive, batch-wise training exchanges at various bases. As a result, the professional occupational health capabilities of new employees have been significantly enhanced.

0
Occurrence rate of occupational disease for employees, outsourced personnel and contractor in 2024

About **300,000** yuan
Investment in work safety liability insurance, with a coverage rate of **100%**

123 days
Lost days due to work injury

During the Reporting Period, we maintained a good occupational health and safety performance. There were no cases of occupational diseases or incidents of "health-related risks" among our employees, outsourced personnel, or contractors. The maximum radiation dose per person received[25] was far below both international and domestic standards.

Case **Core occupational health management talent training program**

In March 2024, the SQE Department of CGN Power hosted the First Session of Core Occupational Health Management Talent Training Program at the Daya Bay Nuclear Power Site. 40 occupational health management personnel from 19 subsidiaries participated in the program. The training covered topics such as the current state of occupational diseases and occupational health management strategies, the operation of noise protection facilities and noise hazard control, nuclear emergency medical preparedness and radiation injury rescue, as well as practical occupational health monitoring for radiation workers. Renowned domestic experts and scholars were invited to lecture and facilitate interactive exchanges. Participants not only acquired theoretical knowledge but also resolved operational challenges through discussion.

Maximum individual radiation dose of all NPPs (Unit: millisieverts)

NPP/Unit	2024	2023	2022
Daya Bay NPP	**9.97**	10.48	9.96[26]
Lingao NPP			
Lingdong NPP			
Yangjiang NPP	**10.27**	10.50	9.96
Hongyanhe NPP	**9.05**	10.50	8.00
Ningde NPP	**10.74**	10.21	8.27
Units 1-4 of Fangchenggang NPP	**10.66**	7.26[27]	3.69
Taishan NPP	**4.21**	2.24	3.88

[25] The annual refueling outage is a key factor affecting the maximum individual radiation dose of all NPPs.
[26] Starting from 2021, the Daya Bay NPP, Ling'ao NPP and Lingdong NPP was aggregated.
[27] The scope of statistics is expanded to the Fangchenggang Unit 4 commenced operation in 2024.

Physical health protection

CGN Power actively advances the development of healthy enterprises and enhances the overall health literacy of all employees. We keep improving the comprehensive health service system that covers employees at every level, and have formulated the *Procedure for Employee Health Management*. Meanwhile, our dedicated organizational units, robust procedures and systems and designated funds would fully safeguard employees' physical health.

Honors

As of 2024, the Company has been awarded the **"Outstanding Case of Healthy Enterprise"** award by national agencies and the China Enterprise Confederation **eight times.**

Comprehensive health management

- All employees are provided with annual health check-ups. Based on the health check-up results, we focus on disease prevention and offer a wide range of health services.
- We have set up health rooms equipped with self-service health screening devices to continuously improve the working environment.
- We have built a multi-channel psychological health publicity network and offer a variety of psychological services.

Health knowledge popularization

- Regular health lectures and training sessions are held, and health science popularization articles are published to help employees further enhance their self-health management capabilities.

Health awareness cultivation

- We organize diverse afterhours sports activities to encourage employees to pursue their interests, improve fitness awareness, and live a healthy and civilized life. Additionally, to care for employees' diet health, our canteens in all subsidiaries provide meal options featuring low oil, low sugar, and low salt recipes, ensuring employees enjoy nutritious and healthy dining.

Case DNMC hosts "Living a Healthy Life" series activities and fun sport games

In June 2024, DNMC held the "Living a Healthy Life" series activities and fun sport games. The event not only provided a platform for employees to showcase and challenge themselves but also strengthened team cohesion and unity.

Case Launch of the first CNPRI staff rural recuperation program

At the beginning of 2024, CNPRI officially incorporated the staff rural recuperation program into its "Caring Project" list. The initiative aims to actively secure employees' right to recuperation and effectively alleviate work-related stress. CNPRI is also exploring innovative models to enhance employees' patriotic education, improve recuperation quality, optimize accommodation and meal services, and strengthen safety management throughout the process.

Employee mental health

The Company pays attention to employees' mental health and uphold the principle of "comprehensive health, integrating body and mind". We offer the Employee Assistance Program **(EAP)** to provide employees with 7/24 counselling services. It helps to keep abreast of employees' mental health and therefore advocate a positive lifestyle.

Case Fangchenggang Nuclear hosts psychological care activities

In May 2024, Fangchenggang Nuclear hosted a series of "5·25" psychological care activities. During the event, our employees engaged in face-to-face discussions with counselors of Employee Assistance Program (EAP) to explore the importance of emotion and stress management. Through a series of interactive and engaging activities, participants gained deeper insights into their psychological states, emotional responses, and thought patterns, allowing them to connect with their true selves. In one-on-one on-site consultations, employees met with psychological experts to seek professional support and advice. The activities have effectively assisted employees in alleviating their work stress and negative emotions while imparting practical techniques for psychological adjustment, thereby enhancing their mental health awareness and self-regulation capabilities.

18,910
Participants of the annual employee psychological health survey in 2024

91.06%
Proportion to the total employees

189
Activities held, including psychological health consultations and counseling sessions

nearly 6,930
Participants

Moving Forward Together and Forging Resilience

Opportunities and Challenges

China's manufacturing system is well-developed, and the domestic market holds vast potential. Currently, the nation is fully advancing the comprehensive leap in industrial modernization, with the focus on technological innovation. It is unblocking upstream and downstream industrial cycles, and nurturing new quality productive forces. At the same time, the complex and ever-changing global macro-political and economic environment presents numerous challenges for the manufacturing sector.

Strategies and Decisions

CGN Power places a high priority on supply chain resilience and safety. Through precise system construction, rigorous review and selective supplier introduction, and strengthened management practices, the Company integrates the principles of green, safety, and quality throughout its supply chain. Furthermore, we continuously leverage the complementary advantages of industry-university-research cooperation to jointly enhance the efficiency, quality, innovation potential, and safety of the industrial chain, thereby promoting the overall stable and sustainable development of the industry.

Our goals

- Enhance the resilience and safety of the industrial and supply chains
- Drive partners to improve their ESG management
- Vigorously implement procurement transparency and progressively enhance lean procurement management

Progress in 2024

- 592 new suppliers introduced, bringing the total number of qualified suppliers to 5,001, including 4,705 domestic suppliers
- 180 key tier-1 suppliers reviewed, accounting for 12.4% of all reviews
- Achieved a 100% rate in procurement price disclosure

Supply Chain Management

Supply chain resilience and safety are key factors for an enterprise to respond to uncertainties, maintain business continuity, and enhance competitiveness. In the process of production and operation, CGN Power strictly adheres to laws and regulations such as the *Law of the People's Republic of China on Bid Invitation and Bidding*, and has formulated a series of documents in line with practical needs, including the *Supplier Management Measures and the Supplier Misconduct Management Process*. We have established an integrated supplier management platform to coordinate supplier management, regulate supplier audit and management mechanisms and comprehensively enhance the resilience and sustainability of the supply chain. Guided by the principles of joint construction, shared benefits, and mutual success, we build mutually beneficial, trustworthy, and collaborative partnerships with our suppliers.

Supplier management system

Based on the "five unifications" (unified organization, unified system, unified process, unified platform and unified classification), the Company has developed comprehensive supplier management policies that embody the principles of honesty and integrity, easy entry and strict management, overall planning and sharing, and win-win cooperation. Moreover, we have established a supplier management system that covers the full lifecycle from procurement, access, tiered management, evaluation and withdrawal. It leverages tiered supplier management and incentive mechanisms to ensure effective management.

Tiered Management

- CGN Tender (Management) Center coordinates supplier management based on their industry characteristics and specific fields, and adopts targeted strategies for nuclear operations, nuclear engineering, etc.
- Following the unified management system, all subsidiaries are responsible for supplier qualification reviews, re-evaluations, performance assessments and application of results, star-rated suggestions, elimination, and handling of disputes.

Independent Review

- An independent nuclear power quality assurance technical support center is established to review suppliers entering the nuclear supply chain system, thereby ensuring a safer and more reliable supply chain.

592 New suppliers introduced	**5,001** Qualified suppliers in total	**4,705** Domestic suppliers	**296** Overseas suppliers
180 Tier-1 suppliers	**12.4%** of all reviewed suppliers	**1,272** Critical non-Tier-1 suppliers	**87.6%** Percentage of critical non-Tier-1 suppliers of total

To improve management efficiency, the Company has developed a dedicated ECP (E-commerce Platform). The platform integrates the supplier business work platform and data platform, online certification platform, and intelligent push platform, enabling the unified supplier management, standardized procurement categories, centralized expert management, electronic bidding and procurement, as well as automatic contract management. Through intelligent retrieval of supplier information and integrated information management, we realize centralized procurement. In addition, by utilizing a unified procurement platform, we have achieved centralized procurement achievements sharing within the Group. This has effectively reduced procurement pressures and greatly enhanced the efficiency of negotiations, real-time interactions, and decision-making in procurement, thereby improving procurement convenience, supply chain management efficiency, and regulatory compliance.

10-Fold
Efficiency increase of centrally procured items since the implementation of the unified procurement platform

Compared with traditional procurement methods,
the ordering lead time has been reduced from 30 days to
2.7 days for general goods,
from 30 days to **7 days** for non-nuclear industrial products,
and from 100 days to **7 days** for nuclear power spare parts.

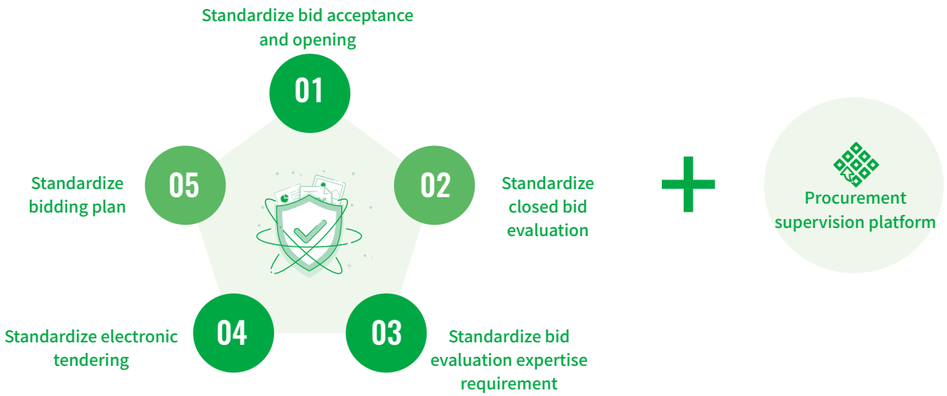
Case **Enhancing coordination and efficiency to reshape new edges of procurement**

During the peak period of equipment procurement for nuclear power projects under construction, CGN Engineering strengthened internal and external coordination and promoted integrated procurement, which effectively addressed the increasingly high demands for lean procurement management and labor shortages. It established a daily feedback and experience-sharing system to facilitate inter-departmental knowledge exchange. By implementing comprehensive measures covering source control, process management, and reward and punishment mechanisms, the company effectively tackled the procurement painpoints and the challenges posed by large procurement volumes.

Transparent procurement

Based on the principles of fairness, openness and justice, CGN Power adheres to transparent procurement and has formed the "Five Standardizations and One Supervision" mechanism. We unify the acceptance and opening of bids through the electronic platform and conduct completely closed bidding evaluation. Continuous efforts are also made to enhance transparency in procurement through measures such as improving systems, standardizing criteria, and unblocking feedback channels.

Five Standardizations and One Supervision



Disclosure rate of procurement prices

100%

The Company adheres to the principle of "full disclosure" and strictly complies with national laws, regulations, and industry policies on tendering and bidding. A series of standardized procurement documents are in place to eliminate unfair practices such as "hidden barriers in tendering and bidding". They also aim to ensure the full implementation of transparent procurement principles and significantly enhance the fairness and transparency of procurement transactions.

In addition, by establishing standardized procurement management categories, we integrate processes such as procurement planning management, centralized procurement management, and supplier management to fully advance procurement transparency. Targeted management measures are implemented to promote the standardization and centralization of procurement transactions, creating a more regulated and orderly trading environment for all supply chain partners engaging in our procurement projects.

We have set up the Supplier Service Hall that provides one-stop services for all partners on a public and equal basis, including registration verification, qualification review, complaint consultation, and task follow-up.

We disclose bidding and non-bidding procurement information on the ECP.

Some subsidiaries add a "Procurement Transparency" section on their internal websites, providing synchronized updates on the transaction results of all procurement projects, and ensuring consistent disclosure of project transaction amounts internally and externally.

By granting access to the procurement system to discipline inspection commission, inspection department, and audit department and other supervisory authorities, we strengthen oversight and effectively improve the standardization and transparency of procurement.

For publicly tendered procurement projects

- We act in strict accordance with the *Bidding Law and the Regulations on the Issuance of the Bidding Announcements and Publication Information and other relevant laws and regulations, and clarify the Bidding Announcements and Publicity Data Interface Specification*. The bid submission and opening, publication of procurement notices, and shortlisted candidates are launched on the electronic platform, and channels for objections and feedback are provided.

For non-tendered procurement projects

- With reference to the standards of publicly tendered procurement projects, we allow suppliers to voluntarily register the projects. Procurement notices and transaction results are published on the electronic platform following a unified procedure. An online mechanism for objections and feedback is established to accept social supervision.

Through the ECP, we provide more support for supply chain companies engaging in various trading activities. Leveraging third-party digital certification, the platform addresses confidentiality issues during procurement and ensures that biding documents are accessible simultaneously. It also breaks through traditional geographical limitations and has become our real-time interactive portal with partners, effectively reducing transaction costs and improving supply chain operational efficiency. Our accurate and timely release of procurement needs on the ECP guides market entities to optimize the allocation of production resources through electronic transactions and foster intelligent, collaborative development of the supply chain.

In 2024, **500+** suppliers proactively registered our procurement projects and became qualified suppliers in our database. We received feedback from **78** partners through dedicated collection channels, effectively mitigating risks arising from non-standard procurement management processes and unreasonable procurement outcomes.

Strict access

CGN Power attaches great importance to quality of suppliers and establishes a strict supplier review mechanism. Through document review, source review and other reviews, the technical, safety and quality assurance, and commercial personnel conduct qualification review on potential suppliers according to the four-tier procurement category. This approach strengthens the standardized, necessary, rational review of suppliers in the stage of supplier introduction. The review results are mutually evaluated and recognized within the Group. It achieved unified management and sharing of supplier resources, while ensuring that our suppliers are in compliance with laws, regulations and various requirements.

Document Review

We send qualification documents to suppliers and determine whether they are qualified for bidding and performing the contract according to their returning documents. The main review factors include supplier's basic qualification, relevant performance, SQE, technical level,and financial condition, etc.

Source Review

For suppliers that require source review, after passing the document review, source review will be conducted at the supplier's location as needed, including factors such as SQE, technology and business. According to the supplier's intended supply category, the corresponding review strategy is adopted and independent written opinions are issued.

Other Reviews

Due to the need of different businesses, subsidiaries can freely choose to engage with external agencies to assess, simplify the process or use other special methods. Each subsidiary has clearly stipulated the corresponding provisions in the detailed implementation rules.

During this Reporting Period, the Company conducted rigorous reviews of supplier introduction applications submitted by subsidiaries, rejected suppliers that clearly do not meet requirements, and eliminated untrustworthy or fraudulent suppliers.

Case **First training for bid evaluation facility managers**

In March 2024, CGN Power held the first training session for bid evaluation facility managers. The training topics covered interpretation of bid evaluation site management requirements, standardized operations of the bid evaluation process, risk prevention and control during the evaluation process, and emergency response mechanisms. Combining in-depth theoretical analysis with simulation exercises, it aimed to strengthen the compliance management of biding invitation and evaluation. We will provide more training programs to management personnel at all bid evaluation facilities.

In 2024,

2,297
Suppliers passed the qualification screening

109
Problematic suppliers were removed

Categorized Management

To meet its business needs, CGN Power has built a supplier classification system that adapts to a variety of management and statistical scenarios with dynamic maintenance, with detailed control measures continuously refined. Through the intelligent system, we are enabled to filter, organize, analyze and summarize supplier transaction data from multiple dimensions. Adhering to the principle of "equal rights and responsibilities", we improve the supplier qualification grading management strategy and optimize the supplier management module in the ECP system from supplier access to qualification maintenance, thus achieving precise supplier grading classification and efficient management.

Fulfilling capacity evaluation

To improve suppliers' capabilities for contract fulfillment, performance evaluations are conducted by CGN Power for all suppliers at least once a year. The evaluation encompasses seven dimensions, including technical competence, quality, cost, delivery, and service, as well as environmental conservation and social responsibility, aiming for a responsible supply chain.

All evaluation results are recorded and archived on the Supplier E-commerce Platform. All subsidiaries also conduct contract evaluations for suppliers on a regular basis to ensure a continuous record of evaluations throughout the contract execution cycle. For suppliers participating in operational maintenance and engineering construction of NPPs, a standardized performance evaluation system has been established, which is consistent with the Company's procurement strategy. To deepen long-term stable cooperation with high-quality suppliers, we provide preferential policies and incentives for partners who have been rated as "star suppliers" in terms of future cooperation opportunities, service fee reductions, and other aspects.

Honors

10 partners are rated as **"Five-Star Suppliers".**

20 partners are rated as **"Four-Star Suppliers".**

Withdrawal management

CGN Power has formulated the Supplier Misconduct Management Process to select and eliminate suppliers based on evaluation results, and has issued the lists of suppliers requiring special attention and blacklisted suppliers. Based on the supplier risk monitoring platform, the Company shares the misconduct of suppliers in real time within the Group, and punishes dishonest suppliers with China Electricity Council and China Nuclear Energy Association. Together, we work to build a credit and punishment pattern of "one misconduct behavior leading to restrictions in every aspect". For dishonest companies disclosed by industry associations, we monitor them through measures such as observation, warnings and registration interception.

Removing suppliers without cooperation needs.

The supplier qualification is valid for 3 years. Evaluations on cooperation needs will be carried out regularly based on the procurement strategy of different categories. The supplier will not be reviewed without cooperation needs, and will eventually withdraw.

Eliminating suppliers with poorer performance

Based on the procurement strategy of different categories, on the premise of meeting the competitive demand, suppliers with the poorest performance will be eliminated according to the supplier evaluation results.

Removing suppliers with serious misconduct

Suppliers with serious misconduct or major business risks will be blacklisted after being reviewed and publicized, and their qualification will be automatically cancelled.

Prohibiting suppliers under special situations

Suppliers that are punished or restricted by regulatory authorities, blacklisted by relevant government authorities or other departments, and included in the joint punishment list as well as those violating relevant political standards or with invalid or expired special qualification certificates will be prohibited within the Group.

During this Reporting Period

162	72	651	12
Incidents of supplier misconduct[28] dealt with	Suppliers were listed on the Company-level blacklist	Suppliers were removed	Severely untrustworthy enterprises reported to industry associations for joint punishment

[28] It mainly refers to non-compliant suppliers regarding contractual performance.

ESG risk management for supplier

CGN Power makes continuous efforts to reinforce its sustainability management capability in the supply chain by incorporating factors such as quality, environmental protection, and business ethics into supplier management system and screening process. Throughout all stages of cooperation, from qualification review and tendering and bid evaluation to contract execution, supplier evaluation, and spare parts management, we ensure that our suppliers fulfill their environmental responsibilities. In doing so, we effectively convey environmental concepts along the value supply chain and help our industry partners accelerate their transformation towards sustainable development.

Qualification Reviews

ESG-related requirements are embedded into the standardized contract templates and adopted across the Company. Environmental factors and green attributes of suppliers are incorporated into the qualification reviews. In the tender document, we require bidders to include green nuclear power elements in the submitted technical proposals. Design proposals, raw material selection, subcontractor selection, manufacturing processes, packaging, recycling and other aspects that can embody green elements are included in the scoring criteria.

Contract Execution

We have signed contracts with suppliers that require them to conduct green operation in compliance with relevant laws and regulations. Suppliers are required to operate in accordance with of ISO 14001 and other the relevant standards, keeping the consumption of materials and resources under control, minimizing waste generation and using environmentally friendly processes to improve recycling efficiency. They are also encouraged to make full use of green water sources such as rainwater, reclaimed water, and condensation water for both construction and domestic use, and to implement water-saving measures to reduce unnecessary consumption and minimize the impact on the environment throughout the operational process. During the Reporting Period, we enhanced our routine oversight of supplier misconduct by monthly evaluations of any unsatisfactory behavior in product and service quality, safety, environmental protection, human rights, and anti-corruption, with corrective actions in place to ensure issues are resolved.

Engineering Construction

We strictly follow the principle of green construction. To that end, we have formulated and implemented the *CGN Engineering Green Industrial Chain Management Rules*. It requires each business center and project department to designate responsible units for implementing green industry chain initiatives, assign dedicated personnel to drive the effective implementation of the management rules, and integrate green industry chain management requirements into departmental procedures and policies. These efforts will contribute to the standardized and procedural green industry chain management, especially in engineering construction.

CGN Power strictly complies with the *Regulations on Guaranteeing Payment to SMEs and Regulations on Guaranteeing Wages Payment to Migrant Workers*. Upholding a strong contractual spirit and strict performance, we provide channels for partners to file complaints on overdue payments, outstanding debts, or unpaid wages, and take concrete actions to verify and resolve such issues. During the Reporting Period, we reinforced the financial security of the supply chain and innovated the supply chain finance model, protecting our partners' legal rights and interests. These initiatives have garnered high recognition from our partners and further solidified our partnerships in the supply chain.

Improving the Debt Clearance Mechanism

We set up dedicated complaint channels for overdue payments and unpaid wages, and incorporate these channels into our standard contract templates. We regularly inspect outstanding accounts receivables, and for any identified arrears, we develop repayment plans on a case-by-case basis. Responsibilities, resolution methods, and deadlines are clearly defined and tracked daily by dedicated personnel until all issues are resolved. The causes and responsibilities for such issues will be investigated and analyzed. Periodic reviews of cleared debts also ensure proper repayment.

Building a Supply Chain Finance Platform

Addressing the challenges of financing accessibility and affordability for SMEs, we have launched financial products such as bid guarantee insurance and contract performance guarantee insurance. These products diversify the methods of deposit payment and help alleviate financial pressures for SMEs. To date, we have processed over 5,000 supply chain finance transactions for more than 1,000 partners, cumulatively releasing guarantee deposits exceeding two billion yuan and significantly reducing partners' financing costs by nearly one million yuan. Notably, 78% of the beneficiaries are SMEs, effectively easing cash flow constraints and reducing the high costs of issuing guarantee letters.

Case Quality and integrity risk management training for suppliers

In March 2024, to improve overall risk identification and control capabilities, CGN Power organized the second "Lecture on Safety, Quality, and Environment" in 2024, a specific training session for quality and integrity risk (anti-counterfeiting) management. A total of 389 participants from 102 suppliers participated online. The training emphasized the establishment of robust anti-counterfeiting mechanisms to enhance suppliers' performance and build strong supplier relationships.

Case Making joint efforts to promote integrity

In February 2024, CGN Engineering organized 14 integrity activities to regulate its business exchanges with over 30 contractors and suppliers, covering more than 400 managers and employees. These activities focused on experience sharing, integrity culture, and extension of the "Integrated Supervision" system, thereby preventing integrity risks and building a transparent and upright nuclear power industry ecosystem.

Case Enhancing supply chain resilience through management innovation

In light of increasing external risks in the nuclear power equipment industrial chain, CGN Engineering cemented the foundation, bridged technological gaps, strengthened integration, and promoted restructuring to reinforce the decisions and arrangements of industrial system. These systematic and targeted measures have significantly enhanced supply chain resilience and safety. The Company also focused on risk management. It summarized best practices and submitted a case study titled "Promoting Innovation in Nuclear Power Supply and Industrial Chain Management and Enhancing Resilience and Safety". This case study provided specific policy recommendations for future development of nuclear power equipment industrial chain, receiving high praise from industry experts. It was selected as one of the "2024 National Typical Cases for Supply Chain Innovation and Application", making it the only enterprise in the nuclear power industry to receive such recognition.

Supplier capability improvement

CGN Power proactively empowers its suppliers by continuously advancing supply chain capability development. We encourage suppliers to improve their management practices, product quality, and ESG performance in areas such as environmental protection and occupational health and safety. We engage suppliers in the experience sharing and provide precise, and effective resource support to establish long-term collaborative mechanisms with our strategic partners, thus ensuring the quality, safety, and efficiency of the supply chain.

Providing regular supplier training

- Through multiple channels such as ECP and supplier conferences, we regularly provide training for suppliers, including corporate culture, supplier management, ECP implementation, CA application, procurement and bidding management, etc., with an aim to help suppliers understand the Company's requirements and culture,improve the quality of supply services, equipment and construction, and improve cooperation efficiency.

Promoting the "quality coordination mechanism"

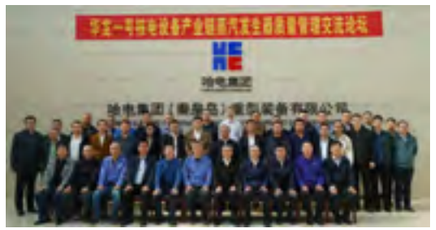
- In response to the current situation of numerous enterprises and uneven quality management levels in the nuclear power equipment industry chain, we actively promote the "quality coordination mechanism" of the equipment supply chain in bidding and procurement management, and strengthen the process control of equipment manufacturing quality, in a bid to build a win-win industrial chain ecological cycle.
- In the field of nuclear power engineering construction, through experience feedback platform, we timely feedback equipment problems during nuclear power engineering construction to similar equipment suppliers, and facilitate the effective implementation of experience feedback on nuclear power equipment quality along the supply chain.
- In the field of nuclear operation, each subsidiary has established a supplier management committee to promptly report safety and quality issues such as on-site operation and maintenance to suppliers, and track their implementation.

Focusing on cultivating core suppliers

- We strengthen cooperation with first-time home-grown equipment suppliers as well as construction and installation contractors by assigning full-time personnel, quality monitoring and business exchanges and other means. Besides, we provide training for suppliers to raise their quality awareness, and guide suppliers to improve their quality management capabilities for subcontractors. The Company has dispatched quality assurance experts to multiple partners, with more than 130 person per month stationed at the factory.
- CGN Power has set up the CGN Joint R&D Center for the Domestication of Nuclear Power Equipment, and established supply chain cooperation with more than 70 domestic nuclear power equipment manufacturing and R&D organizations. The center holds regular exchange meetings on the improvement of localization capacity, and builds an industrial chain of nuclear power equipment, improving the overall equipment manufacturing of China's nuclear power industry.

Case Holding forum on key equipment quality management

Steam generators are critical to the safe operation of nuclear power plants. In October 2024, CGN Power, in collaboration with Harbin Electric Group (Qinhuangdao) Heavy Equipment Co., Ltd., held an exchange forum on the steam generators quality management of HPR 1000 nuclear power equipment industrial chain. Participants discussed quality management improvement measures, exchanged feedback on typical quality issues and best practices, and shared successful experience in quality management and advanced manufacturing processes. The forum produced several recommendations aimed at further enhancing the quality of steam generators.



Case The 8th safety and quality manager training and certification in the construction industrial chain

In June 2024, CGN Engineering conducted the 8th "Training and Certification for Safety and Quality Managers in the Construction Industrial Chain". 44 key personnel in the safety and quality management lines from 15 construction units participated. Multiple experts were invited to give lectures in the training session. The selected courses and cases were closely aligned with on-site realities, combining in-depth theoretical instruction with case studies, effectively addressing key challenges. Since its launch in 2018, the training program has certified 321 individuals over eight sessions.

Multi-Party Cooperation

CGN Power always adheres to the principles of openness and cooperation. By strengthening communication and collaboration with government agencies, industry partners, various enterprises, and higher education institutions, the Company has built a deep, high-level network of cooperative relationships that injects strong momentum into the high-quality development of the energy sector and fosters a mutually beneficial, win–win situation.

Case Promoting in-depth and substantial cooperation in civil nuclear energy

On the occasion of the 60th anniversary of the establishment of diplomatic relations between China and France, the sixth meeting of the China–France Business Council was held at the Théâtre Marigny in Paris. Yang Changli, Chairman of CGN Power, attended the event and signed a Memorandum of Understanding on Deepening Cooperation in the Nuclear Energy Sector with Chairman and CEO of Électricité de France (EDF). The signing of this MOU further deepens and broadens the scope of cooperation and is significant to the development of civil nuclear energy in both countries and for the business growth of both companies. As key participants in China–France civil nuclear cooperation, both parties will further expand collaboration in nuclear power engineering construction, talent development, EPR units operation, and leadership training in nuclear power operations, thereby achieving mutual development.

Case Joining hands to cultivate talent in the nuclear power industry

In April 2024, CNPRI signed a talent development cooperation agreement with Dongfang Electric (Guangzhou) Heavy Machinery Co., Ltd. The two parties will jointly promote cooperation in talent cultivation, facilitating the exchange and integration of knowledge, skills, and experience in areas such as R&D, design, and manufacturing processes among young employees, key talents, and experts. This will enhance the skilled quality and collaborative capabilities of employees on both sides and enable higher-quality R&D, design, and manufacturing of critical nuclear power equipment.

Case Deepening technical exchanges

In February 2024, Director of International Relations at the French Alternative Energies and Atomic Energy Commission (CEA), visited the CNPRI. Both parties held the 6th Steering Committee Meeting of the CNPRI–CEA Joint R&D Platform. They thoroughly discussed and exchanged views, and clarified work plans in professional cooperation areas such as research reactors and experimental test rigs. This meeting will promote existing cooperation projects, expand the scope of collaboration, and strengthen the partnership.

Common Prosperity in the Industry

CGN Power is committed to demonstrating its leadership in the nuclear power industry chain. Through various channels such as participation in industry standards development, formation of consortia, alignment with international cutting-edge practices, and innovative promotion of industry technologies, we effectively advance the progress of the industry and contribute to the overall advancement of the nuclear power sector.

Leading the Improvement of Home-grown Equipment

In collaboration with supply chain partners, we build large-scale casting and forging manufacturing bases and nuclear power equipment manufacturing bases to enable stable manufacturing and complete supply of critical nuclear power equipment. We have essentially established a comprehensive nuclear power equipment supply chain that meets the needs of large-scale nuclear power construction.

Building Exceptional Construction and Operation Capabilities

We work with multiple partners to tackle key scientific research challenges and master key construction technologies, enabling the simultaneous construction of over 30 nuclear power units. This has created an orderly competitive landscape among domestic construction and installation contractors. Furthermore, through practical cooperation with several energy groups, we continually enhance the management and technological capabilities for major outages and refueling of nuclear power units.

Facilitating the Integration of Key Technological Resources

By collaborating with domestic research institutes and leveraging top-tier technology resources in the supply chain, we have established the first technological innovation consortium in the domestic nuclear power operations and maintenance industry, successfully achieving R&D for over 20 key indigenous projects.

Case Consolidating high-quality cooperation for a shared future in the nuclear energy

In May 2024, the Guangdong Nuclear Energy High-Quality Development Conference was held in Guangzhou. Yang Changli, Chairman of CGN Power, read the *Initiative of Guangdong Nuclear Energy Industry Alliance* at the conference, urging industry partners to unite for harmonious development and jointly build a nuclear energy ecosystem. At the meeting, the "Guangdong Nuclear Energy Industry Alliance" was officially established. It will continue to strengthen deep collaborative construction across equipment, construction, and operations sectors and intensify industrial layout efforts. The conference attracted representatives from municipal governments and provincial-level administrative departments of Guangzhou, Shenzhen, Huizhou, Shanwei, and other cities, as well as about 500 representatives from over 160 nuclear energy supply chain enterprises.

Case Building up a cradle for advanced original nuclear power technologies

In November 2024, the Advanced Original Nuclear Power Technology Cradle Promotion Conference, hosted by CGN Power, was held in Shenzhen. With the theme "Gathering the Strength of Original Technology, Building a Dream of Strong Nuclear Sector, and Accelerating the Development of New Nuclear Power Productive Forces", the conference attracted over 70 government agencies, central SOEs, higher education institutions, research institutes, and private companies. At the conference, progress on the construction of the cradle for advanced original nuclear power technology was reported. In line with the scheduled tasks, the Company signed joint R&D contracts or agreements with representatives from 30 cooperative units, further reinforcing the synergy of technological innovation.

Case Collaborating with industry partners to foster nuclear safety culture

In October 2024, CGN Engineering hosted the "Annual Conference of CGN Joint R&D Center for the Domestication of Nuclear Power Equipment and the Nuclear Safety Culture Knowledge Competition of HPR 1000 Nuclear Power Equipment Industrial Chain" in Shanghai. Approximately 180 representatives from regulatory bodies, China Nuclear Energy Association, and over 50 enterprises in the nuclear power equipment industrial chain participated. The conference, themed "Fostering Nuclear Safety Culture Together and Seeking High-Quality Development", focused on solidifying the foundation, bridging technological gaps, strengthening integration, and optimizing restructuring. Outstanding cooperative units and individuals who excelled in the nuclear safety culture knowledge competition were recognized and awarded.

Striving for Interconnection and Integration for a Shared Future

Opportunities and Challenges

As a responsible company, we are well aware that in the pursuit of sustainable development, we should not only strive to reduce the damage to the natural environment, but also give back to the community for a better community. This sound interaction will feed back companies with greater development space. For nuclear power companies, a sound community relationship management brings both challenges and opportunities.

Strategies and Decisions

In line with the 3N community development concept of "safe, friendly and warm neighbor", CGN Power works to maintain open and transparent communication with the public, achieve shared development with the community where the project is located, and share development fruits with local residents. Meanwhile, in active response to the national strategy of rural vitalization, we leverage our own advantages to facilitate rural prosperity and development.

Our goals

- Maintain transparent information communication to enhance public understanding and trust in nuclear power
- Enhance the Company's participation in public welfare and social cooperation and support the socio-economic development of the community to improve the life quality of local residents

Progress in 2024

- 230,000 public visits to the nuclear power science exhibition hall, and 80,000+ teachers and students participated offline in "popularization of nuclear science in schools" campaign
- 18.60 million yuan invested in targeted pro bono assistance funds, and 11 central government designated assistance projects implemented in 2024

Community Communication

CGN Power continuously explores and improves transparent communication channels to strive for open and transparent operations. We also develop new communication methods for a closer communication and interaction with the community. This approach will fully guarantee the community residents' right to know, and enhance the public's understanding of and trust in the nuclear power operation.

Improving communication channels

The public support is a cornerstone for the development of nuclear power. With the philosophy of "building a project, driving the local economy, and benefiting the people", the Company engages public communication at all stages of nuclear power projects, from planning, design, engineering construction, to production operation. In this way, we strive to strengthen information disclosure and public participation, and safeguard the public's right to know, participate, and supervise. In 2024, we launched China's first nuclear power industry tourism reservation system, aiming to further enhance our management of public transparency. All NPPs received widespread public attention and enthusiastic response.

Whole-Process Transparent Communication Mechanism

Planning and design stage

Establishing a communication and coordination mechanism. We strengthen communication with government departments, neighboring residents and other stakeholders, balance the demands and expectations of all parties, and improve the transparency of project planning and design. We also timely communicate with the public and invite the public to participate in environmental impact assessment, publicly disclose project-related information, environmental impact, and safety distance, and invite surrounding residents to participate in activities such as questionnaire surveys, open experience days, and seminars.

Protecting the legitimate rights of residents. In partnership with the government, neighborhood committees (village committees), etc., we jointly publicize the national nuclear energy development strategies, nuclear power science knowledge, and compensation policies for land acquisition. Meanwhile, we actively get an understanding of the actual needs of the local residents, and moderately adjust the project planning and design scheme, fully respecting and safeguarding the legitimate rights of community residents. All important processes of the project are publicized.

Engineering construction stage

Strengthening the transparent management of core demands. With regard to the core demands of the public, such as zero radiation, zero noise pollution, zero safety accidents, zero negative impact on the living environment, etc., we have strengthened the transparency management during the construction phase. We also publicly disclose information on safety management measures and the impact of the radiation environment during the construction of the project, so as to eliminate public doubts and smoothly implement the project.

Inviting the public to visit the construction site. Publicity on the environmental impact of NPPs, green construction standards, policies and regulations is carried out on a regular basis. Information related to construction is made public at every important point of construction. In addition, we invite residents in the surrounding areas to visit the construction site to experience the safe and civilized construction, and the green construction standards and processes.

Production and operation stage

Publicizing safety information. A public platform for nuclear safety information of the operating companies we manage is set up so that the public can access information and event details on capacity factors, radiation protection, industrial safety, control over waste gas, wastewater, and solid waste, and environmental monitoring of NPPs at any time. The incidents that occur after the loading of nuclear power units should be promptly disclosed according to relevant regulations. This move fully safeguards the public's right to know about the operation of nuclear power units. Among them, the "Nuclear and Radiation Safety Information" public platform of Daya Bay NPP is the first platform of China's operating nuclear power plants dedicated to disclosing to the information on the operational safety of NPPs.

Unblocking communication channels. Each nuclear power site we manage has established a dedicated webpage and official WeChat and other social media platforms to proactively disclose information about our NPPs to the public. By means of regular press conferences, interviews and visits, open day campaigns, and release of publications, relevant information about NPPs is promptly reported to the competent authorities and media, and social consultations are received through telephone, fax, and email, etc. We regularly hold "Public Experience Day" campaigns, receive regular public visits to nuclear power sites, open nuclear power science popularization exhibition halls to the public, and launch various forms of science popularization activities in the community, thus enhancing the public's rational knowledge about nuclear energy.

5
Press conferences/media briefings held

19
Permanent science exhibition halls

230,000
Public visits

150
Schools involved in the "popularization of nuclear science in schools" campaign

80,000+
Participants (including teachers and students)

Maintaining community relationships

CGN Power is committed to establishing positive and interactive relationships with communities based on transparent communication. We continuously innovate in communication channels and methods to track and respond to the public's concerns, such as cultural exchanges, science popularization classes, public experience days, and other forms. Nuclear power science exhibition halls are putting in place at all nuclear power sites and surrounding cities to enable the public to understand the history of nuclear power development, and enhance their awareness of nuclear safety, low-carbon initiatives and environmental protection in a variety of interesting forms. At the same time, we continue the "popularization of nuclear science in schools" campaign to popularize nuclear power knowledge and earn higher public recognition and support for the nuclear energy industry.

Case CGN Power's Public Experience Day held at Ningde Nuclear Power Site

In August 2024, CGN Power's "8·7 Public Experience Day " was held at the Ningde Nuclear Power Site. The theme of this event was "Exploring a Green Future in a Nuclear Tour", focusing on the release of a series of achievements in the nuclear power industry tourism and conducting exchanges and discussions. 100 participants from various industries nationwide were invited to visit nuclear power sites of CGN Power, experiencing the charm of nuclear power technology and the nuclear power industry tourism.

Case Yangjiang Nuclear · Yangjiang Hailing Island Marathon successfully held

In December 2024, the 2024 Yangjiang Nuclear·Yangjiang Hailing Island Marathon was started with a gunshot at the Luozhou Seaside Park on Hailing Island. The event attracted over 10,000 participants. To highlight the unique nuclear power elements, Yangjiang Nuclear set up a nearly 100 m^2 nuclear power science popularization exhibition in Luozhou Park. Online and offline interactive activities popularized the principles of nuclear power generation and ecological nuclear power construction to tourists and participants. Many contestants and the public were attracted and took photos to record exciting moments.

Case Members of the Hong Kong Security Bureau Youth Uniformed Group Leaders Forum visit Daya Bay Nuclear Power Site

In May 2024, 26 members of the Hong Kong Security Bureau Youth Uniformed Group Leaders Forum visited the Daya Bay Nuclear Power Site to learn about the basic knowledge and development history of nuclear power. At the Daya Bay Nuclear Science and Technology Museum, members visited the model of the "Hualong One" nuclear power unit model and learned about the basic principles and composition of nuclear power plants. This visit enabled everyone to gain a more comprehensive understanding of the green, clean, and safe nuclear power, as well as a deeper understanding of its important role in facilitating energy transition and sustainable development.

Case Taishan Nuclear's public communication in Macao in line with the principle of "giving the public sincerity, confidence, and reassurance"

Since 2016, in line with the principle of "giving the public sincerity, confidence, and reassurance", Taishan Nuclear has invited the public to visit the nuclear power site. The site transparently presents the NPP management, technology, culture, and nuclear emergency and radiation environment concerned by the Macao residents to the visitors and answers their questions. In 2024, Taishan Nuclear's public communication in macao in line with the principle of "giving the public sincerity, confidence, and reassurance" was selected as a typical case of public transparency of power enterprises.

Driving Development

CGN Power actively plays a leading role to better integrate with local communities. We energize the local economic and social development through close cooperation with local communities. In response to the rural vitalization strategy, we also drive rural economic diversification through multiple assistance measures, providing strong support for the sustainable development of surrounding communities and the implementation of rural vitalization strategies.

Driving community development

Upholding the vision of "building a project, driving the local economy, and benefiting the people", we attract industrial investment, create jobs, and contribute to local tax revenue. Our efforts have further driven the prosperity of the local economy.

Promoting local employment

- We carry out strategic cooperation with local governments and communities, and provide job opportunities for community residents in accordance with project needs, striving to increase the proportion of local workers. This will effectively drive the development of local economy and the prosperity of communities.
- Taishan Nuclear organizes cooperative units to carry out joint recruitment in accordance with the job characteristics and the actual situation of villagers. Besides, it offers pre-employment job skills training. In doing so, unemployment challenges for a significant number of job seekers has effectively addressed . By the end of 2024, more than 1,400 people with registered residence in Jiangmen City were employed by Taishan Nuclear.

Improving infrastructure

- While providing clean energy to local communities, the Company also strives to improve community infrastructure conditions, and better the living environment and health of neighboring residents. Together with local people, we hope to share and build a better home.
- To create a harmonious and inclusive community environment, Hongyanhe Nuclear actively participates in community investment. It conducts in-depth research on the surrounding schools and helps improve the quality of the buildings of the Central Kindergarten in Hongyanhe Town. Besides, it replaces the school gate and renovates the cafeteria for Liaohe Hope Primary School.

Carrying out cultural integration

- We actively promote the integration with local communities. A series of cultural activities are offered in local communities, building communication bridges between our employees and community residents. They also enhance the cultural atmosphere of the community, and foster harmonious coexistence between CGN Power and local communities.
- CGNRI organizes themed activities to interact with surrounding communities of Daya Bay Nuclear Power Site through popular methods such as distributing brochures, holding knowledge quizzes, and writing keywords. Such initiatives further integrate socialist core values into the public, strengthen community engagement, and build stakeholder confidence.
- Taishan Nuclear has collaborated with the local association for science and technology and the education bureau to organize a youth science and technology innovation competition for seven consecutive years. In 2024, over 600 primary and secondary school students participated in a nuclear power painting project, using their paintbrushes to showcase their understanding and identification with nuclear energy.

Case Hongyanhe Nuclear helps fill out college application

Due to the limited access to information for candidates and parents in villages and towns around Hongyanhe Nuclear Site, their understanding of application policies, colleges and majors, and future employment prospects is limited. Therefore, filling out college application has become a key concern of them. In response, Hongyanhe Nuclear has invited teachers from the Grade 3 of Dalian No.12 Middle School to provide one-on-one consultation services at Hongyanhe Hope Middle School , offering professional, scientific, and reasonable filling advice. Since 2018, Hongyanhe Nuclear has been assisting nearby candidates in college application for seven consecutive years.

Case CGNRI launches the "First Aid Education in Schools" campaign

In September 2024, CGNRI organized the "First Aid Education in Schools" campaign to share professional first aid knowledge to teachers and students at Banhong Primary School in Leye County, Baise City, Guangxi. The company offered tailored training courses, covering cardiopulmonary resuscitation (CPR), the Heimlich maneuver, and wound dressing, etc.Through this initiative, the participants not only acquired vital first aid skills, but also effectively improved their safety awareness and self-protection capability.

Case Lufeng Nuclear's "Recruitment Month in Golden Autumn" helps local employment

In October 2024, the Lufeng Municipal Human Resources and Social Security Bureau held a job fair themed "2024 Recruitment Month in Golden Autumn". In response, Lufeng Nuclear organized multiple cooperative partners to participate in the event. A total of more than 30 positions were provided, with a demand of nearly 100 people, covering multiple occupations such as document clerks, warehouse keepers, and laboratory technicians. The job fair was met with enthusiastic participation, and staff from Lufeng Nuclear patiently addressed job seekers' inquiries while actively improving public understanding of nuclear energy. The event attracted over 300 candidates, resulting in 98 preliminary employment agreements.

Contributing to Rural Vitalization

In response to the strategic decisions of the CPC Central Committee and the State Council on rural vitalization and targeted assistance initiatives, CGN Power makes sustained efforts in industry development and educational support to imprudently advance the Hundreds-Thousands Ten-Thousand Initiative with tangible outcomes, comprehensively supporting rural vitalization.

Lingyun and Leye counties of Baise City in Guangxi Zhuang Autonomous Region

Increasing industrial support

In Lingyun County, we help construct village-level photovoltaic power plants based on local conditions. Through innovative models such as "leadership of townships, construction of single villages, and sharing among villages", we help disadvantaged villages increase their "solar-based income" in a targeted manner. Focusing on rural drinking water security, we adopt the independent technology of electro oxidation ultrafiltration membrane to assist in the construction of two water purification plants in Xinhua Town and Youping Township of Leye County, benefiting about 10,000 people.

Strengthening educational support

In Lingyun and Leye counties, CGN Power has set up 20 "Egret Classes". The 2024 college entrance examination admission rate of the "Egret Class" of Grade 3 reached 100%. We continuously promote the "Rainbow Plan", with a total of 37 volunteers participating in volunteer teaching. Besides, 83 caring Party branches carry out paired assistance. The Leye Windmills and Flowers Energy Science Popularization Museum is built, creating a new brand of high-quality science popularization and research for students in mountainous areas.

Selecting excellent officials to provide paired assistance

In 2024, two temporary deputy county chiefs and two first village secretaries were dispatched to Lingyun and Leye counties. To strengthen the supervision and assessment of temporary officials, we signed contracts for assistance initiative performance, and implemented monthly tracking, bimonthly reporting, and semi-annual summary work mechanisms. In such way, officials were motivated to assume responsibility and contribute to local development.

Dongping Town, Yangjiang City, Guangdong Province

Promoting the construction of typical towns and villages

We actively implement the Hundreds-Thousands Ten-Thousand Initiative in Yangjiang City. Ten key initiatives across four strategic areas--infrastructure, living environment, income generation, and industrial development—are put in place to build a beautiful Weizhen in Dongping Town. We also invest more than 8 million yuan in the comprehensive living environment improvement and landscape enhancement action in Yunbo Village.

Developing local industries to enrich the residents

We assist the Yunbo Village collective enterprise in scientific operation and business expansion, achieving a revenue of over 1.3 million yuan. We also facilitate the construction of industrial projects such as seafood processing, "Beautiful Villages", and agricultural specialty product exhibition halls, and help village (fishing) committees obtain relevant income of more than 400,000 yuan. Two village companies are set up with our help, increasing the income of relevant villages (fishing) collectives in Dongping Town through consumption-based assistance and assisting related companies in undertaking business.

Providing talent training and teaching and scholarship

We carry out skill training for "Guangdong Skilled Workers", "Southern Guangdong Housekeeping", "Cantonese Cuisine Masters", etc., and train 210 village (fishing, residential) residents. We also establish the "Yangjiang Nuclear Power Teaching and Learning Scholarship" in primary and secondary schools in Dongping Town to reward teachers and students with excellent academic performance every academic year. Besides, the "Yangjiang Nuclear Power Eagle Scholarship" in Yunbo Village is established to recognize outstanding students who have been admitted to higher education institutions and key high schools.

Yujing Village, Xiamen Township, Fuding City, Fujian Province

Fostering cooperation between enterprises and the local

We actively support the development of tourism economy, and cooperate with surrounding villages and towns to develop nuclear power industry tourism. We help Yujing Village become a key rural tourism village in China. We assist in upgrading the infrastructure of villages and towns surrounding nuclear power plants, and expedite the integrated development of enterprises and the local. Science popularization stations are established, and science popularization ambassadors are hired to carry out public welfare science popularization in conjunction with rural vitalization.

Carrying out charitable live streaming to help farmers

Ningde Nuclear, in collaboration with local tea companies, launched a special live streaming about the white tea in Yujing Village, Xiamen Township, Fuding City to assist farmers. Through live streaming sales, the event aims to support rural vitalization and increase farmers' income. The live streaming lasted for 4 hours, with over 35,000 viewers and a turnover of 54,000 yuan.

Honors

The case of "dreams set sail from here, three thousand 'White Egrets' fly out of the mountains" was selected as **an excellent case in the Blue Book of Central State-owned Enterprises Supporting Rural Vitalization (2023)**

18.60 million yuan invested in targeted pro bono assistance funds,

and **11** central government designated assistance projects implemented in 2024

Charity

CGN Power actively participates in charity activities, spreads the concept of green and low-carbon living, supports local education development, and pays attention to vulnerable groups in the community. We strive to convey warmth to society, and help build a better and harmonious society.

5,497
Volunteers

341 times
Participation in charity activities

10,900 hours
Volunteer service and social welfare activities

28.63 million yuan
Donated totally

Caring for vulnerable groups

We care for the elderly, people in need and other vulnerable groups, continuously pay attention to their concerns and needs, and organize employees to offer volunteer services and education assistance, jointly creating a social atmosphere of care and mutual support.

Case DNMC visits the elderly in surrounding communities

To honor the Chinese tradition of respecting the elderly and caring for the young, DNMC regularly organizes community visits, delivering warmth and support to senior residents. In 2024, the company conducted 10 visits, benefiting approximately 900 residents across 2 communities and 3 villages. In addition, we upgraded facilities for the community elderly association, including replacing auditorium furniture and installing air conditioning in activity rooms, significantly improving the living standards of local elderly populations.

Supporting education

Keeping education in mind, we carry out a number of activities to support the educational development in the community, and actively help local communities improve their education.

Case CGN Operations launches educational support program

In April 2024, CGN Operations volunteers visited Lanjin Primary School in Sicheng Town, Lingyun County to enrich students' extracurricular life, broaden their horizons and enhance their awareness of exploring knowledge. The program included book donations, nuclear science popularization courses, kite painting, and sports activities. The engaging classroom sessions and interactive games led by volunteers, increased children's understanding of nuclear power, enriched their extracurricular experiences and inspired a spirit of perseverance and ambition .

Spreading green concept

To protect the community environment, we organize green and low-carbon awareness campaigns around global events like World Environment Day and Tree-planting Day. We also offer environmental volunteer services and science outreach programs to engage employees and the public in learning environmental protection knowledge and practicing the concept.

Case CGNRI initiates "Lighthouse Navigation" science popularization project

CGNRI promotes the vision of "lucid waters and lush mountains are invaluable assets" through its "Lighthouse Navigation" - Science Popularization for the Future Project with the theme of "Nuclear Energy for a Sustainable Future". Leveraging our own advantages, we engage communities and schools with voluntary activities, such as science popularization of clean energy, and "China's 30·60 Decarbonization Goal" strategy, spreading the concept of green life and clean energy knowledge.

Organizing blood donation

As a responsible central state-owned enterprise, we organize multiple blood donation, demonstrating the compassion and commitment of the nuclear power community.

Case **Yangjiang Nuclear holds a blood donation campaign**

In June 2024, on the occasion of the 20th "World Blood Donor Day", Yangjiang Nuclear carried out a blood donation campaign under the theme "Every Drop Counts, Life Continues," embodying the Red Cross spirit of "Humanity, Fraternity and Dedication". The initiative received overwhelming support from employees and their families. Since 2018, Yangjiang Nuclear employees and partners have donated more than 100,000 ml of blood.

Case **A new employee of SNPI donates hematopoietic stem cells, saving 6-year-old patient**

In December 2024, Liu Ruizhang, a 2024 new employee of SNPI, successfully donated 120ml of hematopoietic stem cells after a 3-hour procedure at Shenzhen People's Hospital. His donation saved the life of a six-year-old patient with rare blood diseases, making him Shenzhen's the 797th hematopoietic stem cell donor.

Independent Assurance Report

Ernst & Young Hua Ming LLP
Level 17, Ernst & Young Tower
Oriental Plaza 1 East Chang An Avenue
Dongcheng District
Beijing, China 100738

安永华明会计师事务所（特殊普通合伙）
中国北京市东城区东长安街 1 号
东方广场安永大楼 17 层
邮政编码: 100738

Tel 电话：+86 10 5815 3000
Fax 传真：+86 10 8518 8298
ey.com

China General Nuclear Power Co., Ltd.

2024 Environmental, Social and Governance Report

Independent Assurance Report

安永华明（2025）专字第 70017657_H01 号

To the Board of China General Nuclear Power Corporation:

I. Scope of Our Engagement

The 2024 Environmental, Social and Governance Report (the "ESG Report") of China General Nuclear Power Co., Ltd. (the "Company") has been prepared by the Company, Management of the Company (the "Management") is responsible for the collection and presentation of information within the Appendix C2 *Environmental, Social and Governance Reporting Code("ESG Code") of the Rules Governing the Listing of Securities("Listing Rules")* on the Stock Exchange of Hong Kong Limited("HKEx"), as well as the *" Self-Regulatory Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange—Sustainability Report (For Trial Implementation)" ("Guidelines")* and the *" Self-Regulatory Guidance No. 3 for Companies Listed on Shenzhen Stock Exchange—Preparation of Sustainability Report " ("Guidance")* of the Shenzhen Stock Exchange ("SZSE"), and *Guidelines No. 1 for Self-Regulation of Listed Companies-Standardized Operation of Companies Listed on the Main Board("Standard Operation of Main Board Listed Companies")*, the *"Self-Regulation Guide No. 1 for Listed Companies - Business Processing"("Business Processing")* and the *"Self-Regulation Guidance No. 3 for Listed Companies - Industry Information Disclosure" ("Industry Information Disclosure")* of the SZSE, and for maintaining adequate records and internal controls that are designed to support the ESG reporting process.

Our responsibility is to carry out limited assurance procedures in accordance with the *International Standard on Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000 (Revised)')* issued by the International Federation of Accountants and issue the assurance statement for the key performance information in the ESG Report for the year ended 31 December 2024 in accordance with the Management's instructions and the terms of the Engagement Letter signed in March 2025.

According to the terms of the Engagement Letter, the Assurance Report is only addressed to the Board of the Company. Our work was limited to these stated above and our report is made solely to the Board, as a body, and for no other purpose. We do not therefore accept or assume any responsibility for any other purpose or any other person or organization. Any reliance any such third party may place on the ESG Report is entirely as its own risk.

II. Work Performed

Our review has been planned and performed in accordance with ISAE3000. In order to form our conclusions, we carried out the following procedures:

According to the Management's instructions, we performed limited assurance procedures in:

- China General Nuclear Power Co., Ltd. Headquarters
- Taishan Nuclear Power Joint Venture Co., Ltd.

We did not perform limited assurance procedures on other sites.

The limited assurance procedures were performed over the following key performance indicators in the ESG Report for the year ended 31 December 2024:

Safety

- Nuclear incidents of level-2 or above
- Ratio of units achieving the world's excellent level (the world's top decile) in WANO indicators
- Ratio of units achieving the world's advanced level (the world's top quartile) in WANO indicators

Environment

- Installed capacity of units under construction (MW)
- On-grid nuclear power generation (GWh)
- Standard coal consumption reduced converted from on-grid nuclear power generation
- CO_2 emissions reduction equivalent from on-grid nuclear power generation (million tons)
- Total amount of Purchased electricity (MWh)
- CO_2e (Scope 2) (ten thousand tons)
- Freshwater consumption (ten thousand tons)
- Water consumption per unit of on-grid power generation（ton/GWh）

Social

- Number of employees
- Number of ethnic minority employees
- Number of fresh graduate employees recruited
- Percentage of employees by gender

  Male

  Female
- Percentage of employees by profession category

  Management personnel

  Business functional personnel

  On-site operation and support personnel

  Other technical personnel
- Percentage of employees by age

  Aged 28 and below

  Aged 29 to 35

  Aged 36 to 45

  Aged 46 and above
- Percentage of employees by educational background

  Junior college or lower

  Bachelor's degree

  Master's degree

  Doctor's degree
- Percentage of employees by geographical region

  Within Shenzhen

  Outside Shenzhen

In response to the above key performance indicators, the Company has applied the Appendix C2 *ESG Code* of the *Listing Rules*, as well as the *Guidelines* and the *Guidance*, and *Standard Operation of Main Board Listed Companies*, the *Business Processing* and the *Industry Information Disclosure* to prepare.

The limited assurance work includes perform analytical procedures and other limited assurance procedures, etc.

The limited assurance procedures we carried out are following:

- Performing analytical review procedures;
- Performing sample inspection on the selected key performance information;
- Performing recalculation procedures on the selected key performance information;
- Other procedures we considered necessary.

We believe that the evidence obtained is sufficient and appropriate as the basis for issuing limited assurance conclusions.

III. Limitations of Our Scope

Our scope of work did not include:

- Assessing the accuracy or fairness of information (including financial information) other than the selected key performance information;
- Reviewing the forward-looking statements made by the Management;
- Reviewing and consequently providing assurance on historical data.

IV. Level of Assurance

Our evidence gathering procedures have been designed to obtain a limited level of assurance on which to base our conclusion. The procedures conducted do not provide all the evidence that would be required in a reasonable assurance engagement and, accordingly, we do not express a reasonable assurance opinion or an audit opinion. While we considered the effectiveness of the Management's internal controls when determining the nature and extent of our procedures, our review was not designed to provide assurance on internal controls.

V. Our Conclusions

Subject to the limitations of scope and based on the procedures specified above for this limited assurance engagement, we provided the following conclusions:
Nothing has come to our attention that causes us to believe that the key performance indicators selected in the Company's 2024 ESG Report are unfairly expressed in any material respect according to the Reporting Criteria above.

VI. Our Independence

We are in compliance with the Ernst & Young Global Independence Policy which was designed to comply with the requirements of the IFAC Codes of Ethics for Professional Accountants (the IFAC Code). We believe that there were no events or prohibited services provided which could impair our independence.

VII. Our Assurance Team

Our assurance team has been drawn from our ESG Report assurance service network, which undertakes similar engagements to this with a number of domestic or international businesses. Our assurance team has met the requirements of competence and work experience of this engagement.

Ernst & Young Hua Ming LLP

Beijing, China

March 26 2025

Contribution to the UN SDGs

SDGs	CGN Power's Actions	Chapters
1 NO POVERTY	Support rural vitalization, carry out a series of assistance initiatives, pay attention to vulnerable groups in society, and promote social harmony	Development Driver Charity
3 GOOD HEALTH AND WELL-BEING	Pay attention to the occupational health and safety of employees, adhere to the management policy of "safety first, prevention foremost, comprehensive governance", and take relevant supporting measures	Occupational Health
4 QUALITY EDUCATION	Support poverty alleviation through educational development, improve the education in poverty-stricken areas, and narrow the urban-rural education gap	Development Driver
5 GENDER EQUALITY	Adhere to the principle of open, just, fair and equal competition, and implement gender equality	Employee Rights
7 AFFORDABLE AND CLEAN ENERGY	Promote clean energy development, ensure the safe operation of nuclear power and provide more economical and high-quality clean energy for society	Climate Change
8 DECENT WORK AND ECONOMIC GROWTH	Respect and protect employees' rights, and build a diversified workforce with adequate development support	Employee Rights Talent Cultivation
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Construct power infrastructure, enhance innovation capabilities and optimize energy development technologies	Safety Operation Engineering construction
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Improve overall nuclear power efficiency, reduce resources consumption and waste discharge, and ensure radioactive waste emissions meet national standards	Climate Change Polluted Waste Reduction
13 CLIMATE ACTION	Adhere to nuclear power development, improve energy mix and nurture green concepts to reduce carbon emissions	Climate Change Nuclear Power Ecology
14 LIFE BELOW WATER	Attach importance to the impacts of power plant construction and operation on surrounding life below water, and take measures to protect the life below water around the community	Polluted Waste Reduction Nuclear Power Ecology
15 LIFE ON LAND	Attach importance to the impacts of power plant construction and operation on surrounding flora and fauna on land, and take measures to protect the life on land around the community	Polluted Waste Reduction Nuclear Power Ecology
17 PARTNERSHIPS FOR THE GOALS	Enhance competitiveness and synergy in the nuclear power industry chain, and establish a mutually beneficial strategic partnership with upstream and downstream companies	Supply Chain Management Multi-Party Cooperation Industry-Wide Prosperity

Major Laws and Regulations in ESG Fields

ESG Fields	Name of major laws, regulations and normative documents
A1: Emissions	*Environmental Protection Law of the People's Republic of China* *Law on Prevention and Control of Radioactive Contamination of the People's Republic of China* *Atmospheric Pollution Prevention and Control Law of the People's Republic of China* *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste* *Regulations for Environmental Radiation Protection of Nuclear Power Plants* *Technical Requirements for Discharge of Radioactive Liquid Effluent from Nuclear Power Plants* *Pollution Control Standard for Storage and Landfill of General Industrial Solid Waste* *Pollution Control Standard for Hazardous Waste Storage* *Regulations on Safety Management of Hazardous Chemicals* *Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy*
A2 Use of Resources	*Environmental Protection Law of the People's Republic of China* *Environmental Impact Assessment Law of the People's Republic of China* *Water Law of the People's Republic of China* *Energy Conservation Law of the People's Republic of China* *Energy Law of the People's Republic of China* *Water Conservation Regulations*
A3 Environmental and Natural Resources	*Environmental Protection Law of the People's Republic of China* *Water Law of the People's Republic of China* *Marine Environmental Protection Law of the People's Republic of China* *Measures for Ecological Environment Supervision of Ecological Conservation Red Lines (Trial)* *China's Biodiversity Conservation Strategy and Action Plan (2023-2030)*
A4 Climate Change	*Environmental Protection Law of the People's Republic of China* *Atmospheric Pollution Prevention and Control Law of the People's Republic of China* *Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy* *Interim Rules for Carbon Emissions Trading Management*
B1 Employment	*Company Law of the People's Republic of China* *Labor Law of the People's Republic of China* *Labor Contract Law of the People's Republic of China* *Law of the People's Republic of China on Promotion of Employment*
B2 Health and Safety	*Work Safety Law of the People's Republic of China* *Fire Protection Law of the People's Republic of China* *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* *Measures for the Supervision and Administration of Work Safety by Central State-owned Enterprises* *Healthy China Action Plan (2019-2030)* *Notice on Promoting the Construction of Healthy Enterprises* *Code for the Construction of Health Enterprises (Trial)* *Measures for the Supervision and Administration of Employers' Occupational Health Surveillance*

ESG Fields	Name of major laws, regulations and normative documents
B3 Development and Training	/
B4 Labor Standards	*Regulations on Democratic Management of Enterprises* *Regulations on Workers' Congress of Industrial Enterprises under the Ownership of the People* *Opinions on Strengthening Democratic Management in Corporate Enterprises issued by the All-China Federation of Trade Unions* *Guiding Opinions on Establishing and Improving the System of Central State-owned Enterprise Workers' Congress issued by SASAC* *Notice on Regulations of the Grassroots Trade Union Member Conference issued by the All-China Federation of Trade Unions* *Law of the People's Republic of China on Trade Unions*
B5 Supply Chain Management	*Law on Tenders and Bids of the People's Republic of China* *Guiding Opinions on Standardizing the Procurement Management of Central State-owned Enterprises*
B6 Product Responsibility	*Nuclear Safety Law of the People's Republic of China* *Law on Prevention and Control of Radioactive Contamination of the People's Republic of China* *The Regulations on Civil Nuclear Facility Safety Supervision and Administration of the People's Republic of China* *The Regulations on Supervision and Administration of Civil Nuclear Safety Equipment* *The Regulations on the Safety of Site Selection for Nuclear Power Plants* *The Safety Requirements for Nuclear Power Plant Operation* *The Regulations on Safety of Management Systems of Nuclear Power Plants* *Electric Power Law of the People's Republic of China* *Cybersecurity Law of the People's Republic of China* *Data Security Law of the People's Republic of China* *Personal Information Protection Law of the People's Republic of China* *National Cyberspace Security Strategy* *Cybersecurity Review Measures*
B7 Anti-corruption	*Criminal Law of the People's Republic of China* *Law for Countering Unfair Competition of the People's Republic of China* *Anti-money Laundering Law of the People's Republic of China* *Interim Provisions of the State Administration for Industry and Commerce on Prohibiting Commercial Bribery* *Several Suggestions Concerning the Applicable Law in Handling Criminal Commercial Bribery Cases Issued by the Supreme People's Court and the Supreme People's Procuratorate* *Several Explanation Concerning the Applicable Law in Handling Criminal Corruption Bribery Cases Issued by the Supreme People's Court and the Supreme People's Procuratorate*
B8 Community Investment	*Opinions on Comprehensively Promoting Rural Vitalization and Accelerating Agricultural and Rural Modernization Issued by State Council* *Implementation Opinions on Accelerating the Transformation and Development of Rural Energy and Supporting Rural Vitalization* *Rural Vitalization Promotion Law of the People's Republic of China*

Key Performance Indicators

Safety

Item	Indicator	2022	2023	2024
Nuclear Safety	Number of nuclear power units in operation	26	27	28
	Ratio of WANO indicators achieving the world's advanced level (the top quarter)	79.17%	77.47%	86.31%
	Unplanned shutdowns (times)	2	3	2
	Number of nuclear incidents of level-2 or above[29]	0	0	0
Personal Safety (including employees and contractors)	Fatalities	0	0	0
	Fatality rate per 100,000 persons in engineering construction	0	0	0
	Number of serious injuries (times)	0	0	0
Fire Safety	Number of fire accidents	0	0	0
Radiation Protection	Accidental over-exposures (times)	0	0	0
	Loss of radiation sources (times)	0	0	0
	Number of internal contamination accidents (cases)	0	0	0

Environmental

Indicator	2022	2023	2024
Carbon dioxide equivalent generated in Scope 1 by subsidiaries (ton)	/	43,253	40,343
Carbon dioxide equivalent generated in Scope 2 by subsidiaries (10,000 tons)[30]	/	2.58	1.87
Carbon dioxide equivalent produced in Scope 3 by subsidiaries (10,000 tons)	/	/	114.03
CO_2 emissions equivalent reduced from produce of clean energy (10,000 tons)	16,425.43	17,645.67	18,659.99
SO_2 emissions emissions equivalent reduced from produce of clean energy (10,000 tons)	2.00	1.78	1.75
NOx emissions emissions equivalent reduced from produce of clean energy (10,000 tons)	3.02	2.85	2.84

[29] According to the International Nuclear Event Scale (INES), there is a 7-level event classification system. Events of greater safety significance (Levels 4-7) are termed "accidents" and events of lesser safety significance (Levels 1-3) are termed "incidents." Events without safety significance are termed "deviations" and not classified.

[30] Data for 2023 and onwards are accounted for in accordance with CO_2 emission factors of electricity made public by the Ministry of Ecology and Environment.

Water Resources Management

Indicator	2022	2023	2024
Fresh water consumption (10,000 tons)	907	1,011	973

Energy management

Indicator	2022	2023	2024
Diesel consumption by subsidiaries (ton)	1,976.40	1,451.71	1,386.43
Gasoline consumption by subsidiaries (ton)	146.75	111.62	116.01
Comprehensive energy consumption by subsidiaries (10,000 tons of standard coal)	117.56	123.81	133.31

Social

Indicator		2022	2023	2024
Number of total employees		18,968	19,038	20,453
Number of ethnic minority employees		925	998	1,117
Proportion of employees by different types				
Gender	Female	11.56%	11.88%	11.92%
	Male	88.44%	88.12%	88.08%
Profession category[31]	Management personnel	11.56%	11.56%	8.43%
	Business functional personnel	88.44%	88.44%	5.85%
	On-site operation and support personnel	11.56%	11.56%	12.39%
	Other Technical personnel	88.44%	88.44%	73.33%
Employment category	Full-time	100%	99.87%	100%
	Part-time	0%	0%	0%
Age	Aged 28 and below	15.09%	19.04%	23.56%
	Aged 29 to 35	32.53%	28.84%	23.86%
	Aged 36 to 45	36.50%	37.31%	38.45%
	Aged 46 and above	15.87%	14.81%	14.13%
Educational background	Junior college or lower	5.45%	4.70%	4.07%
	Bachelor's degree	73.96%	74.40%	73.71%
	Master's degree	19.39%	19.71%	20.95%
	Doctor's degree	1.20%	1.18%	1.27%
Geographical region	Within Shenzhen	23.29%	28.47%	30.09%
	Outside Shenzhen	76.71%	71.53%	69.91%
Employee turnover rate				
Gender	Female	0.24%	0.23%	0.09%
	Male	1.49%	1.67%	0.92%
Age	Aged 28 and below	0.50%	0.37%	0.51%
	Aged 29 to 35	0.68%	0.46%	0.27%
	Aged 36 to 45	0.39%	0.32%	0.20%
	Aged 46 and above	0.06%	0.02%	0.03%
Geographical region	Within Shenzhen	0.42%	0.55%	0.35%
	Outside Shenzhen	1.11%	1.02%	0.66%
Employee training				
Average training hours per employee (hours)		139.5	138.5	165.57
Training rate of senior managers		100%	100%	100%
Training rate of middle managers		100%	100%	100%
Training rate for male		100%	100%	100%
Training rate for female		100%	100%	100%
Public welfare and social communication				
Total rural vitalization and other donations (million yuan)		46.305	25.5696	28.63
Volunteering hours(hours)		Over 40,700	18,615	10,900
Sessions of press conference		5	9	5

[31] The data of profession category is adjusted to the scope of annual report in 2024, and supplemented with the data of previous years.

ESG Index

The Company has complied with the "Mandatory Disclosure Requirement" and "Comply or Explain" provision set out in Appendix C2 ESG Code Guide of the Listing Rules of SEHK. Table 1 provides an overview of indicator compliance. Table 2 is the index table of the core topics of the *Self-Regulatory Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange—Sustainability Report (For Trial Implementation)*.

Table 1

Aspects	Indicator	Indicator description	Chapters/ Remarks
A1 Emissions	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non- hazardous waste	Climate Change Polluted Waste Reduction
	A1.1	The types of emissions and respective emissions data	Climate Change Polluted Waste Reduction
	A1.2	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	Polluted Waste Reduction
	A1.3	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	Polluted Waste Reduction
	A1.4	Description of emission target(s) set and steps taken to achieve them	Climate Change Polluted Waste Reduction
	A1.5	Description of how hazardous and nonhazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them	Polluted Waste Reduction
A2 Use of Resources	General Disclosure	Policies on the efficient use of resources including energy, water and other raw materials	Resource Utilization
	A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in'000s) and intensity (e.g. per unit of production volume, per facility)	Climate Change
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	Resource Utilization
	A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them	Climate Change Resource Utilization
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them	Resource Utilization
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	Our products are electricity, so it is not applicable
A3 Environmental and Natural Resources	General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources	Nuclear Power Ecology
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	Nuclear Power Ecology
A4 Climate Change	General Disclosure	Policies for identifying and addressing significant climate-related issues that have already impacted or may impact the issuer.	Climate Change
	A4.1	Describe the significant climate-related issues that have already impacted or may impact the issuer, and the actions taken to address them.	Climate Change
B1 Employment	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, antidiscrimination, and other benefits and welfare	Employee Rights
	B1.1	Total workforce by gender, employment type (for example, full or part-time), age group and geographical region	Employee Rights
	B1.2	Employee turnover rate by gender, age group and geographical region	Employee Rights
B2 Health and Safety	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards	Occupational Health
	B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	Performance Indicators
	B2.2	Lost days due to work injury	Performance Indicators Excellent Safety Performance
	B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored	Occupational Health
B3 Development and Training	General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	Talent Training
	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	Talent Training
	B3.2	The average training hours completed per employee by gender and employee category	Talent Training
B4 Labor Standards	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labor	Employee Rights
	B4.1	Description of measures to review employment practices to avoid child and forced labor	Employee Rights
	B4.2	Description of steps taken to eliminate such practices when discovered	Employee Rights

Aspects	Indicator	Indicator description	Chapters/ Remarks
B5 Supply Chain Management	General Disclosure	Policies on managing environmental and social risks of the supply chain	Supply Chain Management
	B5.1	Number of suppliers by geographical region	Supply Chain Management
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	Supply Chain Management
	B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	Supply Chain Management
	B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Supply Chain Management
B6 Product Responsibility	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Safety Operation Information security Occupational Health Our products are electricity, and the advertising and labelling indicators not applicable
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	Our products are electricity, so it is not applicable
	B6.2	Number of products and service-related complaints received and how they are dealt with	Excellent Safety Performance
	B6.3	Description of practices relating to observing and protecting intellectual property rights	Technological Innovation
	B6.4	Description of quality assurance process and recall procedures	Our products are electricity, so it is not applicable
	B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	Information Security
B7 Anti-corruption	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	Business Ethics
	B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	Business Ethics
	B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	Business Ethics
	B7.3	Describe of the anti-corruption training provided to directors and employees.	Business Ethics
B8: Community Investment	General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests	Community Communication
	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport)	Development Driver Charity
	B8.2	Resources contributed (e.g. money or time) to the focus area	Development Driver Charity

Table 2

Dimension	Topics	Chapters
Environmental	Addressing climate change	Climate Change
	Pollutants Emissions	Polluted Waste Reduction
	Waste disposal	Polluted Waste Reduction
	Ecosystem and biodiversity protection	Nuclear Power Ecology
	Environmental compliance management	Environmental Management
	Energy utilization	Resource Utilization
	Water resources utilization	Resource Utilization
	Circular economy	Climate Change Resource Utilization
Social	Rural vitalization	Development Driver
	Social contribution	Charity
	Innovation-driven development	Technological Innovation
	Ethics of science and technology	Not applicable
	Supply chain security	Supply Chain Management
	Equal treatment of small and medium-sized enterprises	Supply Chain Management
	Product and service safety and quality	Safety Management
	Data security and customer privacy protection	Information Security
	Employees	Employee Rights Talent Cultivation Occupational Health
Sustainability-related governance	Due diligence	ESG Governance
	Stakeholder communication	Community Communication
	Anti-commercial bribery and anti-corruption	Business Ethics
	Anti-unfair competition	Business Ethics

Feedback Form

Thank you for reading the 2024 Environmental, Social and Governance Report published by CGN Power. In order to provide you with more valuable information, continuously improve our ESG endeavors and performance, and optimize our CSR capability , we sincerely invite you to fill out the following form and send us feedback by email, fax, post or online. We eagerly look forward to your precious opinions.

Our contact details:

Address: 18/F, South Tower of CGN Building, No. 2002 Shennan Road, Shenzhen, Guangdong Province, China

Postal Code: 518026

Tel: (86) 755 84430888

Fax: (86) 755 83699089

E-mail：IR@cgnpc.com.cn

Scan to fill in the online questionnaire

Your evaluation on this report (please tick in the option)

1. The report highlights our efforts and impact on economic, environmental and social aspects.

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor

2. The information and indicators disclosed in this report is clear, accurate and complete.

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor

3. The content layout and design of this report is readable.

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor

4. Which part(s) of this report are you most interested in?

_____

5. What additional information would you expect to be disclosed in this Report?

_____

6. Do you have any suggestions for our future ESG reports?

_____

Natural Energy Natural Power

Address: CGN Building, No. 2002 Shennan Road, Shenzhen, Guangdong Province, China Postal Code: 518026
Tel: (86)755 8443 0888 Fax : (86)755 8639 9089
Website : http://www.cgnp.com.cn/