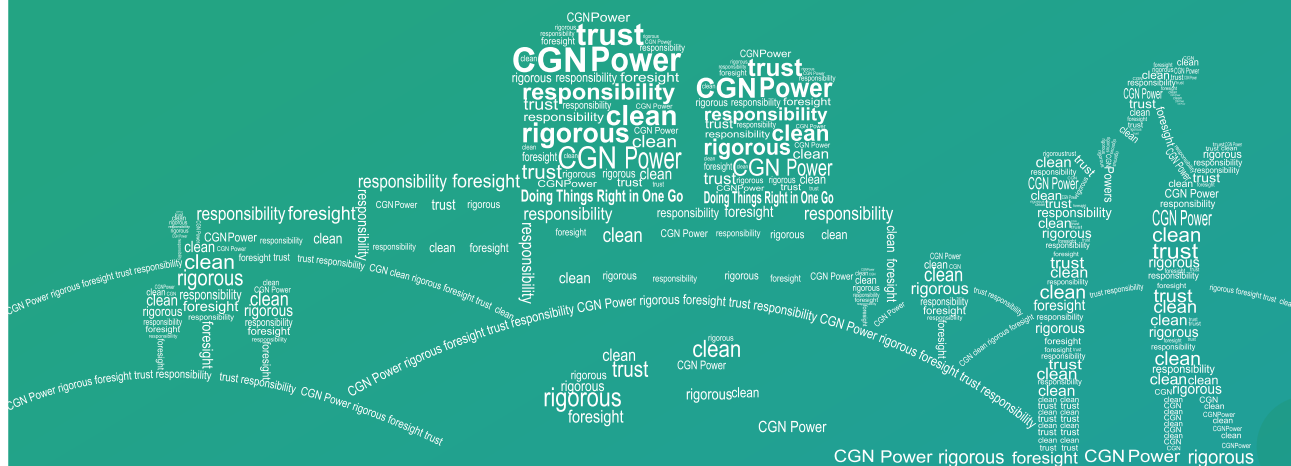


2017

Environmental, Social and Governance Report

*For identification purpose only



About this Report

This is the Company's third Environmental, Social and Governance Report which discloses our strategies, management, work and performance in relation to sustainable development. We hope that this report will enable you to better understand our efforts, so as to enhance mutual trust in each other.

Reporting Period

The reporting period is from January 1, 2017 to December 31, 2017, and certain contents are extended to increase the comparability.

The report is in relation to CGN Power Co., Ltd. and its subsidiaries and main affiliated companies thereof.

Preparation Basis

- The Ten Principles of the UN Global Compact
- ISO 26000:2010 Guidance on Social Responsibility of the International Organization for Standardization
- Global Reporting Initiative: GRI Standard
- Chinese Standard GB/T36001-2015: Guidance on Social Responsibility Reporting
- The Environmental, Social and Governance Reporting Guide of The Stock Exchange of Hong Kong Limited.

Name Description

For convenience, "CGN Power Co., Ltd." in this report is also expressed as "CGN Power", "our Company" "the Company" or "We". CGN Power and the subsidiaries are also expressed as "the Group". Unless otherwise defined, the terms used in this report shall have the same meanings as defined in the 2017 Annual Report of the Company published on March 28, 2018.

Reliability Assurance

The Company assures that the contents of this report, for which the Company accepts full responsibility for its truthfulness, accuracy and completeness, are free of any false statements, misleading representations or material omissions.

Access to this Report

This report is written in both Chinese and English, and in case of discrepancy between the two versions, the Chinese version shall prevail. The electronic copy of this report is available for download at CGN Power's website (www.cgnp.com.cn).

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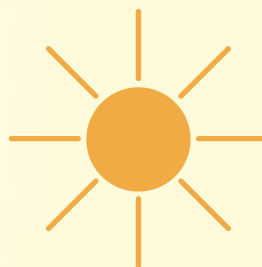
01

About Us

We are CGN Power

We are committed to electricity supply and service by nuclear power

- ◆ Overview of Key Data in 2017
- ◆ Company Overview
- ◆ Corporate Governance
- ◆ Responsibility Management





About Us

Overview of Key Data in 2017

Committed to Safety

Operating revenue



RMB

45.616 Billion

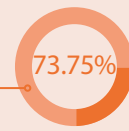
On-grid power generation



GWh

137,734.87

WANO indicators



entering top

1/4 of the world

Installed capacity under construction



MW

10,270

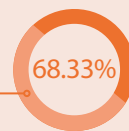
Installed capacity in operation



MW

21,470

WANO indicators



entering top

1/10 of the world



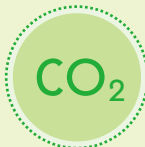
0 nuclear events of level 2 or above
on the International Nuclear Event

"Green" the World



Nuclear energy equivalent to
standard coal consumption
reduction:

42.56 million tons



Nuclear energy equivalent to
carbon dioxide emission
reduction:

111.29 million tons



Equivalent to
forest area:

310,000
hectares

Unite the Talents

Including associates and joint ventures >

Training hours per employee about >



20,037
Total number of
employees



172
hours

Cooperate to Develop

Cooperative suppliers >



9,788

Cherish the Neighborhood

Visitors of nuclear
power bases add
up to over >

Cumulative hours for
public service participat-
ed in by our employees >

Charity donations
add up to RMB >



600,000
visitors



34,674
hours



18.6744
million

Company Overview

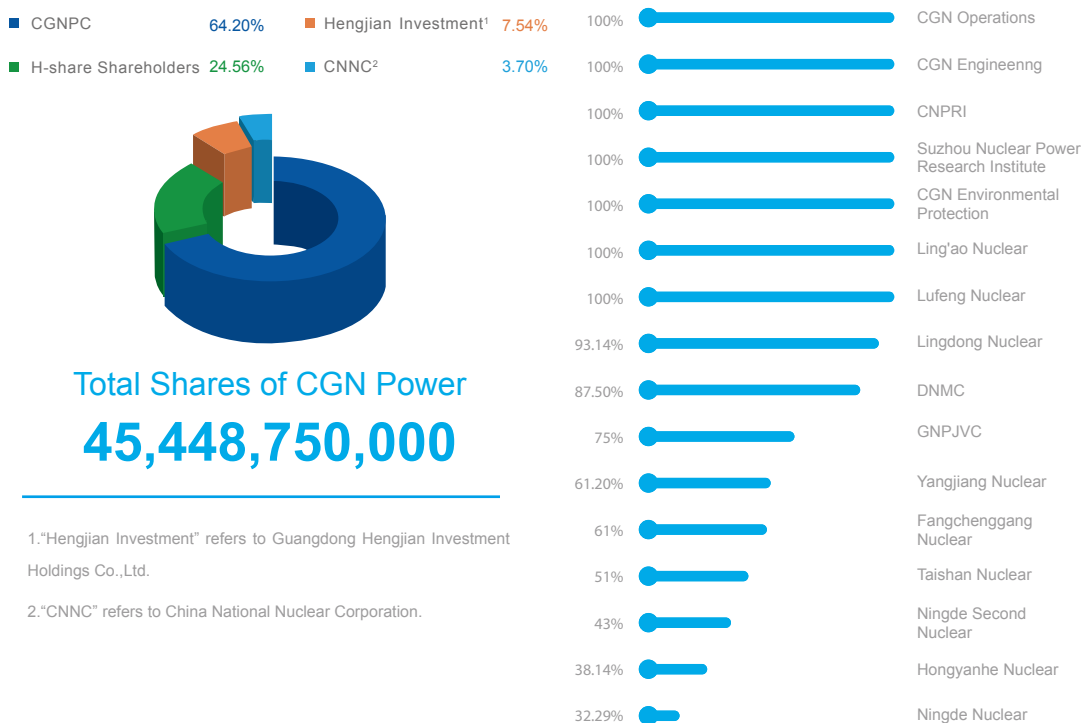
Company Profile

CGN Power (stock code: 1816) was established on March 25, 2014 and its controlling shareholder is China General Nuclear Power Corporation ("CGNPC"). It has been listed on the Main Board of the Hong Kong Stock Exchange ("SEHK") since December 10, 2014 and was the only listed company in the world that solely operated nuclear power generation at that time.

Always upholding the basic principles of "Safety First, Quality Foremost, Pursuit of Excellence", CGN Power has been practicing its core value – "Doing Things Right in One Go." Upon the completion of Daya Bay Nuclear Power Station, the Company has developed specialized nuclear power construction, scientific research and development, and supply support systems in line with international practices, and gained the ability to simultaneously and safely construct, operate and manage multiple nuclear power projects in different regions and bases across China.

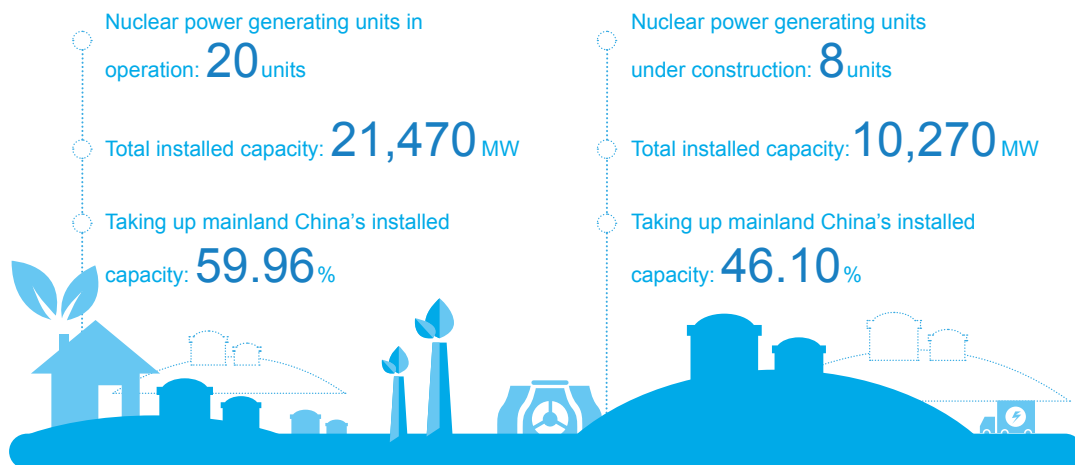
Company Structure

Equity Structure and Main Subsidiaries and Affiliated Companies



Business Distribution

As of the end of 2017, CGN Power owned:



Location	Nuclear Power Plant	Nuclear power generating units in operation	Nuclear power generating units under construction
Shenzhen City of Guangdong Province	Daya Bay Nuclear Power Station	2 units	—
Shenzhen City of Guangdong Province	Ling'ao Nuclear Power Station	2 units	—
Shenzhen City of Guangdong Province	Lingdong Nuclear Power Station	2 units	—
Yangjiang City of Guangdong Province	Yangjiang Nuclear Power Station	4 units	2 units
Taishan City of Guangdong Province	Taishan Nuclear Power Station	—	2 units
Fangchenggang City, Guangxi Zhuang Autonomous Region	Fangchenggang Nuclear Power Station	2 units	2 units
Ningde City of Fujian Province	Ningde Nuclear Power Station	4 units	—
Dalian City of Liaoning Province	Hongyanhe Nuclear Power Station	4 units	2 units

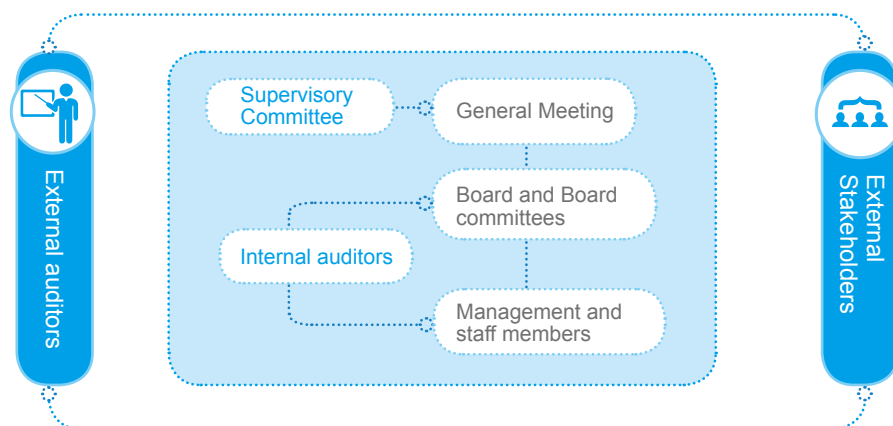
Among the above mentioned nuclear power generating units, Yangjiang Unit 4 was connected to the grid for the first time and started power generation in January 2017. Then it went into commercial operation on March 15, thereby increasing the total nuclear power generating units of Yangjiang Nuclear Power Station in operation to 4.

For more details on business distribution, please see the section headed "Production Capital" of the 2017 Annual Report.

Corporate Governance

Structure of Governance

We strictly observe the Company Law of the People's Republic of China, Securities Law of the People's Republic of China, and the Code on Corporate Governance Practices issued by the Hong Kong Stock Exchange, we have established a standard internal structure of corporate governance. The structure of internal governance mainly consists of shareholders, the Board of Directors and board committees, Supervisory Committee internal auditors as well as management and employees. In addition, external auditors are engaged to conduct independent review of the Company's governance; meanwhile, the relationship between the Company and stakeholders (including customers, partners, social environment, regulatory bodies, etc.) also reflect our effectiveness in terms of corporate governance.



Communication with Shareholders

The general meeting holds the rights of decision-making as stipulated by the laws and regulations and the Articles of Association of the Company, and is entitled to legally exercise its voting rights on various material matters including operation policies and profit distribution of the Company. On May 24, 2017, we held 2016 annual general meeting.

Placing continuous emphasis on the opinions and feedback of shareholders and investors, we maintain transparent communication with shareholders and investors through results announcement conferences, roadshows, reverse roadshows and teleconferences, helping them timely and comprehensively understand the Company. We seriously listen to their suggestions or comments in respect of development strategy and financial management of the Company, and report such feedback back to our Board of directors, the management and other related departments through briefing, special reports, etc., to keep the business development in line with shareholder value.

Within the reporting period, the Company conducted several activities including the 2016 annual results announcement conference, the 2016 annual results roadshow and 2017 interim results roadshow, as well as 5 teleconferences, with around 340 people participating. Meanwhile, the Company arranged 35 visits for about 70 investors. In terms of reverse roadshows, the Company organized 2 field trips for 41 investors and analysts to Hongyanhe Nuclear Power Base and Ningde Nuclear Power Base. Using multiple forms of communication, we have helped investors gain a full understanding of the development of the Company and clarified their doubts.

Board of Directors

Pursuant to the Articles of Association, the Board of Directors of the Company shall consist of 9 members. Besides Gao Ligang who concurrently serves an executive Director and the president, all other Directors are non-executive Directors (including 3 independent non-executive Directors) independent from the management. Directors shall be elected at the general meeting and each has a term of 3 years. Upon the expiry of the term of office of a Director, the term is renewable upon re-election.

Candidates for Director other than those for independent non-executive Directors shall be nominated by the Board of Directors, the Supervisory Committee or Shareholders who individually or jointly hold 3% or more of the Company's voting shares and be elected at the general meeting.

Candidates for independent non-executive Directors of the Company shall be nominated by the Company's Board of Directors, the Supervisory Committee or Shareholders who individually or jointly hold 1% or more of the Company's voting shares and be elected the general meeting.

In accordance with the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited, the Company has established the Audit and Risk Management Committee, the Remuneration Committee and the Nomination Committee under the Board of Directors; according to industry characteristics, we have added the Nuclear Safety Committee. The board committees conduct studies and provide advice and recommendation on professional matters for the reference of the Board of Directors in decision-making.

On May 24, 2017, the first re-election of the Board of Directors was successfully completed. The list of the new Board members is presented as follows.

Board Members

Name	Position
Zhang Shanming	Chairman of the Board, non-executive Director, Chairman of the Nuclear Safety Committee and member of the Nomination Committee
Gao Ligang	Executive Director, President and member of the Nuclear Safety Committee
Tan Jiansheng	Non-executive Director
Shi Bing	Non-executive Director
Zhong Huiling	Non-executive Director, member of the Remuneration Committee and member of the Nuclear Safety Committee
Zhang Yong	Non-executive Director, member of the Audit and Risk Management Committee and member of the Nuclear Safety Committee
Na Xizhi	Independent non-executive Director, Chairman of the Nomination Committee, member of the Audit and Risk Management Committee and member of the Nuclear Safety Committee
Hu Yiguang	Non-executive Director, Chairman of the Remuneration Committee and member of the Nomination Committee
Francis Siu Wai Keung	Non-executive Director, Chairman of the Audit and Risk Management Committee and member of the Remuneration Committee

In 2017, a total of 8 Board meetings were held, during which, 46 resolutions were deliberated and 22 resolutions were reviewed; a total of 14 meetings of board committees were held, during which 44 resolutions were deliberated.

For more details on corporate governance, please see chapter headed "Corporate Governance" of the 2017 Annual Report.

Compliance Operation

We have continuously improved our overall risk management system, enhanced our risk management ability and developed a good risk management culture. We also have kept executing the risk management throughout all aspects of operational management and all steps of the business process, thereby creating a safe, healthy, efficient and environmentally friendly working environment for our employees and contractors, and ensuring the safety and health of the public and also minimizing our impact on the environment.

We have established an efficient internal audit system and authorized the internal audit department. Without restrictions, the internal audit department is responsible for reviewing all business operations and internal control activities of the Company, and conducting internal audits on functional departments, business centers, subsidiaries and main affiliated companies in respect of business, procedures, expenditure and internal control. In 2017, the internal audit department conducted special audits on internal control, safety management and corporate governance of the Company, and reviewed the management's concerns. The audit results were reported to senior management. After being reviewed by the Audit and Risk Management Committee, the Annual Internal Control Assessment Report was submitted to the Board of Directors for approval.

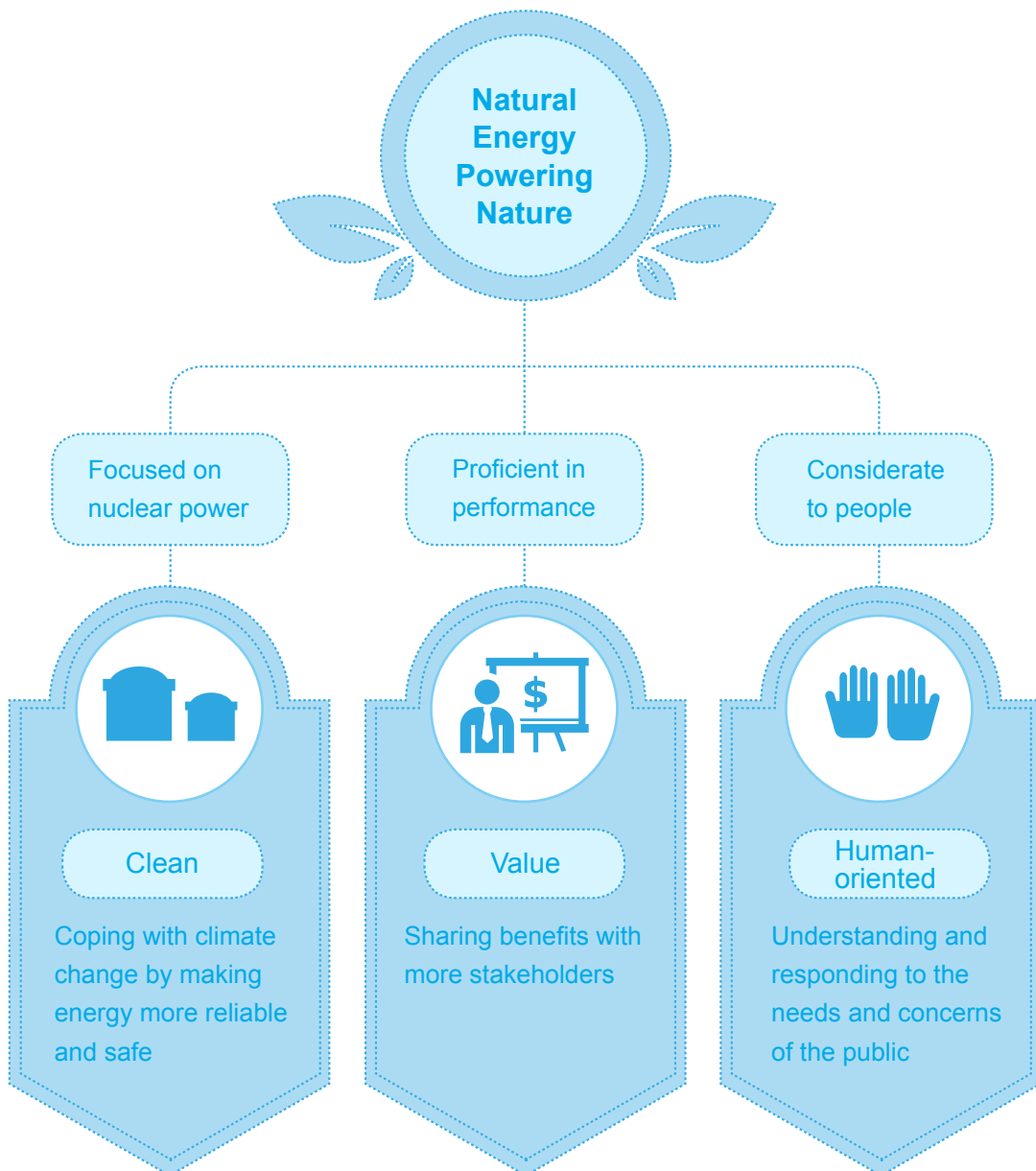
Relying on institutional improvement and cultural development, we proactively promoted anti-corruption work. The Company strictly observes laws including the *Criminal Law of the People's Republic of China*, *Law for Countering Unfair Competition of the People's Republic of China*, and *Interim Provisions on Banning Commercial Bribery* issued by State Administration for Industry and Commerce, and judicial interpretations including *Several Suggestions Concerning Applicable Law in Handling Criminal Commercial Bribery Cases* issued by the Supreme People's Court and the Supreme People's Procuratorate, and *Interpretation for 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. Employee Disciplinary and Regulatory Violation Management Rules, *Discipline Handbook of Listed Companies* and the *Implementation Rules on the Implementation of Eight-point Rules on Austerity* have been formulated applicable to all employees and the management to deal with disciplinary and regulatory violations.

In order to practicably and effectively implement relevant regulations, the Company further optimized the investigation and handling procedures for disciplinary and regulatory violations, and adopted various measures to strengthen the integrated supervision and administration. Meanwhile, we enhanced the practice of integrity education for our employees and gained full recognition from them. We further set up proper whistle-blowing channels such as telephone hot lines and e-mail, to encourage employees and third parties in relation to the Company (for example, suppliers) to report malpractices and violations regarding the Company's business. In the reporting period, there was no corruption lawsuit filed against the Group or our employees.

Responsibility Management

The Concept of Responsibility

Guided by the idea of “Natural Energy Powering Nature”, the Company performs its social responsibilities by taking management measures methodically and orderly, while considering the possible overall benefits of its decisions and actions on the economy, society and the environment. The Company values the benefits of each stakeholder in a responsible way under the management model with brand characteristics.



Responsibility Reporting

Our social responsibility work has fully considered the possible impact on the economy, the environment and society. Therefore, an effective social responsibility management entails the participation of each individual of the Company. We have established a social responsibility management system comprising joint actions of three levels. Such system enables us to fully implement social responsibility management as it effectively procures a deep involvement at the management level, a horizontal coordination between various business departments at organization level, as well as an implementation by subordinate units at the execution level.

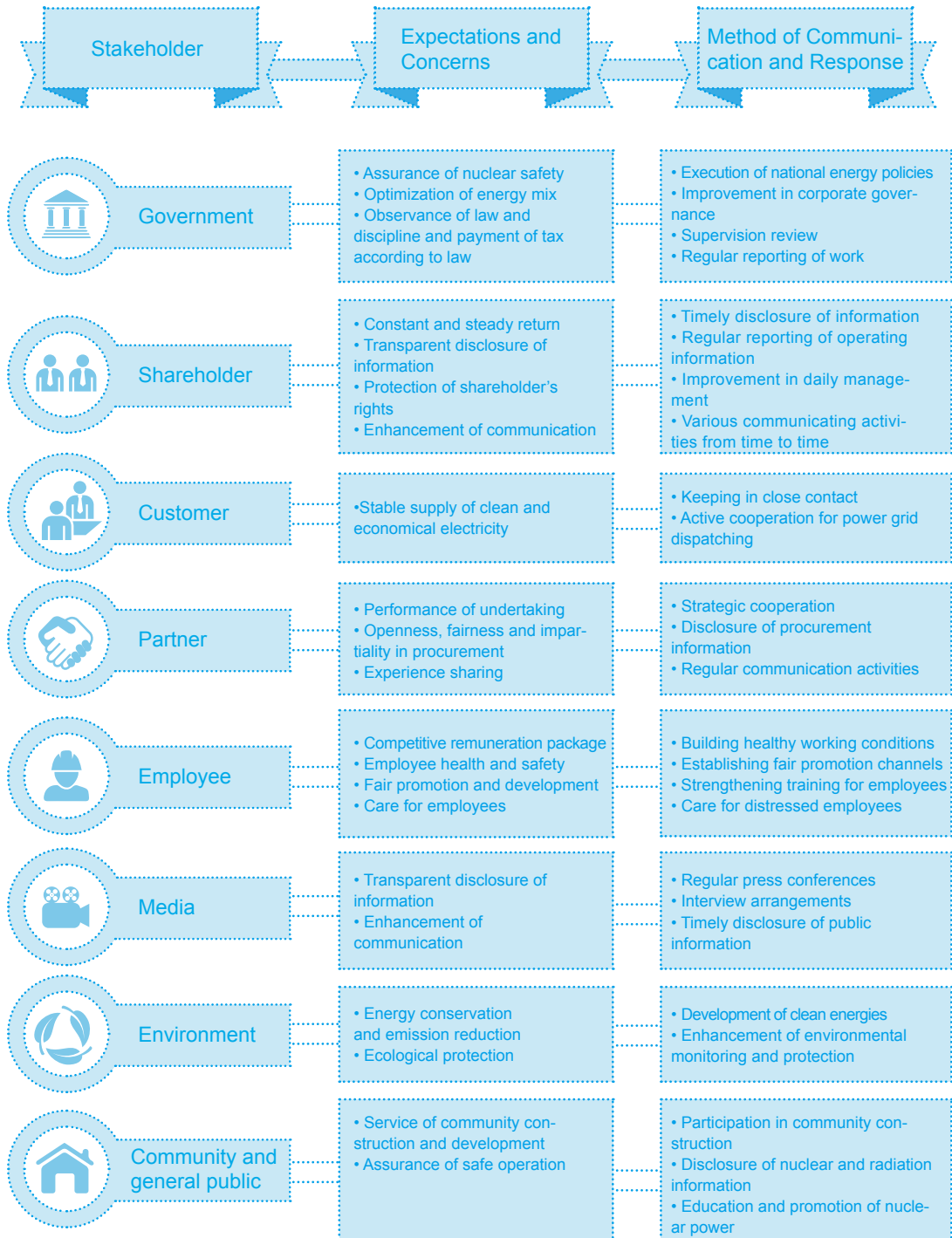


In 2015, the Hong Kong Stock Exchange released the latest version of the Environmental, Social and Governance Reporting Guide ("ESG Guide"), reinforcing the requirement on all general disclosures in the Environmental, Social and Governance Report ("ESG Report") from "recommended" to "comply or explain" since 2016. It also stipulated that disclosures of all key performance indicators under environmental subject area shall be upgraded to "comply or explain" since 2017. In this reporting year, we implemented and improved the ESG Report by continuous in-depth study on the requirements and indicators of the ESG Guide, so as to enhance our risk control in respect of environmental and social aspects.



Responsibility Communication

Establishing close relationships with stakeholders is vitally important to the sustainable development of the Company. Therefore, we have established the stakeholder communication and participation mechanism to address the expectations and concerns of stakeholders, and to establish mutually trustful and friendly relationships.



02

Committed to Safety

Nuclear safety is paramount

- ◆ Taking Safety as Basis
- ◆ Taking Quality as Safeguard
- ◆ Taking Innovation as Development Force





Committed to Safety

All nuclear power stations under CGN Power's management are located in China. In terms of safety, we abide by the relevant national laws and regulations on the nuclear power industry and electricity industry, including the *Regulations on Civil Nuclear Facility Safety Supervision and Administration of the People's Republic of China*, the *Regulations of Site Selection for Nuclear Power Plants*, the *Safety Requirements for Nuclear Power Station Operation*, the *Electric Power Law of the People's Republic of China*, etc., as shown in the section headed "Regulatory Environment" of the prospectus released by the Company on November 27, 2014.

We attach high importance to the first domestic nuclear safety law — the *Nuclear Safety Law of the People's Republic of China* (the "**Nuclear Safety Law**"). We participated in the whole compilation work of the *Nuclear Safety Law* and contributed our comments and suggestions based on our long-time accumulated practical experience. On September 1, 2017, the *Nuclear Safety Law* was deliberated and approved in the twenty-ninth meeting of the Standing Committee of the National People's Congress, and came into force on January 1, 2018. As the top-level law in stipulating the basic mechanism of safety management, the *Nuclear Safety Law* integrates and implements the overall national security outlook and establishes a highly-strict system of nuclear safety standards, providing a solid legal protection for the durable security and healthy development of nuclear energy. After the *Nuclear Safety Law* was approved, the Company and all nuclear power stations actively arranged learning, promotion and implementation, including proactively inviting leaders from the Ministry of Environmental Protection and relevant experts to interpret and promote the *Nuclear Safety Law*, deeply analyze and study the new requirements stipulated in this law on nuclear safety management. In 2018, we will continue to carry out various learning activities and optimize nuclear safety management system to improve the nuclear safety management level and ability. The requirements in *Nuclear Safety Law* will be also implemented strictly in the construction of nuclear power projects and the safe and stable operation of nuclear power units, so as to ensure legal compliance in both construction and operation of nuclear power stations.

Nuclear safety is the bedrock for the nuclear power industry. Whether in the project construction stage or in the production and operation stage, we always attach the greatest importance to nuclear safety and continuously improve the safety level in nuclear power project construction and nuclear power stations' operation.


Taking Safety as Basis

CGN Power is always taking nuclear safety as its primary responsibility, the principles of "Nuclear Safety is Paramount" and "Safety First" are applied to various stages of design, construction, operation and even decommissioning of the nuclear power stations. Based on our experience over years, we have established an effective safety management system in nuclear safety management, nuclear safety culture, safety supervision, experience feedback, emergency response and disposal, so as to realize the goal of "everyone is a barrier". For more details on the safety management system, please see the chapter headed "Production Capital" of the 2017 Annual Report.



In 2017, we continuously optimized nuclear safety culture development, internal and external safety supervision, experience feedback, emergency response, disposal and so on. During the whole year of 2017, there was no nuclear incident graded at level 2 or above as defined by the International Atomic Energy Agency in the International Nuclear Event Scale (INES). For more details on the safety performance of our nuclear power stations, please see the Business Performance and Outlook section of the 2017 Annual Report. In this section, we mainly focus on the Company's achievements in occupational safety management in 2017.

We always attach importance to safety events which happen at work. Besides proper placement of relevant personnel, we thoroughly investigate and analyze the root cause for the incident, and then disseminate the information among our nuclear power stations to enhance safety awareness of our employees and contractors. In addition, we also implement a series of measures to strengthen safety management and prevent the recurrence of similar events. In 2017, the Company continued to maintain good performance in occupational safety and health, realizing "zero deaths, zero severe injuries and zero fire accidents". In this year, the lost working day of CGN Power employees due to work injury was zero.

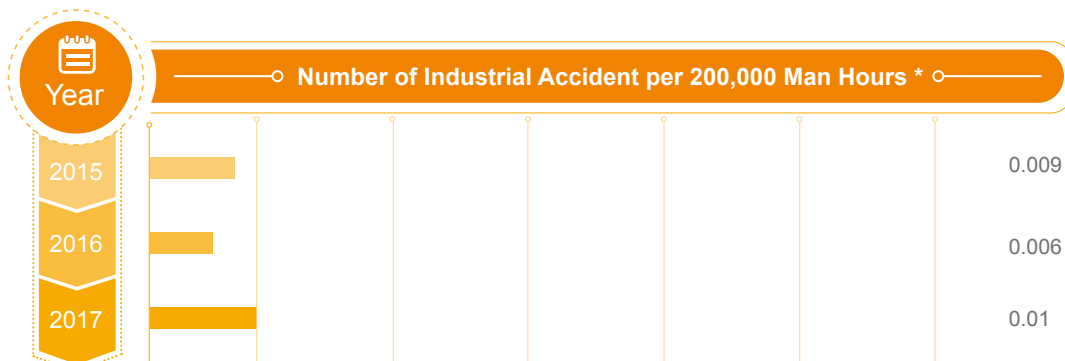
 Nuclear Power Station	Number of Industrial Accident of Employees per 200,000 Man Hours [*]		Number of Industrial Accident of Contractors per 200,000 Man Hours ^{**}	
	2016	2017	2016	2017
Daya Bay Nuclear Power Station	0	0	0.06	0
Ling'ao Nuclear Power Station	0	0	0.17	0
Lingdong Nuclear Power Station	0	0	0	0
Yangjiang Nuclear Power Station	0	0	0	0
Fangchenggang Nuclear Power Station	0	0	0	0
Ningde Nuclear Power Station	0	0	0	0
Hongyanhe Nuclear Power Station	0.07	0	0	0

^{*} Number of Industrial Accident of Employees per 200,000 Man Hours = 200,000 × (number of employees' accidents a year / total working hours for employees a year)

^{**} Number of Industrial Accident of Contractors per 200,000 Man Hours = 200,000 × (number of contractors' accidents a year / total working hours for contractors a year)



Safety Accident Rate of Nuclear Power Projects



* Number of Industrial Accident per 200,000 Man Hours = $200,000 \times (\text{number of accidents for both employees and contractors a year} / \text{total working hours of both employees and contractors a year})$



Taking Quality as Safeguard

Good quality today means safety tomorrow. Insisting on high standards and rigorous requirements, we strive to achieve compliance with quality requirements in each engineering construction task; and to realize timely detection, accurate qualitative analysis, rapid treatment and prompt feedback of quality issues.

Efficient Engineering Construction with High Quality

We conscientiously implement relevant national laws and regulations and technical requirements on nuclear power project construction, and always adhere to the principle of "Safety First, Quality Foremost, Pursuit of Excellence". With well-organized engineering construction, we spare no effort to guarantee project quality, thereby laying the foundation for safe and stable operation of our nuclear power stations.

In order to improve the safety level of nuclear power projects, we formulated and implemented the Zero Defect Scheme for Safety Management in recent years. Based on construction of international benchmarking on safety and team building, we realized and maintained a continuous improvement with four tools (risk analysis, work package,

work briefing and human error prevention) through three ways (zero defect team, potential hazard identification and behavioral improvement) on safety performance of nuclear power projects internationally and domestically.

Zero Defect Team

The Zero Defect Team Building efforts have been made to resolve acute problems by team management, better process guidance and evaluation. The teams have been evaluated to urge the members to improve and prevent key issues at construction sites.



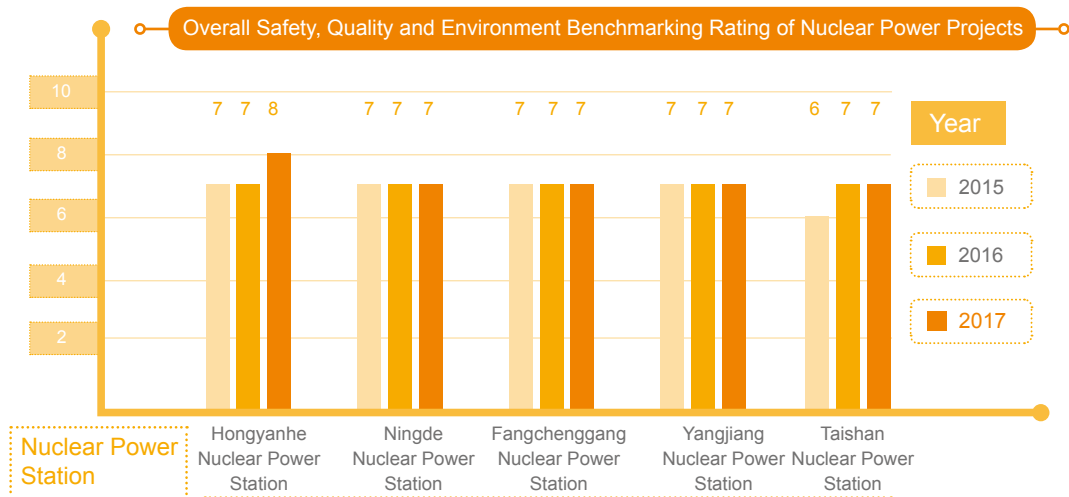
Potential Hazard Identification

Continuous efforts have been made in potential quality hazard identification, and potential hazard identification and management regulations at all levels have been defined for the implementation of responsibility system. Meanwhile, employees have been specially assigned to monitor the implementation of potential hazard identification system real time, and improve potential hazard identification ability.



Behavioral Improvement

The Behavioral Improvement Action was launched and the Implementation Guide to Quality Behavior Observation was prepared and issued to involve all employees in quality behavior observations, eliminate non-standard behaviors and guarantee engineering construction quality.



Note: The Overall Safety, Quality and Environment Benchmarking Rating is an evaluation of the basis of the Manual of Safety, Quality and Environment Standardization and International Benchmarking Evaluation of Nuclear Power Projects. The integrated evaluation is conducted from performance standardization, site standardization, and management standardization. The rating system is divided into ten levels, of which level 5 and level 6 indicate good, level 7 and level 8 advanced, level 9 and level 10 international benchmark.

In November 2016, we completed the acquisition of CGN Engineering, which enhanced our management of nuclear power engineering quality. In order to further focus on equipment quality, analyze the difficulties in positive design as well as the characteristics and quality risk in repeated iteration between manufacture and design phase, starting from March 2017, we formulated and started to implement the Special Scheme on Quality Improvement of Nuclear Power Equipment, based on the aforementioned Zero Defect Scheme for Safety Management and the Quality Improvement Scheme for Nuclear Power Projects implemented at the end of 2016. In the execution of this Special Scheme, we regard the equipment quality improvement as the key point to nuclear safety and make sure that all established measures are well-executed. We aim to enhance the effectiveness by strictly implementing all measures.

Case

The Special Conference on Quality Improvement of CGN Nuclear Power Equipment was Successfully Held in 2017

In order to enable the key suppliers of CGN nuclear power equipment industry chain to profoundly understand the *Nuclear Safety Law* and discuss measures to improve equipment quality, on December 21, 2017, the Group together with the Nuclear Power Equipment Research and Development Center jointly organized the “Special Conference on Quality Improvement of CGN Nuclear Power Equipment”.

This conference agreed on the attitude of the industry chain of nuclear power equipment to oppose low price bidding and falsification and stipulated the requirement on reducing the formalism in the quality control process.



Case

Win the First and Second Prizes of “China Electric Power Innovation Award” in the Category of Management in 2017

On December 14, 2017, the China Electricity Council held the “Information Exchange Conference on the Awarded Projects in China Electric Power Innovation Award” in Zhuhai. The “Safety, Quality and Environment Standardization and International Benchmarking Development of Nuclear Power Projects” and “Safety Culture Assessment of Nuclear Power Projects” of CGN Engineering won the first prize and the second prize respectively in the category of management.

2017年度中国电力创新奖
证书

项目名称：核电工程安全标准化及国际标杆建设
奖励等级：一等奖
项目类别：管理类
获奖单位：中广核工程有限公司
主要完成人：董国刚 陈映星 袁树军 郝崇 符维群 孙皓 张征 吴志坚
刘玉东 陈本伟 郝浩 马飞 徐昕 刘勇 贺龙

项目编号：ZCH1702001

2017年度中国电力创新奖
证书

项目名称：核电工程安全文化评估
奖励等级：二等奖
项目类别：管理类
获奖单位：中广核工程有限公司
主要完成人：陈映星 袁树军 孙皓 郝崇 刘玉东 宋有亮 刘编

项目编号：ZCH1702002



Case

Awarded the Honors of “Advanced Unit” in the National Activity of “Safe Production Month” and “Safe Production in the Long Term” in 2017

CGN Engineering was awarded the honors of “Advanced Unit” in the national activity of “Safe Production Month” and “Safe Production in the Long Term” in 2017, which were issued by the Office of the Work Safety Commission of the State Council. Only 145 units nationwide were awarded with this honor and among these, only around 50 enterprises received this award. This award is the biggest recognition for the Company’s safety performance.

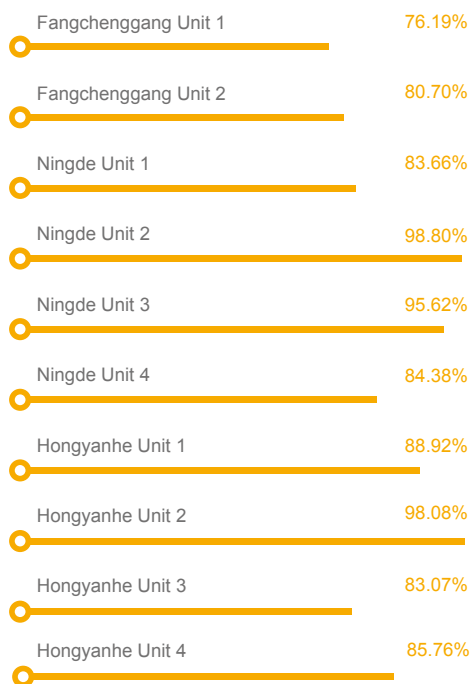
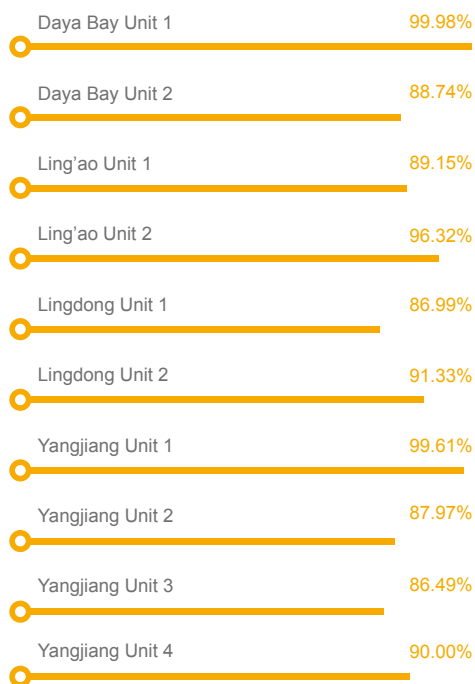


Reliable and Stable Power Generation

By continuously improving the safe power generation capacity of our units in operation, we endeavor to provide a stable and reliable power supply. In 2017, one generating unit (Yangjiang Unit 4) commenced commercial operation and the total 20 generating units in operation reached an average capacity factor of 89.59%.



Capacity Factor of Nuclear Power generating Units in 2017



WANO performance indicators

- Six generating units of Daya Bay Nuclear Power Base won **36** first prizes in the Électricité de France (EDF) International Safety Challenge Competition among reactors of the same type.

73.75%



WANO indicators entering top **1/4** of the world

68.33%



WANO indicators entering top **1/10** of the world

“Capacity Factor” and “Nuclear Safety / Automatic Scrams” are indicators recognized by the international nuclear power industry as best showing the nuclear power safety management level and nuclear power operation business performance. “Capacity Factor” is used to measure the availability of nuclear power generating units and is an important indicator reflecting units’ capacity in safe power generation. Daya Bay Nuclear Power Operations and Management Co., Ltd. (“DNMC”) has won the category of “Capacity Factor” for nine consecutive years. “Nuclear Safety / Automatic Scrams” is an important indicator reflecting units’ safety level, which rank the participating nuclear power stations based on the times of reactor automatic shutdown in the recent three years. The Ling’ao Unit 1 (the unit commenced commercial operation in May, 2002) in Daya Bay Nuclear Power Base has achieved safe operation for over 4,300 days since March 26, 2005 with zero unplanned automatic scrams, which ranked No. 1 world-wide in this regard among reactors of the same type.

Regular Equipment Maintenance

Equipment reliability has a direct impact on the safe operation of nuclear power stations. To strengthen the control and management of major sensitive equipment risks, therefore, we have conducted regular maintenance inspections on the equipment of nuclear power stations in accordance with the operation specifications and other regulatory requirements applicable to nuclear power stations to enhance equipment safety and reliability.

In 2017, in accordance with the Company’s Improvement Scheme on Nuclear Power Safety Management, we focused on the full life-cycle management in respect of equipment management. We developed and published the Full Life-cycle Management Regulations of Equipment, in which the responsibility of each level management on equipment quality control was specified. We also implemented the overall plan for equipment management, optimized the equipment management system, and issued the daily tracking management measures for six major equipment and management improvement measures for key sensitive equipment. In the meantime, we made innovation on units’ status monitoring of multi-site and multi-station, realizing 24-hour real-time remote monitoring of units and major equipment, ensuring that the risk of units could be understood and controlled by different levels of management.

Case

Participating in the 2017 EDF-CGN Seminar on Equipment Reliability



From September 18 to 22, 2017, the Company participated in the “2017 EDF-CGN Seminar on Equipment Reliability” held by EDF, in order to enhance our benchmarking and communication on equipment reliability with EDF. The experts from China and France discussed and communicated in depth on topics of the maintenance strategy management of multi-site and multi-station, reduction of preventive maintenance and the reliability management on instrument control equipment.

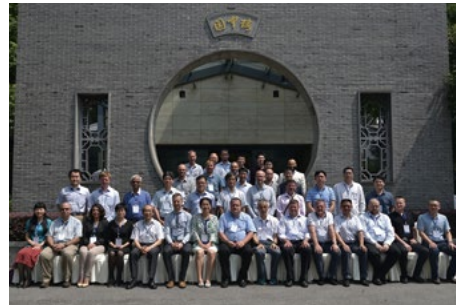
In this seminar, our two sides went deeper in the field of equipment reliability management. Both sides will strengthen the data and experience sharing in the coming future, in order to put both sides’ practical and advanced management skills into the development of the equipment management system.

Case

Undertaking the WANO International Equipment Reliability Working Group Meeting

From September 11 to 14, 2017, the 2017 WANO International Equipment Reliability Working Group (I-ERWG) Meeting was hosted by the World Association of Nuclear Operators (WANO) and organised by Suzhou Nuclear Power Research Institute in Suzhou, China.

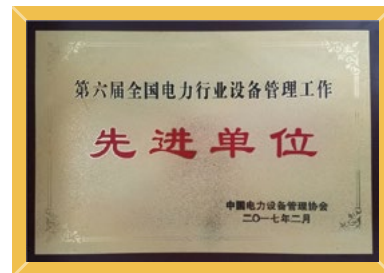
The I-ERWG meeting was initiated and hosted by the "INPO International" project and has then been hosted by WANO since 2016. It is held twice every year and organised by nuclear power organizations (or nuclear power companies) in different countries. This is the first I-ERWG international meeting that was organised by a Chinese nuclear power organization. In this meeting, representatives from Suzhou Nuclear Power Research Institute and Ningde Nuclear shared the multi-site and multi-station management of Critical Component Management (CCM) and the coolant management of nuclear power plants with domestic and international experts.



Case

Winning Multiple Awards on National Power Industry Equipment Management Work Awards

On March 24, 2017, the 6th National Power Industry Equipment Management Workshop was successfully held in Beijing. Suzhou Nuclear Power Research Institute was recognized widely by industrial peers and awarded with the Advanced Unit award in the 6th National Power Industry Equipment Management Work.



Equipment maintenance is composed of routine maintenance and refueling outages. Based on the design of pressurised water reactor NPPs, the nuclear reactor of each unit in operation must be shut down and refuelled after a certain period of time. Taking the safety and economic considerations for NPPs into account, nuclear power operators often make use of the refuelling period to intensively conduct preventive and corrective maintenance projects as well as various modifications projects, and this is usually referred to as a refuelling outage by NPPs. The increase of generating units in operation has gradually increased the number of refueling outages every year. To meet the outage demand, we have uniformly planned, and rationally deployed outage personnel to outage activities. Meanwhile, the equipment of nuclear power stations has been systemized and analyzed, and equipment abnormalities tracked to ensure an orderly-arranged outage management.

In 2017, we successfully carried out 13 refueling outages and completed 12 refueling outages, which included 5 first-time outages and 1 cross-year outage that was completed in January 2018.

Strict Implementation of Codes of Conduct

Human error is an important factor that results in safety issues. In order to regulate human operation, we have continuously enhanced the professional skill training for employees and implemented the accountability system, thereby ensuring that each operation is conducted in accordance with procedures.

Human Error Prevention Measures



Case

Human Error Reduction Cards

In order to improve the human error reduction awareness of the front-line staff, we require all front-line staff to carry the Human Error Reduction Cards during their work to make full use of the cards as a reminder and regulation. In the meantime, we also compiled and published the "Management Procedures of Human Error Reduction Training for Contractors", in which, the training requirements of contractors on the Human Error Reduction Cards are specified. We continuously enhance the application of the cards by developing training courses such as "Prevention of Going to Wrong Units" and "Prevention of Mistaken Operation".



Case

Special Plan for Human Error Reduction

Human error includes human mistakes and breaking rules, which are widely found in nearly all quality and safety events of nuclear power engineering (including design, contract procurement, equipment manufacturing, on-site construction, commissioning, material transportation, storage and lifting, etc.). Human error is committed by the front-line staff, it is mainly due to the defects in Company's organizational system and the responsibilities should be taken by all levels of management.



In accordance with the Special Plan for Human Error Reduction, the Safety Director of China Nuclear Power Engineering Co., Ltd. ("CGN Engineering") shall disseminate the (Human Error Reduction) principles, manners, tools, etc., in the "Nuclear Power Engineering Human-oriented Performance Improvement" to all levels of management (including general manager department members, project directors, business center managers, department managers, and the quality management personnel such as team leaders and above). After that, trainers shall disseminate to and train the team leaders or above positions, full-time safety and quality personnel, project management department members of main contractors and the safety and quality managers in each project department.

Safe and Smooth Customer Service

Since the Company was established, we have adhered to basic values of “responsibility undertaking, rigorous and pragmatic, innovative and progressive, customer-oriented and value creation”. We communicate with our customers on a regular basis and are open to feedback, striving to become a world-class nuclear power supplier and service provider with international competitiveness. During the reporting period, we received 0 customer complaints in relation to our products and services.

Considering that information safety is one of the concerns of our customers, CGN Power has established a corporate information safety assurance system in accordance with Chinese classified protection and power monitoring safety regulations, the Information Technology – Security Techniques Information Management Systems Requirement (ISO/IEC 27001:2013) and IAEA best practices. A Network Safety and Informationization Committee has been further set up to lead and coordinate network safety operations, and advance informationization and application. In 2017, we intensified the network safety check and warning notification, as a result, no accident regarding information safety occurred and the Company's network, communication and information system ran in a safe, stable and reliable way. The information leakage was effectively prevented.

Signing the Cooperation Framework Agreement with China Cyber Security on Network Information Safety Security

On November 20, 2017, the Company signed the “Cooperation Framework Agreement on Network Information Safety Security” in Chengdu with China Cyber Security. According to the agreement, our two sides would conduct comprehensive cooperation in overall plan, system development and security service of network information safety, jointly supporting and ensuring the safety of key information infrastructure.

Case



Case

The New Type Denial-of-Access Attack Exploded, Zero Infection was Achieved in the Company

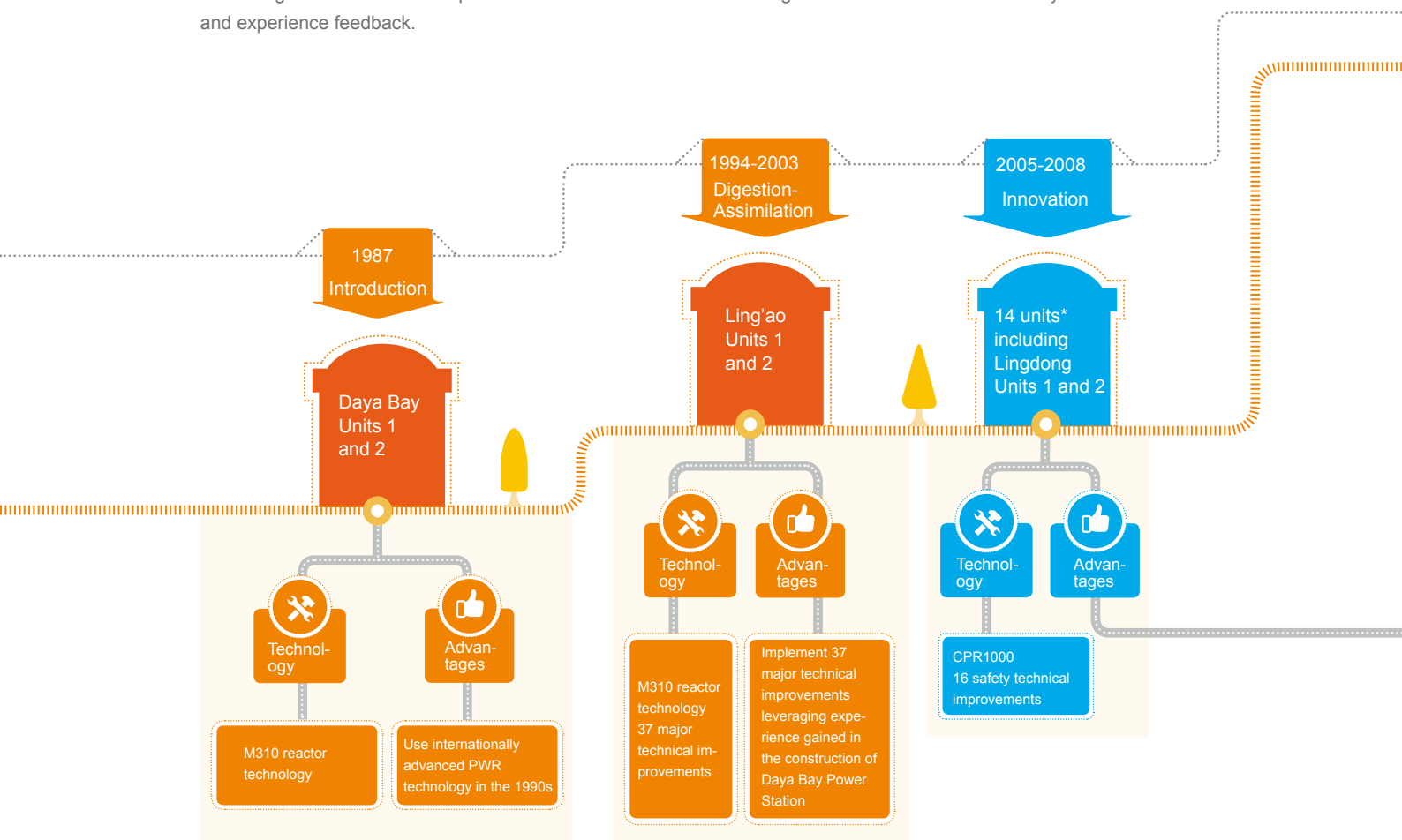
In May 2017, the new type denial-of-access attack named “WannaCry” exploded. In accordance with the Company's emergency mechanism of network and information security, we promptly started the emergency response and successfully realized zero infections, which verified the effectiveness of the Company's emergency mechanism of network and information security.

Taking Innovation as Development Force

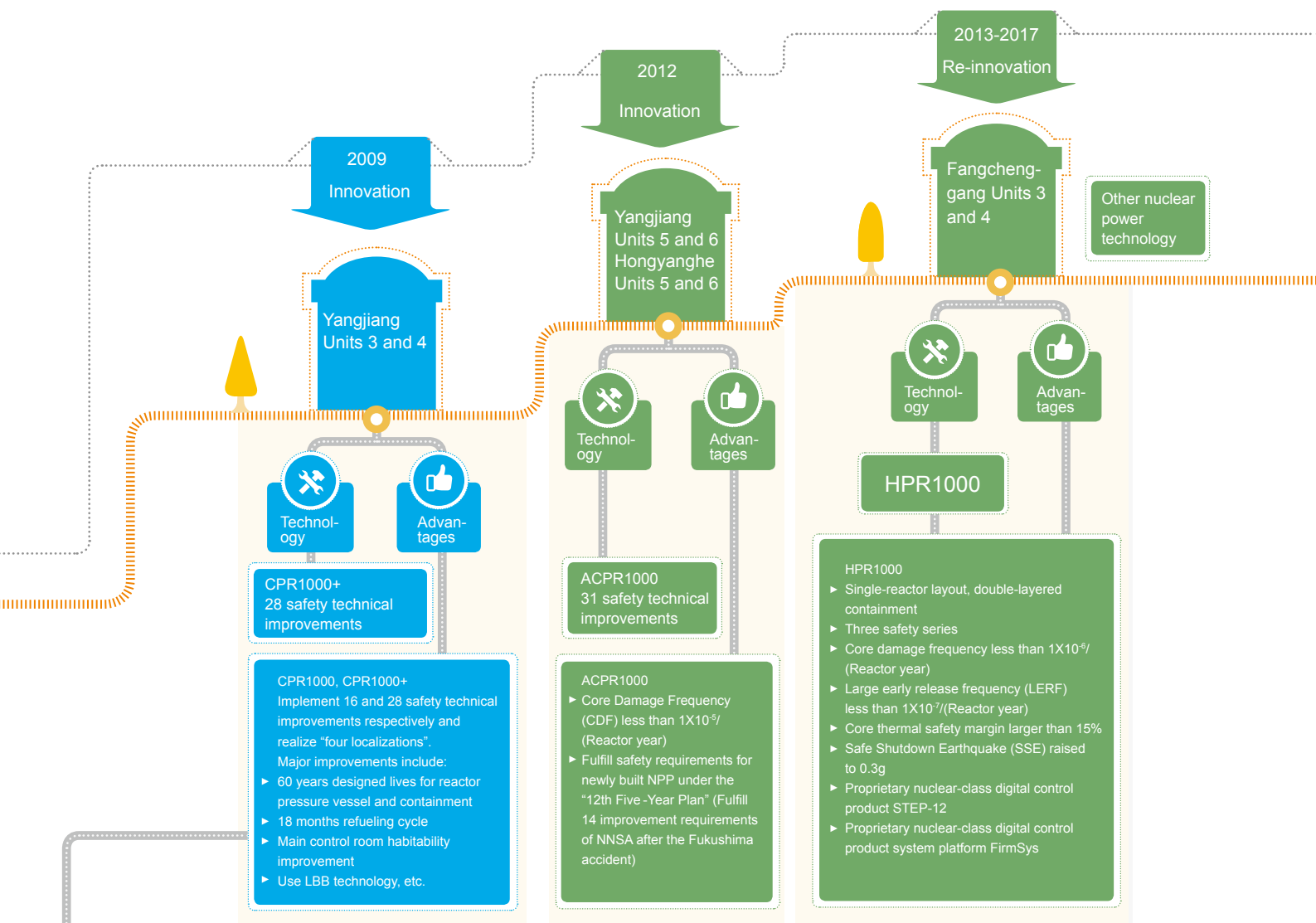
The strong technical base and technology research ability are the core resources which enable the Company to achieve sustainable development. We have been continuously improving our scientific and technological innovation system and promoting independent innovation to lay a foundation for the development of safer, smarter and cleaner nuclear power.

Concentrating on Technology Development

We focus on developing pressurized water reactors (PWR). Since the construction of Daya Bay Nuclear Power Station in the 1980s, we have always been adhering to “Introduction, Digestion, Assimilation and Innovation” to carry out technological improvements unceasingly. Based on the M310 reactor technology adopted at the Daya Bay Nuclear Power Base jointly founded by CGNPC and our Company, we have implement a series of major technical improvements (including 16 safety technology improvement items), and have developed the second-generation improved CPR1000 series nuclear power technology with our own brand; in addition, we have 31 safety technology improvement items based on CRP1000 technology, and have developed ACPR1000 technology with the third-generation of nuclear power technical characteristics referring to the latest international safety standards and experience feedback.



*Including Lingdong Units 1 and 2, Hongyanhe Units 1-4, Ningde Units 1-4, Yangjiang Units 1 and 2 and Fangchenggang Units 1 and 2



We have developed HPR1000, the third-generation of nuclear power technology with the intellectual property rights there to owned by us. HPR1000 is a product of the third-generation of gigawatt-level nuclear power technology with the intellectual property owned by us and developed on the basis of the experience, technology and talent base accumulated during the nuclear power station design, construction, operation and R&D of China in the past three decades. Compared with other third-generation nuclear power technologies, it is competitive both on safety and economical efficiency. The independent R&D of HPR1000 has laid a technological foundation for the subsequent nuclear power development of the Company. Fangchenggang Units 3 and 4 are demonstration projects of HPR1000. Fangchenggang Units 3 and 4 started construction on December 24, 2015 and December 23, 2016 respectively. At present, the construction of the two units is progressing normally.

In order to continuously improve the development force of the Company, in accordance with the development plan we continue to promote the research in small modular reactors and fourth generation nuclear power technology on the basis of most of the world's third generation nuclear power technology. We are committed to accumulating technical ability for the Company's future development and to contributing to the nuclear power industry development.

Exploring Scientific Research and Innovations

Scientific Research R&D Platforms



We have set up industry-leading labs to provide strong R&D support for technological innovation.

Case

“The Key Laboratory on Offshore Safety of NPP in Shenzhen” was Successfully Approved

In August 2017, “The Key Laboratory on Offshore Safety of NPP in Shenzhen” declared by CNPRI was successfully approved. According to the plan, this Key Laboratory will meet the significant national and industry demands by carrying out research on prevention of marine life invasion, the effects of nuclear power on marine ecology, etc., on the basis of nuclear energy and marine science. It strives to provide strong technical support for the safe and stable development of China’s nuclear power industry and for environmental protection in Guangdong Province.

Scientific and Research Achievements

In 2017, we filed 853 patent applications, 537 of which were approved. "Load Protection Method and System for Nuclear Fuel Tilting Machine (ZL201110268395.X)" and "Containment Sump Filter of Horizontal Pressurized Water Reactor (PWR) Nuclear Power Station (ZL201010234860.3)" filed by the CNPRI were honored with the Excellence Award at the 19th China Patent Awards presented by the State Intellectual Property Office.

Year	Patent (item)						Authorship Registration (item)	
	Patent Application			Patent Licensing			Software	Others
	Invention	Utility Model	Design	Invention	Utility Model	Design		
2015	285	229	0	101	241	0	107	2
2016	458	272	2	239	234	6	128	22
2017	437	413	3	269	267	1	140	25

Attaching great importance to the protection and management of intellectual property, we have incorporated intellectual property management into project approval, execution, interim inspection and final acceptance inspection to fully protect intellectual property rights. Meanwhile, we continuously improve organization building and procedural systems for the management of intellectual property, which is effective to carry forward the intellectual property management work.

Case

The First Marine Automatic Monitoring Station was Approved, Which was the First Case in the Nuclear Power Industry in China



On November 9, 2017, Suzhou Nuclear Power Research Institute held the research and development project acceptance meeting of the Yangjiang nuclear marine automatic monitoring station and the ship's integrated tank. According to panel discussion, it is agreed the reasonable project design and the standardized delivery process. During the period of trial operation, this project was proved to be stable and reliable, and met the acceptance criteria.

This is the first automatic monitoring project that passed inspection in the nuclear power industry in China. The marine automatic monitoring station can monitor regularly and auto-transmit the monitoring data. While realizing dynamic real-time monitoring reliably, the marine automatic monitoring station reduces the frequency of putting the staff out to the sea and strengthening the guarantee of staff's safety in offshore operations. Its successful implementation has set a good sample for the water radiation monitoring practiced by coast and inland nuclear power plants.



03

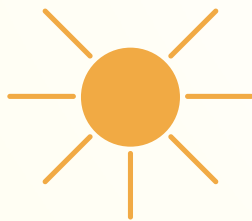
“Green” the World

Make the lake clearer every day

Make the land more green every day

Make the air fresher every day

- ◆ Active Responses to Climate Change
- ◆ Rational Use of Resources and Energy
- ◆ Commitment to Reducing Pollution Emissions
- ◆ Timely Tracking of Environmental Impacts
- ◆ Persistent Protection of Ecosystem



“Green” the World

Our commitment to social responsibility is to continue to provide safe, reliable, clean and economical power for the society and to strive for a bluer sky and clearer water, which has also been the cornerstone for our sustainable development. At the 19th National Congress of the Communist Party of China (the “19th National Congress”) held in 2017, China incorporated “ensuring harmony between human and nature” in the basic strategy of socialism with Chinese characteristics for a new era and emphasized the promotion of green development and the development of clean energy industry. We believe that the safe, stable, clean and efficient nuclear energy plays an active role in the building of ecological civilization. In the meantime of developing nuclear power, we strictly manage the emission reduction links and enhance the efficiency of resource utilization.

CGN Power strictly implements the national and local environmental laws and regulations, including the *Environmental Protection Law of the People's Republic of China*, the *Water Law of the People's Republic of China*, the *Law of the People's Republic of China on Environmental Impact Assessment*, the *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*, the *Marine Environment Protection Law of the People's Republic of China* and so on.

We implement comprehensive environmental management to our nuclear power stations, focusing on the protection of local atmosphere, water quality, soil and landform, to conserve natural biological habitats and biodiversity. Throughout the stages of site selection, feasibility study, construction and operation of nuclear power stations, relevant national environmental protection laws and regulations and related requirements are strictly implemented. We submit the environmental impact reports in accordance with the laws and are subject to the supervision of the national and local environmental protection authorities consciously.

We have formulated an environmental management system that is applicable to the Group. It specified the environmental policy of “compliance with regulations, safe operation, pollution prevention and continuous improvement”. Each nuclear power station had set up a special environmental protection management department with professional environmental protection personnel to formulate and improve the environmental management system. The operating nuclear power stations we manage have all obtained the ISO14001 environmental management system certifications. Every year, we release environmental management goals and indicators, identify and evaluate various environmental factors and formulate corresponding control and improvement plans.



Active Responses to Climate Change

In the context of global climate change and the need for robust governance of our nation's environment, all members in the community need to work together to promote the reduction of greenhouse gas emissions and work together to reduce the impact of global climate change.



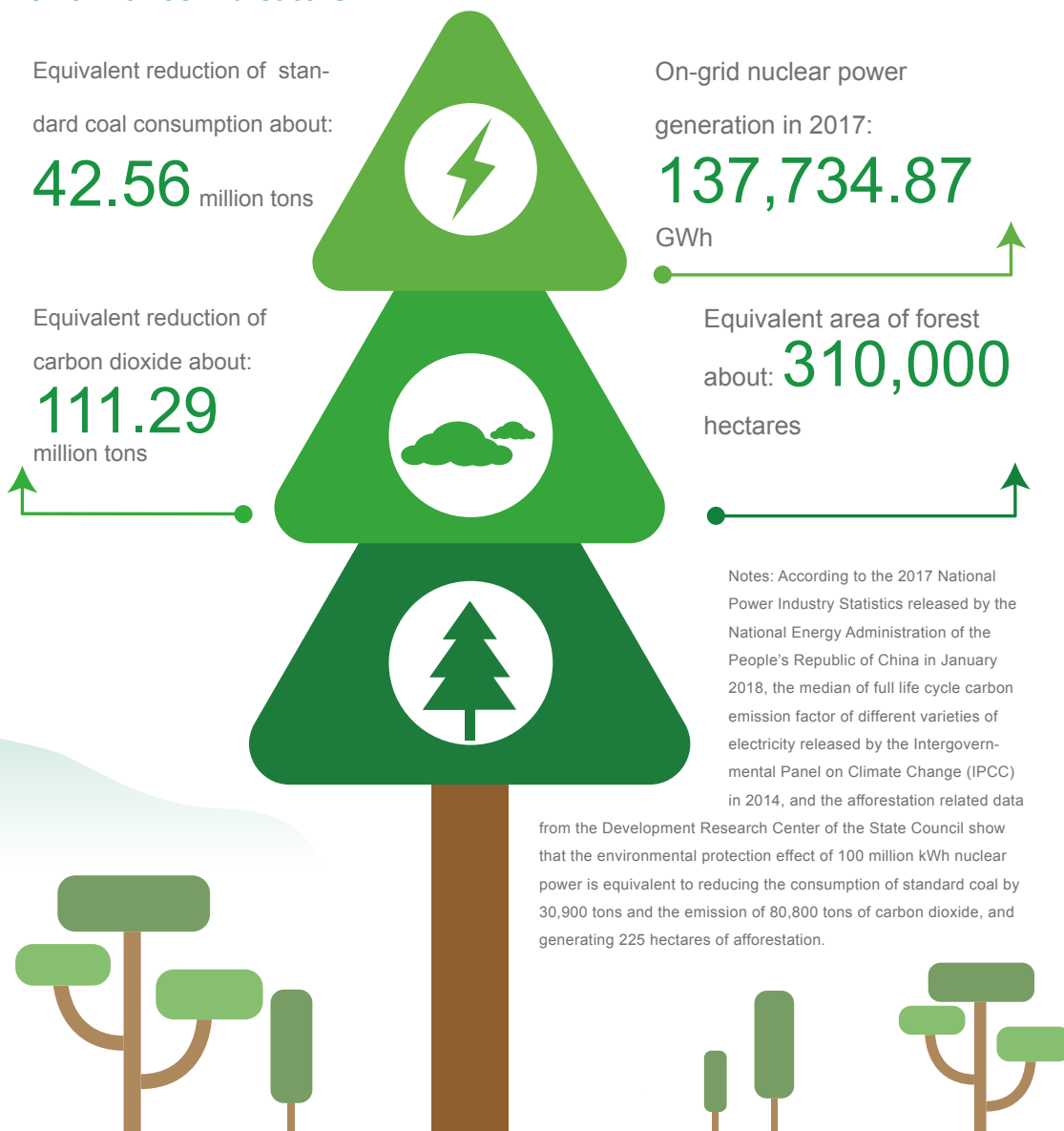
Promoting the Development of Low-carbon Nuclear Power

As promoted by the United Nations, the Paris Agreement signed by about 200 signatories under the United Nations Framework Convention on Climate Change became effective in 2016. China undertook to reach the peak carbon dioxide emissions reduction by around 2030 and realize the goal of 20% of non-fossil energy in total energy consumption in or around 2030. The 19th National Congress, held on October 18, 2017 further proposed the goal of speeding up reform of the system for developing an ecological civilization and building a beautiful China, and made commitments on active participation in global environmental governance and emissions reduction.

As a clean energy supplier mainly engaging in nuclear power generation, we are committed to promoting clean, stable and efficient nuclear power development and actively cooperating with China's energy planning and emission reduction targets to make a significant contribution to reducing carbon emissions.

On-grid Nuclear Power Generation Equivalent Emission Reduction

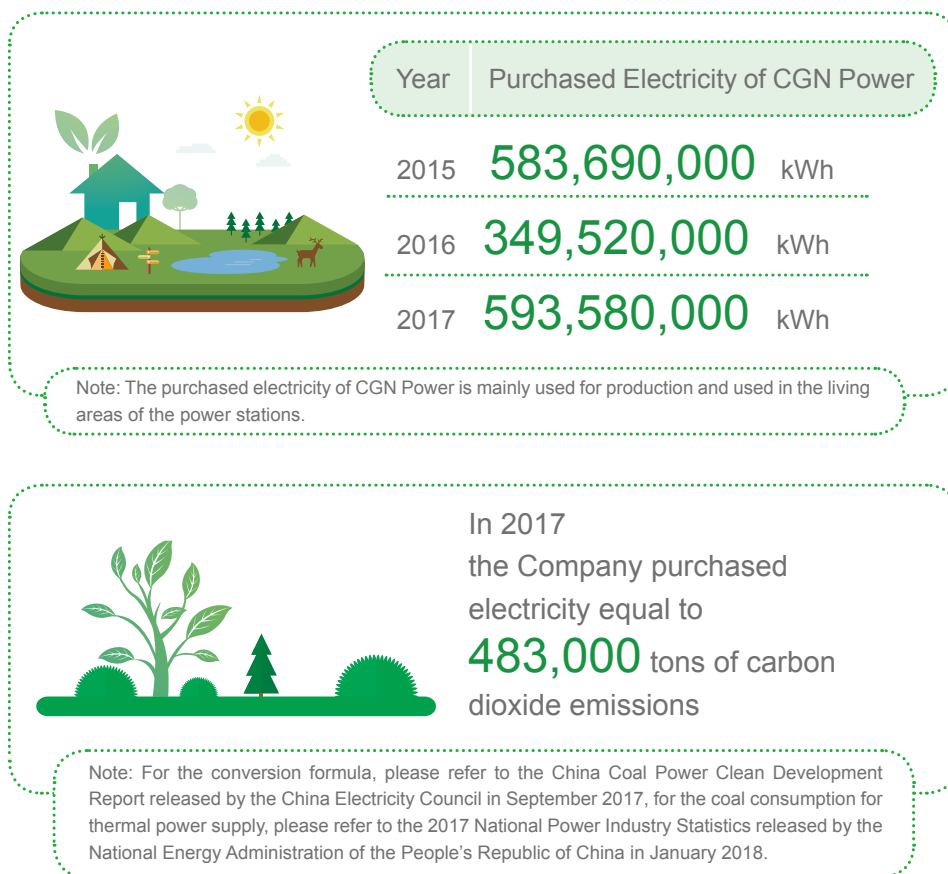
Performance Indicators:



Reducing Greenhouse Gas Emissions

Always attaching great importance to greenhouse gas emissions management in its operation and development, CGN Power has been reducing greenhouse gas emissions generated from production and operation by renovating the heat supply system, saving electricity for production and operation, and other measures.

The greenhouse gas emissions of the Company essentially come from electricity for production and operation.



Located in Northeast China, Hongyanhe Nuclear Power Station was established to provide heat for factories, systems and equipment in winter to ensure daily operation and for workers to meet their daily needs. Hongyanhe Nuclear Power Station fully utilized nuclear steam heat exchanger for heat supply in 2017, and has realized zero emissions of carbon dioxide and sulfur dioxide for heat supply. For heat supply, Hongyanhe Nuclear Power Station reduced its standard coal consumption by 20,000 tons and cut its carbon dioxide emissions by 73,340 tons.

Moreover, the vehicles of the Company are now managed by a third-party specialized vehicle management company. Some vehicles are new energy cars. Adopting a low energy consumption system, the automotive gasoline consumption and exhaust emissions are reduced as much as possible.

Rational Use of Resources and Energy

In line with the state and local environment protection policies and requirements, we improve the energy efficiency of facilities actively, manage resource utilization and improve resource utilization efficiency.

Improving Nuclear Fuels Utilization

Nuclear power stations primarily use nuclear fuels for power generation in a refueling cycle from 12 to 18 months. Continuously developing technically reliable and economic fuel cycle modes and refueling modes, we aim to enhance nuclear fuel utilization efficiency and save nuclear fuels. In addition, reducing the unplanned load reduction and temporary shutdown of nuclear power units also helps to improve the efficiency of nuclear fuel utilization and reduce the generation of radioactive waste.

Reducing Water Consumption

Our water consumption is mainly for production, office operation and daily life in the nuclear power stations, and we do not have any difficulty in sourcing water. In order to make good use of every drop of precious water, we have continuously monitored our total water consumption and sewage discharge and reused the water.

2017 Water
consumption:

17,710,000
tons



Water consumption per
unit of on-grid power
generation (Ton/GWh):

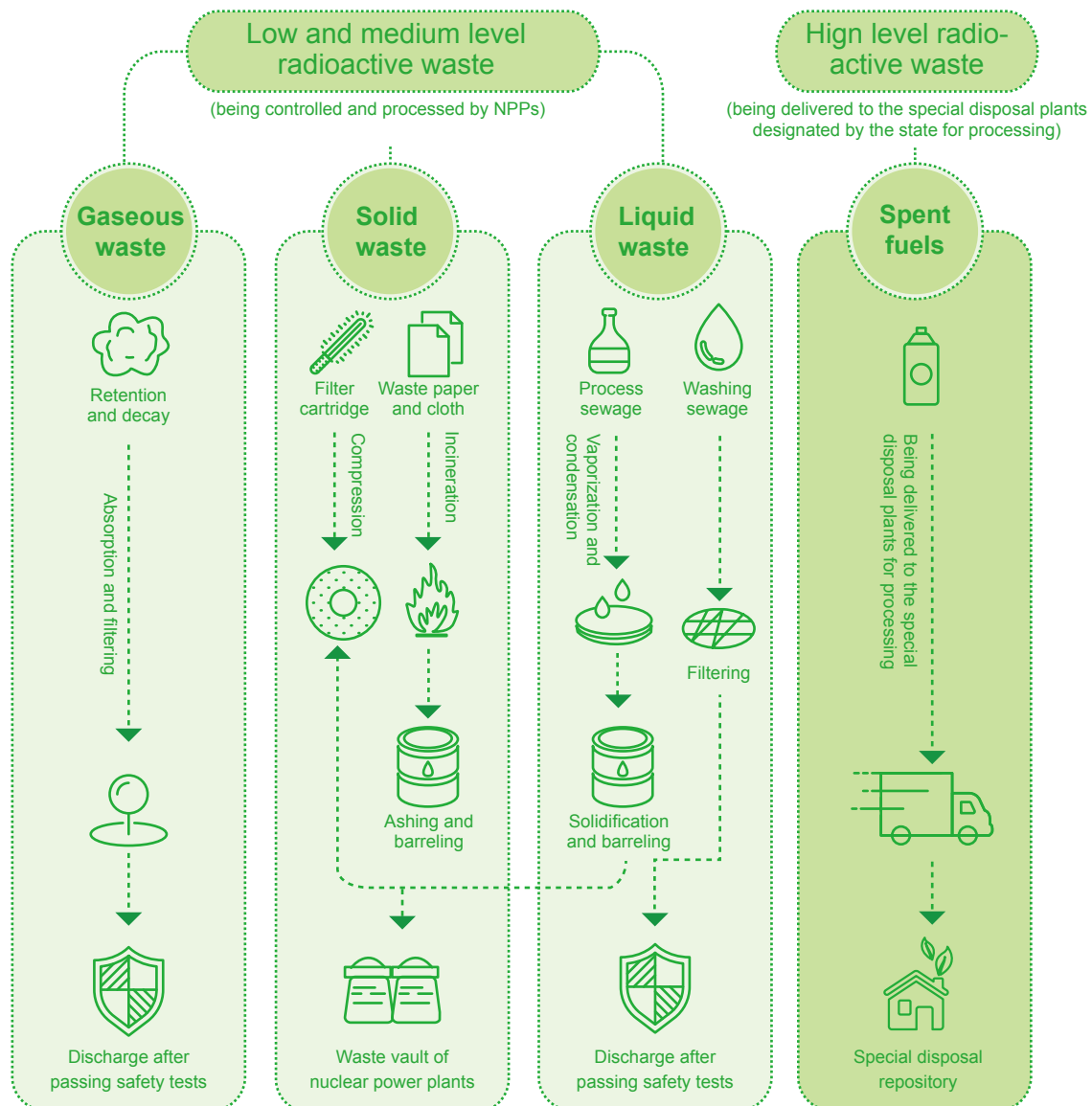
2015:	189
2016:	149
2017:	129

Our sewage is treated as per radioactive sewage and non-radioactive sewage (for radioactive sewage treatment details, please see the section headed "Committed to Reducing Pollution Emissions"). We strictly comply with the *Environmental Protection Law of the People's Republic of China*, the *Marine Environmental Protection Law of the People's Republic of China* and other national laws, regulations and local standards on disposal of radioactive sewage, and perform online monitoring. Meanwhile, we entrust the water quality test to qualified units to ensure that the sewage emissions can meet environmental protection requirements. Moreover, we use the recycled water system wisely for watering plants and cleaning roads, so as to reduce sewage discharge and save water.

Commitment to Reducing Pollution Emissions

CGN Power's primary pollutants can be classified as radioactive waste and non-radioactive solid waste. We have established well-defined waste management standards. We treat the wastes as per the waste type and dispose the wastes as per applicable regulations to reduce the impact of our production activities on the environment.

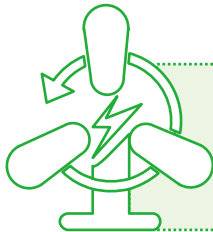
For the radioactive waste, CGN Power has put into place a well-established radioactive waste management system in accordance with national and industrial standards such as the *Regulations on Environmental Radiation Protection of Nuclear Power Plants (GB6249-2011)* and the *Technical Requirements for Discharge of Liquid Radioactive Waste of Nuclear Power Plants (GB14587-2011)*. The gaseous and liquid wastes must be discharged after they are found compliant upon sampling and testing. The discharge shall be monitored real-time by the online continuous monitoring system. If an abnormality is detected by the online monitoring system, discharge will be automatically terminated to ensure compliance with relevant state regulations.



In 2017, the radioactive wastes discharged by our nuclear power stations were lower than applicable state limits.

Radioactive Waste Discharge and Ratio to the State Limit of Nuclear Power Stations Managed by the Company within the Reporting Period																
	Daya Bay Nuclear Power Base			Yangjiang Nuclear Power Station			Fangchenggang Nuclear Power Station			Ningde Nuclear Power Station			Hongyanhe Nuclear Power Station			
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	
Discharged liquid radioactive waste (radionuclides other than tritium) to the state's annual limit	0.21%	0.17%	0.47%	0.5%	0.49%	0.38%	N/A	0.09%	0.78%	0.24%	0.32%	0.38%	0.47%	0.23%	0.22%	
Discharged gaseous radioactive waste (inert gases) to the state's annual limit	0.13%	0.14%	0.44%	0.18%	0.35%	0.30%	N/A	0.26%	0.39%	0.15%	0.58%	0.51%	0.14%	0.18%	0.15%	
Solid radioactive waste (m ³)	317.6	180.4	276.4	24.4	21.2	42.8	N/A	12.9	101.3	149.6	183.6	129.6	183.1	114.4	196.8	
Results of environmental monitoring	Normal	Normal	Normal	Normal	Normal	Normal	N/A	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	

Notes: Daya Bay Nuclear Power Base consists of Daya Bay Nuclear Power Station, Ling'ao Nuclear Power Station, and Lingdong Nuclear Power Station. The main causes for data variation include: different refueling outage schedules and different maintenance plans among different units.



We have continuously optimized production management processes, and adopted technologies to treat discharges specifically, so as to effectively reduce the emission of radioactive wastes.

Gaseous and liquid radioactive waste

- Optimize the operation of three-waste system, and carefully implement operational, management and maintenance activities.
- Carry out leakage checks for the systems to control the total volume and total radioactivity of liquid and gaseous waste discharged.
- Separate collection to prevent cross-contamination of different sewage.
- Rationally recycle the sewage collected by the Boron Recycle System (TEP).

Solid radioactive waste

- Work out detailed work plans and rigorously control the waste generated from operation and maintenance.
- Control the outer packaging materials brought into the radiation control areas.
- Provide training for operators, establish effective pollution control procedures to prevent cross-contamination.
- Correctly separate and collect the waste generated.
- Adopt advanced waste volume reduction facilities.

Moreover, the solid non-radioactive waste of CGN Power is primarily generated from engineering construction and day-to-day office operation, including construction waste, waste paper, domestic waste and building green waste. These wastes were disposed of by qualified third-party treatment institutions. Recycling and emission reduction have been adopted to fully utilize resources and minimize the impact on the environment.

In 2017, each of CGN Power's NPPs has received environmental monitoring from third-party specialized agencies. For example, Daya Bay Nuclear Power Station and Ling'ao Nuclear Power Station received Guangdong Environmental Radiation Monitoring Center to conduct nuclear power stations sewage discharge and ambient water quality monitoring. The monitoring results showed that the emissions were in line with the national emission standards.



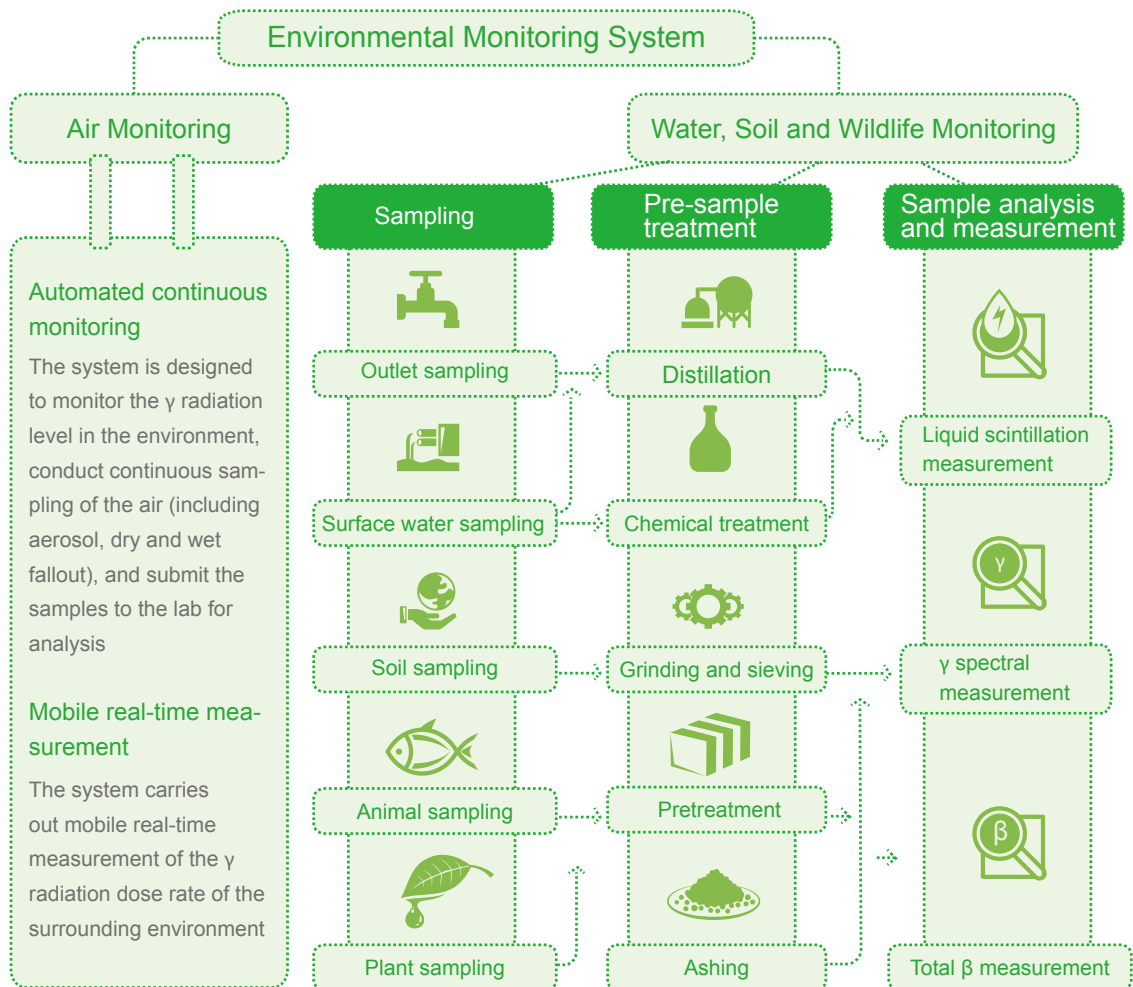
Timely Tracking of Environmental Impacts

Taking the impact of nuclear power operation on the surrounding environment into full account, we have developed well-established environmental monitoring systems to promptly track environmental impact and take actions, and prevent environmental damage by production. Meanwhile, the Company has worked with external regulators to ensure controllable environmental impact.

Continuous Internal Monitoring

We have established the environmental monitoring systems and environmental surveying record systems to continuously monitor the air, soil, water and wildlife within a radius of 10 km around our Nuclear Power Base on a regular basis. We timely release to the public monitoring data of each station and accept supervision of the public.





Case

Monitoring the soil around Fangchenggang Nuclear Power Station

On February 8, 2017, experts from the Nuclear and Radiation Safety Center of the Ministry of Environmental Protection of the People's Republic of China conducted a soil sampling and on-site survey at the Fangchenggang Nuclear Power Station and discussed environmental monitoring and other related fields.

According to the results of yearly monitoring of Fangchenggang Nuclear Power Station in 2017, the radioactivity in the surrounding soil has no change from that of background value.



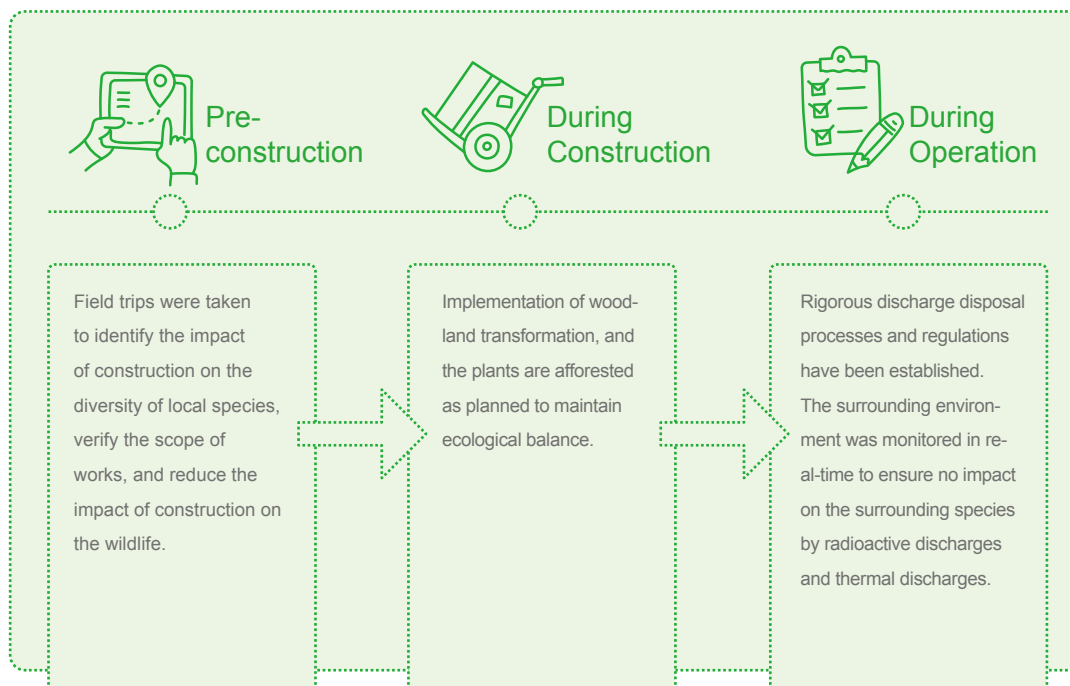
Effective External Oversight

As required by *National Monitoring Plan of Radioactive Environment*, and *Technical Specifications of Radioactive Environmental Monitoring (HJ/T 61-2001)*, the Ministry of Environmental Protection has monitored the surrounding radioactive environment of nuclear power stations. The monitoring results in 2017 indicated that the absorbed dose rate in air measured in the surrounding areas of Nuclear Power Base in operation in China were within the local natural background fluctuation range. The activity and concentration of radionuclides in such environmental media as water, soil and organisms around the nuclear power stations remained the same as previous years, and no impact was found on the environment and public health.

Daya Bay Nuclear Power Base is close to Hong Kong. In order to monitor the long-term changes in the radiation level of the environment, the Hong Kong observatory has set up 12 radiation monitoring stations to continuously measure the environmental γ radiation level of Hong Kong 24 hours a day and release the data to the Hong Kong citizens. Years of monitoring results indicated that there has been no increase of artificial radionuclides within Hong Kong since the operation of Daya Bay Nuclear Power Station.

Persistent Protection of Ecosystem

We are fully aware of the need to conserve ecosystem and are committed to reducing the impact on biodiversity. From the beginning of site selection, planning and design of nuclear power stations, we excluded areas with high biodiversity. During the construction and operation processes, we conducted measures such as ecological restoration, investigation and research of habitats and formulated measures for the protection of animals and plants, thereby to protect biodiversity.



While providing clean energy to our society, our nuclear power stations are also “wildlife parks”. The beautiful egrets and lizard (wild animals under national second class protection) are common companions to the employees of Daya Bay Nuclear Power Station. The national second class protected plant species, sparrow flowers are also widely grown around the Daya Bay Nuclear Power Station. The Chinese white dolphins, known as “mermaid of the sea” also visit Yangjiang Nuclear Power Station frequently.



04

Unite the Talents

Mastering business

Hard working with spirit

- ◆ Caring for Employees and Promoting Harmony
- ◆ Training Staff to Promote Development





Unite the Talents

Employees are considered the most important assets for the Company, and they are also the core driving force for a business' sustainability development. We adopted the concept of "Talent-lead Corporate Development" in employee recruitment, training and development, and worked hard to safeguard the Company's human capital, to cultivate outstanding management and technical personnel, and to provide an expansive platform for them to realize their innate potential.

Caring for Employees and Promoting Harmony

We respect and protect the rights of employees and are constantly identifying ways to improve the Company's remuneration system and to look after our employees' career development. At the same time, we also highly value their physical and mental health. We actively work to improve the working environment and provide our employees with health education and training; this better allows employees to fulfill their personal values and to achieve their career development goals in a warm, healthy and positive working environment.

Protecting Employees' Rights

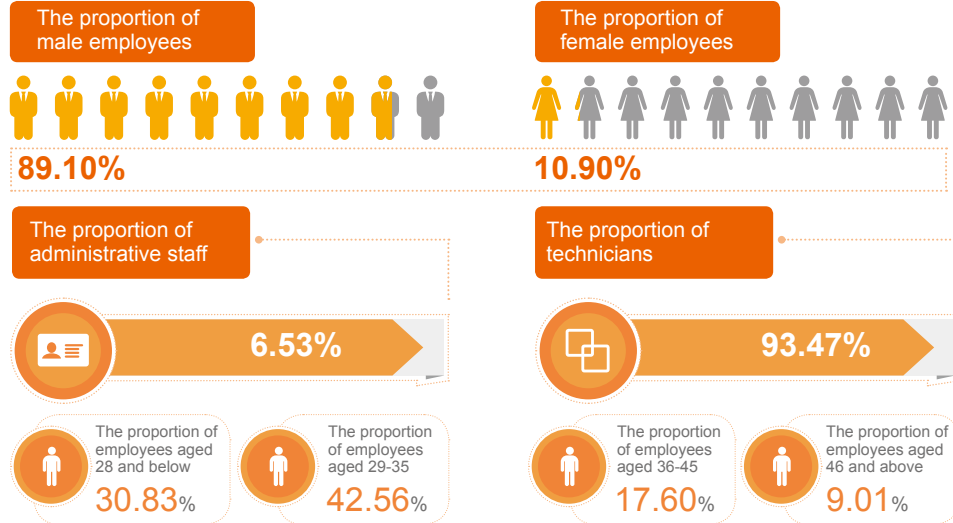
We strictly abide by the laws and regulations such as the *Company Law of the People's Republic of China*, the *Labour Law of the People's Republic of China* and the *Contract Law of the People's Republic of China*; and formulated the employee's management systems such as the Labour and Employment Management System of CGN Power and the Recruitment and Deployment Management System of CGN Power in accordance with the above laws and regulations. We ensure each and every employee or candidate is equally treated regardless of their race, colour, gender or age. Prior to an employment interview, candidates' ID card, education and other information are checked to prevent the inclusion of candidates under the age of 16. All of the Company's businesses prohibit child labour and any form of forced labour, and within the reporting year, these businesses strictly abided by the laws and regulations related to child labour and forced labour and received no reported incidents in these respective areas.

In addition, the Company has signed personal contracts with employees and signed a Collective Contract with the Company's trade union, in which working hours, rest and vacation, insurance, etc., are set out. For example, licensed workers in the nuclear power station operate in shifts for 21 days in a 6-week cycle. They also participate in training and conferences over a period not less than 5 days, and the remaining periods are designated for breaks. The Collective Contract was negotiated between the trade unions on behalf of the employees and the employers through equal consultation. The purpose of the Collective Contract is to rectify and prevent the unfairness of employment contracts so that employers and employees are on a level playing field. It also guarantees that employees can enjoy the national public holidays and apply for paid leave through a regulated application process. Details of the remuneration management system for employees are set out in the chapter headed "Human Capital" of the 2017 Annual Report of the Company.

We fully respect employees' opinions on corporate development and management, and we have been continuously improving our democratic corporate management system comprising of the trade union and employee assembly. All major issues in relation to employees' benefits have been deliberated and decided by the employee assembly.

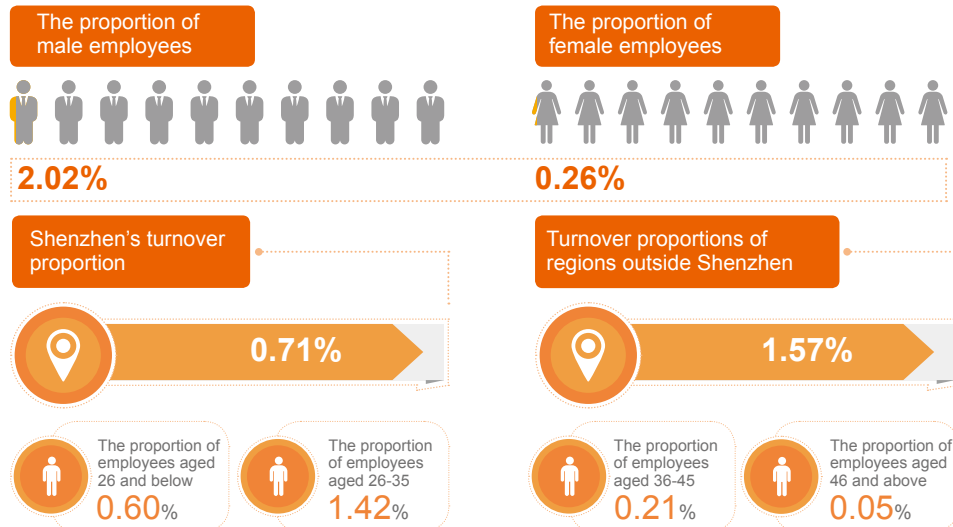
CGN Power's total number of employees in 2017: 20,037

Proportion of employment category*



*Since all of our major businesses are carried out in Mainland China, all employees are located in the Mainland.

Employee's turnover rate



Employee's social security coverage 100%



Average paid leave per employee 12 days



Valuing the Health of Employees

We strictly comply with the laws and regulations such as the *Safe Production Law of the People's Republic of China*, the *Fire Control Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* and the *Interim Provisions on the Supervision and Management of Work Safety at Central Enterprises*; and we also highly value the occupational health of our employees. The company has established an occupational safety management system and clarified the management policy of "Safety First, Prevention-oriented and Comprehensive Governance". The Company makes people's health and safety the top priority. It requires that all production and business activities be implemented only if safety and health is ensured, so the results of its implementation must also be safe and healthy.

We have built up a refined occupational health and safety protection system, and each nuclear power station is staffed with specialist agencies responsible for managing the occupational health and safety. We are also a recognized body for using the OHSAS 18000 system; the system has standardized the Company's occupational health and safety management, including identification and management of occupational hazard factors, full employment participation and proactive prevention, professional examinations by external agencies, and promotion, training and warning.

As contractors directly participate in construction and production activities at each nuclear power station, we also assume the responsibility of ensuring the occupational health and safety of the Company's employees, contractors, and other personnel who carry out relevant activities at the Company's workplaces.

In 2017, we continued to maintain good occupational safety and health performance. Related statistics are disclosed in the section headed Committed to Safety of this report.

Protection Against Occupational Health Hazards

- Special operators are provided with special protective devices such as ear protectors, protective suits and protective footwear
- The working environment of employees is placed under continuous monitoring, and working hours in areas subject to radioactive substances, high temperature, high pressure and noise are strictly restricted



Mental Health Counselling

- Professional psychological counselors are available for employees to make an online reservation 24 hours a day
- The WeChat account of psychological counselling was initiated to share mental health knowledge with employees on a regular basis



Professional Medical Support

- We have worked with specialized medical organizations to analyze the health conditions of and make adaptability assessments on employees at certain posts, and provide professional medical support and assistance for employees as required
- Free physical examinations have been arranged for employees on a regular basis, and the online employee health management platform has been established



Maximum Individual Radiation Dose Limit of Personnel (including employees, contractors and other people) entering the Control Area of the NPPs Operated and Managed by the Company (Unit: mSv):

NPP/Unit	2015	2016	2017*
Daya Bay Nuclear Power Station	7.14	8.277	6.756
Ling'ao Nuclear Power Station	8.51	6.071	6.610
Lingdong Nuclear Power Station	5.26	6.834	7.668
Unit 1, 2, 3 & 4 of Yangjiang Nuclear Power Station	6.72	13.078	7.889
Unit 1, 2, 3 & 4 of Hongyanhe Nuclear Power Station	5.62	5.404	7.803
Unit 1, 2, 3 & 4 of Ningde Nuclear Power Station	12.01	7.537	8.624
Unit 1 & 2 of Fangchenggang Nuclear Power Station	—	0.432	8.034

*The annual outage is the key factor affecting the individual radiation exposure of all NPPs. Compared with 2016, the major outage activities in 2017 at Ling'ao Nuclear Power Station, Lingdong Nuclear Power Station and Ningde Nuclear Power Station were basically the same. Therefore, the maximum individual radiation exposure did not change materially as compared with 2016. The major outage activities at Daya Bay Nuclear Power Station and Yangjiang Nuclear Power Station had been reduced. Therefore the maximum individual radiation exposure was less than that in 2016. The major outage activities at Fangchenggang Nuclear Power Station, Hongyanhe Nuclear Power Station had been increased. Therefore, the maximum individual radiation exposure was more than that in 2016. The annual maximum individual radiation exposure for each NPP is all much lower than the management target limits of the NPP, and also much lower than the limits as provided by the laws and regulations of the State.

Caring for Employees' Life

We care for our employees and have continuously launched a wide range of recreational and sports activities for them to keep a healthy work-life balance, and to maintain a good working atmosphere for employees to remain energetic and to maintain strong physical and mental health.

In response to employees' needs and to keep a spirit of mutual assistance and mutual love, we continuously launch special support programs for the employees facing difficulties.

In 2017, the Company reached out to

3,946 employees in

difficulty and arranged **229** visits to family members of employees that have long-term business trips.

The Photography and Illustration Exhibition of "Family Civilization"



The "2017 Family Civilization" photo exhibition officially took place on July 6, 2017. The photo exhibition recorded the features of nuclear power family truly, and reflected the spirit of love, positivity and sharing in nuclear power families.



DNMC's Fifth Basketball Competition



Between the evenings of August 2 to 7, 2017, DNMC launched the Fifth Basketball Competition. Every participant played hard and supported each other; the spirit of cooperation inspired every employee.

The Female Workers Committee of DNMC Organized Handcrafting DIY Activities



In order to attract more women to pay attention to their health, we used practical action to share our care for all of the Company's female employees. On September 17 and September 24, 2017, we organized two handmade fragrance DIY activities to further improve female employees' knowledge on health and to enrich their after-work cultural activities.



Taishan Nuclear's Long-distance Running Day and the Second Edition of the Mini Marathon were Organized Smoothly



One can use both feet to track their distance from their dreams, and use their sweat to forever remember the permanence of youth. On the evening of November 1, 2017, the second edition of the mini marathon long distance running day was organized with the theme of "Running for Fitness and Support of Taishan Nuclear".

Training Staff to Promote Development

Employees equipped with sufficient skills and experience are the Company's most valuable assets, and we support the development strategy of "strong talent, strong enterprise". We provide employees with clear career development pathways and targeted training programs to assist in their development; and to allow them to better contribute in parallel with the Company's growth.

Unimpeded Development Channels

We attend to the career development of employees, and encourage them to develop individual career development plans under the guidance and assistance of the Company. The Company offers two career development paths for management-level and technical professionals, and has established mechanisms for switchover between the two paths. Employees can achieve their own career development through the two paths according to their competence, potential and characters.



Upholding the basic requirements of “full-staff training, authorized employment and lifelong learning”, we have established management documents such as training management regulation, operation training rules, and the Company’s teacher qualification application and approval procedures. Combined with our development characteristics, we have developed our personnel training system as well as standardized and efficient training management systems, which effectively meet the personnel training requirements for the rapid development of the Company, and has equipped the Company with the core competencies of adapting to specialized, scale and market-oriented nuclear personnel training. According to the Two Career Development Paths, we have provided different training activities that are aimed at the career development of management and technical expertise, effectively satisfying the needs of different employees. For more details on training courses for our technicians, please see the section headed “Human Capital” of the 2017 Annual Report.

Average training hours per employee (approximate)

172 hours

The training rate of male employees

100%

The training rate of senior management member

100%

The training rate of female employees

100%

The training rate of middle management member

100%



Our Training Story



“Egrets — Flight Plan” Project and “Egret — Take-off Plan” Project

In order to strengthen the training of reserve cadres and to meet the needs of the future development of the Company, we launched a 100-person training program for reserve top management and medium and long-term reserve top management in June 2017.

We carried out the project design of “Egrets - Flight Plan” and “Egrets - Take-off Plan”. Through front-end evaluation, we comprehensively checked the status of students to promote their self-insight. During the training, we also designed a challenging learning course to help students break through their comfort zone and to gain maturity. At the same time, in order to further strengthen the management experience and the inheritance of excellent practice, the Company provided continuous guidance to students over the process of development. Furthermore, we introduced the training mode of mentor coaching for the first time in the field of cadre training. Through “mixed learning” (including classroom teaching, online learning, evaluation feedbacks, reading books, student forums, and other forms of cross-field exchanges), the Company accelerated students’ practical application of knowledge and understanding.





Student Sharing



"Through the feedback gained from 360 degrees of leadership assessment, the benefits were great. As a mid-level management member, I re-recognized myself and my shortcomings, which helped me focus on my working direction and method of applying my effort. I also learned new theoretical knowledge, enriched my knowledge reserve, widened my horizons, expanded my thinking, liberated my mind, was inspired with enthusiasm and my heart was touched. I received a comprehensive improvement of the idea and concept behind leadership in team management."

——Flight trainee Zhou Guofeng



"Action learning provided us with new ways of learning, from divergence, brainstorming to convergence, from the definition of problems and analysis of root causes to programme selection and the action plan. Following a lively discussion and meticulous research, our team successfully completed the opening phase of the work. This is a very fruitful study, and we will be able to apply the theory gained in the practical work in future."

——Flight trainee Yang Yuzhong

Carrying Forward the Spirit of the Craftsman

We have always upheld the core value of “Doing Things Right in One Go”, advocating a craftsman-like focus, meticulousness and seriousness toward each task. With the development of the Company and the subtlety of the Company culture, we have fostered a lot of outstanding talent and assisted employees in achieving an outstanding career.

In the context of the country's efforts to promote and advocate the "Craftsman's Spirit", we have successively unearthed a number of outstanding nuclear power engineers who have the "Craftsman's Spirit".



“Great Country Craftsman” Guards Nuclear Safety



On May 1, 2017, China's first generation of nuclear fuel operator, Qiao Sukai, appeared on CCTV's program of “Great Country Craftsman”. The programme told the story of this master who had spent 25 years to deal with nuclear fuel. He created a “zero” error record for 46,000 steps of continuous nuclear fuel handling with superb craftsmanship and rigorous attitude. With his tenacity in research, he broke the passive situation in which nuclear power plant refueling equipment relied on foreign experts. He also created the only team in China that is able to repair damaged nuclear fuel underwater, he has interpreted our “craftsman” style for guarding safety.

Qiao Sukai, from an apprentice of learning lifting operation and driving operation at site to senior engineer and refueling consultant, has trained 5 refueling consultants, more than 30 directors in charge of refueling and more than 50 operators controlling refueling machines. He has trained 4 teams to master the related skills of repairing and refueling. There are 19 projects he hosted and participated in which have obtained national patents. Some parts of these projects also won National Energy Awards.

Up to now, Qiao Sukai's team has completed more than 120 tasks of loading and unloading nuclear fuel for 20 nuclear power units in operation, which has made an important contribution to the Company's sustainable development.





“Nuclear Power Craftsman” — CGN Power's Best Maintenance Person



In 1996, 18-year-old Wang Jiantao went southward to the Shenzhen Daya Bay Nuclear Power Station. Carrying over 20 years of experience, now he is a technical expert that has earned “The State Council Government Special Allowance”.

Since his arrival to the Company, Wang Jiantao devoted himself to electrical maintenance. He possesses excellent talent in the field of maintenance skills and scientific research innovation. At present, Wang Jiantao has independently developed 54 new methods of maintenance and special tools, and applied for 19 national patents. In April 2017, CGN Power

formally established the master skills laboratory named after “Wang Jiantao” in Shenzhen.

As an outstanding employee of the Group and CGN Group, he adheres to the core value of “Doing Things Right in One Go”, the exciting story about Wang Jiantao is still ongoing, and in the future he will lead more young people to run the same maintenance road.



Shi Xiuan from CNPRI Won the Honorary Title of the “Young Pioneer of the Central Enterprise”

From July 27 to 28, 2017, the Communist Youth League Working Conference of Central Enterprises work conference and the Fourth Central Committee of the Youth Federation were held in Beijing. Shi Xiuan from CNPRI was awarded the honor of “the Young Pioneer of the Central Enterprise”.



Shi Xiuan is an outstanding representative of many front-line scientific research engineers in the reactor engineering design and safety research center. As the technical director of “HPR 1000” reactors, he led the team to succeed in creating three new areas of our own design and to reach an internationally advanced standard. As the head of our advanced nuclear energy strategy special design technology, he helped the team break through a number of key technical problems, such as reactor design, software platform construction, etc. Through the national “12th Five-Year Plan” Major

Scientific and Technological Infrastructure — the project of China Initiative Accelerator Driven System (CIADS), he led the team to breakthroughs which have laid a key technical foundation for domestic nuclear energy, and enabled us to become a world leader in this area.

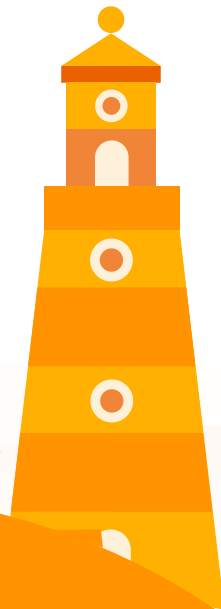


CGN Engineering Li Qiangtao Won the Title of "Shanghai Craftsman"



On September 19, 2017, the "Shanghai Craftsman" conference, sponsored by the Shanghai Federation of Trade Unions, was held in Shanghai. Li Qiangtao from CGN Engineering won the title of "Shanghai Craftsman" in 2017, which was the first case in the Company.

Li Qiangtao is a nuclear power worker, and was engaged in the commissioning of the nuclear power projects in Ningde for three years; mainly engaged in the design of the nuclear island arrangement. During his work, he integrated design with commissioning, and compiled the "Standardized Flow Chart" and "Commissioning Database", which improved the efficiency of field commissioning. He has undertaken more than 10 research projects for the National Energy Administration and the Company, obtaining 8 inventions and utility model patents. He was received multiple honors in Shanghai and also several provincial awards.



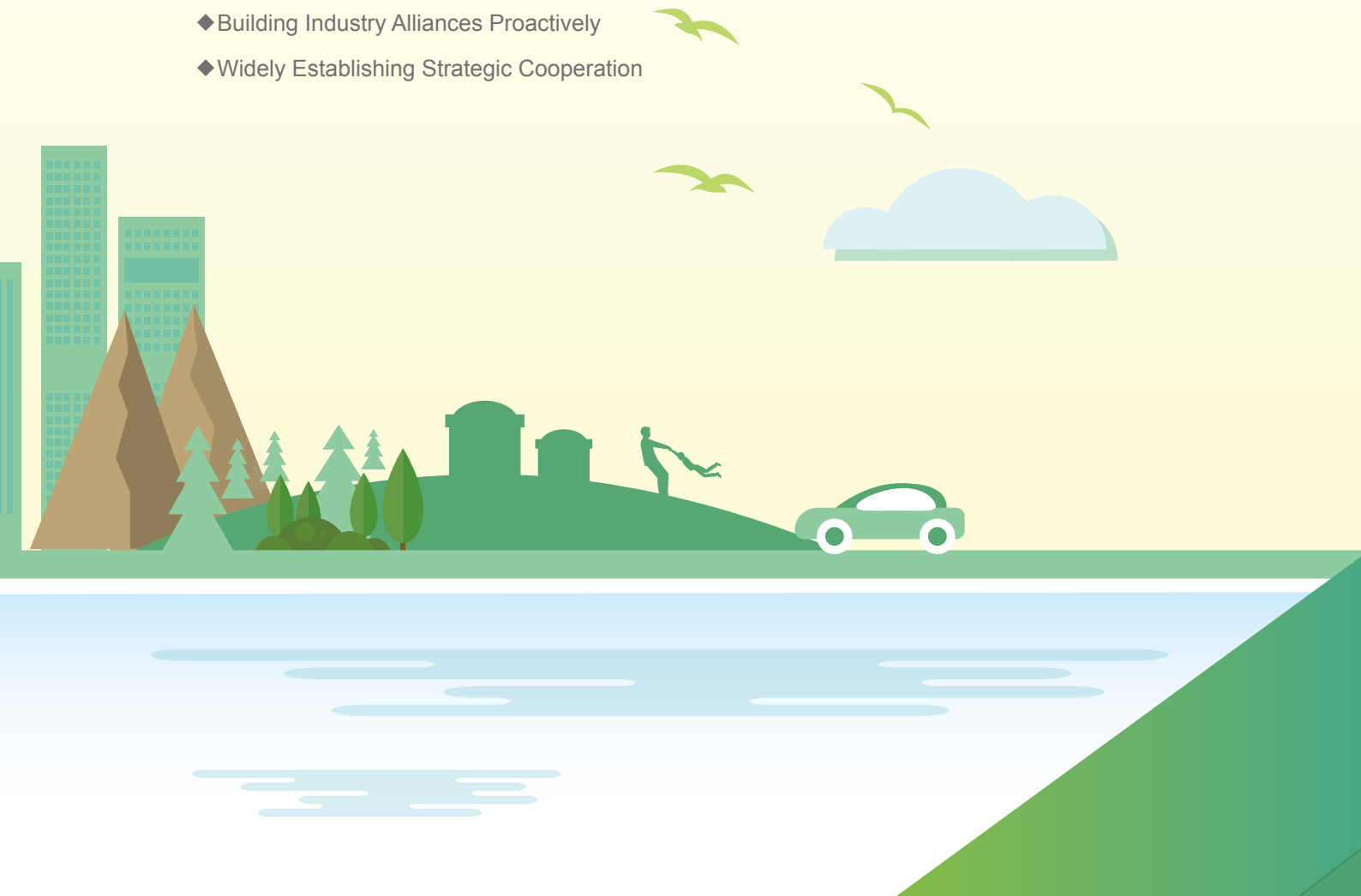
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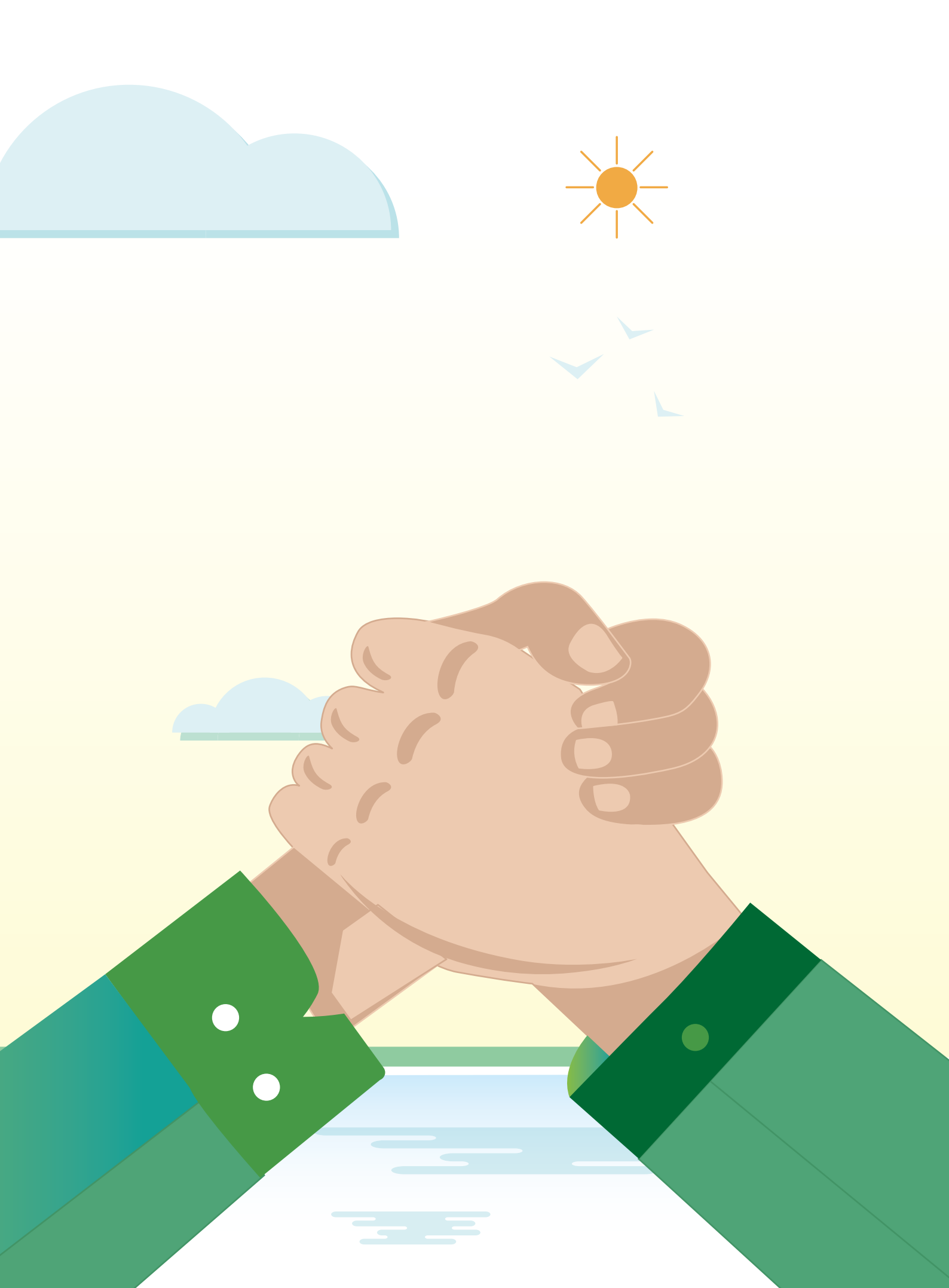
Cooperate to Develop

Building eco-partnership based on win-win idea

Promoting sustainable and healthy development of clean nuclear energy industry

- ◆ Building Industry Alliances Proactively
- ◆ Widely Establishing Strategic Cooperation





Cooperate to Develop

In order to uphold the philosophies of mutual benefit and win-win cooperation within the nuclear power industry and to contribute to social development, the Company has been communicating actively and working closely with our partners to jointly address oncoming challenges.

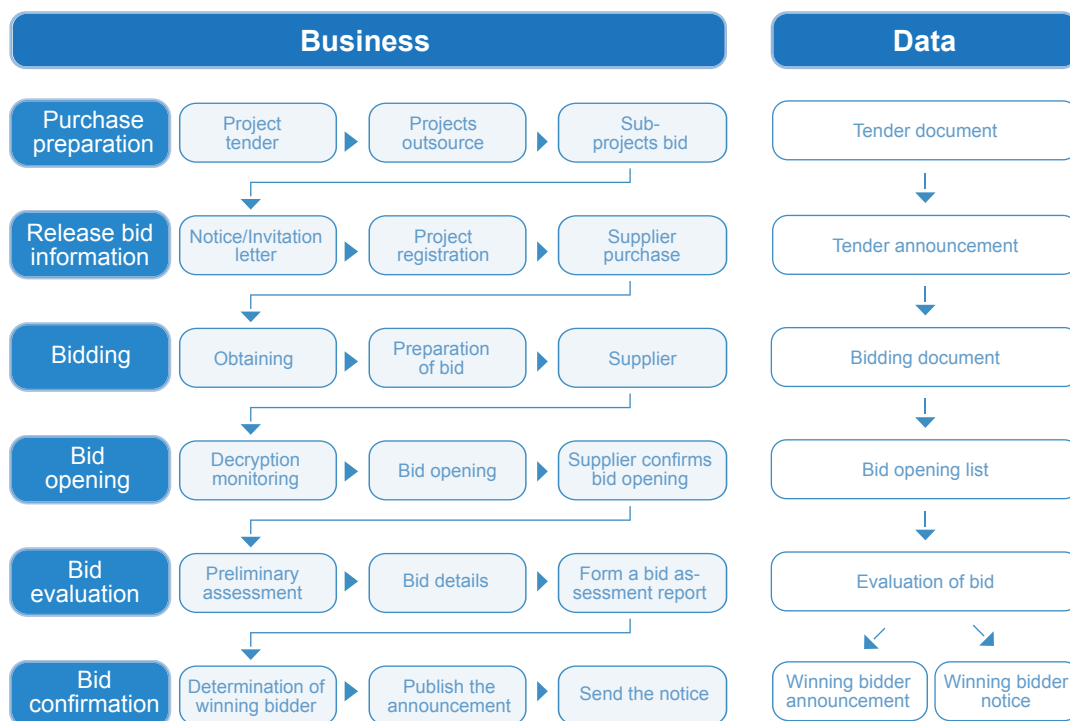
Building Industry Alliances Proactively

In order to enhance the communication and interaction between enterprises, and to improve their comprehensive strength, we have proactively built an Industry Alliance. Also, we have continually innovated and set ourselves a high standard to enhancing the upstream and downstream quality of management; propelling the common development of nuclear power industry forward is our orientation of work.

Advocating “Transparent Sourcing”

We strictly abide by the laws and regulations such as the *Bidding Law of the People's Republic of China*. In upholding the principles of openness, fairness, justice and standard, we advocate transparent sourcing and look to continuously improve our tendering system by putting our responsible procurement ideas into practice.

Flow Chart of CGN Power’s Bidding Process



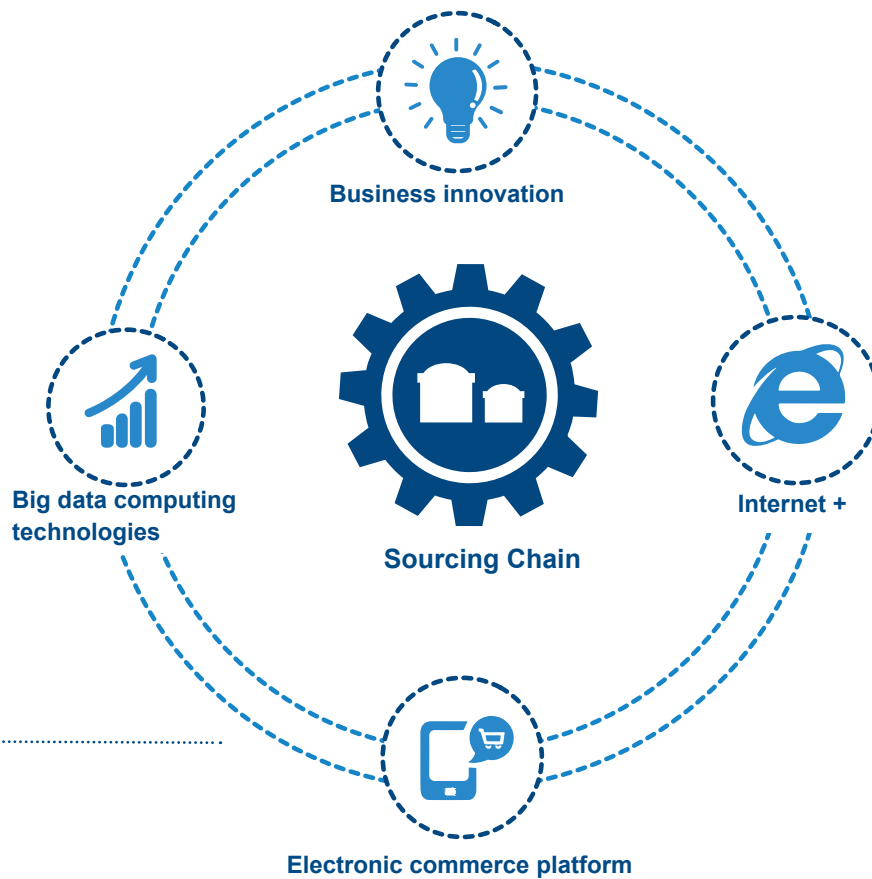
Case

The Company was Invited to Participate in the 2nd “Forum on Ecological Development of Sourcing Chain”

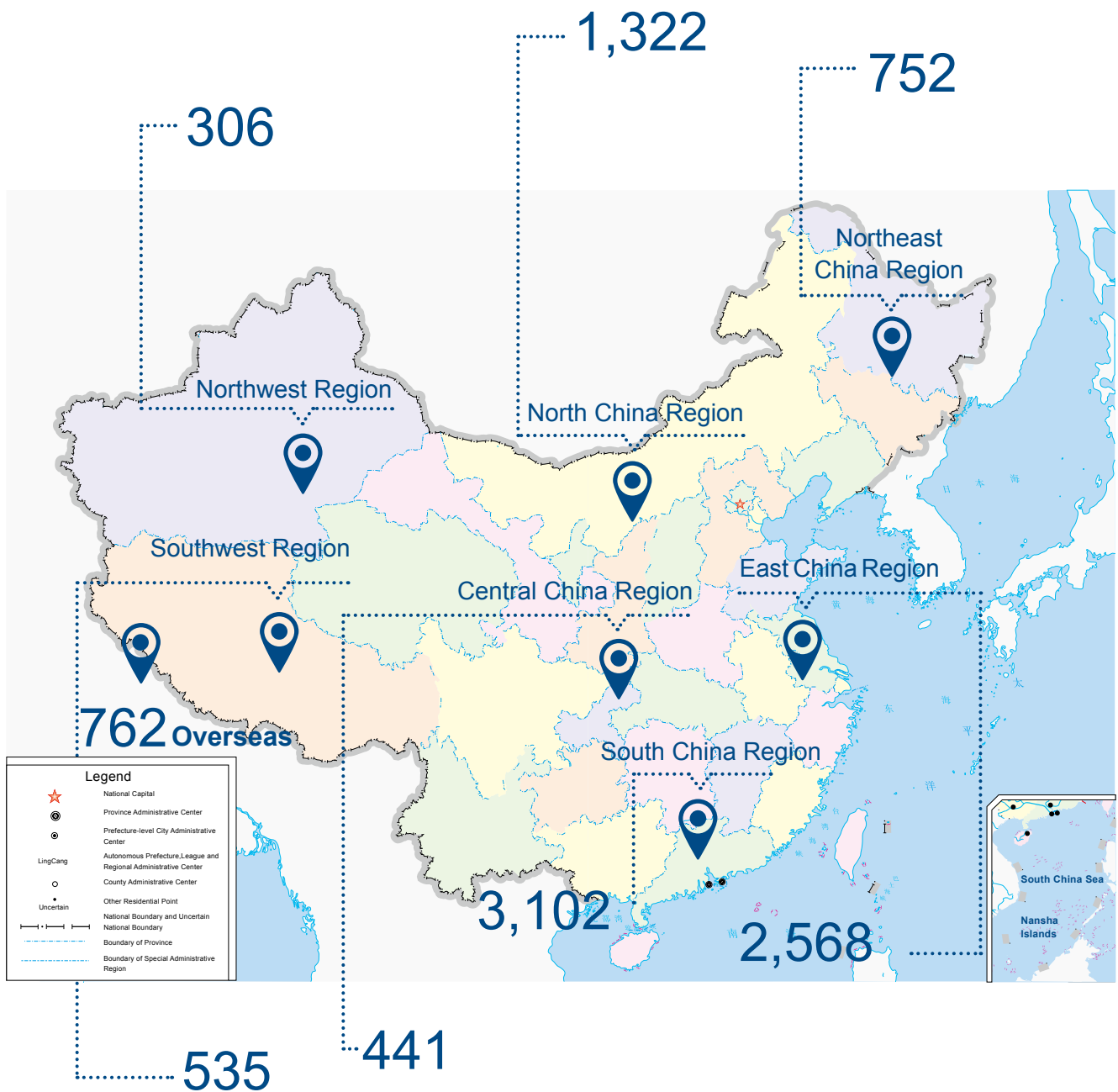
On November 10, 2017, the Company was invited to participate in the 2nd “Forum on Ecological Development of Sourcing Chain” launched by the China Tendering and Bidding Association with the theme of sunlight procurement and achieving full process e-tender bidding. We shared our performance and experience on the construction of electronic commerce platform to the participating experts from other central enterprises, in the field of bidding and well-known people from the sourcing management field. Our talk caught widespread attention from our peers.



In addition, the Company also held discussions with well-known manufacturers on how to achieve the applications of electronic big data through the whole process and achieve business innovation. With the “Internet +” and big data computing technologies becoming more and more popular, we strive to further optimize bidding procurement management.



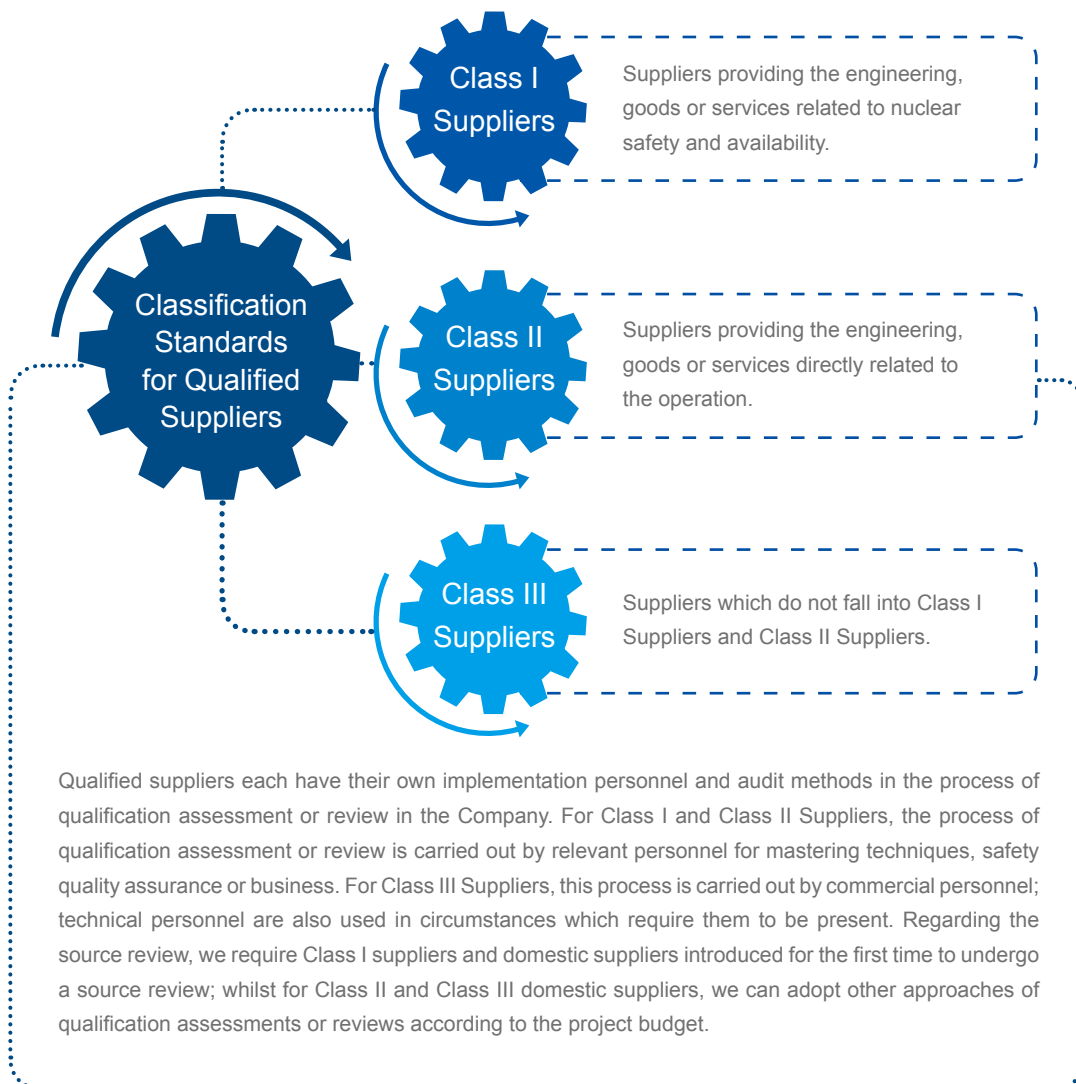
As of the end of 2017, the Group and affiliated companies had 9,788 suppliers (more details on the selection criteria for “qualified suppliers” is presented in “Optimizing Supply Chain Management”). Among these suppliers, there are 9,026 suppliers in Mainland China located in 31 provinces and municipalities.



Optimizing Supply Chain Management

The Company has always attached importance to the management and daily supervision of the supply chain. We have developed strict management methods for supplier performance evaluation and evaluate the qualification of suppliers from four dimensions (procurement process, contract execution, quality supervision and quality assurance). Suppliers are divided into three types - "Potential Suppliers", "Qualified Suppliers" and "Blacklisted Suppliers" respectively in supplier management. "Potential Suppliers" refers to suppliers out of qualification review or expired members on the ECP; "Qualified Suppliers" refers to suppliers that have met the requirements in the corresponding product qualification evaluation; "Blacklisted Suppliers" refers to suppliers who have had a record of improper bidding, bribery, breaching important contracts, responsible for serious liability accidents or received negative evaluations. Our usual practice is not to use "Blacklisted Suppliers".

In order to manage various suppliers effectively, we will mark the "status of qualification assessment" of suppliers according to the above classification principles on the ECP system. At the same time, we also subdivide "Qualified Suppliers" into three types.



Methods of Qualification for Suppliers in CGN Power

Document Qualification

We have sent qualification documents to suppliers and judge whether they are qualified for bidding and performing the contract according to their return documents. The main evaluation factors include basic qualification, supplier performance, safety condition situation, quality, environment, technical level, financial situation, etc.

Source Qualification

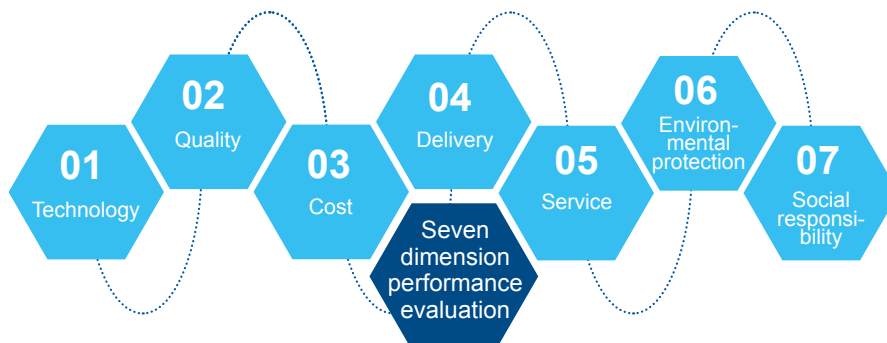
For suppliers that require source qualification, it is necessary to visit places where suppliers are based after they have passed document qualification; and to assess the parts of safety, quality, environment, technology and business where required. In accordance with the type of planned supplies, we adopt a corresponding strategy of assessment and draw up comments in the text independently.

Other Qualification

Due to the nature of different businesses, the subsidiary companies and affiliates can freely choose to entrust external agencies to assess, simplify the course of qualification or use other special assessment methods in accordance with their implementation rules.

We stipulate that suppliers who sign contracts or orders with companies must be qualified suppliers through qualification review, and the procurement of projects, goods or services cannot exceed the supply category approved by qualification. In order to further improve the upstream and downstream performance of environmental and social responsibility of the supply chain, we pay more and more attention to integrating environmental and social responsibility into our supply chain management in the process of selecting suppliers. The Company requires the suppliers to comply with national environmental protection regulations and to solve related problems in accordance with the ISO14001 environmental management system standards and requirements in the process of construction. During the operation, the supplier should pay attention to the protection of the environment, green vegetation and ancient trees; it is prohibited for forests to be destroyed and suppliers must comply with fire prevention regulations in mountains and forests. Through the integrated use of the environment management system and measures, the supplier should also minimize the generation of solid waste.

According to relevant laws and regulations of national nuclear safety, we have formulated strict management measures for supplier performance evaluation and revised these measures in 2017. The comprehensive performance evaluation of suppliers is required to cover at least seven dimensions including technology, quality, cost, delivery, service response, environmental protection and social responsibility, and this evaluation work is conducted regularly. Among them, main subsidiaries and affiliates companies should organize a performance evaluation at least once a year for the supplier with the contract being executed. The evaluation result will be the basis for qualification and subsequent procurement review of the supplier.



Widely Establishing Strategic Cooperation

We are actively pursuing cooperative opportunities with the government, enterprises, professional institutions and research institutes. Through the collaboration with associated agencies and other organizations, the Company makes full use of its advantages in the nuclear power industry and deepens its cooperation level both inside and outside of the industry in order to achieve mutual benefits and co-development.

Case

Establishment of the Academic Committee of Shenzhen Key Nuclear Reactor Laboratory

In order to promote the development of nuclear reactor-related experimental research, to enhance the cooperation and communication related to domestic and overseas technology and to provide strong technical support for subsequent experiments and research projects, we established the Academic Committee of Shenzhen Key Nuclear Reactor Laboratory. This Committee is comprised of relevant experts from the Ministry of Environmental Protection, Shanghai Jiaotong University, Chongqing University, Xi'an Jiaotong University, Harbin Engineering University, Shanghai Institute of Nuclear Engineering, Hualong International Nuclear Power Technology Co., Ltd., General Nuclear Energy System Co., Ltd. and CGNPC .



Case

Signing a Strategic Cooperation Framework Agreement with the Center for Nuclear and Radiation Safety of the Ministry of Environmental Protection

On February 24, 2017, the CGN Engineering and the Nuclear and Radiation Safety Center of the Ministry of Environmental Protection ("Nuclear Safety Center") signed the "Framework Agreement on Fire Safety Strategic Cooperation". In the future, both sides will take advantage of each other's respective professional fields to the fullest extent and conduct research and application work together. Research and application work related to fire safety in nuclear power plants is intended to be established together to improve fire safety regulations, norms and standards in relation to nuclear power plants.



Case

The First Joint Symposium on Equipment Procurement for Nuclear Power Engineering was Successfully Held in Daya Bay Nuclear Power Base

On November 7, 2017, the first joint symposium on equipment procurement and the inaugural meeting of the nuclear power engineering equipment procurement association, sponsored by CGN Engineering, was held at Daya Bay Nuclear Power Base. Related business directors from China Nuclear Power Engineering Co., Ltd., State Nuclear Power Engineering Company Limited as well as CGN Engineering attended the symposium. In this meeting, three companies sent their representatives to sign a joint-declaration of nuclear power construction and equipment procurement.



The opening of symposium is the first attempt of three sizeable engineering companies to synergize their development and to share mutual benefits in the field of equipment procurement management in China. Establishing the association of equipment procurement will continue to promote the quality of nuclear power equipment procurement effectively, and jointly safeguard the healthy and orderly development of China's nuclear power industry and equipment manufacturing industry.

Case

CNPRI Held a Confederation on Intelligent Equipment and Robotics Innovation

On December 22, 2017, the conference of nuclear power intelligent equipment and robotics innovation alliance was held at Daya Bay Nuclear Power Base, Shenzhen. The Ministry of Science and Technology of the People's Republic of China and the relevant leaders of the Shenzhen Science and Technology Commission, experts in domestic intelligent equipment and robotics, and representatives of more than 60 alliance units attended the conference.

In the conference, related representatives from CNPRI and over 20 union members signed nearly 10 cooperation agreements and cooperation contracts relating to scientific research and industrialization, and discussed technology innovation, market cooperation, future planning, standard construction and other topics in depth.





06

Cherish the Neighborhood

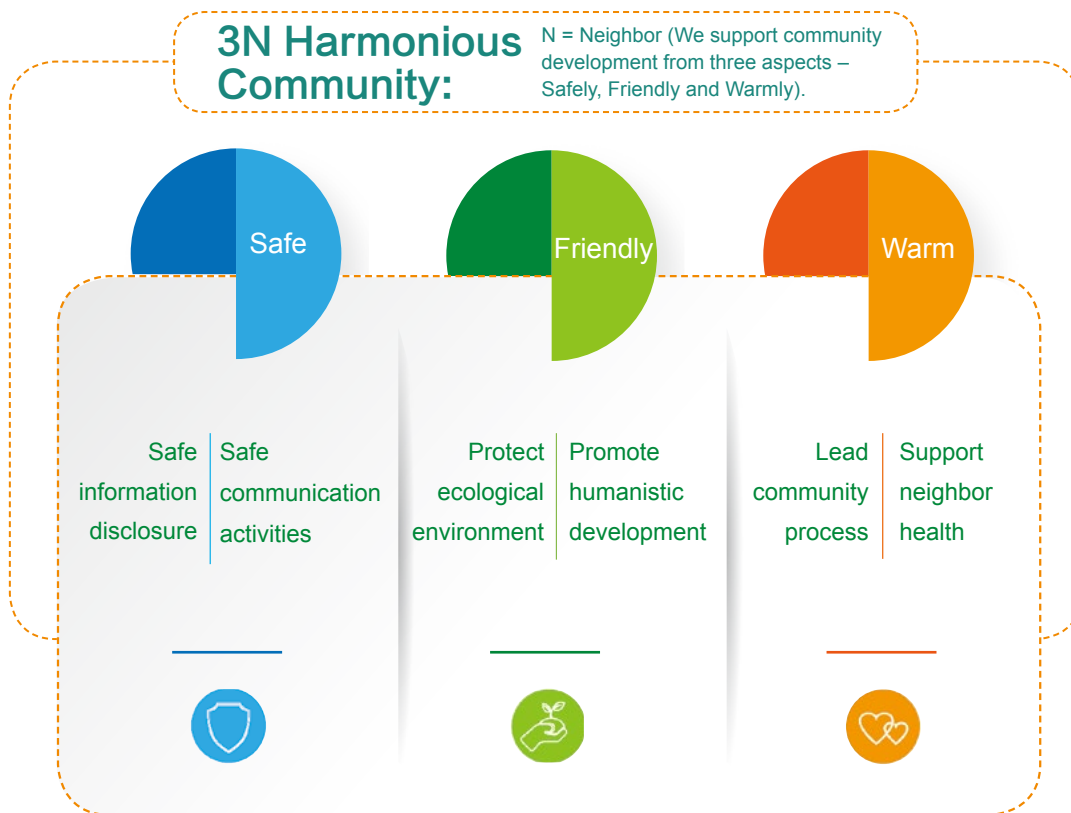
Construction public welfare and promotion of social brand

- ◆ Transparent Information to “Safe” Neighborhood
- ◆ Caring for People’s Livelihood to “Friendly” Neighborhood
- ◆ Helping Communities to “Warm” Neighborhood



Cherish the Neighborhood

We understand that the understanding, trust and support from the community and the public are one of the key guarantees to sustainable development of the Company. We pay attention to the embodiment of the social value and integrate the enterprise social responsibility into daily production activities and working concept. Upholding the “Safe, Friendly and Warm” - “3N” community development idea, besides providing energy to surrounding economic development, we eagerly participate in social practice and proactively communicate with the community to understand their development demands and contribute to a harmonious community.



Transparent Information to “Safe” Neighborhood

We regard “transparency” as an important prerequisite for achieving effective communication and gaining public trust. We constantly explore transparent communication mechanisms and continuously expand communication channels to allow the public to gain a comprehensive understanding of nuclear power and build their trust in nuclear power.

Publicize Nuclear Power Information

We take initiative to respond to social concerns through publicizing information, actively building a platform for communication and inviting the public to approach nuclear power knowledge at “zero distance”. We have established an extensive nuclear and radiation safety information reporting and disclosure system. After putting units into production, all Nuclear Power Bases of our Company disclose the monthly operating data and events through the Nuclear and Radiation Safety Information Disclosure Platform on our website. All level 0 and above operational events are publicized within 2 working days (or 72 hours during holidays). Furthermore, we address public concerns about the development of nuclear power through holding news conferences and adopting new media and other forms of communication to ensure that the public has right to know and supervise nuclear power plants' safe operation.



Press conferences

In 2017, the Company and nuclear power bases held 11 press conferences to release major events in relation to our corporate development and construction and operation of NPPs.



Environmental, Social and Governance Report

We have released the Environmental, Social and Governance Report every year since 2015 to disclose our strategies, management, actions and performances in relation to sustainable development.



New media

NPPs operated and managed by the Company have opened Microblog and Wechat Account to disclose the latest information.

Popularize Nuclear Power Knowledge

As a nuclear power enterprise, the Company has been undertaking the responsibility of popularizing nuclear power knowledge. In our nuclear power project areas and the Company, we have 12 permanent science exhibition halls, which are open to the public all year round. In September of 2017, we established its first provincial level, large-scale nuclear power science exhibition hall in Nanning, Guangxi Province. Thereafter, the exhibition hall has become an important nuclear power education center in Guangxi Province. The exhibition hall is also recognized as one of the “HPR1000” demonstration projects, and has become a significant demonstration of nuclear power clean energy to the public in the “One Belt, One Road” areas.

In order to promote the knowledge of nuclear power to more primary and middle school students in a lively and interesting form, we continue to promote the activities of “nuclear science popularization on campus and in the classroom” (“the Activity”). The activity was initiated in Hongyanhe Nuclear at first, and now is promoted around all other Nuclear Power Bases, including Guangdong, Liaoning, Fujian, Guangxi and several other provinces. By December 31, 2017, over 17,000 students from more than 100 schools were involved in this activity.



Case

Building A Professional Nuclear Science Popularization Guide Team with Guangxi Science and Technology Museum

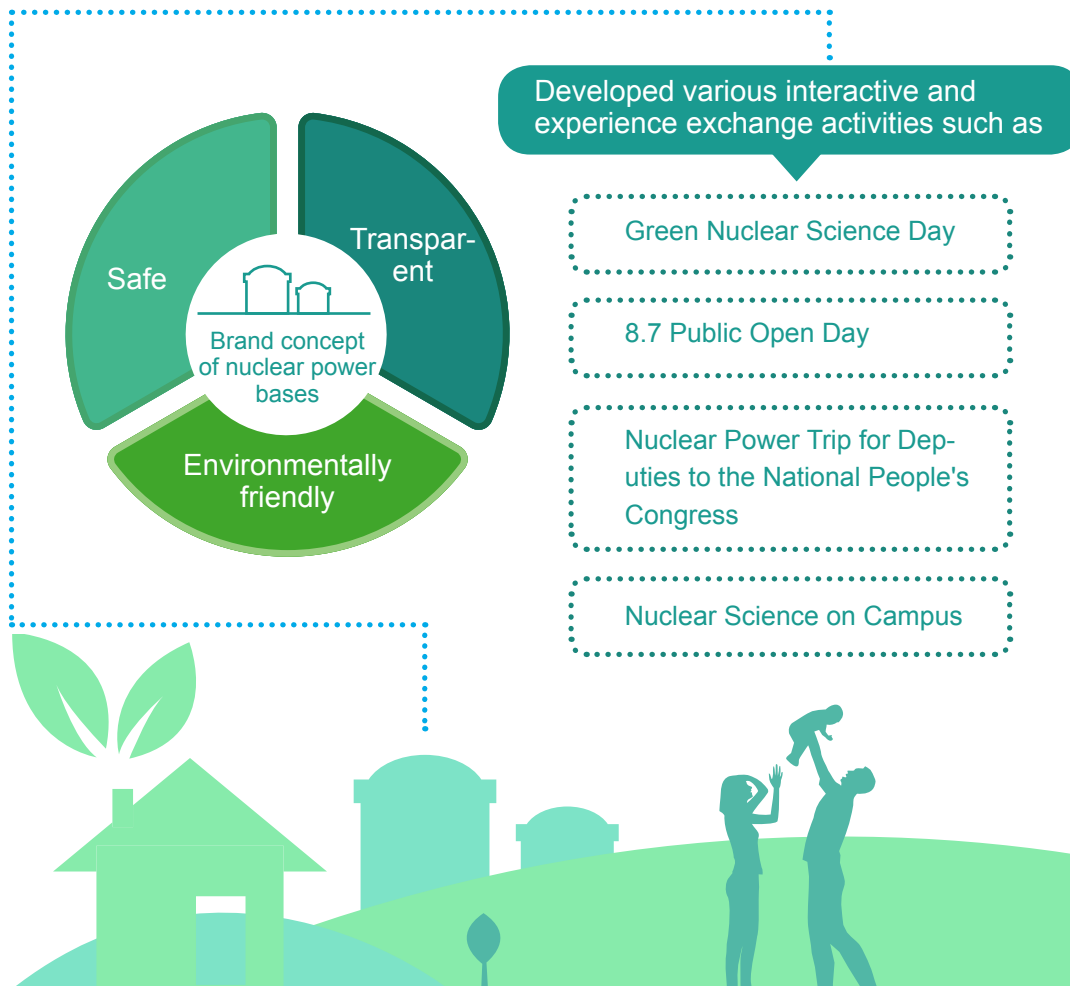
On December 18, 2017, Fangchenggang Nuclear and Guangxi Science and Technology Museum together successfully accomplished a training program for guides in Nuclear Power Science Zone in the museum. A total of 120 people from both management team and guide team of Guangxi Science and Technology Museum have participated in the training. The training program lasted for two months and was conducted in three phases. The aim of the training program was to build a professional nuclear science popularization guide team and expand the team's nuclear power knowledge in order to enhance the touring service quality in the museum, and enable the museum to better explain nuclear power.



Open Nuclear Power Base to the Public

As we adhere to an open and transparent attitude, we open nuclear plants bases for public visiting and carried out a series of nuclear science popularization activities so that the public could gain an intuitive understanding of the nuclear power safety and nuclear power development. By the end of 2017, more than 600,000 citizens had visited the Nuclear Power Bases.

In recent years, the Daya Bay Nuclear Base continues to innovate medium and form of popularization of nuclear science and promotion of public communication, including promoting nuclear science education through media platforms with great influence. Daya Bay Nuclear Base invited Xinhua News Agency, CCTV and other mainstream media of Guangdong Province to visit the base and report its “safe”, “transparent” and “environmental friendly” brand concept by live stream broadcasting and documentary films. At the same time, Daya Bay Nuclear Power Base developed various interactive and experience exchange activities such as “Green Nuclear Science Day”, “8.7 Public Open Day”, “Nuclear Power Trip for Representatives of National People’s Congress” and “Nuclear Science on Campus”. As the Daya Bay Nuclear Power Base continuously explores new formats of interaction with the public, it has been rated as “Electricity Power Science Education Base”, “National Nuclear Science Education Base” and other honorary titles.



Case · August 7 Public Open Day — Free Pre-wedding Photography

On May 25, 2017, the launching ceremony of the fifth “8.7 Public Open Day” free pre-wedding photography event was held at Daya Bay Nuclear Power Base.

“8.7 Public Open Day”, a day that is highly influential and popular in the nuclear industry, which has been developed for the five consecutive years. The 2017 “8.7 Public Open Day” was different from past years’ events, as this year, we added more interactive experiences for the public to allow them to better appreciate the Daya Bay scenery through wedding photography activities, and understanding the safety, economical and environmental protection aspects of nuclear energy.



Caring for People's Livelihood to “Friendly” Neighborhood

We continue to carry out activities such as joint-construction between schools and enterprises and caring for students, so as to facilitate the development of basic education in the areas of our business operations.

For instance, since 2014, Yangjiang Nuclear set up the “Yangjiang Nuclear Evas Scholarship” in Yunbo Village. Through the recognition and reward of outstanding students in the university entrance exam every year, the scholarship encourages them to continue to study hard, and to contribute to the development of their hometown in the future.

In addition, we have organized many nuclear power industry-specific job fairs and volunteer activities to help local residents solve their employment problems and improve their quality of life.



CGN Engineering donated books and supplies to children in mountainous areas.

Suzhou Nuclear Power Research Institute held the “Allow Love to Raise Dreams” charity donation activity.

Activities for loving and supporting students were carried out at Fangchenggang Nuclear in the central primary school of Lingyun Longhuai Village.

A Story of the Volunteer Activity in Xiliudie Village, Guangxi for Education and Poverty Alleviation

On the morning of June 1, 2017, CNPRI carried out a series of activities for poverty alleviation, entitled "Joint Construction and Pioneering". Volunteers travelled to the elementary schools in the mountainous areas and prepared a special Children's Day experience for the students. In this voluntary activity, volunteers donated school supplies, and told their own experiences about growing up and moving out of the countryside to encourage the students to embrace their dreams and study hard.



The Inaugural "CGN - Lingyun County Ethnic Minority Egret Class"

We have always attached great importance to work specifically addressing poverty alleviation in Baise, Guangxi Province, a key target area for poverty alleviation. In addition to supporting businesses and economic entities, we also launched smart innovation support work to support poverty alleviation. On October 12, 2017, we worked together with Lingyun County, Guangxi Province to officially inaugurate the "Ethnic Minority Egret Class", and 350 underprivileged students were the first to enroll in this class.



Won the Title of Excellent Practice Base for Undergraduate Students

On July 21, 2017, CGN Design first won the title of excellent practice base for undergraduate students of Shenzhen University in 2016. In the past 5 years, CGN Design has offered internship opportunities to various colleges and universities. Shenzhen University gave a high evaluation for the internship environment, curriculum and internship assessment provided by CGN Design, and expressed that these novel forms of internship and high technology content can stimulate students to achieve remarkable results, which will help undergraduates with smooth employment in future.



Job Opportunities for the Public

Through the creation of employment opportunities for people, and to attract talented individuals to return to their hometown to work, Ningde Nuclear invited various contractors of the base to hold a joint job fair in Ningde, Fujian Province on April 28, 2017. The recruitment fair was open to the public and provided 213 job positions, including police, internal security and maintenance workers. The fair attracted the attention from the local residents.



949

A total of 949
resumes were
received

100

Creating employ-
ment opportunities
of almost 100 job
positions



Helping Communities to “Warm” Neighborhood

At the same time as we develop ourselves, we also adhere to the volunteer spirit of “dedication, love, mutual assistance and progress” and are proactively involved in social public welfare undertakings. We strive to contribute to the economic development and civilization construction of the community.

By the end of 2017, we had **12,354** volunteers in total with accumulative service time up to **34,674** hours.



Case Visiting the Nursing Home to Convey Care by Images

On May 20, 2017, a public welfare activity with theme of "to warm sunset time with images" was implemented in Dapeng nursing home. Employees from CNPRI visited the elderly in Dapeng nursing home of Shenzhen along with the staff from a photography studio. The volunteers not only brought conciliatory gifts, but also took pictures with the elderly, and had a good time with them.



Case Circuit Renovation for Surrounding Villagers to Warm Their Heart with Care

In April 2017, Yangjiang Nuclear implemented the work plan for the voluntary circuit transformation of 10 poor households in surrounding areas. Through preparation works from field investigation and measurement, design and drawings, calculation and evaluation to material procurement, the working group removed the original circuits safely and checked against the potential safety dangers. All the circuits in these 10 households were reformed successfully in June, further making the lives of the villagers more convenient.



Construct Supporting Infrastructure and Develop Local Industries to Boost Local Development via Industrial Tools



Invested RMB 2 million

In Leye County, Guangxi Zhuang Autonomous Region, we invested RMB 2 million to energize the pig farms and construct the industrial supporting infrastructure in Quanda Village. We also built an industrial road with length of 2.5 kilometers.



Invested RMB 450,000

In Lingyun County, Guangxi Zhuang Autonomous Region, we invested RMB 450,000 for the introduction, pens renovation and promotion of guinea pig breeding, in order to help to the breeding industry development of the guinea pig in Longhuai Village of Lingyun County.



Turning 47,776 acres of Gobi Desert into cultivated land

In A Wei irrigation zone of Qinghe County, Xinjiang Uygur Autonomous Region, we made donations in the irrigation control project using melted snow water from a snow mountain that was a few dozen miles away, successfully turning 47,776 acres* of Gobi Desert into cultivated land.

*290,000 Chinese acres (mu). One mu is equal to one fifteenth of a acre.

The background of the slide features a stylized, layered illustration. At the top, there are several large, semi-transparent circles in shades of light green and yellow. Below these, a few small blue birds are depicted in flight. The middle section is dominated by a large, dark blue number '07' and the title 'Outlook for the Future' in a bold, dark blue font. Below the title, three bullet points are listed, each preceded by a small dark blue diamond. The bottom half of the slide shows a landscape with a blue sky, a layer of stylized clouds in various shades of blue and green, a blue body of water, and a yellow sandy beach at the very bottom.

07

Outlook for the Future

- ◆ Safe Development of Nuclear Power
- ◆ Friendly Co-existence with the Environment
- ◆ Harmonious Common Development



Outlook for the Future



Safe Development of Nuclear Power

Promote the construction of nuclear power units with safety and quality assurance as prerequisites;

Fully implement actions and responsibility of nuclear power safety management to support the safe operation of nuclear power units in operation;

Take full advantage of nuclear power industry and further enhance the safety performance of nuclear power units by science and technology-led and market-oriented transformative application of innovative scientific and technological achievements and technological transformation;

Increase investment in scientific research projects, deepen research on science and technology, and promote independent innovation of nuclear power technology.



Friendly Co-existence with the Environment

Continuously advance the development of nuclear power energy and endeavor to generate more capacity;

Enhance energy utilization efficiency, strengthen carbon management, reduce greenhouse gas emissions;

Proactively practice environmental protection regulations, improve nuclear fuel efficiency, control and reduce pollutant emissions and lower the impact on the environment;

Continuously carry out environmental monitoring, intensify the cooperation with research institutions and protect the wildlife around the Nuclear Power Bases.





Promotion of Common Development

Improve talent training plans, enrich employee training forms and resources, optimize performance evaluation and promotion systems to stimulate the vitality of the employee and support employee growth;

Enhance the mechanism construction on fair competition and supply chain anti-corruption; work more closely with nuclear power industry alliances and enhance the responsible competitiveness of the nuclear power industry chain;

Continuously implement transparent communication, invite the media and stakeholders to field trips of the Company and accept public oversight, enhance the public recognition and acceptance of nuclear power;

Increase community involvement efforts, actively participate in activities of joint construction between enterprises and local government, and public service, so as to give back to communities.



08

Appendices

◆ Key Performance Form

◆ ESG Index

◆ Feedback Form










Appendices

Key Performance Form

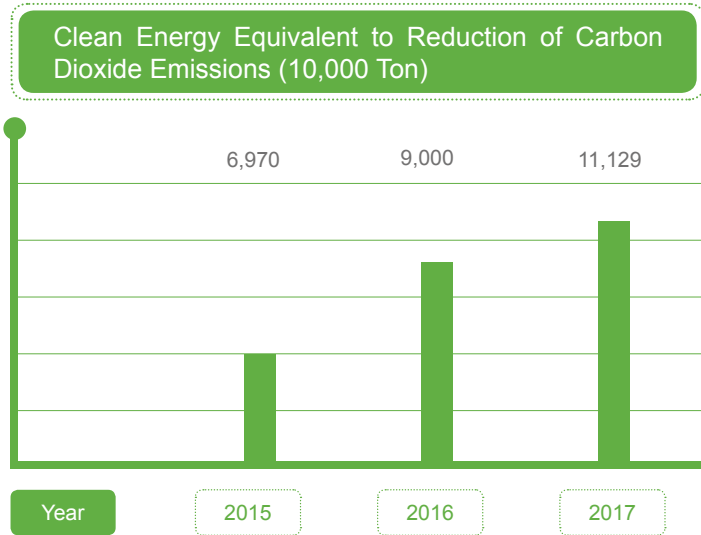
Safety

Item	Indicator	Performance Comparison	
		2016 ¹	2017
 Nuclear Safety	Nuclear power generating units in operation (units)	19	20
	Percentage of advanced value achieved for WANO indicators of units (top 1/4)	72.2% ¹	73.75%
	Unplanned automatic scram (times)	1	2
	LOE events ² (times)		
	Level 2 or above nuclear events	0	0
	Level 1	2	0
	Level 0 ²	36	16
 Personal Safety (including employees and contractors)	Death (persons)	1	0
	Death rate per 100,000 persons in engineering construction	0	0
	Serious injury (persons)	2	0
 Fire Safety	Fire hazards	0	0
 Radiation Protection	Accidental overexposure (cases)	0	0
	Loss of radiation sources (cases)	0	0
	Internal contamination accident (cases)	0	0
 Engineering Risk	Nuclear power engineering man-hours (100,000,000 man-hours)	0.9	0.88
	Regular power engineering man-hours (100,000,000 man-hours)	0.2	0.5
	Total (100,000,000 man-hours)	1.1	1.38

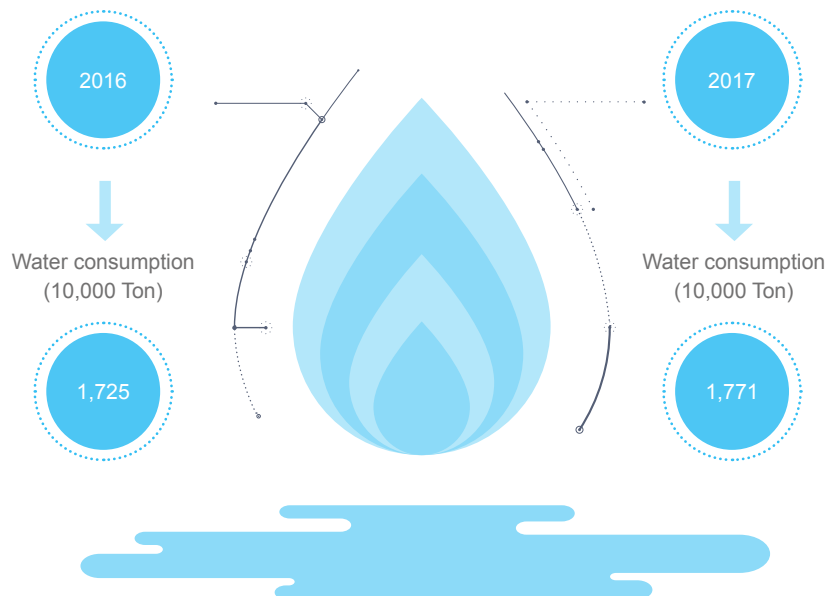
Note 1: These data including 18 nuclear power generating units in operation.

Note 2: Nuclear incidents are classified into seven levels in the INES according to their impact on (i) people and the environment, (ii) radiological barriers and control, and (iii) defence-in-depth. Level 1 to Level 3 are referred to termed as "incident," while Level 4 to Level 7 are termed to as "accidents." Events without safety significance are classified as "below scale/ Level 0".

Environment

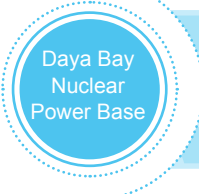






Water Resources Management



Radiation Waste Management

Radiation Waste Discharge and Ratio to the National Standards of NPPs Managed by the Company within the Reporting Period

Indicators		Discharged liquid radioactive waste (radionuclides other than tritium) as a percentage of the national standards	Discharged gaseous radioactive wastes (inert gases) as a percentage of the national standards	Solid radioactive wastes (m ³)	Results of environmental monitoring
 Daya Bay Nuclear Power Base	2015	0.21%	0.13%	317.6	Normal
	2016	0.17%	0.14%	180.4	Normal
	2017	0.47%	0.44%	276.4	Normal
 Yangjiang Nuclear Power Station	2015	0.50%	0.18%	24.4	Normal
	2016	0.49%	0.35%	21.2	Normal
	2017	0.38%	0.30%	42.8	Normal
 Fangchenggang Nuclear Power Station	2015	N/A	N/A	N/A	N/A
	2016	0.09%	0.26%	12.9	Normal
	2017	0.78%	0.39%	101.3	Normal
 Ningde Nuclear Power Station	2015	0.24%	0.15%	149.6	Normal
	2016	0.32%	0.58%	183.6	Normal
	2017	0.38%	0.51%	129.6	Normal
 Hongyanhe Nuclear Power Station	2015	0.47%	0.14%	183.1	Normal
	2016	0.23%	0.18%	114.4	Normal
	2017	0.22%	0.15%	196.8	Normal

Society

Total Number
of Employees



20,037

*Proportion of employment category



The proportion of
male employees
89.10%



The proportion of ad-
ministrative employees
6.53%



The proportion of
employees aged
28 and below
30.83%



The proportion
of employees
aged 29-35
42.56%



The proportion
of employees
aged 36-45
17.60%



The proportion of
employees aged
46 and above
9.01%



The proportion of
female employees
10.90%



The proportion of
technicians
93.47%

*As our main business is operated in mainland China, all employees are working in the mainland.

Employee's turnover rate



The proportion
of male
employees
2.02%



Shenzhen's
turnover
proportion
0.71%



The proportion
of employees
aged 26 and
below
0.60%



The pro-
portion of
employees
aged 26-35
1.42%



The pro-
portion of
employees
aged 36-45
0.21%



The proportion
of employees
aged 46 and
above
0.05%



The proportion
of female
employees
0.26%



Turnover propor-
tions of regions
outside Shenzhen
1.57%

2017 Employees Training Summary Table



Average training hours per employee (approximate)

172



The training rate of senior
managers

100%



The training rate of male
employees

100%



The training rate of middle
managers

100%



The training rate of female
employees

100%

Category

2016

2017



Total donations (10,000 RMB)

553.5

1,867.44



Volunteering hours

Over 23,000

34,674






News conferences

15

11

ESG Index

Aspect	Indicator No.	Indicator Description	Disclosures	Pages/Remarks
 <h3>Environmental</h3>				
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.	•	P35-P43
	A1.1	The types of emissions and respective emissions data	•	P35-P41, P91
	A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	•	P36-P37
	A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	•	P39-P40, P91
	A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	•	P37, P38, P40, P91
	A1.5	Description of measures to mitigate emissions and results achieved	•	P36-P43
	A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved	•	P37-P41
A2: Use of Resources	General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials. Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	•	P37, P38
	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)	•	P37, P38
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	•	P38, P90
	A2.3	Description of energy use efficiency initiatives and results achieved	•	P37-P41, P43
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	•	P38
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	This item is not applicable because our product is electricity	
A3: The Environment and Natural Resources	General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	•	P35-P44
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	•	P35-P44

 Social 				
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, anti-discrimination, and other benefits and welfare.	•	P47-P49
	B1.1	Total workforce by gender, employment type, age group and geographical region	•	P48, P92
	B1.2	Employee turnover rate by gender, age group and geographical region	•	P48, P92
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.	•	P17-P27 P49-P50
	B2.1	Number and rate of work-related fatalities	•	P18, P89
	B2.2	Lost days due to work injury	•	P18
	B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored	•	P49
B3: Development and Training	General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	•	P52-P58
	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	•	P53, P92
	B3.2	The average training hours completed per employee by gender and employee category	•	P53, P92
B4: Labour 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 labour.	•	P47
	B4.1	Description of measures to review employment practices to avoid child and forced labour	•	P47
	B4.2	Description of steps taken to eliminate such practices when discovered	This item is not applicable because no child labor or forced labour occurred	

B5: Supply Chain Management	General Disclosure	Policies on managing environmental and social risks of the supply chain	•	P61-P68
	B5.1	Number of Suppliers by geographical region	•	P63
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	•	P64-P65
B6: Product Re-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.	•	Health and Safety: P17-P28 Privacy: P28 The product is electricity, advertising and labelling are not applicable
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons		This item is not applicable because our product is electricity
	B6.2	Number of products and service related complaints received and how they are dealt with	•	P28
	B6.3	Description of practices relating to observing and protecting intellectual property rights	•	P32
	B6.4	Description of quality assurance process and recall procedures	•	P19-P28 The product is electricity, product recall is not applicable
	B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	•	P28
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.	•	P11
	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	•	P11
	B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	•	P11
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	•	P71-P82
	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	•	P71-P82
	B8.2	Resources contributed (e.g. money or time) to the focus area	•	P6 P71-P82, P92

Feedback Form

Dear readers,

Thanks for taking time out to read the Environmental, Social and Governance Report of CGN Power Co., Ltd. for 2017. In order to provide you with more valuable information, and for our improvement in performance, capacity and level in fulfilling corporate social responsibility, we are eagerly looking forward to your precious opinions and suggestions on this report. You can give us your feedback through the following ways. Thank you!



Our Contact details:

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Tel: (86) 755 8443 0888 Fax: (86) 755 8369 9089 Postal Code: 518026

Your opinion on this report: (please tick “√” where appropriate)

	Very good	Good	Acceptable	Bad	Very Bad
Highlight of our works and influence in economy, environmental and social sectors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clearness, accuracy and completeness of the information and indicators disclosed in this report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Readability from the perspective of content layout and design style of this report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which parts of this report are you most interested in?

What additional information do you expect to be provided in this report?

Do you have any suggestion for our future Environmental, Social and Governance Reports?

 Printed on environmentally friendly paper

CGN Power Co. Ltd

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